The Tachinids (Diptera: Tachinidae) of Central Europe: Identification Keys for the Species and Data on Distribution and Ecology.

Hans-Peter Tschorsnig and Benno Herting
State Museum of Natural Science, Stuttgart.
With 291 illustrations

Summary

Keys are given for all central and northern European species of Tachinidae (Diptera). The most important data on distribution and ecology (mainly habitat, phenology and host range) are listed for the central European species.

Contents

1. Introduction

The following keys are valid for species of central European Tachinidae roughly north of a line from the Loire to the central ridge of the Alps to the border between Slovakia/Hungary. In addition, those few species which occur only in northern Europe are also included, so that it should be possible to determine all Tachinidae of temperate Europe. Similarly, we add a few Mediterranean species whose occurrence in the south of central Europe cannot be excluded, although they have not yet been identified there. In total, 591 species are described (see Chapter 6).

It is not recommended to identify parasitic flies from southern Europe with these keys (although it should be successful in most cases), because in the Wallis or the Tessin there are a few southern species that are no longer included. This is also true of some species from the south-east of Slovakia that already belong to the Mediterranean area.

Alternatives in the keys contain, where possible, more than one distinguishing characteristic. This should help to obtain a result, even when stated features are difficult to prove (e.g. when bristles or legs are broken). The most important features are generally stated first.

The keys are intended for dried and carefully pinned specimens. They are also suitable for identifying flies preserved in alcohol, after some practise. Here it should be noted that some features in specimens preserved in liquids may be slightly changed. This applies especially to coloration because light or transparent body zones become more prominent, as well as to the direction of some bristles which is not always maintained (e.g. apical scutellar bristles). Similarly, colour and limits of dusting are often difficult to recognize.

Even when bristles are broken, as often happens, an identification can usually be made. In this case size, position and direction of the pores must be observed. When bristles have been bent away from their natural position the direction of the basal pore gives indications as to the original position of the bristles, after some practise. This is especially true for the apical scutellar bristles, which can be on the same plane, or vertical to the scutellum, or may diverge or converge.

For determining species, a stereo microscope with a magnification of at least 40 is necessary. Many parts, particularly the eyes, should be examined against a dark background in order to see extremely fine hairs.

In some cases consideration of the features of the post-abdomen is necessary or at least of considerable advantage. The cerci and surstyli of the males needed for identification (more rarely other parts) can be freed after some practise, by pulling them out of the softened abdomen by means of a hooked needle. It should be noted that during softening (about 12 h in a container with high humidity), the objects must not come into contact with water which would glue together hairs and damage dusting irreparably.

"Normal", individual variability of species was considered when devising these keys, as far as it could be studied from the available material. It was not possible to include malformations of individual features, such as are unfortunately found in Tachinidae from time to time. If the user has only a single sample for identification, the result must be viewed with caution, especially when the findings are new or very divergent. The extensive descriptions of Mesnil (1944 - 1975, 1980) and Herting (1983) should be consulted as controls. These papers remain the indispensable basis for all those who engage in closer studies of the Tachinidae. The State Museum of Natural Science will help in the identification of parasitic flies, especially those reared from hosts.

The following keys are "artificial", because the arrangement of genera and species does not correspond with the natural relationships. Chapter 5 however gives an additional identification key for subfamilies and tribes. This key for the higher categories shows that a practical key for all genera and species based on natural group division is difficult to realize for the Tachinidae. Justification of larger natural groups is often made by means of features which can rarely be determined in practice, as for example the kind of hosts, peculiarities of biology, morphology of eggs or the structure of the post-abdomen in males and females. In practice, the comparatively simple features of external morphology are better suited to achieve results when distinguishing genera and species.

With a few exceptions, the nomenclature of higher categories, genera and species as well as their arrangement in Chapters 4 and 6 conforms with that of Herting & Dely-Draskovits (1993).

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Address of authors:

Dr. Hans-Peter Tschorsnig, Dr. Benno Herting, Staatliches Museum für Naturkunde (Museum am Löwentor), Rosenstein 1, D-70191 Stuttgart.

2. Definition of terms

2.1. General observations

The following definitions and explanations refer only to those concepts used in the keys. This is not an exhaustive catalogue of morphology.

With tergites it must be noted that the positional descriptions "dorsal" and "ventral" refer to the (theoretically) fully flattened postabdomen and not to its actual position at rest.

Differentiation of sexes is often important when using the keys. There are, however, a number of easily visible secondary sex features, that can be used to separate males and females. Males, for instance, often have a smaller forehead and longer claws on the front feet than females, no outer orbital bristles (oe) and in some groups a sturmia spot. But these features are not valid without numerous exceptions, so that they can only be used confidently where there is some knowledge of Tachinids. It is therefore advisable to get used to the most reliable, if not always easily recognised characteristic for separating the sexes, namely the presence of the epiandrum in males, at the very outset (see Chapter 2.6).

2.2. Head

Arista (*Arista*): a strong tri-segmented bristle on the dorsal base of the third antennal segment (fig. 2, 39). The arista is mostly nude or almost nude (figs. 38, 39, 41-45, 48), more rarely with short hairs (figs. 27, 40, 49) or plumose (figs. 24, 28, 46). Its two basal segments are short, as a rule (figs. 38-42), in some genera one or both of them may be elongated (figs. 43-45, 47).

Eye hairs (*Augenbehaarung*): the eyes of the Tachinidae can have dense and long hairs (figs. 3-7) or be practically bare (figs. 19-24). Even when eyes appear totally bare, a few tiny hairs can still be distinguished under strong magnification against a dark background. In the keys, "hairy" are eyes where the hairs are at least as long as the combined diameter of 3-4 eye facets. "Hairless" are eyes where hairs are at most as long as the diameter of 2.5 eye facets.

Outer orbital bristles (*Äußere Orbitalborsten*) **(oe)**: one or more (mostly 2) pairs of proclinate bristles on the orbital between the frontal bristles and the eye rim (fig. 1). As a rule, outer orbital bristles are present in females (figs. 6, 12-14) and are mostly absent in males (fig. 3-5). There are however numerous genera or species where this does not apply.

Outer vertical bristles (*Äußere Vertikalborsten*) **(ve)**:a pair of bristles facing outwards on the vertex near the eyes (fig. 1). The outer vertical bristles are usually considerably shorter and weaker than the inner vertical bristles, sometimes hair-shaped or missing altogether (figs. 9, 15).

Ptilinal suture (*Bogennaht*): a suture that remains after the frontal blister used during hatching has shrunk (fig. 15).

Antennal proportions (*Fühlerproportionen*): measuring the length of the 2nd and 3rd antennal segments is done in a continuous straight line, as shown in figs. 42a, 42b. The division of the two segments is the frontal lower rim of the 2nd segment (viewed exactly from the side). The width of the 3rd antennal segment is measured at the height of its middle (fig. 42c). This last variable can sometimes not be measured exactly because the antennae in their natural position are more or less obscured by the facial ridges when in lateral view. In such cases an estimation is sufficient.

Face (*Gesicht*): frontal part of the head between base of the antennae, ptilinal suture and frontal mouth rim. The height of the face is measured between the base of the vibrissa and the posterior upper base of the first antennal segment (fig. 10a).

Facial keel (*Gesichtskiel*): keel-shaped elevation on the face between the antennae (figs. 28, 29). Present, as a rule, in some Dexiini.

Facial ridge (*Gesichtsleiste*): a flat or domed strip on the side rim of the face, bordered on the outside by the ptilinal suture (fig. 15). Facial ridges can be almost bare (figs. 19-23), show hairs or bristles to a varying extent (figs. 3, 7, 13), or have strong bristles (figs. 6, 8, 9). The bristles on the facial ridges must not be confused with bristles on the cheeks (figs. 11, 25).

Maximum eye diameter (*Großer Augendurchmesser*): maximum eye diameter seen from the side (fig. 10c).

Haustellum: middle, sclerotized part of the proboscis (figs. 2, 34). Its length is measured from behind to the lower base of the labella (fig. 34b), its diameter on the midpoint of this distance (fig. 34a).

Back of the head (*Hinterkopf*): area of the head behind the vertex, postocular hairs and the peristome (fig. 1). The back of the head is hairy to a varying extent, with light, often scaly and/or black hairs or bristles.

Inner orbital bristles (*Innere Orbitalborsten*) **(oi)**: one or more pairs of slightly reclinate bristles in the area of the parafrontalia (figs. 1, 3, 14, 16). Inner orbital bristles must be distinguished from the topmost vertex bristles by their thickness and somewhat offset position, in many Tachinidae.

Inner vertical bristles (*Innere Vertikalborsten*) **(vi)**: a strong pair of bristles on the vertex (fig. 1), in parallel, converging or diverging position, in a few genera with a very small vertex, they are weak or hair-like (figs. 26,58).

Minimum eye diameter (*Kleiner Augendurchmesser*): minimum eye diameter in lateral view (fig. 10d).

Labella (*Labellen*): final segment of the proboscis, used for food intake (figs. 2, 30, 34). The labella are mostly ± soft-skinned and therefore subject to shrinkage in dried collection specimens.

Occipital widening (*Occipitale Erweiterung*): sclerotized hairy zone on the peristome as a kind of elongation of the back of the head (occiput) towards the front (fig. 2). The occipital widening is more or less reduced in some genera (figs. 8, 24, 28).

Ocellar triangle (*Ocellendreieck*): more or less triangular plate, usually slightly domed, on which the 3 ocelli are located (fig. 1).

Ocellar bristles (*Ocellarborsten*): a pair of bristles on the ocellar triangle (fig. 2) mostly located between the ocelli (figs. 53, 56-58), more rarely shifted slightly to the outside towards the level of the anterior ocellus or before it (fig. 54). In some genera or species, ocellar bristles are hair-like or totally absent (figs. 22, 24). As a rule they are proclinate, but can also be latero-clinate, or more or less upright and reclinate (figs. 11, 55).

Orbital bristles (*Orbitalborsten*): see inner, or outer orbital bristles, respectively.

Parafrontal area (*Parafrontalia*): area of frons alongside the eyes, limited on the inside by the vertex stripe (fig. 54).

Peristome (Belshaw=Gena, C&H=Jowl) (*Peristom*): lower, lateral part of the head, defined upwards by the parafacial and the lower eye-rim, to the front by the fading lower ptilinal suture, towards the base by the mouth opening, towards the back less clearly by the back of the head (fig. 2). The height of the peristome is measured, if not indicated otherwise, at its narrowest point, in lateral view (fig. 10e).

Peristomal bristles (*Peristomalborsten*): lower, rim bristles of the head on the peristome (fig. 2).

Post-ocellar bristles (*Postocellarborsten*): one or two pairs of weak bristles directly behind the ocellar triangle (figs. 1, 2, 4, 5).

Post-ocular hairs (*Postokularzilien*): a row of mostly short bristles or bristlets along the posterior eye rim (fig. 1).

Prevertical bristles (*Prävertikalborste*): a pair of outward-facing bristles at the upper end of the parafrontalia (fig. 28), present in some genera and species only.

Vertex (*Scheitel*): uppermost area of the head between the upper corners of the eyes (fig. 54).

Frons (*Stirn*): anterodorsal area of the head between the eyes, defined towards the front by the base of the antennae, towards the back by the vertical bristles (fig. 2). The length of the frons is measured from the corner behind the 1st antennal segment to the connecting line between the inner vertical bristles (fig. 10b). If not stated otherwise, its width is measured at the narrowest point directly viewed from above (fig. 57a). This point may also lie in front of the vertex (fig. 58b). This value is placed in relation to the width of one eye, the latter determined by the formula: maximum head width minus frons width divided by two.

Frontal bristles (*Stirnborsten*): a row of bristles on the inner edge of the parafrontalia (fig. 1). In front, they can also reach far down to the cheeks (in *Exorista* often much further than in fig. 5) or just to the base of the antennae (figs. 26, 28, 29).

Frontal stripe (*Stirnstreifen*): middle stripe, not sclerotized (more or less membranous), between the parafrontalia (fig. 54).

Subfacial bristles (*Subfacialborsten*): border bristles of the head on the section of the facial ridge below the vibrissa. The subfacial bristles are joined by a row of peristomal bristles; it is sometimes difficult to separate these accurately from the subfacial bristles.

Palps (*Taster*): one-segmental paired appendages at the base of the proboscis (figs. 2, 34). The palps normally widen in their distal halves (figs. 32, 34-37), rarely filamentous (figs. 30, 31, 33) or nearly totally reduced (fig. 22). The width of the palps (by which is meant the maximum diameter) is measured realistically, i.e. if necessary from another viewing angle than the side view.

Vertical bristles (*Vertikalborsten*): see inner, or outer vertical bristles, respectively.

Vibrissa (*Vibrissen*): a pair of usually very strong bristles at the lower edge of the facial ridge (fig. 2).

Anterior mouth edge (*Vorderer Mundrand*): lower anterior edge of the face. The mouth edge lies almost level with the face and is then not visible from the side (figs. 2-5) or is ± strongly pulled forwards (figs. 19-23, 26-28).

Cheeks (*Wangen*): area of the head between anterior eye rim and facial ridge, bordering on the parafrontalia above, and the peristome below (fig. 2). The cheeks may be bare (figs. 2-7) or hairy (figs. 9, 11, 24), or have proclinate bristles (figs. 18, 22, 25).The distinction between hairy or bristled from bare cheeks is important for the use of these keys. Frontal bristles that bend upwards and reach down more or less as far as the cheeks are not to be considered as frontal bristles, even if they reach further down than in fig. 5. A few hairs directly below the frontal bristles likewise do not count among the cheek hairs (figs. 3, 13, 21). Doubtful cases (as for instance in fig. 19) are allowed for in several places in the keys. Bristling on the cheeks must be carefully distinguished from the bristles situated on the facial ridges (fig. 6). If not stated otherwise, measuring the cheek width is done realistically, i.e. from another (sometimes only slightly) different viewing angle than the side view. The point of measurement is, as stated, either on the narrowest point of the cheeks (fig. 10f) or at half height.

2.3. Thorax

Acrostichal bristles (acr) (*Acrostichalborsten*): the two innermost dorsal long rows of bristles (fig. 1).

Apical scutellar bristles (apicals) (*Apikalborsten des Scutellums (Apikalen)*): the hindmost pair of marginal bristles on the scutellum (figs. 1, 100-117). Apical bristles are mostly converging (figs. 103, 108, 112-117), sometimes parallel (fig. 100) or divergent (fig. 105). Sometimes they are absent (figs. 104, 107).

Basal scutellar bristles (basals) (*Basalborsten des Scutellums (Basalen)*): a pair of marginal bristles at the base of the scutellum (figs. 1, 104, 111).

Barrette: a small plate on the side of the thorax between pteropleuron and hypopleuron, in the elongation of the upper posterior corner of the sternopleuron (figs. 2, 97, 98).

Bulbus: button-shaped thickening of the thorax at the lower anterior edge of the wing root (fig. 2).

Dorso-central bristles (dc) (*Dorsozentralborsten*): dorsal longitudinal row of bristles on the outside, next to the acrostichal bristles (figs. 1, 82-85).

Humeral bristles (*Humeralborsten*): bristles on the humeral callus (figs. 1, 70-81). The strong main bristles, arranged in a ± straight line (figs. 70, 78), or a triangle (fig. 79), are called basal bristles; those bristles standing in front and mostly moved inwards are the anterior bristles (fig. 78).

Humeral callus (*Humeralcallus*): convex swellings on the dorsal anterior corners of the thorax (fig. 1, 2).

Intra-alar bristles (ia) (*Intraalarborsten*): dorsal long row of bristles outside, next to the dorso-central bristles (figs. 1, 84, 86-88).

Lateral scutellar bristles (laterals) (*Lateralborsten des Scutellums (Lateralen)*): one or more pairs of marginal bristles on the scutellum, between basal bristles and subapical bristles (figs. 1, 104, 111).

Mesopleuron (*Mesopleure*): upper, side plate of the thorax, limited in front by the humeral callus and anterior spiracle, below by the sternopleuron, behind by the pteropleuron (fig. 2).

Suture (*Naht*): see thoracic suture.

Notopleural bristles (*Notopleuralborsten*): the two bristles on the notopleuron (figs. 1, 92).

Notopleuron (*Notopleure*): a small, slightly indented strip on the upper sides of the thorax behind the humeral callus (fig. 2).

Posterior callus (*Postalarcallus*): convex swelling on the dorsal hindmost corners of the thorax (fig. 1).

Post-humeral bristles (*Posthumeralborsten*): one or more bristles behind the humeral callus (figs.1, 92).

Post-scutellum (*Postscutellum*): strongly convex bolster-shaped swelling under the scutellum (fig. 2). Only in exceptional cases is this swelling slightly convex (fig. 94) or even concave (fig. 93), see the special key (A-G) before the genera key.

Pre-alar bristle (*Präalarborste*): the first supra-alar bristle behind the thoracic suture (figs. 1, 2, 82).

Pre-sutural bristle (*Präsuturalborste*): a single, usually strong bristle over the neuropleuron, roughly in line with the supra-alar bristles (figs. 1, 92). This bristle is not to be confused with the pre-sutural intra-alar bristle (fig. 83), which is not always present.

Propleuron (*Propleure*): the flat plate in front on the side of the thorax under the humeral callus (fig. 2). The propleuron can be bare (fig. 91) or hairy (fig. 90).

Prosternum: ventral plate before and between the fore coxae (figs. 67-69). The prosternum can be bare (fig. 67) or with hairs or bristlets on its side rim or even on its surface (figs. 68, 69).

Pteropleural bristle (*Pteropleuralborste*): a bristle on the upper rim of the pteropleuron directly under the wing root (on the point where there is fine hair in fig. 2). This bristle is sometimes absent (as in fig. 2) or is doubled.

Pteropleuron (*Pteropleure*): Plate below the wing root directly behind the mesopleuron (fig. 2).

Thoracic suture (*Quernaht*): line-shaped depression across the thorax (fig. 2).

Scutellum: posterior, dorsal, semicircular to triangular section of the thorax (figs. 1, 2, 100-117).

Sterno-pleural bristles (st) (*Sternopleuralborsten*) (=katepisternal bristles): the bristles in the upper half of the sternopleuron (fig. 2). Most frequent are 3 sterno-pleural bristles (figs. 95, 96); there can also be 1 (fig. 99), 2 (fig. 97), 4 (fig. 98) or even more bristles.

Sternopleuron (*Sternopleure*): large, ± triangular plate on the side of the thorax between front and middle coxae limited above by mesopleuron and pteropleuron (figs. 2, 95-99).

Subapical scutellar bristles (subapicals) (*Subapikalborsten des Scutellums (Subapikalen)*): one pair of bristles on the side of the posterior edge of the scutellum (figs. 1, 104, 107, 108, 111, 117). The subapicals are usually the strongest scutellar pair of bristles.

Substigmatic bristles (*Substigmatikalborsten*): one or more bristles under the anterior spiracle (figs. 2, 90, 91).

Supra-alar bristles (*Supraalarborsten*): the outermost dorsal long row of (mostly) 3 bristles outside along the intra-alar bristles (fig. 1). The foremost supra-alar bristle is called pre-alar bristle.

2.4. Wings

Anal vein (*Analader*): 7th longitudinal vein of the wing. The anal vein finishes before the lower rim of the wing, as a rule (figs. 118, 127-131, 133-141). In a few genera, however, it reaches the edge, at least faintly (fig. 132).

Basicosta: a small plate at the front of the wing base, directly joining the tegula (fig. 118).

Deflection of m (*Beugung von m*): rounded (figs. 131, 139) or angular (figs. 127, 133, 135, 137) curvature of the median. The curvature can show a shadow fold (figs. 127, 135) or an *appendix* [=*Aderanhang*] (fig. 133). For a reliable recognition of the shadow fold, an angled view of the wing is sometimes necessary. The shortest distance from the curvature to the lower edge of the wing is measured as in figs. 122, 123. [CR: when m is angled before reaching the wing margin the portion of m beyond any angle is referred to as the *Spitzenquerader*. We have chosen to call this the 'post-angular vein'.]

Calypter (*Calyptra*): larger (at rest, lower) of the two membranous lobes at the wing base (figs. 112-117, 118).

Costa: the strong vein which forms the frontal edge of the wing (fig. 118c). [CR: this vein has two breaks in it that divide it into 3 segments. The authors call these *Randabschnitt* and, as there is no commonly use alternative in English, we have chosen to call them *costal segments*.]

Costal hairs (*Costaldörnchen*): short spikes on the front edge of the costa.

cu1: first cubital vein = 6th longitudinal vein of the wing (fig. 118).

Tegula (*Epaulette*): the first small plate in front at the wing base (fig. 118).

Wing edge section (*Flügelrandabschnitt*): see 'Section of wing edge'.

Wing scales (*Flügelschüppchen*): smaller (at rest, upper) of the two membranous lobes at the wing base (figs. 112, 118). The wing scale must not be confused with the wing lobe (fig. 118).

Halters (*Halteren*): swinging bulblets, behind the posterior spiracle of the thorax (fig. 1).

Last section of cu1 (*Letzter Abschnitt von cu1*): the section from cu1 behind the cross vein m-cu (fig. 118).

Median vein (m) (*Media*): 5th longitudinal vein of the wing (fig. 118). [CR: see also 'Deflection of m']

m-cu: Crossvein lying near edge between the median (m) and the first cubital vein (cu1) (fig. 118)

Section of wing edge (*Randabschnitt des Flügels*): the front edge of the wing is divided into 6 sections (cs1 to cs6 in fig. 118). The 6th wing edge section extends from the mouth of the median to the wing tip, whereby wing tip is the point of the wing edge with the greatest distance to the wing base.

Rim vein (*Randader*): see costal vein.

Costal spine (*Randdorn*): a strong bristle on the costal vein, directly before the point of the costal break (figs. 118, 142).

r-m: small connecting (cross) vein between r4+5 and m (fig. 118).

r1: first radial branch = 2nd longitudinal vein of the wing (fig. 118).

r2+3: fused 2nd and 3rd radial branch = 3rd longitudinal vein of the wing (fig. 118).

r4+5: fused 4th and 5th radial branch = 4th longitudinal vein of the wing (fig. 118). The base of r4+5 is located at the branching of the vein r2+3.

R5: the wing cell, which is enclosed by the veins r4+5, r-m and m (fig. 118). R5 can be open (figs. 118-123), closed at the wing edge (figs. 128, 132) or petiolate (with a short stalk) (figs. 124-126, 133, 136, 139).

Post-angular vein (*Spitzenquerader*): the section which runs ± parallel to the lower wing edge from m after the curvature (fig. 118). In a very few genera, such a vein is missing, because either the end section from m is extinguished (figs. 129, 141), or m runs without curvature to the wing edge (fig. 140).

Petiole of R5 (*Stiel von R5*): see R5.

Subcosta: 1st longitudinal vein of the wing (fig. 118).

2.5. Legs

ad: see position of bristles.

Anterodorsal ridge of the hind tibia (*Anterodorsaler Kamm der Hintertibia*): in some species anterodorsal bristling is very regular and forms a kind of ridge (figs. 156, 157, 160-162), in the majority of Tachinidae the ad-bristles are however very irregular and less numerous (figs. 158, 159, 163, 164).

av: see position of bristles.

Apical spurs (*Endsporne*): the bristles at the distal end of the tibia are conventionally termed apical bristles (figs. 148-150, 158, 159). In the hind tibia, the number and length of the spines in ± dorsal (i.e. anterodorsal, precisely dorsal and posterodorsal) position is of importance, as well as the length of the posteroventral final spine in relation to the anteroventral final spine (figs. 158, 159). Most often, there are 2 dorsal apical bristles on the hind tibia (figs. 156-158, 160, 161), more rarely 3 (figs. 159, 162). With the fore tibia, the reliable recognition of the dorsal and

anterodorsal final spine is of importance, because the ratio of length of the 2 bristles is often used as a diagnostic characteristic in the key. The anterodorsal final spine of the fore tibia is mostly weaker and shorter than the dorsal final spine (fig. 148), sometimes hair-like only or almost absent; it can however be as long as the dorsal final spine (fig. 149) or even longer (fig. 150). For the position and their abbreviations, see position of bristles.

Hind coxae (*Hinterhüften*): the lack (fig. 166) or presence (fig. 165) of bristles or hairs on the posterodorsal edge of the hind coxae is an important diagnostic tool.

Inner bristle (*Innenborste*): the bristle of the middle tibia in ventral or somewhat anteroventral position is conventionally called inner bristle (fig. 154).

Claws (*Krallen*): the hook-shaped, paired appendages at the 5th tarsal limb (figs. 145-147).

pd: see position of bristles.

Pulvillae (*Pulvillen*): the adhesive flaps at the last tarsal limb (figs. 145-147). When the claws have broken off, the pulvillae give an indication of their original position, because claws and pulvillae are of about the same length.

pv: see position of bristles.

Position of bristles (*Stellung der Borsten*) (figs. 148-150, 1520-164): in order to describe the position of the bristles, the leg in question must be imagined to be extended at a right angle to the body longitudinal axis. The exact dorsal position of the leg is as a rule plainly defined by a small ridge, which is bordered by a double line of hairs or short bristles (figs. 148-150, 152, 153, 156-159). The bristles or hairs a little in front are in anterodorsal (ad), those a little behind in posterodorsal (pd) position. The bristles directly on the underside of the leg are in ventral position; anteroventral (av) or posteroventral, respectively. are to be used. There may be bristles between the posterodorsal and posteroventral position, exactly "behind".

2.6. Abdomen

Aedeagus: duct or tube-shaped actual mating organ of males (figs. 234-237).

Cerci: the cerci of males are ventral caudal appendages on the epiandrum (figs. 234, 238-291). They are separated either by a basal suture and their ends free (figs. 271, 272) or fused to a common syncercus (figs. 273-291). The cerci of females are as a rule small and insignificant. Larger cerci are found in females of some Phasiinae (figs. 201, 202).

Discal bristles (*Diskalborsten*): bristles in the dorsal area of the tergites well away from its posterior edge (figs. 2, 167). Corresponding bristles in the side area of a tergites are called latero-discal bristles (fig. 167).

Epandrium: hemispherical or capsule-shaped sclerite of the postabdomen in males (figs. 234, 235). The epiandrum has dorsally the abdominal opening, caudally and ventrally the appendages cerci and surstyli. It is largely retracted into the tergite 5, but can be recognized without special preparation from behind or diagonally below (figs. 186-188, 193-196). In some groups it is also visible from the side (figs. 203-208). From the segmental sequence, the epiandrum is tergite 9. The length of the epiandrum is measured from its dorsal front rim to the base of the cerci.

Hypandrium: sternite 9 of males. The hypandrium carries pre- and post-gonite as well as the aedeagus (figs. 234, 235).

Hypopygium: postabdomen of males from and including segment 9, consisting of the epandrium with cerci and surstyli as well as the hypandrium with pre- and post-gonites and the aedeagus (figs. 234, 235).

Laterodiscal bristles (*Laterodiskalborsten*): see discal bristles.

Marginal bristles (*Marginalborsten*): bristles on the lower rim of a tergite (fig. 2). If the keys do not distinguish between dorsal marginal and lateromarginal bristles, "marginal bristles" are always to be understood as being the dorsal marginal bristles or a whole ring of marginal bristles on the lower rim of a tergite.

Postabdomen: the segments including segment 6. The postabdomen as a functional complex is clearly separated from the pre-abdomen which lies in front of it and is mostly ± hidden in tergite 5 (figs. 186-188), but can also be largely visible (figs. 219-221). The postabdomen in both sexes serves for mating and, in females also for egg laying.

Postgonite: posterior lobe- or hook-shaped appendages on the hypandrium (figs. 234, 235).

Pregonite (*Prägonite*): anterior lobe-, plate- or hook-shaped appendages on the hypandrium (figs. 234, 235).

Segment 7+8: in males a domed plate or a stripe-like narrow sclerite in front of the epandrium (in most groups considerably smaller than in figs. 203, 204). Sometimes segment 7+8 is fused with tergite 6 (figs. 193, 194).

Sternite: ventral segment plates of the abdomen. In the majority of Tachinidae the little narrow sternites are largely obscured by the tergites reaching down to the ventral side (figs. 184, 186-188), but they can also lie freely visible in the surrounding membrane (fig. 183).

Sternite 5: in males sternite 5 is almost always differently formed from the preceding sternites (figs. 229-233). Functionally, it belongs to the abdomen complex.

Sturmia-spot (*Sturmia-Fleck*): pairs of spots of prone dense hairs on a shiny background, ventrally or laterally situated on the abdominal tergites. In males of some genera, a sturmia spot is found mostly on tergite 4 (fig. 186), sometimes also on tergites 3 or 5.

Surstyli: ventral caudal appendages on the epandrium before the surstyli (figs. 234, 235, 238-272).

Syncercus: see cerci.

Tergite: the dorsal segmental plates of the abdomen, which, in the majority of the Tachinidae reach so far on to the ventral side that they form almost the total extent of the abdomen (figs. 167-173). The 1st segment of the abdomen visible from above is actually the large 2nd tergite, which is fused with the 1st tergite (fig. 2). Dorsally, it can be hollowed up to the lower edge (figs. 1, 168) or almost not be hollowed at all (figs. 171-173). As a rule, only 4 segments are visible from a dorsal viewpoint (tergites 1+2, 3, 4 and 5) (figs. 1, 2, 167-170, 172, 173), rarely more (fig. 171). The length of tergites is measured at their dorsal central line, whereby each single tergite is seen vertically from above.

Tergite 6: in males, the small tergite 6 is found - as a rule - between segment 7+8 and tergite 5 (fig. 204). It may be reduced, so that there is only a membrane present, or it is fused to a complex with segment 7+8 (figs. 193, 194, 203). Tergite 6 is only recognizable without dissection in groups with a largely exposed postabdomen.

2.7. Dusting

The extent, density and colour of the dusting on head, thorax and abdomen is often of great importance for distinguishing between closely related species. These microscopically fine, reflecting hairs look like a thin waxy layer when viewed superficially. It is sensitive to touch and fat extrusion. It must be noted that normally light or patterned body parts may appear quite black under some circumstances, when the dusting is saturated with fat or has been abraded.

The width of thoracic stripes is to be measured - if not stated otherwise - in the middle of the thorax before the suture (fig. 61). The viewing angle for this is about 45° from behind (when viewed directly from above, the stripes usually appear considerably smaller). With the abdomen it must also be noted that dusting is addressed using a viewing angle from diagonally behind, not directly from above.

2.8. Coloration

The overwhelming majority of the Tachinidae is coloured black, but appears ± light or dark grey due to dusting. In some genera yellow or red colours are prominent. Only two genera in our fauna (*Chrysosomopsis*, *Gymnocheta*) exhibit green or copper-coloured metallic sheen.

2.9. Body size

Body size is often used in the key as a quickly determined, additional characteristic to distinguish between closely related groups or species. Body length is measured viewed from above from the tip of the head (without antennae) to the tip of the abdomen.

2.10. Abbreviations

acr = acrostichal bristles
ad = anterodorsal, in the context of the middle tibia, bristle(s) in anterodorsal position
av = anteroventral
dc = dorsocentral bristles
ia = intraalar bristles
m = median
m-cu = cross vein median-cubital
oe = outer orbital bristles
oi = inner orbital bristles
pd = posterodorsal
pv = posteroventral
r-m = cross vein radius-median
r4+5 = 4th longitudinal wing vein
R5 = wing cell R5
st = sterno-pleural bristles
ve = outer vertical bristles
vi = inner vertical bristles
± = more or less

3. Keys for the genera

When there is only a single species within a genus (because it only contains one species, or because, in the area in question, it is only represented by one species), it is named in "[ ]". The species of the more comprehensive genera are to be determined by using the genera key (Chapter 4).

Tachinids have hypopleural bristles and the post-scutellum exhibits strongly bolster-shaped convex development (fig. 2). These two morphological features as a rule determine the Tachinidae sufficiently and unmistakably. But there are 3 rare genera (*Cinochira*, *Litophasia*, partly *Catharosia*), which, for the non-specialist are at first difficult to recognize as Tachinidae, because in these, the post-scutellum is developed exceptionally either concave (fig. 93) or sometimes only slightly convex (fig. 94). The species of these genera are only 2-4 mm long and shiny black or dark brown in colour. If there are doubts whether a fly is a Tachinidae, the following key (A - G) should be used first:

A. Hypopleural bristles missing ..... ***Muscidae, Anthomyiidae, other families***

– Hypopleural bristles (fig. 2) present ..... ***B***

B. Postscutellum strongly bolster-shaped (fig. 2) ..... ***Tachinidae*** (see following key)

– Postscutellum concave (viewed from side) (fig. 93), straight or only weakly convex (fig. 94) ..... ***C***

C. Calyptrae of normal appearance, ± lying on the thorax (as in figs. 112, 114, 115, 117) ..... ***Calliphoridae***, ***Sarcophagidae***

– Calyptrae narrow, standing off from the thorax (fig. 113) ..... ***D***

D. The median vein (m) runs in an even, weak curve to the wing edge, without an angle forming the post-angular vein (fig. 140). Females: End of the abdomen pincer-like as in figs. 173-182. Frons in both sexes wider than an eye and with oe present ..... ***Cinochira*** [***atra*** Fall.] (page 111)

– Median vein (m) angled. Females: abdomen without pincer ..... ***E***

E. R5 not petiolate or petiole shorter than post-angular vein; if the petiole is longer, the cheeks have hairs or bristles ..... ***Rhinophoridae***

– With BOTH of the following features: petiole of R5 longer than post-angular vein (fig. 139) and cheeks bare ... ***F***

F. Deflection of m angled. Sternites largely hidden (from below, only a small strip is visible). Tergites with strong marginal bristles. Face scarcely hollowed. Females: abdomen without ovipositor or patch of spikes [=*Dörnchenfeld*] ..... ***Rhinophoridae***

– Deflection of m rounded (fig. 139). Sternites wide and clearly visible from below. Abdomen dorsally without bristles. Face deeply hollowed, antennae partially obscured in it. Females: Postabdomen with ovipositor, before a noticeable patch of spikes (fig. 185) ..... ***G***

G. Wings hyaline, without dark zones. Postscutellum in sideways view, straight or concave (fig. 93). Palps reduced, ve present (sometimes hairlike). 2 pairs acr before suture (in females short) ..... ***Litophasia*** [***hyalipennis*** Fall.] (page 110)

– Wings with diffuse dark zones, at least in the area of the anterior wing rim (fig. 139). Postscutellum convex (but often weaker developed than in the other Tachinidae). Palps present or reduced. ve not differentiated from the postocular hairs. No acr before suture ..... ***Catharosia*** (page 68) (see also no. 246 of following key).

Main key

1. 3 ia behind the thoracic suture (fig. 84); if only 2 ia are present (foremost ia reduced), their distance from each other is smaller or at most as great as the distance of the foremost ia to the suture (fig. 86). Eyes or prosternum hairy or bare ***2***

– 0, 1 (fig. 87) or 2 ia behind suture; if 2 ia are present, their distance from each other is greater than the distance of the foremost ia to the suture (figs. 88, 89). Eyes and prosternum almost always bare [exceptions *Angiorhina* (No. 239), *Dufouria* (No. 241) and *Ancistrophora* (No. 244)] ***238***

2. Arista hairy; longest hairs are longer than the diameter of the thickened base of the arista (figs. 24, 28, 40, 46) ***3***

– Arista bare (fig. 38) or very fine hairs (figs. 43, 45); the longest hairs in the latter at most as long as the diameter of the arista base (fig. 49) ***19***

3. Apical scutellar bristles missing or hairlike. Prosternum hairy (as in figs. 68, 69). ad apical spur of the fore tibia at most half as long as the dorsal apical spur. Abdomen shiny black with 2 (females) or 3 bands (males) of white dusting. Arista with short hairs (fig. 40). Body length 4 - 6 mm.. ***Gastrolepta*** [***anthracina*** Meig.] (page 79)

– Apical scutellar bristles strong, crossed (as in figs. 112-117). Prosternum bare ***4***

4. Inside of fore coxae with prone hairs all over the surface. Peristome very wide, without any occipital widening; vibrissae stand very high over the mouth rim, and the underlying bristles simulate a further pair of crossed vibrissae; cheeks with very fine hairs (fig. 24). Deflection of m with a long appendix (as in fig. 133). Body length 9 - 14 mm ***5***

– Other combinations of features ***6***

5. Hairs on cheeks yellow. Legs totally yellow. 3 st. 2 - 3 humeral bristles. No acr before suture. 3 dc behind suture. Pre-alary bristle missing ..... ***Dexiosoma*** [***caninum*** F.] (page 103)

– Hairs on cheeks black. Legs black with yellow tibia. 2 st. 4 humeral bristles. 3 acr in front of suture. 4 dc behind suture. Short pre-alary bristle present ..... ***Microphthalma*** [***europaea*** Egg.] (page 103)

6. Back of head with black hairs all the way down. Abdomen shiny black, at most with traces of dusting. Eyes with or without hairs ***7***

– Back of head with pale hairs at lower end. Abdomen clearly dusted, at least in the shape of small bands on the anterior edge of the tergite. Eyes always bare ***9***

7. 3 ia behind suture. Pteropleural bristle present. Eyes with long hairs (hairs 2 - 4 times as long as the anterior ocellus). Body length 6 - 7 mm ..... ***Macquartia*** [***pubiceps*** Zett.] (page 97)

– 2 ia behind suture with a wide gap between them. No pteropleural bristle. Eyes with short hairs (hairs scarcely longer than the diameter of the anterior ocellus) or bare. Body length 3 - 6 mm ***8***

8. Palps black. Eyes hairy. Tergite 2 with marginal bristles; tergites 3 and 4 with discal bristles. Middle tibia with 3 ad ..... ***Dufouria*** [***chalybeata*** Meig.] (page 107)

– Palps yellow. Eyes bare. Tergite 2 without marginal bristles. Tergite 3 (and most often also 4) without discal bristles. Middle tibia with 1 ad ..... ***Chetoptilia*** [***puella*** Rond.] (page 107)

9. Frontal bristles reach down at most to the base of the 1st antennal segment (figs. 28, 29). Peristome almost as wide as the length of antennae or wider (figs. 28, 29) ***10***

– Frontal bristles reach down onto the cheeks at least to the middle of the 2nd antennal segment (fig. 27). Peristome mostly much narrower than the length of the antennae, only in *Stomina* (couplet 16) equally wide . ***16***

10. Proboscis thin, much longer than the head (fig. 28) ..... ***Prosena*** [***siberita*** F.] (page 104)

– Proboscis thicker, at most as long as the head ***11***

11. Hind tibia with 3 dorsal apical spurs (the middle one sometimes short). 3rd antennal segment as long as the 2nd or only a little longer ***12***

– Hind tibia with 2 dorsal apical spurs ***13***

12. Propleuron bare. Costal spine at least as long as r-m. Deflection of m with a long appendix, which is at least as long as r-m (as in fig. 133). Tergite 2 dorsally hollowed up to the posterior edge. Tergites 3 and 4 with discal bristles. Males: frons at most 0.85 times as wide as one eye ..... ***Zeuxia*** **(page** Error! Bookmark not defined.**)**

– Propleuron hairy (as in fig. 90). No costal spine. Deflection of m without or with only very short appendix. Tergite 2 not hollowed to posterior edge. Tergites 3 and 4 without discal bristles. Males: frons 1.2 times as wide as one eye, with oe ..... ***Villanovia*** [***villicornis*** Zett.] (page 103)

13. Wings: 2nd costal segment hairy on underside (similar to fig. 144 on upper side). Legs yellow. Tergite 2 dorsally hollowed to the posterior edge ..... ***Dexia*** **(page 62)**

– 2nd costal segment bare on underside. Femora black (if yellow, then tergite 2 not hollowed to the posterior edge) ***14***

14. Simultaneously: propleuron bare AND tergite 2 dorsally hollowed to the posterior edge. Tergites 3 and 4 with discal bristles ..... ***Estheria*** **(page 62)**

– Propleuron hairy (as in fig. 90); when rarely bare or almost bare, then tergite 2 is hollowed at most to the middle. Tergites 3 and 4 without discal bristles (at most with a few stronger hairs in the upright hairs on the posterior edge of males) ***15***

15. Parafrontalia with dense hairs. Fore tarsus as long as head height or shorter. Tergite 2 always hollowed to the posterior edge. Hind tibia ad in males (and often also in females) with a regular bristle comb (fig. 160) ..... ***Billaea*** **(page 62)**

– Parafrontalia bare or (rarely) with up to 20 small hairs on each side. Fore tarsus longer than the height of the head. Tergite 2 often not quite hollowed to the posterior edge. Hind tibia ad in males and females with rather uneven bristlets (fig. 164) ..... ***Dinera*** **(page 62)**

16. Peristome nearly as broad as length of antennae (fig. 27). Frons in males as wide as the 3rd antennal segment, in females roughly as wide as one eye. Tergite 2 dorsally hollowed to the posterior edge. Abdomen with dense, yellowish-grey dusting (like the rest of the body) and with 2 indistinctly outlined, dark spots each on the posterior edge of tergites 3 and 4 ..... ***Stomina*** [***tachinoides*** Fall.] (page 107)

– Peristome much narrower than the width of the antennae. Frons in males at least 2x as wide as the 3rd antennal segment, in females clearly narrower than one eye. Tergite 2 not hollowed to the posterior edge. Abdomen shiny black or coloured partially red, with white bands of dusting on the anterior edge of the tergites ***17***

17. Cheeks with hairs to the lower edge of the eye. r4+5 with 2 - 4 bristlets on the base; costa with a long bristle at the base (fig. 134). Abdomen black, with narrow white bands on anterior edge of the tergites ..... ***Phyllomya*** [***volvulus*** F.] (page 107)

– Cheeks bare. r4+5 with bristlets extending at least half way between the base and r-m; costa on base without or with a much shorter bristle (fig. 133). Sides of abdomen often partially coloured red ***18***

18. Thorax with 2 black longitudinal stripes, about as wide as the space separating them (fig. 62). Face about as long as the frons. Ocellar bristles missing. Hairs of the arista scarcely longer than the arista base (as in fig. 27). Abdomen laterally compressed. Costal spine at least as long as r-m. Deflection of m with a long appendix (fig. 133). r1 bare ..... ***Mintho*** [***rufiventris*** Fall.] (page 102)

– Thorax before suture with the usual 4 stripes only (as in figs. 60, 61). Face shorter than frons. Ocellar bristles present. Hairs of the arista longer (as in fig. 40). Abdomen not laterally compressed. No costal spine. Deflection of m without or with only a tiny appendix. r1 with hairs for at least half its length ... ***Thelaira*** **(page 65)**

19. m-cu very slanted (fig. 135). Simultaneously with the following features: r4+5 with bristlets extending at least half way between the base and r-m (fig. 135); frons wider than one eye, back of the head totally covered with white hairs; ad apical spur of the fore tibia longer than the dorsal apical spur; cheeks almost always (exception: *Hyleorus* = number 21) with bristles curved downwards; body length 6 - 10 mm ***20***

– m-cu not noticeably slanted; if exceptionally otherwise, other combinations of features apply ***25***

20. Eyes hairy ***21***

– Eyes bare ***22***

21. Cheeks bare, lower parts much narrower than palps. Bristlets above the vibrissa rise up to the middle of the facial ridges. Frontal bristles (facing upwards and backwards!) reach down to the middle of the facial ridges. r1 at least in its basal half with bristlets ..... ***Hyleorus*** [***elatus*** Meig.] (page 107)

– Cheeks hairy and (in the elongation of the oe) with a row of bristles curved downwards (fig. 25). Above the vibrissa there are only a few hairs in the lower 1/6 of the facial ridges. The frontal bristles reach at most to the end of the 2nd antennal segment. r1 bare ..... ***Cyrtophleba*** **(page 65)**

22. Tergites 3 and 4 without discal bristles (the central pair of marginal bristles sometimes shifted a little towards the front). Pteropleural bristle missing ***23***

– Tergites 3 and 4 with discal bristles ***24***

23. r1 with bristlets along its length. Cheeks except for hairs only with one, strong, downwardly curved bristle (fig. 18), above rarely 1-2 weaker bristlets. Haustellum of the proboscis at most 2x the length of its diameter. 2nd segment of the arista scarcely longer than its width ..... ***Voria*** [***ruralis*** Fall.] (page 106)

– r1 bare. Cheeks apart from hairs with a row of bristles of ± equal length (as in fig. 25). Haustellum of the proboscis 6 - 8x the length of its width. 2nd segment of the arista 4 – 5x as long as its width ..... ***Chaetovoria*** [***antennata*** Vill.] (page 107)

24. Strong pteropleural bristle present. Tergite 2 hollowed dorsally to the posterior edge. Hind tibia with 2 dorsal apical spurs ..... ***Athrycia*** **(page 65)**

– Pteropleural bristle missing. Tergite 2 not hollowed to the posterior edge. Hind tibia with 3 apical spurs ..... ***Klugia*** [***marginata*** Meig.] (page 107)

25. Vein m not angled before wing margin (figs. 129, 141) ***26***

– Vein m angled before wing margin ***30***

26. m-cu missing (fig. 129). Abdomen shiny black without traces of dusting. Eyes with sparse hairs. Body length 2.5 - 4.5 mm ..... ***Phytomyptera*** **(page 56)**

– m-cu present. Abdomen dusted, at least at the anterior edge of the tergites. Eyes practically bare ***27***

27. Cheeks with hairs or bristles. The vibrissae stand high above the mouth edge (as in fig. 24). Veins m, cu and m-cu coloured much fainter than the remaining longitudinal veins. Body length 3 - 5 mm ..... ***Melisoneura*** [***leucoptera*** Meig.] (page 103)

– Cheeks bare. Vibrissae level with mouth edge. All longitudinal veins similarly sclerotized ***28***

28. Tergites dusted densely and evenly to the posterior edge. Legs yellow ..... ***Ocytata*** [***pallipes*** Fall.] (page 90)
(post-angular vein rarely present, see number 210)

– Posterior edge of tergites without dusting, black. Legs black, tibia at most a little lighter ***29***

29. Veins r1, r4+5 and cu with numerous bristlets (as in fig. 131). Tergites 3 and 4 without discal bristles, with a very narrow stripe of dusting, interrupted in the middle, at the anterior edge. Body length 2.5 - 5 mm ..... ***Actia*** [***lamia*** Meig.] (page 99)

– r4+5 with 2 - 3 bristlets at the base, r1 and cu bare. Tergites 3 and 4 with discal bristles, the anterior 2/3 covered with variable dusting (viewed from differing angles). Body length 6 - 7 mm ..... ***Demoticus*** [***amorphous*** Vill.] (page 102)

30. Wing cell R5 petiolate (figs. 125, 126, 136, 139); the petiole is at least as long as the diameter of the veins m or r4+5 (figs. 124, 133). (Species in which this characteristic may vary individually, are, - as far as is known - included in the two alternatives; in doubtful cases check this number first) ***31***

– R5 open (figs. 118-123) or closed at the wing edge, in the latter case, however, so that there is no recognizable petiole (figs. 128, 132) ***56***

31. Simultaneously: cheeks hairy or bristled to the lower part AND r4+5 with bristlets extending at least to r-m (as in fig. 132). Eyes always bare ***32***

– Both features not present at the same time ***36***

32. Cheeks hairy. Petiole of R5 as long as the diameter of the wing veins or scarcely longer (as in fig. 124). Abdomen completely dusted in grey. Legs yellow. Body length 4 - 5 mm ***Goniocera*** [***schistacea*** B. B.] (page 99)

(R5 seldom petiolate, see also number 57)

– Cheeks with downwardly curved bristles (as in fig. 25). Petiole of R5 considerably longer. Abdomen shiny black, rarely with a little dusting on the anterior edge of the tergites. Legs black ***33***

33. Humeral callus with 3 basal bristles almost in a straight line (as in fig. 70) or with only 2 bristles (fig. 81); if a thin anterior bristle is also present, it will stand before the line between middle and inner basal bristle (fig. 80). ve at least half the length of vi ***34***

– Humeral bristles arranged in a triangle (fig. 79) or with 3 basal bristles in a line and a strong bristle in front of the line between outer and middle basal bristle (similar to fig. 73, the anterior bristle is further outwards). ve missing or at most half the length of vi ***35***

34. 3rd antennal segment at most as long as the 2nd. Back of the head completely covered with black hairs. Males: frons at most 0.4x as wide as one eye ..... ***Kirbya*** **(page 65)**

– 3rd antennal segment at least 2x as long as the 2nd. Back of the head totally or mostly covered with white hairs. Males: frons almost as wide as one eye or wider ..... ***Wagneria*** **(page 64)**

35. Scutellum with 2 upright bristles on the dorsal surface near to its anterior edge. ve present. Tergites 3 and 4 as a rule without discal bristles, sometimes small discals on tergite 4 present ..... ***Periscepsia*** [***carbonaria*** Panz.]

– Scutellum with at least 4 upright bristlets on its dorsal surface. ve not differentiated from the post-ocular hairs. Tergites 3 and 4 with strong discal bristles ..... ***Ramonda*** **(page 64)**

36. Apical scutellar bristles diverging (fig. 105), parallel or missing (as in fig. 107) ***37***

– Apical scutellar bristles crossed (as in figs. 103, 112-117) ***40***

37. Pre-alar bristle longer and stronger than the anterior post-sutural ia (figs. 1, 2). Deflection of m angled, mostly with a shadow fold (as in fig. 127). Bristles rise above the vibrissa at least to the middle of the facial ridges (as in figs. 7, 8) ***38***

– Pre-alar bristle weaker than the anterior post-sutural ia (fig. 82) or at most equally strong. Deflection of m always rounded, without a shadow fold ***158***

38. Cheeks hairy or bristled. Abdomen covered with grey dusting which changes at differing viewing angles, exhibiting black iridescent spots. Body length 6 - 11 mm ***39***

– Cheeks bare. Abdomen shiny black, with at most a trace of diffuse dusting on the anterior edge of the tergites. Body length 3 - 4 mm ..... ***Erynnia*** [***ocypterata*** Fall.]

39. Arista thickened almost to the end (as in fig. 8). Cheeks almost as wide as the minimum eye diameter. Tergite 2 not dorsally hollowed to the posterior edge ..... ***Baumhaueria*** [***goniaeformis*** Meig.]

(R5 sometimes petiolate, see also number 81)

– Arista thickened at most to the middle. Cheeks much narrower. Tergite 2 hollowed up to the posterior edge ..... ***Gaedia*** **(page 48)**

40. Subapical scutellar bristles reach backwards at least as far as do the apical bristles; they are longer and stronger than the apical bristles (figs. 100, 103, 112, 114) ***41***

– Subapicals do not reach backwards as far as the apicals; they are weaker than the apical bristles (fig. 108) or at most equally long and strong. Body length 2 - 5 mm (only the species of the rare north European *Angiorhina* are larger, see number 51) ***50***

41. Above the vibrissa a row of bristles rises to at least the upper 1/3 of the facial ridges (as in figs. 6, 8). Eyes hairy. Apical scutellar bristles upright (as in figs. 110, 111) ..... ***Chetogena*** **(page 35)**

– Above the vibrissa only a few hairs or fine bristlets that do not reach beyond the middle of the facial ridges ... ***42***

42. Thorax with 2 wide black longitudinal stripes, separated by an equally wide, dusted space (fig. 62). r4+5 with bristlets extending more than 1/2 the distance between the base and r-m (fig. 133). Sides of abdomen often ± coloured red. Eyes bare ***43***

– Thorax not marked in this way. r4+5 with bristlets extending at most up to 1/2 the distance between the base and r-m ***44***

43. Ocellar bristles missing. Deflection of m with a long appendix. Petiole of R5 very short (fig. 133). Abdomen laterally compressed ..... ***Mintho*** [***rufiventris*** Fall.]

– Ocellar bristles present. Deflection of m without appendix. Petiole of R5 about as long as the post-angular vein. Abdomen not laterally compressed ..... ***Minthodes*** [***picta*** Zett.]

44. Abdomen coloured red or yellow at least on the sides. Eyes always hairy ***45***

– Abdomen black, with or without dusting. Eyes bare or with hairs ***46***

45. Lateral scutellar bristles missing (as in fig. 117) or hair-like. Costal spine strong (at least as long as r-m). Mouth edge pulled forwards, visible from the side. Peristome much narrower than the minimum eye diameter. 3rd antennal segment about as long as the 2nd. Calyptrae white. Legs black..... ***Eriothrix*** [***rufomaculatus*** DeG.]

– Lateral bristles as long as the other scutellar bristles. No costal spine. Mouth edge not visible from the side. Peristome almost as wide as the minimum eye diameter. 3rd antennal segment at least 1.5x the length of the 2nd. Calyptrae yellowish. At least the tibia yellow ..... ***Hyalurgus*** **(page 53)**
(R5 only rarely petiolate, see also number 118)

46. Tergites 3 and 4 with a narrow band of grey dusting at the anterior edge. Prosternum hairy. ad apical spur of the fore tibia a little shorter than the dorsal apical spur. Eyes hairy ..... ***Tryphera*** [***lugubris*** Meig.]

– Abdomen totally black or with light dusting, reaching to the posterior edge of the tergites. Prosternum bare. ad apical spur of the fore tibia at least as long and strong as the dorsal apical spur ***47***

47. Frontal bristles extend down to the base of the arista or further. Bristlets or hairs above the vibrissa rise almost to the height of the lowest frontal bristle. Abdomen completely covered with dusting which exhibits changing iridescent spots depending on the incidence of light. Eyes densely haired..... ***Lypha*** [***dubia*** Fall.]
(R5 rarely petiolate, see also number 115)

– Frontal bristles on the cheeks reach at most the end of the 2nd antennal segment. Only a few hairs above the vibrissa. Abdomen shiny black all over or with light dusting without noticeable iridescent spots..... ***48***

48. No pteropleural bristle. 2 widely spaced ia behind the suture. 3rd antennal segment 1.5 - 2x as long as the 2nd. Petiole of R5 very short (as in fig. 124). Abdomen often with bluish shine..... ***Dufouria*** [***nigrita*** Fall.]
(R5 seldom petiolate, see also number 241)

– Pteropleural bristle present, at least 1.5x as long as the surrounding hairs. 3 ia behind the suture. 3rd antennal segment about as long as the 2nd ***49***

49. Back of the head totally covered with black hairs. Tergites 3 and 4 as well as the anterior edge of tergite 5 dusted grey. Apical bristles upright. Cheeks hairy. Petiole of R5 at least as long as 1/2 of the post-angular vein. Eyes hairy. Body length 6 - 8 mm ..... ***Sarromyia*** [***nubigena*** Pkn.]

– Back of the head with light hairs at least on the lower mouth edge. Abdomen frequently shiny black, rarely lightly dusted. Apical bristles horizontal. Cheeks bare or hairy. Body length 3 - 6 mm ..... ***Loewia*** **(page 54)**

50. The 3 segments of the arista are of nearly equal length (as in fig. 44). Tergite 2 dorsally hollowed to the posterior edge. Cheeks hairy on their upper 1/3..... ***Trichactia*** [***pictiventris*** Zett.]

– 1st and 2nd segment of the arista considerably shorter than the 3rd. Tergite 2 not hollowed to the posterior edge..... ***51***

51. Eyes hairy and cheeks densely haired or bristled at the same time. Petiole of R5 very short. Body length 7 - 8 mm ..... ***Angiorhina*** **(page 61)**

– Eyes bare or practically bare. Cheeks bare (with the exception of the alpine *Graphogaster dispar*, whose petiole of R5 is at least as long as 1/2 the post-angular vein). Body length 2 - 5 mm ***52***

52. Pteropleural bristle present. 3 ia behind the suture (the foremost of the 3 ia is sometimes short and shifted a little inwards). Post abdomen of females without specific features ***53***

– Pteropleural bristle missing. 2 ia behind suture (only in the rare *Pandelleia* with predominantly yellow abdomen sometimes 3 ia, see number 54). Post abdomen of females in the shape of a tube, which cannot or only partially be retracted into the abdomen (figs. 222-224). Prosternum always bare. Frons in males at most as wide as the 3rd antennal segment, in females at least as wide as one eye..... ***54***

53. Prosternum bare. Abdomen without dusting, shiny black. 3rd antennal segment 2 - 4x as long as the 2nd. Face deeply hollowed. The bristlets or hairs above the vibrissa rise at least to the middle of the facial ridges. Petiole of R5 very short (as in fig. 124). Frons in both sexes wider than one eye..... ***Synactia*** [***parvula*** Rond.]
(R5 only rarely petiolate, see also number 73)

– Prosternum hairy. Abdomen densely dusted, at least around the base of bristles with dark spots. 3rd antennal segment as long as the 2nd or scarcely longer. Face at most insignificantly hollowed. Hairlets above the vibrissa at most in the lower 1/3 of the facial ridges. Petiole of R5 at least as long as 1/2 the post-angular vein. Frons in males line-shaped narrow, in females at least as wide as one eye..... ***Graphogaster*** **(page 56)**

54. Scutellum, abdomen and legs predominantly yellow (tarsi often black). On each of the posterior edges of tergites 2 - 4, a pair of round black spots present (fig. 170). Females: ovipositor (segment 6) very long, folded forwards under the abdomen (fig. 222)..... ***Pandelleia*** [***otorrhynchi*** Vill.]

– Scutellum black. Abdomen mostly black; when yellow, at least a wide band on the posterior edge of the tergites remains black. At least femora dark at the tip. Abdomen without markedly paired spots. Ovipositor of females different (figs. 223, 224) ***55***

55. Tergite 5 at most as long as 4. Hind tibia with 3 dorsal apical spurs. Tergites 3 - 5 with grey dusting at the anterior edge which widens towards the sides and is ± interrupted in the middle of the black zone. Back of the head covered totally with black hairs in both sexes. Females: ovipositor folded forwards, apically with a beaklike formation (fig. 223); antennae and palps orange-yellow, in marked contrast to the rest of the body..... ..... ***Microsoma*** [***exiguum*** Meig.]

– Tergite 5 longer than 4. Hind tibia with 2 dorsal apical spurs. Abdomen marked differently. Back of the head in males with black hairs, in females with whitish-yellow hairs on the lower half. Females: the basal part of the telescope-like ovipositor cannot be fully retracted; it points up or downwards (fig. 224) ..... ***Rondania*** **(page 66)**
(without *cucullata*, see number 261)

56. Simultaneously the following features: subapical scutellar bristles convergent. Apical bristles small or missing (fig. 103); r4+5 with brustlets extending at least to r-m (figs. 131, 132); tergite 2 dorsally hollowed at most up to the middle; prosternum almost always hairy (if bare, then proboscis is very long and jointed as in fig. 19); eyes bare; frons in males and females wide and with 2 oe; body length 2 - 6 mm..... ***57***

– Other combinations of features ***63***

57. Middle tibia with a row of ad bristles. Tergites 3 and 4 with or without discal bristles. Anal vein does not reach to the posterior edge of the wing (as in fig. 131)..... ***Goniocera*** **(page 56)**

– Middle tibia with one ad only. Tergites 3 and 4 always without discal bristles..... ***58***

58. ad apical spur of the fore tibia at least as long and strong as the dorsal apical spur (fig. 149). 1st segment of the arista 1.5 - 4x as long as its diameter..... ***Entomophaga*** **(page 56)**

– ad apical spur much shorter and weaker than the dorsal apical spur (as in fig. 148). 1st segment of the arista at most as long as its diameter ***59***

59. 2 substigmatical bristles, one curved upwards, one downwards (fig. 91)..... ***Peribaea*** **(page 57)**

– No substigmatical bristle curved downwards..... ***60***

60. Anal vein does not reach the wing edge (fig. 131). Lower st shorter than the anterior (fig. 96). Proboscis never elongated and jointed as in fig. 19..... ***61***

– Anal vein reaches the wing edge at least weakly (fig. 132). Lower st at least as long and strong as the anterior, most often stronger (fig. 95)..... ***62***

61. Sternopleuron with a row of little bristlets or hairs under the st in front of the middle coxae (fig. 96). Mesopleuron at anterior tip with 2 bristlets. Basicosta black, brown or yellow ..... ***Actia*** **(page 57)**

– Sternopleuron without such bristlets. Mesopleuron at anterior tip with one bristlet only. Basicosta yellow ..... ***Ceromya*** **(page 56)**

62. Proboscis elongated and jointed; labelli usually as long as the haustellum (fig. 19) ..... ***Siphona*** **(page 58)**

– Proboscis normal; when elongated and jointed, then labelli are much shorter than the haustellum (fig. 32) ..... ***Ceranthia*** **(page 57)**

63. Back of the head covered with black hairs down to the posterior mouth edge. (Head to be viewed from different angles, because the shine of the hairs may sometimes simulate light hairs!) ***64***

– Back of the head at least partially with light hairs (whitish or yellowish), at least some light hairs present below the posterior mouth edge ***76***

64. 4 Humeral bristles, the 3 strongest arranged in a triangle (fig. 77). Occipital widening strongly reduced (as in figs. 8, 24). Body length 7 - 12 mm ***65***

– 2 Humeral bristles (fig. 81) or 3 in a straight line (fig. 70). Occipital widening present ***66***

65. Eyes bare. Cheeks covered with hairs or bristles. Arista thickened in its basal 3rd; 2nd aristal segment 3 - 4x the length of its diameter. Occelar bristles proclinate. Elongated species with bands of grey dusting on the anterior edge of the tergites. Wing base not noticeably yellow..... ***Pseudopachystylum*** [***gonioides*** Zett.]

– Eyes sparsely haired. Cheeks only in upper 3rd with a few hairlets. Arista thickened only in its basal 1/5 - 1/4; 2nd aristal segment at most as long as its diameter. Ocellar bristles latero-clinate. Body colouring shiny black, wing base and calyptrae markedly yellow ..... ***Zophomyia*** [***temula*** Scop.]

66. 1st and 2nd segment of the arista lengthened, the 3 segments of the thickened part thereby of about equal length (fig. 44). r1, r4+5 and cu with numerous bristlets. Cheeks covered with hairs or bristles. Body length 3 - 6 mm ..... ***Triarthria*** [***setipennis*** Fall.]

– 1st Segment of the arista at most half as long as the 2nd. At most r4+5 with bristlets ***67***

67. Base of r4+5 with a single strong bristlet (as in fig. 129), rarely an additional 1 - 2 much weaker hairs present. Prosternum hairy or bare. 2nd Arista segment 2.5 - 4x as long as its diameter. Arista thickened at least to the middle. Frons in both sexes wide and with 2 oe. Body length 3 - 6 mm..... ***68***

– Base of r4+5 with ± equally long hairs or weak bristlets or bare. Prosternum always bare. 2nd Arista segment about as long as its diameter or shorter ***70***

68. Prosternum bare. Tergite 2 dorsally hollowed almost to the posterior edge. Tergite 5 longer than tergite 4. r4+5 with 1 - 2 hairs, apart from the single strong bristlet ..... ***Neaera*** [***laticornis*** Meig.]

– Prosternum hairy. Tergite 2 hollowed to about the middle. Tergite 5 not longer than tergite 4. r4+5 with only one strong bristlet ***69***

69. Abdomen evenly covered with dusting ..... ***Gwenda*** [***canella*** Hert.]

– Abdomen with narrow, interrupted bands of white dusting on the anterior edge of the tergites or completely shiny black ..... ***Elfia*** **(page 55)**

70. Pteropleural bristle missing or hair-shaped. 2 ia standing wide apart behind the suture ***71***

– Pteropleural bristle present, at least 1.5x as long as the surrounding hairs ***72***

71. Abdomen shiny black. Subapical scutellar bristles longer and stronger than the apical bristles ..... ***Dufouria*** **(page 65)**

– Abdomen with dense grey dusting and black spots on the posterior edge of tergites. Subapical bristles shorter and weaker than the apicals..... ***Rondania*** [***cucullata*** R.D., males]

72. Scutellum with only 2 pairs of bristles, the basals and crossed apicals (fig. 106). Eyes bare. Body length 2.5 - 4 mm ..... ***Anthomyiopsis*** **(page 55)**

– Scutellum with at least 3 pairs of bristles. Eyes hairy ***73***

73. Eyes above the vibrissa reach at least the middle of the facial ridges. Face deeply hollowed. Eyes with sparse and unremarkable hairs. Subapical scutellar bristles at most as long as 3/4 of the apicals (fig. 108). Frons in both sexes wider than one eye. Area below calyptrae bare. Body length 3 - 4.5 mm. Cheeks bare. Shiny black species ..... ***Synactia*** [***parvula*** Rond.]

– Above the vibrissa at most a few hairlets in the lower 1/3 of the facial ridges. Face at most insignificantly hollowed. Eyes densely haired. Subapical bristles longer (figs. 116, 117) or a little shorter than apicals. Frons in males very narrow, in females wide. Area below the calyptrae almost always with a few, short, black hairs. Species of 5 - 11 mm length ***74***

74. 2nd Segment of wing edge hairy below. Frontal bristles reach on the cheeks to at least the 2nd antennal segment. Thorax: 3 ia behind the suture, 3 + 3 - 4 dc ..... ***Macquartia*** **(page 54)**
(If the crossed apical scutellar bristles are missing, it could be *Cleonice*; continue at number 110.)

– 2nd Segment of wing edge below bare. Frontal bristles reach forward to at most the base of the 1st antennal segmen t. Thorax: 2 ia behind suture, 2 + 3 dc ***75***

75. Cheeks only in their upper half with a few hairlets. The occipital widening occupies the whole peristome. Thorax: 1 + 1 (or 0) acr ..... ***Macroprosopa*** [***atrata*** Fall.]

– Cheeks on their total length with hairs or bristles. Occipital widening occupies only the posterior half of the peristome. 2 + 2 acr ..... ***Angiorhina*** **(page 61)**

76. Cheeks with hairs or bristles (figs. 11, 18, 22, 24, 25), at least at the anterior edge of the cheeks down to the middle (figs. 8, 9), seldom a few hairs present right below (fig. 17) ***77***

– Cheeks bare. (A few hairs directly below the frontal bristles, as in figs. 3 or 13, are not counted among cheek hairs, nor are upwardly pointing frontal bristles which sometimes reach ± far down to the cheeks, as in fig. 5) ***104***

77. Above the vibrissa bristles rise to at least the middle of the facial ridges (figs. 8, 9)..... ***78***

– Above the vibrissa a few hairs or bristles in at most the lower 1/3 of the facial ridges (fig. 17) ***82***

78. Occipital widening reduced, peristome in the anterior half therefore completely bare (fig. 8). Middle tibia with 1 ad only. Cheeks with fine hairs in about their upper half (fig. 8). Eyes sparsely haired, sometimes (in females) almost bare ..... ***Istocheta*** **(page 36)**

– Hairy occipital widening developed at least on the lower edge of the peristome (fig. 9)..... ***79***

79. Eyes densely haired. Cheeks in about their upper half hairy (as in fig. 8)..... ***80***

– Eyes bare. Hairs mostly reach down much further than to the middle of the cheeks..... ***81***

80. Ocellar bristles proclinate. Pteropleural bristle present. Prosternum hairy. ad apical spur of the fore tibia much shorter and weaker than the dorsal apical spur. Deflection of m with shadow fold (fig. 127). Females with a V-shaped sternite 6 (figs. 192, 225, 226). Body length 6 - 14 mm ..... ***Phorocera*** **(page 35)**
(see also number 155)

– Ocellar bristles reclinate (as in figs. 11, 55). Pteropleurals missing. Prosternum bare. ad apical spur of the fore tibia at least as long and strong as the dorsal apical spur. Deflection of m without shadow fold. Sternite 6 of females not V-shaped. Body length 4 - 6 mm ..... ***Campylocheta*** [partially] (page 63)

81. Cheeks about as wide as the minimum eye diameter. Pre-alar bristle longer than the anterior post-sutural ia. Scutellum without apicals, but just before the tip with 2 upright strong bristles (as in fig. 107). Cheeks hairy over the total surface. Arista thickened to nearly the end (as in fig. 8) ..... ***Baumhaueria*** [***goniaeformis*** Meig.]

– Cheeks much narrower, at most as wide as half the minimum eye diameter (fig. 9). Pre-alar bristle shorter than the anterior post-sutural ia (as in fig. 82) or at most as long. Scutellum without upright bristles. Cheek hairs mostly crowded around the anterior edge of the cheeks (fig. 9), sometimes only a hairy spot or stripe present. Arista thickened for at most 2/3 of its length. Anterior edge of the tergites with a narrow band of white dusting ..... ***Admontia*** **(page 37)**
(if a species is reached here whose abdomen is without dusting and totally shiny black (body length 3.5 - 4 mm), then it is *Erynnopsis antennata*, in which cheek hairs are variable, see number 165)

82. 1st and 2nd section of the arista elongated, the 3 sections of the thickened part therefore of about equal length (fig. 44). r1, r4+5 and cu with numerous bristlets. Cheeks totally hairy and bristly. Body length 3 - 6 mm ..... ***Triarthria*** [***setipennis*** Fall.]

– Arista different. At most r4+5 with bristlets ***83***

83. Cheeks only at the base with 2 - 8 short bristlets or hairlets (fig. 17). The section of m between r-m and m-cu is distinctly shorter than the section between m-cu and the deflection (as in figs. 130-132). r4+5 with bristlets extending at least 2/3 of the distance between the base and r-m. Palps tiny, only 3 - 4x as long as their diameter (fig. 17). Eyes very sparsely haired, in females hairs can sometimes not be distinguished. Abdomen shiny black with a narrow band of very light white dusting on the anterior edge of the tergites. Body length 4 - 5 mm ..... ***Petagnia*** [***subpetiolata*** Rond.]

– Cheeks with other hairs or bristles. Other combinations of features ***84***

84. Eyes bare or practically bare ***85***

– Eyes with dense and long hairs ***94***

85. Hind coxae posterodorsally haired (frequently considerably more hairs than in fig. 165). 3rd antennal segment only as long as the narrow 2nd (fig. 22) or a little shorter. Prosternum bare. Abdomen frequently partially red or yellow. Large species of 9 - 20 mm length ***86***

– Hind coxae posterodorsally bare. 3rd antennal segment much longer than the 2nd (if exceptionally equally long, then prosternum is hairy and abdomen shows no yellow or red colouring) ***88***

86. Cheeks, except for fine hairs, with one or several strong bristles (fig. 22). Ocellar bristles missing. Propleuron bare ..... ***Peleteria*** **(page 51)**

– Cheeks hairy only. Ocellar bristles present. Propleuron hairy ***87***

87. Legs ± extensively yellow, at least the hind tarsi (only *Tachina grossa*, a large, unmistakable black species with a yellow head, has totally black legs). Palps always threadlike thin (fig. 31) ..... ***Tachina*** **(page 49)**

– Legs totally black (at most tibia sometimes a little lightened). Palps at their end mostly ± widened (fig. 34) ..... ***Nowickia*** **(page 50)**

88. Ocellar bristles reclinate (figs. 11, 55). Scutellum without apical bristles, but just before the tip often with upright, spine-like bristles (as in fig. 107). Frons 1 - 3x as wide as one eye in both sexes, often of wax-like transparency and of a "inflated" appearance (figs. 11, 55). Body length 9 - 14 mm ***89***

– Ocellar bristles proclinate. Scutellum with horizontal, crossed or divergent apical bristles. Frons not " inflated" ***92***

89. r4+5 with bristlets extending 1/3 - 1/2 of the distance between the base and r-m. Tegula and basicosta yellow ..... ***Gonia*** **(page 48)**

– r4+5 with bristlets extending at most 1/5 of the distance between the base and r-m. Tegula black ***90***

90. Basicosta yellow. 2nd arista segment at most 2.5x as long as its diameter. 3rd antennal segment about 1x (females) to 1.5x (males) as long as the 2nd ..... ***Spallanzania*** **(page 49)**

– Basicosta black-brown like the tegula. 2nd arista segment 4 - 8x as long as its diameter. 3rd antennal segment about 1.5 - 2x (females) to 4 - 6x (males) as long as the 2nd ***91***

91. Waxy yellow base colour of the head contrasts with the rest of the black body. Abdomen as a rule with upright hairs (only prone in females of *O. suggesta*). Distribution boreoalpine ..... ***Onychogonia*** **(page 49)**

– Base colour of the head dark, no marked contrast with the rest of the body. Abdominal hairs prone ..... ***Pseudogonia*** **(page 49)**

92. 4 Humeral bristles, the 3 strongest arranged in a triangle (fig. 77). Arista thickened at its basal 2/3. Elongated species with bands of grey dusting on the anterior edge of the tergites. Body length 9 - 12 mm ..... ***Pseudopachystylum*** [***gonoides*** Zett.]

– The 3 strongest bristles of the humeral callus stand in an almost straight line (as in figs. 80, 91). Arista thickened at most in its basal half. Abdomen completely dusted yellowish-grey. Body length 4 - 7 mm ***93***

93. r4+5 with 1 - 3 bristlets at the base. Pre-alar bristle longer than the anterior post-sutural ia. 2nd segment of the arista no longer than its diameter. Apical scutellar bristles crossed. Legs black ..... ***Buquetia*** [***musca*** R.D.]

– r4+5 with bristlets extending at least to the middle of the distance between the base and r-m. Pre-alar bristle shorter than the anterior post-sutural ia (as in fig. 82). 2nd segment of the arista at least 3x as long as its diameter. Apical bristles parallel or divergent. Legs yellow ..... ***Goniocera*** [***schistacea*** B.B.]

94. Prosternum bare. ad apical spur of the fore tibia at least as long and strong as the dorsal apical spur ***95***

– Prosternum hairy. ad apical spur of the fore tibia almost always considerably shorter and weaker than the dorsal apical spur ***98***

95. 2 ia standing far apart behind the suture. The occipital widening occupies only the posterior half of the peristome (as in fig. 8). Body length 7 - 8 mm ..... ***Angiorhina*** **(page 61)**

– 3 ia behind the suture. Occipital widening not reduced ***96***

96. Cheeks apart from hairs with strong bristles. Tergite 2 dorsally not hollowed to the posterior edge. Costa at the 1st edge segment of the wing with a bristle at the base, about as long as the post-angular vein. Dark species with a body length of 4 - 7 mm ..... ***Blepharomyia*** **(page 64)**

– Cheeks with fine hairs only. Tergite 2 hollowed to the posterior edge. Costa without such a bristle. Body length 7 - 12 mm ***97***

97. The section of m between m-cu and the deflection is considerably shorter than the distance between the deflection and the posterior wing edge. Sides of the thorax with yellow hairs. Bristles of the humeral callus as in figs. 74, 78 (the strong anterior bristle stands before the middle basal bristle or is shifted slightly to the side). Hairs on the cheeks short, yellow and difficult to see. ..... ***Linnaemya*** [***comta*** Fall.]

– The section of m between m-cu and the deflection is longer than the distance between the deflection and the posterior wing edge. Sides of the thorax at least in front with black hairs. Bristles of the humeral callus as in fig. 75 ..... ***Ernestia*** [partially] (page 52)

98. Barette shows patches of hairs (fig. 97). Humeral callus with 5 bristles in an arrangement as shown in fig. 72 ***99***

– Barette bare (fig. 98) or at most in front with 1 - 2 hairlets. Humeral callus with 3 or 4 bristles ***102***

99. Arista about as long as the 3rd antennal segment, thickened for at least 4/5 of its length (fig. 38). Cheeks only hairy in the upper part ..... ***Rhaphiochaeta*** [***breviseta*** Zett.]

– Arista about as long as the antennae, thickened at most in their basal half. Cheek hairs reaching down further ***100***

100. 3 + 3 dc. Hind tibia ad irregularly bristled (as in fig. 158). Tergites 3 and 4 with discal bristles. Abdomen black with grey dusting with iridescent spots, in males at most with a very small reddish spot at the sides of the 3rd tergite. 3 st ..... ***Smidtia*** [***conspersa*** Meig.]

– 3 + 4 dc. Hind tibia ad with a regular bristle comb, with a longer intermediate bristle (as in fig. 161) or without such (figs. 156, 157). Tergites 3 and 4 as a rule without discal bristles, if sometimes with irregular discal bristles, then abdomen is widely reddish-coloured at the sides. 2 or 3 st ***101***

101. ad-ridge of the hind tibia with an intermediary bristle which is about 2x as long as the other bristlets (as in fig. 161). Abdominal hairs upright. No black hairs on the upper-half of the back of the head (behind the post-ocular hairs). 3 st. Males: frons at least 0.35x as wide as one eye..... ***Timavia*** [***amoena*** Meig.]

– ad-ridge of the hind tibia without or with only a considerably shorter intermediary bristle (figs. 156, 157). Abdominal hairs prone; if upright, then back of the head has black bristlets behind the post-ocular hairs. 2 - 3 st. Males: frons at least 0.4x as wide as one eye ..... ***Winthemia*** **(page 38)**

102. Cheeks with strong bristles. 3 + 3 dc. Crossed apical scutellar bristles vertically upright (as in fig. 110). Arista thickened to at least 3/4 of its length; 2nd arista segment 2x as long as its diameter..... ***Phryxe*** [***setifacies*** Vill.]

– Cheeks with fine hairs. 3 + 4 dc. Crossed apical scutellar bristles nearly horizontal (as in fig. 109). Arista thickened to at most 2/3 of its length; 2nd arista segment shorter than its diameter ***103***

103. Palps and scutellum soot-black. Palps (especially in females) strongly thickened. 4 st. Peristome wider than the cheeks at the level of the antennal base. Hind coxae posterodorsally bare. Abdomen blue-black with bands of very light dusting at the anterior edge of tergites 3 and 4 ..... ***Epicampocera*** [***succincta*** Meig.]

– Palps and scutellum yellow. Palps normal. 2 st. Peristome smaller than the cheeks at the level of the antennal base (similar to fig. 4). Hind coxae posterodorsally with one or more hairlets (as in fig. 165). Abdomen with grey dusting all over..... ***Carcelia*** [***iliaca*** Ratz.]
(the cheek hairs are variable, see also number 181)

104. Calyptrae hairy over the whole surface (fig. 115). Eyes hairy. Body length 8 - 15 mm ..... ***Nemoraea*** [***pellucida*** Meig.]

– Calyptrae bare on their surface, with fine hairlets only at the edge (figs. 112-114, 116, 117) ***105***

105. Body colouring shiny metallic green or blue. Eyes hairy. Body length 6 - 12 mm ***106***

– Colouring different..... ***107***

106. Basal humeral bristles in a straight line; the strong anterior humeral bristle stands immediately in front of the middle basal humeral bristle (fig. 74). Palps yellow. 3 + 3 dc. Deflection of m without or only with a tiny appendix. r4+5 with bristlets extending for at least 2/3 of the distance between the base and r-m ..... ***Chrysosomopsis*** [***aurata*** Fall.]

– Humeral bristles in a position as in fig. 75 (middle basal humeral bristle shifted forwards). Palps black or dark brown. 3 + 4 dc. Deflection of m with an appendix about as long as r-m. r4+5 with bristlets extending for at most 1/3 of the distance between the base and r-m..... ***Gymnocheta*** **(page 54)**

107. The subapical scutellar bristles do not reach as far backwards as the strongly crossed apical bristles (as in fig. 108). Wings: the section of m between r-m and m-cu is shorter than that between m-cu and the deflection (fig. 130). Eyes bare or only very sparsely haired. Body length of small species 3 - 5.5 mm..... ***108***

– The strong subapical scutellar bristles reach at least as far behind as do the apicals, which may be missing altogether (figs. 103-105, 112, 114-117). The section of m between r-m and m-cu is at least as long as that between m-cu and the deflection (as in figs. 127, 128, 133, 134)..... ***110***

108. Pteropleural bristle not or hardly differentiated from the surrounding hairlets. 2 widely separated ia behind the suture. Eyes bare. Abdomen dusted grey with black spots and dots on the posterior edge of the tergites (at least on the base of the marginal bristles)..... ***Rondania*** [***cucullata*** R.D.]

– Pteropleural bristle at least 1.5x the length of the surrounding hairlets. 3 ia behind the suture. Eyes with sparse and short hairs. Abdomen coloured differently ***109***

109. 1st and 2nd arista segment elongated, together at least as long as the 3rd arista segment (as in fig. 44). r4+5 with bristlets extending almost up to r-m ..... ***Trachactia*** [***pictiventris*** Zett.]

– 1st and 2nd arista segment not elongated, together at most as long as 1/10 of the 3rd arista segment. r4+5 with only a few bristlets at its base (fig. 130) ..... ***Eloceria*** [***delecta*** Meig.]

110. The following 4 features simultaneously: pv apical spur of the hind tibia about as long and strong as the av apical spur (fig. 158); eyes hairy; at most a few hairs or bristles above the vibrissa in the lower 1/3 of the facial ridges (only in *Lympha* rarely to the middle, see number 115); ad apical spur of the fore tibia at least as long and strong as the dorsal apical spur (fig. 158) (very rarely marginally shorter) ***111***

– Other combinations of features ***122***

111. Humeral callus with 3 strong basal bristles in a straight line and an equally strong anterior bristle which stands opposite the middle basal bristle or a little further outwards (figs. 74, 78) ***112***

– Position of humeral bristles different (figs. 75, 76) ***116***

112. Lateral scutellar bristles missing (as in fig. 117) or hair-like. Haustellum of the proboscis at least as long as the maximum eye diameter ***113***

– Lateral scutellar bristles at least as long as 4/5 of the basal bristle and nearly as strong. Haustellum of the proboscis shorter than the maximum eye diameter (as in fig. 22) ***114***

113. 3rd antennal segment at most 1.5x as long as the 2nd. Costal spine at least 3x as long as the other costal hairs along the 1st section of wing edge. 2nd section of wing edge hairy below. Post-angular vein straight or scarcely concave (as in fig. 120). Scutellum with semi-upright hairs, interspersed at most with a few longer and stronger hairs. Abdomen on the sides often ± coloured red ..... ***Eriothrix*** **(page 63)**

– 3rd antennal segment at least 2.5x as long as the 2nd. Costal spine very short, does not stand out from the other costal hairs. 2nd section of wing edge bare below. Post-angular vein distinctly concave (as in fig. 127). Scutellum with 2 - 6 upright bristles. Abdomen without red colouring ..... ***Trafoia*** **(page 63)**

114. Posterior st placed distinctly lower than the anterior. Body shiny black, practically without dusting. Calyptrae and wing base yellowish. Body length 4 - 6 mm ..... ***Lydina*** [***aenea*** Meig.]

– Posterior st at about the same height as the anterior. Body with distinct dusting. Calyptrae whitish ***115***

115. Basicosta whitish-yellow. Palps ± shortened, thread-like. Deflection of m with a long appendix (as in fig. 133). Lateralscutellar bristles about as strong as the basal bristles. The frontal bristles reach down the cheeks to at most the arista base. Body length 8 - 13 mm ..... ***Linnaemya*** **(page 51)**

– Basicosta black. Palps normal, distally widened. Deflection of m without, rarely with a tiny vein appendix. Lateral scutellar bristles much longer and stronger than the basal bristles. The frontal bristles reach downwards to half the height of the cheeks. Body length 4 - 7.5 mm ..... ***Lypha*** **(page 52)**

116. Simultaneously the following 3 features: tergite 2 dorsally hollowed up to the middle only; scutellum without crossed apical bristles; back of the head predominantly covered with black hairs (at most a few light hairs at the mouth edge) ..... ***Cleonice*** **(page 54)**

– Other combinations of features ***117***

117. Mouth edge not visible from the side. Tergite 2 dorsally not quite hollowed to the posterior edge (fig. 167) ... ***118***

– Mouth edge pulled forwards, clearly visible from the side (as in fig. 22). Tergite 2 dorsally hollowed to the posterior edge (as in fig. 168) ***119***

118. Lateral scutellar bristles at least as strong as the subapicals (as in fig. 107). Hairs of the peristome almost as fine as the hairs on the parafrontalia. Basicosta, palps and tibiae yellow, in the 2 more frequent species the abdomen is also ± extensively yellow. Males: tergite 6 bare or almost bare (up to 6 fine hairlets) ..... ***Hyalurgus*** **(page 53)**

– Lateral scutellar bristles weaker than the subapicals. Hairs of the peristome bristle-like, much stronger than the hairs on the parafrontalia. Basicosta, palps, tibiae and abdomen black. Males: tergite 6 densely hairy..... ..... ***Emporomyia*** [***kaufmanni*** B.B.]

119. Males: vi hair-like, not or scarcely distinguished from the post-ocular hairs, proclinate; frons 0.15 - 0.50x as wide as one eye. Females: 2nd antennal segment wholly yellow; posterior of the 2 oe pointing towards the front ..... ***Ernestia*** **(page 52)**

– Males: vi strong, convergent, crossed or reclinate; frons 0.25 - 0.85x as wide as one eye. Females: 2nd antennal segment black or at most brown at the distal end; if exceptionally yellow, then the posterior oe is bent outwards over the eye ***120***

120. Crossed apical scutellar bristles missing. The distance of the subapicals from each other is as a rule as great as the gap of the posterior acr before the scutellum. The 2 central black thoracic stripes before the suture are almost always merged into a general wide stripe. 1 strong pteropleural bristle. Females: posterior oe bent outwards above the eye ..... ***Fausta*** [***nemorum*** Meig.]

– Crossed apical scutellar bristles present. The distance between the subapicals from each other is much greater than the distance of the hindmost acr before the scutellum. Central thorax stripes separated before the suture, only rarely a little fused. 2 pteropleural bristles. Females: posterior oe pointing forwards ***121***

121. 2nd Arista segment 2 - 3x as long as its diameter. Costal spine about 4x as long as the other costal hairs along the 1st wing edge section. Deflection of m almost always with an appendix (about as long as r-m) ..... ***Appendicia*** [***truncata*** Zett.]

– 2nd Arista segment 1 - 1.5x as long as its diameter. Costal spine short, does not stand above row of the other costal hairs. Deflection of m without or (extremely rarely) with a very short vein appendix ..... ***Eurithia*** **(page 53)**

122. Prosternum totally bare (fig. 67) ***123***
(If the prosternum is hidden, a result is achieved when following this alternative)

– Prosternum hairy at the side edge (fig. 68), sometimes with one hairlet only (fig. 69) ***144***

123. Eyes with dense and long hairs ***124***

– Eyes bare or practically bare ***127***

124. A few strong bristles rise above the vibrissa to at least 2/3 of the level of the facial ridges (as in figs. 6, 8, 9). Pre-alar bristle shorter than the anterior pre-sutural ia, much shorter than the anterior post-sutural dc (fig. 82) ***125***

– Above the vibrissa only a few hairs or bristlets, reaching at most the middle of the facial ridges. Pre-alar bristle longer than the anterior post-sutural ia, about as long as the anterior post-sutural dc ***144***

125. Ocellar bristles reclinate (as in figs. 11, 55). Pteropleural bristle missing. Bristles of the humeral callus as in fig. 73 ..... ***Campylocheta*** **(page 63)**

– Ocellar bristles proclinate. Pteropleural bristle present, at least 1.5x the length of the surrounding hairs ***126***

126. Mouth edge strongly pulled forward. 2 oe and prevertical bristle bent outwards fan-like over the eye. Arista thickened to at least the middle. Deflection of m without shadow fold. Abdomen shiny black. Body length 5 - 7 mm ..... ***Policheta*** [***unicolor*** Fall.]

– Other combinations of features ***144***

127. Above the vibrissa, strong bristles rise further than the middle of the facial ridges (as in figs. 6, 8, 9) ***128***

– Above the vibrissa only a few hairs or bristlets in the lower 1/3 of the facial ridges, if exceptionally rising to the middle, then very short and pendulous (as in fig. 13) ***129***

128. Legs yellow. In males the 1st and 2nd antennal segment, in females the whole antennae yellow. Apical scutellar bristles missing. Arista thickened up to the middle. Body length 4 - 6 mm ..... ***Hebia*** [***flavipes*** R.D.]

– Other combinations of features ***144***

129. 3rd antennal segment drawn forwards into a pointed tip at the distal end (fig. 39). Lateral scutellar bristles missing; apical bristles strong, crossed. Abdomen without discal bristles, densely dusted with grey, black only around the bases of the marginal bristles. Body length 4 - 6 mm ..... ***Acemya*** **(page 38)**

– 3rd antennal segment without such a tip at the distal end ***130***

130. Arista thickened almost to the end, the 2nd segment is at least as long as 2/3 of the 3rd segment (as in fig. 11). pv apical spur of the hind tibia as long and as strong as the av apical spur (as in fig. 158). Deflection of m with an appendix. r1 and r4+5 with numerous bristlets. Frons very wide, in both sexes with 2 oe. Body length 8 - 13 mm ..... ***Germaria*** **(page 51)**

– 2nd segment of the arista much shorter ***131***

131. Thorax with a matt-black band, very sharply defined at least at the front, directly behind the suture. Also matt-black are the scutellum except the tip, tergite 2 and the posterior half of tergites 3 and 4; the body therefore exhibits 5 black crossbands almost evenly spaced. Slim species of 5 - 10 mm body length ..... ***Trigonospila*** [***ludio*** Zett.]

– Body patterning different ***132***

132. Deflection of m right-angled with appendix (fig. 133), very rarely only with a shadow fold (as in fig. 127). Legs, antennae and palps at least partially yellow. Pteropleural bristle hair-like, at least less than 1.5x as long as the surrounding hairs ***133***

– Deflection of m with an obtuse angle or rounded, without appendix or shadow fold ***135***

133. Antennae much shorter than the width of the peristome; proboscis very small, shorter than the strongly thickened palps (fig. 29). Fore tibia with a strong ventral apical spur ..... ***Trixa***

– Antennae not shortened, longer than the width of the peristome. Proboscis normal, Palps not thickened ***134***

134. Thorax with 2 wide black longitudinal stripes before the suture which are about as wide as the space separating them (fig. 62). Ocellar bristles missing. 2 + 3 dc. 3 st. Vein appendix of m longer than r-m (fig. 133). r4+5 with bristlets extending at least half way between the base and r-m. Abdomen laterally compressed, its sides predominantly red. Femora yellow. Tibiae black ..... ***Mintho*** [***rufiventris*** Fall.]

– Thorax with 5 narrow longitudinal stripes before the suture. Ocellar bristles present. 3 + 4 dc. 2 st. Vein appendix of m much shorter than r-m, very rarely missing. r4+5 with only a few bristlets at the base. Abdomen not laterally compressed, black with very light grey dusting. Femora and tibiae yellow ..... ***Redtenbacheria*** [***insignis*** Egg.]

135. Legs yellow (at most tarsi dark). Middle tibia with 1 ad. 2 Humeral bristles or 3 in a straight line ***136***

– Legs black or dark brown (at most tibiae yellowish). Middle tibia almost always with at least 2 ad ***138***

136. Head profile semi-circular, antenna base set far below the eye centre. Mouth edge not visible from the side. Peristome line-shaped and narrow. Parafrontalia in both sexes with a row of 5 - 8 strong oe. r1 and r4+5 (in females also cu) with numerous bristlets. Abdomen with discal bristles. Tegula black. Basicosta yellow ..... ***Halidaya*** [***aurea*** Egg.]

– Head profile not semi-circular. Antenna set above the eye centre. Mouth edge pulled forward, visible from the side. Peristome at least as wide as 1/6 of the maximum eye diameter. Parafrontalia at most with 2 - 3 oe. r4+5 with only a few bristlets on the base. Abdomen without discal bristles (only in the rare north European *Soleria borealis* with discals). Tegula and basicosta yellow ***137***

137. 2 dc before the suture. The frontal bristles reach down to at least the middle of the 2nd antennal segment. 3rd antennal segment black. Frons with grey dusting, seldom faintly yellowish ***Solieria*** **(page** Error! Bookmark not defined.**)**

– 3 dc before the suture. The frontal bristles reach at most to the middle of the 1st antennal segment. Antennae totally yellow. Frons dusted golden yellow ..... ***Leskia*** [***aurea*** Fall.]

138. The following 3 features simultaneously: haustellum of the proboscis slim, at least 3.5x as long as its diameter (fig. 27); mouth edge pulled forwards, clearly visible from the side (fig. 27); humeral callus with 3 bristles in a straight line (as in fig. 70) ***139***

– Other combinations of features ***142***

139. The vibrissa stands high above the mouth edge (fig. 27). ad apical spur of the fore tibia much longer and stronger than the dorsal apical spur. Abdomen densely dusted, at the posterior edge of tergites 3 and 4 with a pair each of ± distinct black spots ..... ***Stomina*** [***tachinoides*** Fall.]

– Vibrissa at height of mouth edge. ad apical spur of the fore tibia shorter than the dorsal apical spur. Abdominal patterning different ***140***

140. Tergites 3 and 4 without discal bristles. Haustellum of the proboscis very slim, 8 - 12x as long as its diameter. Proboscis longer than the head height. Arista thickened to at least 2/3 of its length, its 2nd segment 3 - 4x as long as its diameter ..... ***Aphria*** **(page 60)**

– Tergites 3 and 4 with discal bristles. Haustellum of the proboscis 3.5 - 6x as long as its diameter. Proboscis shorter than the head height. ***141***

141. Arista thickened to at least 2/5 of its length, its 2nd segment no longer than its diameter ..... ***Bithia*** **(page 60)**

– Arista thickened to more than 1/2 its length, its 2nd segment 2.5 - 4x as long as its diameter ..... ***Demoticus*** [***plebejus*** Fall.]

142. Simultaneously: sides of the abdomen broadly red or yellow; the 3 outer humeral bristles stand in the shape of a triangle (as in figs. 71, 72); r4+5 with bristlets extending to about r-m; tergite 2 dorsally hollowed to the middle only ***143***

– Other combinations of features ***144***

143. Tergites 3 and 4 without discal bristles. Apical scutellar bristles missing. r1 bare. ad apical spur of the fore tibia much shorter than the dorsal apical spur ..... ***Atylostoma*** [***tricolor*** Mik.]

– Tergites 3 and 4 with discal bristles. Apical scutellar bristles strong, crossed. r1 with bristlets. ad apical spur of the fore tibia longer than the dorsal apical spur ..... ***Phenicellia*** [***haematodes*** Meig.]

144. Pre-alar bristle shorter and weaker than the notopleural bristles (fig. 82), sometimes hair-like or missing altogether (in doubtful cases at most as long as the anterior post-sutural ia and at most as long as 1/2 of the anterior post-sutural dc) ***145***

– Pre-alar bristle longer and stronger than the notopleural bristles (figs. 1, 2) (in doubtful cases longer than the post-sutural ia and longer than 2/3 of the anterior postsutural dc) ***179***

145. Area of the calyptrae near the outside edge balloon-like convex (fig. 112). Scutellum totally black. Facial ridges above the vibrissa with bristlets at most to its lower third ***146***

– Calyptrae not noticeably convex at the outside edge (figs. 113-117) ***149***

146. Eyes bare. Barette bare. Deflection of m right-angled with a short vein appendix. 2 dc before the suture. Abdomen with prone hairs, without discal bristles; its colouring shiny black, at the anterior edge of tergites 3 and 4 with a very narrow band of dusting which is interrupted in the middle. Tergite 5 only half as long as tergite 4. Body length 3 - 4 mm. 2nd segment of the arista 3 - 4x as long as its diameter ..... ***Atylomyia*** [***loewi*** Brauer]

– Eyes with long and dense hairs. Barette hairy (as in fig. 97). Deflection of m without vein appendix. 3 dc before the suture. Abdomen in males with upright hairs (sometimes with discal bristles), in females at least tergites 4 and 5 with discal bristles. Abdominal dusting more extensive. Tergite 5 0.7 - 1.0x as long as tergite 4. Body length 4.5 - 8 mm. ***147***

147. Peristome at least as wide as 1/3 of the maximum eye diameter. Cheeks at their narrowest point at least as wide as 2/3 of the 3rd antennal segment ..... ***Prosethilla*** [***kramerella*** Stein]

– Peristome at most as wide as 1/8 of the maximum eye diameter. Cheeks at their narrowest point at most as wide as 1/2 of the 3rd antennal segment ***148***

148. Scutellum with lateral bristles as strong as the apical bristles. 2nd arista segment 2.5 - 4x as long as its diameter. Abdomen at the sides reddish transparent (in females at least at the anterior edge of tergite 3). Palps yellow at the distal half ..... ***Ethilla*** [***aemula*** Meig.]

– Lateral bristles missing or hair-like (fig. 112) 2nd arista segment 1 - 2x as long as its diameter. Abdomen not reddish transparent. Palps black or yellow ..... ***Paratryphera*** **(page 38)**

149. Deflection of m angled, with a shadow fold (fig. 127) ***150***

– Deflection of m rounded, without shadow fold (as in figs. 118, 128, 131) ***157***

150. No black bristlets on the upper-half of the back of the head (behind the post-ocular hairs), only white hairs .. ***151***

– Black bristlets over white hairs on the upper-half of the back of the head (behind the post-ocular hairs). Bristlets or bristles above the vibrissa always rise further than the middle of the facial ridges ***154***

151. The bristles or bristlets above the vibrissa reach at most up to the middle of the facial ridges (if exceptionally a little higher, then upper bristlets distinctly weaker than the lower ones). Eyes bare or hairy ***152***

– The strong bristles above the vibrissa reach up to the upper 1/3 or 1/4 of the facial ridges (fig. 6), if exceptionally a little above the middle, then upper bristles are as strong as the lower ones. Eyes always hairy (if sometimes only sparse or short) ***153***

152. Ocellar bristles about as strong as the posterior oi. Eyes bare or hairy ..... ***Exorista*** **(page 34)**

– Ocellar bristles missing or hair-like. Eyes densely hairy. 3 + 4 dc. Tergites 3 and 4 with discal bristles. Cerci (Syncercus) in males dorsally with yellow hairs as in *Exorista rustica* (fig. 281). Body length 6 - 7 mm..... ..... ***Neophryxe*** [***vallina*** Rond.]

153. 2nd arista segment 3 - 4x as long as its diameter (fig. 6). Palps black. Cheeks at their narrowest point not or scarcely wider than the palps (fig. 6). Back of the head flat. Vibrissa at the level of the mouth edge. 4 dc behind the suture. Females: oi noticeably long and strong (fig. 6) ..... ***Phorinia*** [***aurifrons*** R.D.]

– 2nd arista segment 1 - 1.5x as long as its diameter. Palps (at least at the tip) yellow. Cheeks at their narrowest point at least 2x as wide as the palps, most much wider. Back of the head domed. Vibrissa above the level of the mouth edge. 3 dc behind the suture (in the 4 species considered here). Females: oi normal ..... ***Chetogena*** **(page 35)**

154. The ocellar bristles stand at the height of the anterior ocellus or a little in front (fig. 54). Eyes with only sparse and short hairs, almost bare. Facial ridges (in lateral view) in their lower half convex. Apical scutellar bristles missing. Back of the head flat. Body length 3.5 - 6 mm ..... ***Bessa*** **(page 35)**

– Ocellar bristles stand behind the anterior ocellus (as in figs. 56, 57). Eyes with dense and long hairs. Facial ridges in their lower half concave or straight. Crossed apical bristles present, sometimes only hair-like. Back of the head domed. Body length 5 - 14 mm ***155***

155. 3 + 3 dc. Fore tibia with pd apical spur and pd-bristlet. Tergite 3 with discal bristles which are at least 2x as long as the hairs of the 3rd tergite. Females: 6th sternite V-shaped (figs. 192, 225, 226). Males: epandrium very large, viewed from behind almost half as wide as tergite 5 (only in the rare *Phorocera grandis* about as wide as 1/3 - 1/4 of tergite 5)..... ***Phorocera*** **(page 35)**

– 3 + 4 dc. Fore tibia without pd apical spur and (mostly) without pd-bristlets. Tergite 3 without discal bristles or with short bristles which are scarcely longer than the background hairs. Females: 6th sternite not V-shaped. Males: epandrium normal, viewed from behind only about as wide as 1/4 of tergite 5..... ***156***

156. Posterior edge of the tergites black, dusting hardly changeable (viewed with varying light angle). 3rd antennal segment in males 2.3 - 3.2x, in females 1.8 - 2.2x as long as the 2nd. Marginal bristles of tergite 4 at most as long as the segment. Tergites 3 and 4 with short discal bristles. Basicosta yellow or brown. 4th section of wing edge about as long as the 6th. Males: cerci flat and heart-shaped, not noticeably hairy ..... ***Diplostichus*** [***janitrix*** Hart.]

– Abdomen dusted to the posterior parts, with very changeable iridescent spots (viewed with varying light angle). 3rd antennal segment in males 3.8 - 4.5x, in females 2.7 - 3.7x as long as the 2nd. Marginal bristles of tergite 4 distinctly longer than the segment. Tergites 3 and 4 as a rule without discal bristles. Basicosta black. 4th section of wing edge much longer than the 6th. Males: cerci long and narrow, dorsally with bushy dense, curly hairs..... ***Parasetigena*** [***silvestris*** R.D.]

157. Arista thickened at 1/2 its length (as in fig. 12) or further (figs. 8, 9); the area in which this thickening diminishes, is short. Frons in both sexes about as wide as one eye or wider ***158***

– Arista thickened on 1/5 - 2/5 of its length (as in figs. 4, 12); tapering of the thickened part occurs over a greater length..... ***166***

158. Facial ridges with upright, strong bristles extending above the middle (as in figs. 6, 8, 9). Males with or without oe ***159***

– Facial ridges with bristlets only in the lower 1/5 - 2/5 (as in figs. 3 - 5); if slightly further, then bristlets are pendulous (fig. 13). Males always with oe. Tergite 2 not hollowed to the middle ***162***

159. Cheeks below the frontal bristles with dense, but short hairs (fig. 8). Peristome at least as wide as 3/5 of the maximum eye diameter. Occipital widening reduced; peristome in its anterior half therefore completely bare (fig. 8). Eyes with sparse and short hairs, in females sometimes almost bare. Tergites dusted to the posterior edge. Body length 5 - 8 mm..... ***Istocheta*** **(page 36)**
(without *hemichaeta* B.B., see number 171)

– Cheeks below the frontal bristles bare or at most with 1 - 3 hairs. Peristome much narrower. Hairy occipital widening developed at least on the posterior edge of the peristome. Eyes always bare..... ***160***

160. Tergite 2 dorsally hollowed practically to the posterior edge (as in fig. 168). 2nd section of wing edge as long as 1/3 - 1/2 of the 3rd. Tergites dusted grey, with the exception of a diffuse, dark band at the lower edge. Body length 5 - 7 mm..... ***Ligeriella*** [***aristata*** Vill.]

– Tergite 2 not hollowed to the posterior edge (as in figs. 167, 169). 2nd section of wing edge about 1/4 as long as the 3rd. Abdomen completely black or with narrow white bands at the anterior edge of the tergites. Body length 3 - 5 mm..... ***161***

161. r4+5 with 1 - 3 bristlets at the base. Middle tibia with 1 ad. Hind tibia with 2 dorsal apical spurs. Petiole of R5 as long as 1/4 - 1/2 of the post-angular vein. Abdomen completely shiny black, without dusting ..... ***Ligeria*** [***angusticornis*** Loew]

– r4+5 with bristlets extending at least to r-m. Middle tibia with 2 - 3 ad. Hind tibia with 3 dorsal apical spurs. R5 not petiolate or petiole much shorter. Tergites with narrow white bands at the anterior edge ..... ***Staurochaeta*** [***albocingulata*** Fall.]

162. Abdomen without discal bristles. 3rd antennal segment in its apical 1/3 at least 5x (females) - 10x (males) as wide as the cheeks at half height. Mouth edge pulled forwards, visible from the side. Body length 2 - 3.5 mm. Middle tibia with 1 ad. Abdomen shiny black; tergites at the anterior edge with narrow bands of grey dusting, that are interrupted in the middle..... ***Paracraspedothrix*** [***montivaga*** Vill.]

– Abdomen with discal bristles. 3rd antennal segment in its apical 1/3 at most 2x (females) - 4x (males) as wide as the cheeks at half height. Mouth edge not visible from the side. Body length 3.5 - 6.5 mm ***163***

163. Hind tibia with 3 dorsal apical spurs. Abdomen dusted up to the posterior edge (but tergites 4 and 5 in males often much weaker than tergites 2 and 3). 2 - 3 humeral bristles. 3rd antennal segment 1.5 (females) - 3x (males) as long as the 2nd. Cheeks at their narrowest point about as wide as the 3rd antennal segment..... ***164***

– Hind tibia with 2 dorsal apical spurs. Tergites completely shiny black or with narrow bands of dusting at the anterior edge. 2 humeral bristles. 3rd antennal segment 3.5 (females) - 8x (males) as long as the 2nd. Cheeks at their narrowest point at most half as wide as the 3rd antennal segment..... ***165***

164. ad apical spur of the fore tibia about as long and as strong as the dorsal apical spur; pd apical spur missing. 2nd arista segment as long as its diameter. Peristome as wide as 1/4 - 2/5 of the maximum eye diameter. Haustellum of the proboscis shorter than 1/2 the minimum eye diameter. Females: Sternite 7 dorsally deepened and tapered like an ovipositor..... ***Robinaldia*** [***angustata*** Vill.]

– ad apical spur of the fore tibia at most half as long as the dorsal apical spur; pd apical spur present. 2nd arista segment 1.5 - 2.5x as long as its diameter. Peristome as wide as 1/2 - 2/3 of the maximum eye diameter. Haustellum at least as long as 2/3 of the minimum eye diameter. Females: Sternite 7 laterally depressed (fig. 209) ..... ***Picconia*** [***incurva*** Zett.]

165. Abdomen completely shiny black, without dusting. Cheeks below the frontal bristles with very fine and short hairs which reach down to the middle or further. Middle tibia with 1 ad. Lateral scutellar bristles considerably shorter than the basals and subapicals, often only hair-like. Body length 3.5 - 4 mm ..... ***Erynniopsis*** [***antennata*** Rond.]

– Tergites with a narrow band of dusting at the anterior edge. Cheeks bare under the frontal bristles. Middle tibia with 2 - 3 ad. Lateral scutellar bristles as least as long and as strong as the basals, often as strong as the subapicals. Body length 4 - 6.5 mm ..... ***Leiophora*** [***innoxia*** Meig.]

166. Propleuron hairy (fig. 90). Apical scutellar bristles upright, mostly parallel (fig. 100). Tergite 2 dorsally hollowed to the posterior edge. Above the vibrissa a few bristlets at most in the lower 1/3 of the facial ridges. Eyes hairy or almost bare. Males mostly with paired dark spots on tergites 3 and 4..... ***Meigenia*** **(page 36)**

– Propleuron bare; if exceptionally with hairs, then other combinations of features..... ***167***

167. Middle tibia with only one strong isolated ad (as in fig. 154). ad apical spur of the fore tibia at most half as long as the dorsal apical spur. The 3 strongest bristles of the humeral callus always in a straight or nearly straight line (as in figs. 70, 80), rarely only 2 bristles present (as in fig. 81) ***168***

– Middle tibia with 2 - 3 or more ad (as in figs. 152, 153). ad apical spur of the fore tibia sometimes almost as long as the dorsal apical spur or even longer..... ***173***

168. Eyes with dense and long hairs. 4 dc behind the suture..... ***169***

– Eyes bare or practically bare. 3 dc behind the suture..... ***170***

169. Above the vibrissa, strong, upright bristles reach further than the middle of the facial ridges (as in fig. 6). Ocellar bristles missing or hair-like. 3rd antennal segment on its base not noticeably pulled forward. Hind coxae posterodorsally bare. 4 Humeral bristles. Females: Tergites 3 and 4 ventrally compressed, at the posterior edge with little spikes; Postabdomen with ovipositor (fig. 217) ..... ***Compsilura*** [***concinnata*** Meig.]

– Above the vibrissa, with bristlets only at the lower 1/3 of the facial ridges. Ocellar bristles as strong as the oi. 3rd antennal segment on its base strongly domed forwards. Hind coxae posterodorsally with 1 - 3 hairs. 3 Humeral bristles. Females: Tergites 3 and 4 normal; Postabdomen without ovipositor ..... ***Hemimacquartia*** [***paradoxa*** B.B.]

170. Tergites 3 and 4 without discal bristles. Vibrissa high above the level of the mouth edge. Facial ridges with bristlets only in the lower 1/4 - 1/3. Abdomen completely dusted. Cheeks with 4 - 10 hairs below the frontal bristles. Scutellum without apical bristles; laterals often double ..... ***Zaira*** [***cinerea*** Fall.]

– Tergites 3 and 4 with discal bristles. Vibrissa at level of mouth edge, bristlets or bristles above reach to at least the middle of the facial ridges ***171***

171. Cheeks below the frontal bristles with 8 - 15 hairlets. Peristome at least as wide as 3/5 of the maximum eye diameter (as in fig. 8). 1 Pair of strong acr before the suture (sometimes a pair of considerably shorter bristlets in front). Tergite 2 dorsally hollowed at most to the middle (as in fig. 169). Tergites completely dusted, not black at the posterior edge..... ***Istocheta*** [***hemichaeta*** B.B.]

– Cheeks below the frontal bristles bare or at most with 1 - 2 hairlets. Peristome at most as wide as 2/5 of the maximum eye diameter. 2 - 3 Pairs acr before the suture. Tergite 2 dorsally hollowed far further, frequently almost to the posterior edge (as in fig. 167). Tergites black at the posterior edge..... ***172***

172. Last section of cu1 as long as 1/2 - 2/3 of m-cu. Apical scutellar bristles missing. Rising bristlets hanging above the vibrissa. Peristome as wide as 1/8 - 1/5 of the maximum eye diameter. Palps black. 2 - 3 st. Females: Postabdomen at the end with a plate-like sclerite (=tergite 7) (figs. 184, 197-200). Males: Sternite 5 frequently with a tuft of hair visible from the side (figs. 205-208)..... ***Medina*** **(page 36)**

– Last section of cu1 at least as long as m-cu. Scutellum with hair-like apical bristles. Bristles above the vibrissa upright. Palps yellow. 2 st. Females: Postabdomen with an ovipositor which is folded forwards (similar to fig. 217, but mostly hidden in tergite 5 and only partially visible from behind). Males: Sternite 5 without tuft of hair ..... ***Vibrissina*** **(page 38)**

173. The 3 strongest humeral bristles stand in a straight or nearly straight line (as in fig. 80) or only 2 bristles present (as in fig. 81). ad apical spur of the fore tibia longer than the dorsal apical spur. Eyes practically bare. Bristlets above the vibrissa only in the lower 1/3 of the facial ridges (if exceptionally almost to the middle, then very short and pendulous)..... ***174***

– The 3 strongest humeral bristles stand in the shape of a triangle with right or oblique angles (as in figs. 71, 77). ad apical spur of the fore tibia as long as the dorsal apical spur or shorter. Tergites 3 and 4 always with strong discal bristles ***176***

174. Tergite 2 dorsally hollowed to the posterior edge. Discal bristles of tergites 3 and 4 strong, almost as long as the marginal bristles. Humeral callus with 4 bristles. Middle tibia with 3 - 5 ad. Palps black or yellow. Posterior edge of tergites black. Females: tergites 3 and 4 ventrally compressed, at the posterior edge with bristlets (as in fig. 217); Postabdomen with ovipositor..... ***Blondelia*** **(page 38)**

– Tergite 2 not hollowed to the posterior edge. Tergites 3 and 4 without or with only very weak discal bristles (much finer and shorter than the marginals. Humeral callus with 2 - 3 bristles. Middle tibia with 2 (-3) ad. Palps yellow. Tergites dusted to the posterior edge (dusting sometimes only very weak or almost extinguished on the last tergites). Females: tergites 3 and 4 normal; Postabdomen without ovipositor ***175***

175. Haustellum of the proboscis 1 - 1.5x as long as its diameter, at most as long as 1/4 of the minimum eye diameter. Last section of cu1 as long as 1/2 - 2/3 of m-cu. Hind tibia with 2 dorsal apical spurs. Thickened part of the arista yellow. Males: abdominal hairs prone. Females: Postabdomen at the end plate-like (as in fig. 197) ..... ***Paratrixa*** [***polonica*** B.B.]

– Haustellum 4 - 5x as long as its diameter, at least as long as the minimum eye diameter. Last section of cu1 longer than m-cu. Hind tibia with 3 dorsal apical spurs. Thickened part of the arista black. Males: abdominal hairs upright. Females: Postabdomen normal..... ***Conogaster*** [***pruinosa*** Meig.]

176. Eyes hairy, hairs as long as 3 - 4 eye facets (to be viewed against a dark background!). Palps black or dark brown..... ***177***

– Eyes bare or practically bare; if single hairlets are present, these are at most as long as 1 - 2 eye facets. The bristlets above the vibrissa reach at most the middle of the facial ridges ***178***

177. Above the vibrissa strongly upright bristles rise further than the middle of the facial ridges (mostly up to 2/3 - 4/5 of their height). Tergite 2 not dorsally hollowed to the posterior edge. Lateral scutellar bristles strong, about as long as the subapicals (as in fig. 104). 3rd Antennal segment 2.5 - 5x as long as the 2nd ..... ***Lecanipa*** **(page 37)**

– The bristles above the vibrissa reach to at most the middle of the facial ridges. Tergite 2 dorsally hollowed to the posterior edge. Lateral bristles much shorter than the subapicals, shorter than the basals. 3rd Antennal segment 1.2 - 2x as long as the 2nd ..... ***Lomachantha*** [***parra*** Rond.]

178. Lateral scutellar bristles longer than the basals, most often almost as long as the subapicals (fig. 104). Costal spine not differentiated or at most 2x as long as the surrounding costal hairs. 3rd Antennal segment 2.5 - 4x as long as the 2nd. r4+5 with bristlets extending 1/3 of the distance between the base and r-m ***Oswaldia*** **(page 38)**

– Lateral bristles shorter than the basals. Costal spine strong, 3 - 5x as long as the surrounding costal hairs. 3rd Antennal segment 1.2 - 1.8x as long as the 2nd. r4+5 with bristlets extending at least half the distance between the base and r-m or further ..... ***Belida*** **(page 35)**

179. Eyes densely haired; individual hairs at least as long as 3 - 4x the eye facets ***180***

– Eyes bare or practically bare; if scattered hairs are present, then these are only as long as 1 - 2.5 eye facets ***210***

180. Simultaneously: Peristome narrower than the cheeks at the level of the antennal base (both measured in lateral view, fig. 4) and no black hairs or bristlets on the back of the head behind the post-ocular hairs (only light-coloured hairs). Palps yellow. 2 st ***181***

– Peristome wider than the cheeks at the level of the antennal base, but if narrower, then with black bristlets behind the post-ocular hairs and 3 or 4 st ***182***

181. Middle tibia with a strong inner bristle (fig. 154). Hind coxae posterodorsally hairy (fig. 165). ***Carcelia*** **(page 43)**

– Middle tibia without inner bristle (fig. 155). Hind coxae posterodorsally bare (as in fig. 166) ..... ***Senometopia*** **(page 44)**

182. The 3 strongest bristles of the humeral callus stand in the shape of a triangle (figs. 71, 72)..... ***183***

– Humeral callus with 3 bristles in a straight or nearly straight line and 0 - 2 bristles in front of this (figs. 70, 73, 74) ***190***

183. Barrette with hairs to the end (or for at least 2/3 its length) (as in fig. 97)..... ***184***

– Barrette bare (fig. 98) or at most in front with 1 - 2 hairlets..... ***185***

184. Arista thickened almost to its end (fig. 38). Several rows of black bristlets on the upper-half of the back of the head (behind the post-ocular hairs). Cheeks at their narrowest point almost as wide as 1/2 the minimum eye diameter. Abdomen evenly dusted to the end ..... ***Rhaphiochaeta*** [***breviseta*** Zett.]

– Arista thickened only at its basal 1/5 - 1/4 (fig. 5). Only light-coloured hairs on the upper-half of the back of the head (behind the post-ocular hairs). Cheeks at their narrowest point as wide as 1/10 - 1/6 of the minimum eye diameter (fig. 5). Abdomen mostly with 1 - 3 black spots in the dusting of tergite 3 (and 4) ***Nemorilla*** **(page 40)**

185. Tergites 3 and 4 without discal bristles. Facial ridges (in lateral view) strongly convex (as in figs. 15, 16). Middle tibia with 3 - 4 ad. Palps black. Tergites dusted to the end, with varying iridescent spots..... ..... ***Euexorista*** [***obumbrata*** Pand.]

– Tergites 3 and 4 with discal bristles ***186***

186. Tergite 2 dorsally not hollowed to the posterior edge. Cheeks at least as wide as the 3rd antennal segment. Facial ridges (in lateral view) concave. Back of the head strongly domed. 3 dc behind the suture. Middle tibia with 3 - 6 ad. Palps black ..... ***Ptesiomyia*** [***alacris*** Meig.]

– Tergite 2 hollowed to the posterior edge. Cheeks narrower than the 3rd antennal segment ***187***

187. Arista thickened to 2/3 - 3/4 of its length (as in fig. 41). Peristome narrower than the cheeks at the level of the antennal base. Hind tibia with 3 dorsal apical spurs (pd apical spur however sometimes very short). Frons in both sexes wider than one eye and with 2 oe. 3 dc behind the suture. Middle tibia with 3 - 5 ad .... ***Thelymyia*** [***saltuum*** Meig.]

– Arista thickened at most to 2/5 of its length. Peristome wider than the cheeks at the level of the antennal base. Hind tibia with 2 dorsal apical spurs ***188***

188. No black bristlets on the upper-half of the back of the head (behind the post-ocular hairs). Hind coxae posterodorsally mostly with one bristlet. 3 dc behind the suture. Palps black..... ***Amelibaea*** [***tultschensis*** B.B.]

– Black bristlets on the upper-half of the back of the head (behind the post-ocular hairs). Hind coxae almost always bare..... ***189***

189. Lateral scutellar bristles 0.9 - 1.1x the length of the basal bristles. Length of the mouth opening (viewed from below) 0.7 - 1.0x as long as the frons (fig. 12). Apart from the 3 strong humeral bristles which stand in a triangle, there are only at most 1 - 2 much weaker bristlets inside at the front (fig. 71). Middle tibia with 2 - 3 ad, seldom (*P. villica*, *vicina*) with only 1 ad and a little bristlet above it ..... ***Phebellia*** **(page 40)**

– Lateral scutellar bristles 0.6 - 1.0x the length of the basal bristles. Length of the mouth opening 0.60 - 0.75x as long as the frons (fig. 13). 5 Humeral bristles present, those 2 bristles which are at the front inside, are scarcely weaker than the shortest of the 3 bristles arranged in a triangle (fig. 72). Middle tibia frequently with only 1 ad, at most with a little bristlet above it ..... ***Myxexoristops*** **(page 46)**

190. Simultaneously the following 4 features present: base of r4+5 with a single, strong bristlet (at least as long as r-m, see fig. 129); back of the head in its upper half behind the post-ocular hairs with light-coloured hairs only, or with at most 5 - 10 black bristlets on each side; tergite 3 (and mostly also tergite 4) without discal bristles; 4 st ***191***

– Other combinations of features ***192***

191. Ocellar bristles missing. Cheeks hardly narrowing downwards, at their narrowest point as wide as 3/5 - 5/6 of the 3rd antennal segment. Middle tibia with 1 - 3 ad. Tergites 3 and 4 dusted, a black central longitudinal line and a narrow black seam at the posterior edge of the tergites. Scutellum and palps predominantly yellowish. Tergites 4 and 5 in males with a ventral sturmia spot. Body length 7 - 10 mm ..... ***Drino*** [***lota*** Meig.]

– Ocellar bristles present. Cheeks strongly narrowing downwards, at their narrowest point about as wide as 1/6 of the 3rd antennal segment. Middle tibia with 1 ad. Tergites black, the anterior edge with a narrow band of dusting, interrupted in the middle. Scutellum totally black, palps black or brown at the tip. Abdomen in males without a sturmia spot. Body length 5 - 6 mm ..... ***Cadurciella*** [***tritaeniata*** Rond.]

192. Crossed apical scutellar bristles raised at an angle of between 60 - 90° to the scutellum (fig. 110) ***193***

– Apical bristles not (fig. 109) or scarcely (at most at an angle of 30°) raised or missing ***197***

193. Humeral callus with 3 bristles in a straight or nearly straight line (fig. 70). Hind coxae posterodorsally hairy (as in fig. 165). Upper half of the back of the head (behind the post-ocular hairs) often only with light-coloured hairs. Frons 0.7 - 0.9x as wide as one eye. Palps yellow. Scutellum at least in its posterior 3rd reddish..... ..... ***Huebneria*** [***affinis*** Fall.]

– 4 - 5 Humeral bristles (figs. 73, 78, 80). Hind coxae posterodorsally bare. Upper half of the back of the head (behind the post-ocular hairs) with one or several rows of black bristlets ***194***

194. Tergites 3 and 4 without discal bristles. 1 oi (fig. 3). Males: hind tibia ad with a regular comb without intermediate bristles (as in fig. 160). 4 st. Middle tibia with 1 ad. Palps black..... ***Catagonia*** [***aberrans*** Rond.]

– Tergites 3 and 4 with discal bristles. 2 - 3 oi. Males: hind tibia without a regular comb of bristlets ***195***

195. Distance of the posterior ocelli from each other 0.14 - 0.22x as great as the width of the frons (fig. 57). Anterior humeral bristle stands before the line between middle and inner basal humeral bristle (as in fig. 80). Simultaneously the following 5 features: 4 or 5 st; bristlets above the vibrissa rise a little further than to half the level of the facial ridges (as in fig. 7); arista thickened at most to its middle; scutellum quite black; 4 dc behind the suture. All specimens whose frons is narrower than one eye and whose middle tibia has only 1 ad, belong here ..... ***Pseudoperichaeta*** **(page 42)**

– Distance of the ocelli 0.20 - 0.28x as great as the width of the frons (as in fig. 53). Anterior humeral bristle almost always directly in front of the middle basal humeral bristle (fig. 73), seldom shifted a little to the inside. Other combinations of features. Frons always wider than one eye and middle tibia with at least 2 ad..... ***196***

196. ad apical spur of the fore tibia longer and stronger than the dorsal apical spur (as in fig. 150). Bristlets above the vibrissa strong, rising up to 2/3 of the level of the facial ridges, without hairs in between. Arista thickened for 4/5 - 5/6 of its length, its 2nd segment 3 - 5x as long as wide ..... ***Madremyia*** [***clausa*** Vill.]

– ad apical spur of the fore tibia shorter and weaker than the dorsal apical spur (as in fig. 148) ***Phryxe*** **(page 41)**

197. Legs, scutellum, palps as well as 1st and 2nd antennal segment yellow. Apical scutellar bristles missing or hair-like. Peristome almost as wide as 1/2 of the maximum eye diameter. Tergites with uniformly yellowish-grey dusting ..... ***Phryno*** [***vetula*** Meig.]

– At least the femora and tarsi of the legs black..... ***198***

198. Apical scutellar bristles missing. Peristome almost as wide as 1/2 the maximum eye diameter or a little wider ***199***

– Crossed apical bristles present ***200***

199. Facial ridges with several rows of bristlets extending over half-way up from the vibrissa (similar to fig. 15, but rising higher). Arista thickened to 3/5 - 3/4 of its length. 4 dc behind the suture. Middle tibia with 2 - 4 ad. Body length 7 - 13 mm ..... ***Bothria*** **(page 47)**

– Facial ridges with bristlets present in only the lower 1/5 - 2/5. Arista thickened up to 2/5 to a little more than 1/2 its length. 3 dc behind the suture. Middle tibia with 1 ad. Body length 4 - 7 mm ..... ***Cyzenis*** **(page 47)**

200. Facial ridges with bristlets only in the lower 1/5 - 1/3 (as in figs. 3 - 5) ***201***

– Bristlets extending from the vibrissa to at least the middle of the facial ridges (as in figs. 6-9, 13) (seldom only up to 2/5) ***206***

201. Simultaneously the 2 following features present: scutellum and palps quite black, nowhere reddish transparent; tergites 3 and 4 with discal bristles..... ***202***

– Other combinations of features ***203***

202. 4th section of wing edge about as long as the 6th (fig. 121), set with little spines for almost its total length. Facial ridges (in lateral view) slightly concave (as in fig. 12). Inner edge of the calyptrae black-rimmed. Tergites 3 and 4 as a rule with one pair of discal bristles only. Males: ve almost as long and strong as the oi; mostly 2 oi present..... ***Platyma*** [***fimbriata*** Meig.]

– 4th section of wing edge 1.5 - 2x the length of the 6th, little spines only at its base (fig. 122). Facial ridges straight or convex (fig. 16) (slightly concave in females of *E. mitis*). Inner edge of the calyptrae at most faintly brownish. Tergites 3 and 4 almost always with 2 pairs each of discal bristles. Males: ve not differentiated from the post-ocular hairs; as a rule only one oi present which stands isolated..... ***Eumea*** **(page 45)**

203. Tergite 5 only 0.4 - 0.6x as long as tergite 4. 4 st. Middle tibia with 1 - 2 ad. Palps black. Scutellum predominantly yellow. Frontal bristles parallel to the facial ridges descending far down the cheeks. Abdominal patterning in males very characteristic: tergite 3 and a very narrow anterior edge rim of tergite 4 dusted, the rest of tergite 4 as well as tergite 5 shiny black. Abdomen in females with 2 wide bands on tergite 3 and 4 often as well as an additional very narrow band at the anterior edge of tergite 5..... ***Aplomya*** [***confinis*** Fall.]

– Tergite 5 about as long as tergite 4 or scarcely shorter..... ***204***

204. 3rd Antennal segment 1.5 - 1.8x as long as the 2nd.Tergites 3 and 4 without discal bristles. Males: frons 0.40 - 0.55x as wide as one eye; tergites 4 and 5 ventrally with dense, prone hairs on a shiny black background. Females: Face shorter than frons. 3 st. Palps black. Scutellum black, only on the sides at the back weak reddish transparent ..... ***Alsomyia*** [***capillata*** Rond.]

– 3rd Antennal segment at least 2x as long as the 2nd. Tergite 4 often with irregular discal bristles (sometimes also tergite 3). Males: frons wider; tergites 4 and 5 ventrally with or without prone, dense hairs. Females: face at least as long as the frons ***205***

205. 4 st. 2 oi (the anterior is longer). Palps black. Scutellum in its posterior 2/3 yellow. Males: tergites 4 and 5 ventrally without zones of dense hairs..... ***Tlephusa*** [***cincinna*** Rond.]

– 3 st. 1 oi (seldom a shorter one in front). Palps yellow. Scutellum black, at the tip slightly reddish transparent. Males: tergites 4 and 5 ventrally shiny black, with dense ± prone hairs..... ***Nilea*** [***hortulana*** Meig.]

206. Hind tibia with 3 long dorsal apical spurs. Costal spine 4 - 6x as long as the surrounding costal hairs. 3 dc behind the suture. Frons in both sexes wider than one eye. Bristlets above the vibrissa upright, strong. Arista thickened to 2/3 - 3/4 of its length, its 2nd segment 2x as long as its diameter. Tergites 3 and 4 without discal bristles or with only a very short pair shifted a little backwards..... ***Phonomyia*** [***aristata*** Rond.]

– Hind tibia with 2 dorsal apical spurs. Costal spine not or little differentiated from the remaining costal hairs (at most 2.5x as long). 4 dc behind the suture..... ***207***

207. 2 oi, the anterior longer (as in figs. 10, 13). Species with yellowish-grey to golden yellow dusting. Middle tibia with 1 - 2 (seldom 3) ad. Palps yellow. Abdomen with discal bristles ***208***

– 1 oi (as in figs. 3, 16), sometimes a shorter one in front (as in fig. 14). Dark species, dusting whitish-grey or slightly bluish. Middle tibia with 2 - 3 ad. Palps black or yellow. Abdomen with or without discal bristles..... ***209***

208. Bristles above the vibrissa strong, upright, as a rule rising above the middle of the facial ridges (as in figs. 6, 9). Marginal bristles of the 2nd tergite hair-like or missing. Males: hairs on tergites 3 and 4 upright, however a narrow, mediodorsal longitudinal stripe ± prone (about 2 rows of hairs width) ..... ***Clemelis*** [***pullata*** Meig.]

– Bristlets above the vibrissa short, hanging, rising up to only about the middle of the facial ridges (as in fig. 13). Tergite 2 always with 2 marginal bristles. Males: abdomen without prone, mediodorsal longitudinal hair stripe ..... ***Zenillia*** **(page 46)**

209. Bristlets above the vibrissa strong, upright, rising to 2/3 - 4/5 of the facial ridges (as in fig. 6). Abdomen shiny bluish or black, with light, white dusting. Tergites 3 and 4 always with discal bristles. 3 st. Palps black ..... ***Pales*** **(page 47)**

– Bristlets above the vibrissa more hanging, rising to 1/2 - 2/3 of the facial ridges (as in fig. 7). Tergites black with broad bands of white dusting. Tergite 3 (and often also tergite 4) without discal bristles. 3 or 4 st. Palps yellow or black ..... ***Nilea*** **(page 41)**
(without *N. hortulana*, see number 205)

210. Legs yellow (only tarsi dark). Body hairs black. Tergite 4 with a complete row of discal bristles. Facial ridges (in lateral view) strongly convex. The section of m between m-cu and the deflection is longer than the post-angular vein. Uniformly yellowish-grey dusted species. 1st and 2nd antennal segment vivid yellow. Body length 4 - 7 mm ..... ***Ocytata*** [***pallipes*** Fall.]
(often with reduced post-angular vein, see number 28)

– Legs totally black or at least the femora and tibia partially black ***211***

211. Bristles above the vibrissa strong, rising further than the middle of the facial ridges (as in figs. 6, 8, 9) ***212***

– Above the vibrissa there are bristlets only in the lower 1/6 - 2/5 of the facial ridges (as in figs. 12, 14); if the bristlets rise exceptionally a little further, they are short and pendulous (as in figs. 13, 15) ***217***

212. Back of the head behind the post-ocular hairs without black bristlets. Arista thickened for at least 2/3 of its length. 3rd antennal segment 7 - 8x as long as the 2nd ***213***

– Back of the head in the upper half behind the post-ocular hairs with one or more rows of black bristles ***214***

213. Between the row of frontal bristles/oi and the oe (also present in males) there is a further row of bristles (fig. 56). Hairs (except at the back of the head) black. Body dusting whitish-grey. Abdomen black with whitish-grey dusting and iridescent spots. Tergite 2 dorsally not hollowed to the posterior edge. Apical scutellar bristles missing, but directly before the tip of the scutellum there are 2 strong, upright bristles (as in fig. 107) ..... ***Thelymorpha*** [***marmorata*** F.]

– No additional bristle row between the row of the frontal bristles/oi and the oe, the latter are missing in males. Peristome, sides of the thorax and ventral base of the abdomen with yellow hairs. Body dusting golden yellow. Abdomen predominantly yellow. Tergite 2 dorsally hollowed to the posterior edge. Apical scutellar bristles strong, crossed ..... ***Frontina*** [***laeta*** Meig.]

214. Arista thickened to 2/3 - 5/6 of its length. Palps yellow ***215***

– Arista thickened to 1/4 - 2/5 of its length. Palps black ***216***

215. Cheeks very strongly narrowed downwards (at its narrowest point narrower than the palps). Peristome narrower than the cheeks at the level of the antennal base. Costal spine about as long as r-m. Tergite 2 dorsally hollowed to the posterior edge. Tergites 3 and 4 without discal bristles. Scutellum on its surface with 2 reclinate bristles. 4 st. Hind tibia with 2 - 3 dorsal apical spurs (if 3, then of unequal length). Body length 7 - 8 mm ..... ***Periarchiclops*** [***scutellaris*** Fall.]

– Cheeks not narrowed downwards, at least 5x as wide as the palps. Peristome at least as wide as the cheeks. Costal spine strong, 2 - 3x as long as r-m. Tergite 2 not hollowed to the posterior edge. Tergites 3 and 4 with discal bristles. Scutellum on its surface with 2, almost upright, strong bristles. 3 st. Hind tibia with 3, almost equally long dorsal apical spurs. Body length 5 - 6.5 mm ..... ***Brachicheta*** [***strigata*** Meig.]

216. Apical scutellar bristles strong, crossed, almost upright (as in fig. 110). Middle tibia with 3 ad. 4 Humeral bristles. Ocellar bristles missing or hair-like (males) or at any rate much weaker than the oi (females). 4 dc behind the suture. r-m stands at a noticeable slant to m (as in fig. 134). Tergite 3 (and often also tergite 4) without discal bristles. The distance of m between r-m and m-cu is about 2 - 3x as long as between m-cu and the deflection (as in figs. 127, 133). Body length 6 - 10 mm ..... ***Prosopea*** [***nigricans*** Egg.]

– Apical scutellar bristles very thin (scarcely longer than the scutellar hairs) or missing. Middle tibia with 1 ad (rarely a very much shorter one above). 2 - 3 Humeral bristles. Ocellar bristles about as strong as the oi. 3 - 4 dc behind the suture. r-m stands almost vertical on m. Tergites 3 and 4 with discal bristles. The distance of m between r-m and m-cu is of about equal length to that between m-cu and the deflection (as in fig. 128). Body length 3 - 7 mm ..... ***Elodia*** **(page 47)**

217. Simultaneously the following 2 features present: 4 st; base of r4+5 with a single, strong bristlet (as in fig. 129) (Specimens with 1 strong bristlet and an additional much weaker one, should be tested with both alternatives) ***218***

– Other combinations of features ***221***

218. Tergites 3 and 4 with discal bristles. Palps and scutellum black. Crossed apical scutellar bristles upright at an angle of 60 to almost 90° (fig. 2). Back of the head in its upper half behind the post-ocular hairs with 1 - 3 rows of black bristlets. Ocellar bristles as strong as the oi. Males: ventral side of tergite 4 almost always with a sturmia spot as in fig. 186 (except in the exceptionally rare *L. lacustris*) ..... ***Lydella*** **(page 42)**

– Tergites 3 and 4 without discal bristles. Palps or scutellum (or both) at least at the tip yellow or reddish ***219***

219. Ocellar bristles missing or much weaker than the strongest oi ***220***

– Ocellar bristles about as strong as the strongest oi ***221***

220. Peristome (in lateral view) as wide as the cheeks at the level of the antennal base or wider (as in fig. 14). 4 Humeral bristles. Scutellum at least at its tip reddish. Apical scutellar bristles raised at an angle of about 30 - 60° (as in fig. 111). Back of the head in its upper half behind the post-ocular hairs almost always with black bristlets. Middle tibia with 1 - 3 ad. Males: tergite 4 (sometimes also tergite 5) with a ventral sturmia spot (as in fig. 186). Body length 5 - 12 mm ..... ***Drino*** **(page 43)**

– Peristome narrower than the cheeks at the level of the antennal base (as in fig. 4). 2 - 3 Humeral bristles. Scutellum black. Crossed apical scutellar bristles raised at an angle of about 60 - almost 90° (as in fig. 110). Back of the head in its upper half behind the post-ocular hairs without black bristlets. Middle tibia with a single isolated ad. Males: abdomen ventrally without a sturmia spot. Body length 4.5 - 5.5 mm ..... ***Thelyconychia*** [***solivaga*** Rond.]

221. ad apical spur of the fore tibia longer and stronger than the dorsal apical spur (fig. 150). 3 dc behind the suture (in *Pachystylum bremii* 4 dc can be present individually; in this species, however, the 2nd arista segment is at least 6x as long as its diameter). Back of the head domed, in its upper half behind the post-ocular hairs with at least 3 rows of black bristlets. Hind tibia with 3 - 4 dorsal apical spurs..... ***222***

– ad apical spur of the fore tibia weaker and shorter than the dorsal apical spur (as in fig. 148). 4 dc behind the suture. 2nd arista segment at most 2x as long as its diameter..... ***224***

222. Arista thickened basally to 1/3 - 2/5 of its length, its 2nd segment about as long as its diameter. Tibia reddish-yellow. Base of r4+5 with a single strong bristlet (rarely a further, much shorter bristlet present). Ocellar bristles much weaker than the frontal bristles. Frons in males much narrower than one eye and without oe, in females about as wide as an eye and with 2 oe. Tergite 2 not hollowed to the posterior edge. ***Pelatachina*** [***tibialis*** Fall.]

– Arista thickened to 3/4 - 5/6 of its length, its 2nd segment at least 4x as long as its diameter. Tibia black. r4+5 with bristlets extending for at least 2/5 of the distance between the base and r-m. Ocellar bristles about as strong as the frontal bristles. Frons in both sexes much wider than one eye and with 2 oe..... ***223***

223. Scutellum with raised, crossed apical bristles. 4 Humeral bristles. Tergite 2 dorsally hollowed to the posterior edge. Tergites 3 and 4 with or without discal bristles. Cheeks narrowing downwards, at its narrowest point as wide as 1/4 - 1/3 of the 3rd antennal segment. 4 - 5 st. 2nd Arista segment about as long as the thickened section of the 3rd segment..... ***Pachystylum*** [***bremii*** Macq.]

– Scutellum without apical bristles, near the tip however with 2 strong, upright bristles (fig. 107). 2 Strong humeral bristles, sometimes inside another thin 3rd bristle. Tergite 2 dorsally not hollowed to the posterior edge. Tergites 3 and 4 with discal bristles. Cheeks not narrowed downwards, about as wide as the 3rd antennal segment. 3 st. 2nd Arista segment about half as long as the thickened section of the 3rd segment ..... ***Masistylum*** [***arcuatum*** Mik]

224. The distance of m between m-cu and the deflection is longer than the post-angular vein (or at least equally long) and 0.7 - 1.0x as long as the distance between r-m and m-cu (figs. 118, 128). Middle tibia with one strong ad, rarely another short bristlet above. Body length 3.5 - 8 mm ***225***

– The distance of m between m-cu and the deflection is shorter than the post-angular vein and 0.3 - 0.6x as long as the distance between r-m and m-cu (as in fig. 127)..... ***228***

225. Cheeks very narrow, at half their height about as wide as 1/5 - 1/3 of the 3rd antennal segment. Peristome as wide as 1/7 - 1/5 of the maximum eye diameter. Palps and 2nd antennal segment black or yellow ***226***

– Cheeks at half their height at least as wide as 3/4 of the 3rd antennal segment. Peristome as wide as 1/3 - 3/5 of the maximum eye diameter. Palps and 2nd antennal segment yellow..... ***227***

226. Palps and 2nd antennal segment black. Arista thickened to about 2/5 of its length. Hind tibia with 2 dorsal apical spurs. Tergites dusted on 2/3 of their length, with a dark central longitudinal line. Tergites 3 and 4 with discal bristles. Apical scutellar bristles upright. Frons in males without oe ..... ***Bactromyia*** [***aurulenta*** Meig.]

– Palps and 2nd arista segment yellow (in females also 3rd antennal segment totally or predominantly yellow). Arista thickened to 3/5 - 3/4 of its length. Hind tibia with 3 dorsal apical spurs. Abdomen shiny black, with narrow whitish bands of dusting at the anterior edge of the segments. Tergite 3 without discal bristles. Apical bristles variable, often missing. Frons in males with 2 oe..... ***Eurysthaea*** [***scutellaris*** R.D.]

227. Tergites 3 and 4 with discal bristles. All tergites dusted yellowish-grey up to the posterior edge. 2 dc before the suture. 3 Humeral bristles. Back of the head in its upper half behind the post-ocular hairs with 2 - 3 rows of black bristlets. Frons in males without or with a hair-like oe. Body length 4.5 - 6 mm ..... ***Erythrocera*** [***nigripes*** R.D.]

– Tergites 3 and 4 without discal bristles (rarely 1 or 2 irregular bristlets on tergite 4). Tergite 2 black, tergites 3 - 5 with a black rim at the posterior edge. 3 dc before the suture. 4 Humeral bristles. Back of the head in its upper half behind the post-ocular hairs with only one row of black bristlets. Frons in males often with one strong oe. Body length 5 - 8 mm..... ***Rhacodinella*** [***apicata*** Pand.]

228. The 3 strongest bristles of the humeral callus are arranged in the form of a triangle (as in figs. 71, 77). 3 st. Tergites 3 and 4 with discal bristles ***229***

– 4 Humeral bristles, the 3 strongest stand in a straight line (as in figs. 73, 80)..... ***230***

229. Hind tibia with 2 dorsal apical spurs (as in figs. 156-158). Arista thickened to 1/3 - 2/5 of its length. Palps, tibiae as well as most of the scutellum and the wing-root yellow. Abdomen with even, yellowish-grey dusting. Males: epandrium very large, viewed from behind as wide as 2/5 - 3/5 of the 5th tergite..... ***Erycilla*** **(page 47)**

– Hind tibia with 3 dorsal apical spurs (as in fig. 159). Arista thickened to 3/5 - 2/3 of its length. Palps, Tibiae and scutellum black or dark brown. Wing-root dark brown. Abdomen shiny black, with a wide whitish band of dusting at the anterior edge of the segments. Males: epandrium viewed from behind as wide as 1/4 - 1/3 of the 5th tergite..... ***Allophorocera*** **(page 47)**

230. Frons with a single oi (as in figs. 3, 16), sometimes (especially in females) with a shorter bristle in front (fig. 14) 3rd Antennal segment 1.7 - 2.5x as long as the 2nd. Males: tergite 4 ventrally or at the sides with a sturmia spot (as in fig. 186); hind tibia with a regular ad-comb without or with intermediate bristle (as in figs. 160-162); frons without oe. Back of the head in the upper half behind the post-ocular hairs without black bristlets or with at most 5 bristlets on each side. Tergites 3 and 4 without discal bristles.....***231***

– Frons with 2 - 3 oi, the anterior one(s) longer and stronger. 3rd Antennal segment 2.8 - 7x as long as the 2nd. Males: tergite 4 without sturmia spot (exception: *Masicera pavoniae*; the males of this species have however 1 oe); ad-comb of the hind tibia more irregular than in figs. 160-162.....***233***

231. Cheeks narrowed downwards, their narrowest point (in lateral view) as wide as 1/5 - 1/3 of the 3rd antennal segment (fig. 14). Tergite 5 with upright hairs only, without discal or marginal bristles. Crossed apical scutellar bristles raised by about 45° (as in fig. 111). Males: ad-comb of the hind tibia with a stronger intermediate bristle (as in figs. 161, 162). 4 st. Middle tibia with 1 (males) - 2 ad (females). Palps yellow. Back of the head in the upper half behind the post-ocular hairs totally without black bristlets .....***Townsendiellomyia*** [***nidicola*** Tns.]

– Cheeks not or hardly narrowed downwards, about as wide as the 3rd antennal segment. Tergite 5 at least with marginal bristles. Crossed apical scutellar bristles raised at most at an angle of 30°. Males: ad-comb of the hind tibia without intermediate bristle (as in fig. 160).....***232***

232. Distance of the subapical scutellar bristles from each other 1.5 - 2x as great as the distance between basals and subapicals. 4 st. Palps and 2nd antennal segment black. Middle tibia with 1 - 2 ad ....***Sturmia*** [***bella*** Meig.]

– Distance of the subapicals from each other about as great as the distance between basals and subapicals. 3 st. Palps yellow, 2nd antennal segment predominantly yellow. Middle tibia with 2 - 3 ad ..***Blepharipa*** **(page 48)**

233. Peristome about as wide as 1/2 the maximum eye diameter. Cheeks as wide as 3/5 - 3/4 of the minimum eye diameter. Vibrissa short, at most as long as 2/5 of the face height (fig. 15). Palps, 2nd antennal segment, basicosta and tibiae yellow. Abdomen evenly dusted yellowish-grey. Tergites 3 and 4 without discal bristles .....***Pexopsis*** [***aprica*** Meig.]

– Peristome at most as wide as 1/3 of the maximum eye diameter. Cheeks at most as wide as 1/3 of the minimum eye diameter. Vibrissa strong, at least as long as 2/3 of the face height.....***234***

234. Peristome narrower than the cheeks at the level of the antennal base (as in fig. 4), narrower than the 3rd antennal segment. Back of the head in the upper half behind the post-ocular hairs frequently without black bristlets (rarely with a few). Palps black or dark brown. 4 st .....***Thecocarcelia*** [***acutangulata*** Macq.]

– Peristome wider than the cheeks at the height of the antennal base, wider than the 3rd antennal segment. Back of the head in the upper half behind the post-ocular hairs with one or more rows of black bristlets. Palps yellow (at least at the tip). 3 or 4 st.....***235***

235. Tergites 3 and 4 with discal bristles. 3 st. Basicosta yellow.....***236***

– Tergite 3 (and often also tergite 4) without discal bristles. 3 or 4 st. Basicosta black or ± extensively yellow .***237***

236. Middle tibia with 1 ad (seldom another short one above). Arista thickened only in its basal 1/4. Frons in females about as wide as one eye, in males narrower. Tibiae black.....***Xylotachina*** [***diluta*** Meig.]

– Middle tibia with 3 - 4 ad. Arista thickened to 2/3 - 3/4 of its length. Frons 1.5 - 2x as wide as one eye. Tibiae yellow.....***Ceromasia*** [***rubrifrons*** Macq.]

237. Arista thickened to 1/3 - 1/2 its length. Distance of the post-ocellar bristles from each other at most as great as the distance between both posterior ocelli. Basicosta black or ± extensively yellow. Frons in males without oe. Females: tergite 5 often longer than tergite 4. Mostly yellowish-grey dusted species.....***Erycia*** **(page 45)**

– Arista thickened to 3/5 - 4/5 of its length. Distance of the post-ocellar bristles from each other greater than the distance between both posterior ocelli. Basicosta black. Frons in males with 1 or 2 oe. Females: tergite 5 at most as long as tergite 4. Dark species, dusting grey .....***Masicera*** **(page 48)**
(If a result has not been achieved by number 237, number 218 should be examined, because some individuals of the *Lydella* species have only 3 st)

238. Proboscis thin, much longer than the head (fig. 28). Arista with 'long feathering' (plumose) (fig. 28). Tergite 2 hollowed dorsally to the posterior edge (as in fig. 168).....***Prosena*** [***siberita*** F.]
(specimens in which there is only 1 ia present)

– Proboscis thicker, at most as long as the head. Arista bare or with only very fine hairs. Tergite 2 not hollowed to the posterior edge (as in figs. 169-173).....***239***

239. Simultaneously: eyes hairy; cheeks with hairs or bristles to the lower eye rim; peristome in its anterior half not sclerotized (as in fig. 8); prosternum bare. Body length 7 - 8 mm..... ***Angiorhina*** **(page 61)**

– Other combinations of features ***240***

240. Small species (2.5 - 6 mm) with the following features: body colouring shiny black. Abdomen with discal bristles. Back of the head totally covered with black hairs. Cheeks at least in their lower half bare. Frons in males narrow and without oe, in females wide and with 2 oe. Eyes in some species (of *Dufouria*) hairy. R5 open or closed at the wing edge ***241***

– Other combinations of features. Eyes always bare.....***242***

241. 1 ia behind the suture. Tergite 3 without discal bristles. Subapical scutellar bristles missing or hair-like (fig. 106). Pteropleural bristle at least 1.5x as long as the surrounding hairs. Palps yellow to black. Body length 2.5 - 4 mm .....***Anthomyiopsis*** **(page 55)**

– 2 ia behind the suture. Tergite 3 with discal bristles. Subapical scutellar bristles at least as strong as the apical bristles. Pteropleural bristle missing or hair-like. Palps black. Body length 4 - 6 mm.....***Dufouria*** **(page 65)**

242. Post-angular vein reduced (fig. 141). Abdomen partially red. Body length 3 - 4 mm ***Besseria*** [***anthophila*** Loew]

– Post-angular vein present (figs. 136-138) ***243***

243. Wing cell R5 petiolate (figs. 125, 126, 136, 139) ***244***

– R5 open or at most closed at the wing edge (figs. 137, 138) ***255***

244. Small (3 - 4 mm) black species with grey dusting. Mouth edge pulled forwards to a point; labellae of the proboscis very narrow and bent over backwards (fig. 30). Prosternum hairy ***Ancistrophora*** [***mikii*** Schin.]

– Other features. Prosternum always bare ***245***

245. Simultaneously the following 2 features: cheeks with bristles bent downwards (as in fig. 25) and r4+5 with bristlets extending from its base almost to r-m. 1st Arista segment 3 - 4x, 2nd arista segment 4 - 5x as long as its diameter. Mouth edge pulled strongly forwards. Tergite 2 with a row of marginal bristles. Body length 6 - 7 mm ***Petinarctia*** [***stylata*** B.B.]

– Other combinations of features ***246***

246. Petiole of R5 longer than the post-angular vein (fig. 139). Calyptrae narrow, stretched out (fig. 113). Abdomen shiny, without dusting. Females: Postabdomen with ovipositor, in front a noticeable spine patch (fig. 185). Frequently totally black species of 2 - 4 mm body length ***Catharosia*** **(page 68)**

– Other combinations of features ***247***

247. Elongated, Hymenoptera-like forms. Abdomen 2.5 - 4x as long as wide (fig. 219), ± extensively coloured red. Metathorax closed at the back by a sclerotized bridge (as in fig. 166). Palp reduced. The anterior of the 2 ia directly behind the suture is longer than the posterior (fig. 89), which is sometimes missing altogether ***Cylindromyia*** **(page 70)**

[If at this point one arrives at a species with 2 wide longitudinal stripes on the thorax (fig. 62), arista with short hairs, a laterally compressed abdomen and a long vein appendix at the deflection of m (fig. 133), then it is *Mintho rufiventris*, which sometimes has only 1 ia; the palps are present in this species and the metathorax is membranous].

– Species of a thickset build. Abdomen 1 - 2x as long as wide (if marginally longer, then abdomen black). Metathorax membranous at the posterior end (as in fig. 165). Palps present. The 2 ia of equal length (fig. 88) or the posterior is longer (fig. 87) or both reduced ***248***

248. 1 - 3 pairs acr before the suture (if acr exceptionally hair-like, then abdominal hairs are raised or there are strong marginal and discal bristles present) ***249***

– acr before the suture missing (if weakly indicated, then abdominal hairs are prone and there are at most very thin marginal bristles present) ***251***

249. Ocellar bristles reclinate (not quite as strongly bent backwards as in figs. 11, 55). Tergites 4 and 5 without discal bristles (but in males often with raised hairs). Calyptrae large (fig. 114), one calyptra wider than 2/3 of the abdomen. Postabdomen of females with a pincer (figs. 173, 179-182, 210, 211). Petiole of R5 distinctly longer than r-m. Small black species (3.5 - 6.5 mm) with little dusting ***Leucostoma*** **(page 69)**

– Ocellar bristles proclinate. Tergites 4 and 5 with discal bristles. Calyptra at most half as wide as the abdomen. Females without pincer ***250***

250. Frons in males and females about the same width (0.2 - 0.4x as wide as one eye); frontal stripe 2x as wide as one parafrontal. Body length 5 - 7 mm ***Strongygaster*** **(page 68)**

– Frons in males very narrow (at most 0.15x as wide as one eye); frontal stripe at its narrowest point line-shaped, considerably narrower than one parafrontal. Frons of females wider than one eye. Body length 2.5 - 5 mm ***255***

251. Frons very narrow, at most 0.25x as wide as one eye. Abdomen in most species (especially in males) strongly flattened (as in fig. 171) ***252***

– Frons at least 0.5x as wide as one eye. Abdomen domed ***253***

252. Petiole of R5 short, bent upwards in characteristic fashion (fig. 136). Females: sternite 7 inconspicuous, small ***Elomya*** [***lateralis*** (Meigen)]

– Petiole of R5 in the elongation of r4+5 (as in figs. 126, 139), at least as long as 0.2 of the post-angular vein (frequently considerably longer). Sternite 7 of females large, horn-like, strongly chitinized (figs. 212-216) ***Phasia*** **(page 67)**

253. Scutellum with at least 3 pairs of bristles (as in figs. 102, 114). vi present. Abdomen clearly longer than wide, ± extensively red or yellow. Tergites separated by a suture. Postabdomen strongly developed, tucked forwards under the abdominal end (as in figs. 219-221) ***Besseria*** **(page 71)**

(without *anthophila*, see number 242)

– Scutellum with 2 pairs of bristles (fig. 101). vi missing. Abdomen almost hemispherical, about as long as wide, yellow or red with black dots (fig. 172) or ± linked trapezoid spots, seldom totally black. Tergites fused with each other. Postabdomen not noticeably developed ***254***

254. Antenna about as long as the face. 3rd Antennal segment at least 2x as long as wide ***Gymnosoma*** **(page 66)**

– Antennae half as long as the face. 3rd Antennal segment about as long as wide. Body length 3 - 4.5 mm ***Cistogaster*** [***globosa*** F.]

255. Cheeks with hairs or bristles ***256***

– Cheeks bare ***258***

256. m forms a very flat curve (similar to fig. 140, but m leads together with r4+5 into the wing tip). Abdomen without bristles (fig. 218). Females: tergite 5 extremely elongated, pointing forwards under the abdomen (fig. 218). Totally black species. Body length 3 - 4 mm ..... ***Freraea*** [***gagatea*** R.D.]

– m with post-angular vein. Abdomen with long marginal bristles. Tergite 5 of females not fashioned in this way ***257***

257. Cheeks with strong bristles bent downwards. r4+5 with bristlets extending far beyond r-m. Costal spine strong. Ocellar bristles raised and bent forwards. Postabdomen in females without special features ..... ***Peteina*** [***erinaceus*** F.]

– Cheeks with hairs only. r4+5 at most with 1 - 2 bristlets at the base. Costal spine rudimentary. Ocellar bristles raised and bent slightly backwards. Postabdomen in females with a pincer (as in fig. 182) ..... ***Eulabidogaster*** [***setifacies*** Rond.]

258. Abdomen elongated (as in fig. 219), at least 3x as long as wide, black with 2 bands of white-grey dusting. Wings in their apical third with an indistinct dark band. 3rd Antennal segment apically noticeably broadened (fig. 43) ..... ***Lophosia*** [***fasciata*** Meig.]

– Other features ***259***

259. Postabdomen of males and females strongly developed, black, tucked forwards under the abdominal end (as in figs. 219-221). Metathorax often closed at the back by a sclerotized bridge (fig. 166) ***260***

– Postabdomen not fashioned thus. Metathorax at the back always membranous (as in fig. 165) ***261***

260. Abdomen black, often shiny (only in one very rare species dusted). Body length 3 - 7 mm..... ***Phania*** **(page 71)**

– Abdomen partially or almost totally reddish-yellow. Body length 7 - 10 mm ..... ***Hemyda*** **(page 71)**
(*Phania* and *Hemyda* have 1 pair of acr before the scutellum; if one arrives here with a species without acr and predominantly red abdomen, then it is *Besseria lateritia*).

261. The distance of m between r-m and m-cu is shorter (as in fig. 131) or at most as long as that between m-cu and the deflection. Discal bristles of tergite 5 as long and as strong as the marginal bristles. Small (body length 3 - 4.5 mm), grey dusted species with black dots and spots at the posterior edge of tergites 3 and 4..... ***Rondania*** [***cucullata*** R.D.]

– The section of m between r-m and m-cu is clearly longer than that between m-cu and the deflection. Tergite 5 without discal bristles, at most with raised hairs. Abdominal patterning different ***262***

262. Scutellum with 3 pairs of bristles (as in fig. 114). Ocellar bristles raised and bent slightly backwards. 2 ia behind the suture (fig. 88). ad apical spur of the fore tibia at least as long as the dorsal apical spur or longer. Postabdomen of females (except in *Brullaea*) with a pincer (figs. 174-178)..... ***263***

– Scutellum with 2 pairs of bristles (as in fig. 101), only in *Opesia* with 3 pairs. Ocellar bristles bent forwards. 0 or 1 ia (fig. 87) behind the suture. ad apical spur of the fore tibia missing or significantly shorter than the dorsal apical spur. Postabdomen of females without pincer ***266***

263. Abdomen partially red, at least on the sides of the base ***264***

– Abdomen black with grey dusting..... ***265***

264. Males: frons 0.7 - 0.9x as wide as one eye; ve 2x as long as the strong and straight post-ocular hairs; 3rd antennal segment 2.5x as long as the 2nd; thorax before the suture with 2 wide black longitudinal stripes (as in fig. 62); tergite 4 with a narrow band of dusting at its anterior edge. Females: Postabdomen without pincer..... ***Brullaea*** [***ocypteroidea*** R.D.]

– Males: frons at its narrowest point 0.3x as wide as one eye; ve not differentiated from the thin post-ocular hairs which bend forwards; 3rd antennal segment 1.5x as long as the 2nd; thorax before the suture without pronounced longitudinal stripe; abdomen without dusting. Females: Postabdomen with a pincer (as in fig. 174, but pincer arms on their inside with numerous, upright bristle hairs) ..... ***Clairvillia*** [***biguttata*** Meig.]

265. 1 Pair of strong acr before the suture. Parafrontalia hairy outside the row of frontal bristles. Females: pincer with a row of blunt toothlets on the inside edge in addition to the apical tooth (figs. 177, 178). Males: epandrium of normal appearance ..... ***Dionaea*** **(page 69)**

– No acr before the suture. Parafrontalia bare outside the frontal bristles. Females: pincer with apical tooth only (figs. 174-176). Males epandrium enlarged and flattened..... ***Labigastera*** **(page 70)**

266. Distinct marginal abdominal bristles present, at least on the last 2 tergites. Wings not spotted ***267***

– Abdomen practically without bristles (fig. 171). Wings ± extensively darkly spotted (fig. 137), at least (in small females) a diffuse spot in the basal half present (fig. 138). Abdomen in males strongly flattened (figs. 171, 183) ..... ***Ectophasia*** **(page 66)**

267. Legs and palps predominantly yellow. Abdomen yellow, with or without small black spots at the posterior edge of the tergites ..... ***Subclytia*** [***rotundiventris*** Fall.]

– Legs and palps black or at most dark brown ***268***

268. Frons line-shaped, narrow (fig. 58). Abdomen black, with dense grey dusting (seldom at the sides of the base lightened a little reddish) ..... ***Opesia*** **(page 67)**

– Frons at least 0.7x as wide as one eye. Abdomen in males always ± extensively coloured yellow, in females with yellow side spots or black with grey dusting..... ***269***

269. 3 st (but the lower sometimes hardly differentiated from the hairs). Males: hairs of the tergites in their centre - as on the sides - prone; if a few hairs are raised, then these remain considerably shorter than 0.5 of the

marginal bristles; tergite 6 bare or with hairs on its dorsal area. Females: parafrontalia outside the frontal bristles with hairs ..... ***Eliozeta*** **(page 66)**

– 2 st. Males: hairs on the middle of the tergites raised, the longest hairs at least as long as 0.5 the marginal bristles; tergite 6 always with hairs on its dorsal area. Females: parafrontalia outside the frontal bristles bare .... ***Clytiomya*** [***continua*** Panz.]

4. Keys for species

4.1. Subfamily Exoristinae

Exorista

1. 3 dc behind the suture. Syncercus of males dorsally hollowed, with yellow hairs in its hollow (figs. 281, 282). Eyes bare.....***2***

– 4 dc behind the suture (fig. 82). Syncercus different; if formed as above, then eyes with dense hairs.....***6***

2. 2 oe..... ***females of the Exorista-rustica group***
(Females of the 4 species *rustica*, *mimula*, *cuneata* and *tubulosa* are at the present time not reliably distinguishable; in examples with strong discal bristles it would most likely be *rustica*.)

– No oe (Males of the *Exorista-rustica* group) ***3***

3. Lobes of sternite 5 indented (fig. 232). Frons 0.97 - 1.12x as wide as one eye. Tergite 3 almost always without discal bristles .....***mimula*** Meig.

– Lobes of sternite 5 not indented (fig. 231). Frons 0.69 - 0.94x as wide as one eye ***4***

4. Final section of the aedeagus long, tube-like (fig. 237), on its tip scarcely broadened; the median strip is only little sclerotized (fig. 237a). Tergites 3 and 4 mostly without discal bristles. Dorsal hollow of the syncercus elongated, triangular (as in fig. 282) ..... ***tubulosa*** Hert.

– End section of aedeagus shorter (fig. 236), ± widened at its tip; the median stripe is strongly sclerotized and tapered in a wedge shape (fig. 236a). Tergites 3 and 4 almost always with strong discal bristles ***5***

5. Dorsal hollow of the syncercus oval (fig. 281). The (angled) final section of the aedeagus is about as long as the hollow in the syncercus. Inner area of lobes of sternite 5 covered to the edge with yellow pubescence (fig. 231). Frons 0.71 - 0.83x as wide as one eye..... ***rustica*** Fall.

– Dorsal hollowing of the syncercus elongated triangular (fig. 282). Final segment of the aedeagus only about as long as 0.7 - 0.8 of the hollow. The edge as well as the predominant part of the inner area of the lobes of sternite 5 is bare. Frons 0.69 - 0.73x as wide as one eye (only 3 specimens measured) .....***cuneata*** Hert.

6. Abdomen with a black central longitudinal stripe, which is visible at least at certain angles of lighting ***7***

– Dusting of tergites in the centre a little extended posteriorly, so that the impression of a white central longitudinal stripe predominates.....***13***

7. Ocellar bristles at the level of the anterior ocellus or standing a little before them (as in fig. 54). Eyes with long, dense hairs. Tergites ventrally dusted to 2/3 - 5/6 of their length. Males: syncercus hollowed, with yellow hairs in its hollow (as in figs. 281, 282). Females: tergite 5 with strong discal and marginal bristles ***8***

– Ocellar bristles behind the level of the anterior ocellus (as in figs. 55, 56). Eyes bare or hairy. Tergites ventrally dusted to at most 1/2 of their length (continue only for *segregata*, which has not yet been identified in central Europe). Males: syncercus different.....***9***

8. Dusting of the abdomen shows black iridescent spots at different lighting angles. Males: 3rd antennal segment 2.2 - 2.6x as long as the 2nd; vi 0.5 - 0.6x as long as the maximum eye diameter; 3rd wing edge section 1.9 - 2.1x as long as the 2nd.....***grandis*** Zett.

– The abdominal dusting shows practically no black iridescent spots at different lighting angles. Males: 3rd antennal segment 2.7 - 3.3x as long as the 2nd; vi 0.4 - 0.5x as long as the maximum eye diameter; 3rd wing edge section 1.9 - 2.3x as long as the 2nd.....***sorbillans*** Wied.
(Separation of *grandis* and *sorbillans* is still causing difficulties. Central and northern European forms probably belong exclusively to *grandis*)

9. Eyes with dense and long hairs.....***10***

– Eyes bare or practically bare.....***11***

10. Bristlets above the vibrissa rises to the level of the lowest frontal bristle or further. Tergites ventrally dusted further than half. Males: surstyli at most half as long as the syncercus. Females: 2nd antennal segment black or dark brown; tergite 5 dusted to 2/3 - 4/5 of its length.....***segregata*** Rond.

– Bristlets above the vibrissa not rising to the level of the lowest frontal bristle. Tergites ventrally dusted at most to its half. Males: surstyli almost as long as the syncercus. Females: 2nd antennal segment as a rule yellow; tergite 5 shiny black, only dusted on its basal 1/3 - 1/2 .....***nova*** Rond.

11. Tergite 5 with strong discal and marginal bristles; discal bristles are about as long as 2/3 of the marginal bristles of tergite 4. Scutellum totally black .....***glossatorum*** Rond.

– Tergite 5 without or with only considerably weaker and shorter discal bristles (about 1/3 of the length of the marginal bristles of tergite 4); in females marginal bristles of tergite 5 are shorter than the discal bristles or are practically missing altogether. Scutellum almost always at least partially reddish ***12***

12. Dusting of the sides of tergite 3 (above the ventral narrowing) covers 3/4 - 5/6 of the segmental length. Dusting of the parafrontalia as a rule yellowish to golden yellow. The bristles above the vibrissa do not rise to the lower frontal bristle. Males: ventral hairs of tergite 4 a little denser and shorter than those of tergite 3 ..... ***larvarum*** L.

– The dusting of the sides of tergite 3 covers only about 1/2 of the segmental length. Dusting of the parafrontalia grey-white. The bristles above the vibrissa reach the lower frontal bristle or a little further upwards. Males: ventral hairs of tergites 3 and 4 are not different from each other..... ***fasciata*** Fall.

13. Eyes hairy. Hairs of the peristome and the parafrontalia black. Sensilia of the 2nd antennal segment arranged in an irregular line at half height (fig. 51). Frontal bristles reaching further down than to half the cheek height. Middle tibia with 2 ad. Males: angled end section of the aedeagus about as long as in rustica (fig. 236) ***deligata*** Pand.

– Eyes bare. Hairs of the peristome and the anterior area of the parafrontalia predominantly whitish. Sensilia of the 2nd antennal segment crowded together to a longish wart in its upper half (fig. 50). The frontal bristles reach at most to half the cheek height. Middle tibia with 3 ad. Males: angled final section of the aedeagus much longer, bent at its end (only known in *civilis*) ***14***

14. Legs black. Cheeks bare..... ***civilis*** Rond.

— Legs yellow. Cheeks in their upper half with sparse thin whitish hairs (only females known)..... ***florentina*** Hert.

Chetogena

15. Middle tibia with 2 ad. The distance of m between r-m and m-cu is 0.7 - 1.7x as long as that between m-cu and the deflection (often scarcely longer than 1x) ***2***

– Middle tibia with 3 - 5 ad. The distance of m between r-m and m-cu is 1.5 - 2.9x as long as that between m-cu and the deflection..... ***3***

16. Tergites 3 and 4 without discal bristles. Males: syncercus slightly hollowed and with dense, light-coloured hairs (similar to *Exorista rustica*, fig. 281) ..... ***acuminata*** Rond.

– Tergites 3 and 4 with marginal bristles. Males: syncercus without such hairs ..... ***filipalpis*** Rond.

17. R5 open or closed at the wing edge, very rarely with a petiole which is however much shorter than r-m. Frontal stripe on the middle of the frons as wide as one parafrontal or a little narrower. The white dusting of the tergites is variable, reaching almost to the posterior edge of the segments at certain angles of lighting (especially along the central line of the abdomen). Costal spine 1 - 1.5x as long as r-m. Males: syncercus at the base with long, hairy appendices. Body length 6 - 12 mm ..... ***obliquata*** Fall.

– R5 as a rule with a petiole as long as r-m; the petiole is rarely shorter or R5 only closed at the end. Frontal stripe in the centre of the frons 1 - 2x as wide as one parafrontal. The narrow white band of dusting on the anterior 1/4 - 1/3 of the tergite is sharply defined and scarcely changeable with varying lighting angles. Costal spine 2 - 3.5x as long as r-m. Males: syncercus without appendices. Body length 6 - 9 mm ..... ***fasciata*** Egg.

Phorocera

1. 4th Wing edge section with small spines for at least 2/3 of its length (fig. 127). Males: epandrium (dorsally) about as long as 1/2 of tergite 5 (dorsally); ventral area of the sternopleuron and middle coxae with strong, bent hairs without curls. Females: anterior of v-shaped sclerite (sternite 6) (in lateral view) acutely angled (fig. 225); fore tarsus as long as 2/3 of the fore tibia; cheeks at their narrowest point usually a little wider than the 3rd antennal segment. Body length 10 - 14 mm..... ***grandis*** Rond.

– 4th Wing edge section with bristlets for only 1/6 - 1/2 of its length. Males: epandrium at least as long as 2/3 of tergite 5; ventral area of sternopleuron and middle coxae with fine hairs curled at their tips. Females: anterior of v-shaped sclerite with a right or oblique angle (fig. 226); fore tarsus as long or almost as long as the fore tibia; cheeks at their narrowest point a little narrower than the 3rd antennal segment..... ***2***

2. Tergite 2 dorsally not hollowed to the posterior edge (as in fig. 167). Median black longitudinal thoracic stripes before the suture as wide as the dividing space. Males: syncercus ventrally with sparse and rather prone hairs; posterior edge of sternite straight. Body length 4 - 11 mm ..... ***obscura*** Fall.

– Tergite 2 dorsally hollowed out to the posterior edge (as in fig. 167). Middle black longitudinal thoracic stripes narrower than the dividing space. Males: syncercus ventrally with dense and upright hairs; posterior edge of sternite 4 in the middle with a blunt tooth. Body length 7 - 14 mm..... ***assimilis*** Fall.

Bessa

1. Tergites 3 and 4 with discal bristles ..... ***selecta*** Meig.

– Tergite 3 without, tergite 4 almost always without discal bristles ..... ***parallela*** Meig.

Belida

1. Hind tibia with 2 dorsal apical spurs. Propleuron bare. Males: frons 0.71 - 0.90x as wide as one eye ..... ***angelicae*** Meig.

– Hind tibia with 3 dorsal apical spurs. Propleuron with fine hairs. Males: frons about as wide as one eye ..... ***latifrons*** Jacentk.

Meigenia

1. Eyes with dense hairs, individual hairs at least as long as 4 eye facets ..... ***majuscula*** Rond.

– Eyes almost bare or with only scattered or short hairs ***2***

2. Abdomen evenly densely dusted, without iridescent spots. Outer (small) humeral bristle missing. Tergite 4 usually with a complete ring/circle of marginal bristles. 3rd antennal segment 2.7 - 3.5x as long as the 2nd in males, 2.5 - 3x in females. Males: frons about as wide as one eye ..... ***incana*** Meig.

– Abdomen with ± large black spots or at least with weak reflective patches at varying lighting angle. Outer humeral bristle present (fig. 92). Tergite 4 as a rule only with one pair of discal bristles. 3rd antennal segment 1.9 - 2.5x as long as the 2nd in males, 1.8 - 2.3x in females. Males: frons 0.35 - 0.60x as wide as one eye ***3***

3. No oe (males) ***4***

– 2 oe..... ***females of dorsalis, mutabilis or uncinata***
(The females of these species cannot be distinguished at present; mountain forms with very wide cheeks (see below) would probably belong to *grandigena*).

4. Cerci bent a little backwards at the tips, surstyli with short hairs that are bent forwards a little at the tips (fig. 248). Body length 3 - 7.5 mm ..... ***mutabilis*** Fall.

– Cerci and surstyli different (figs. 249, 250). Body length 4.5 - 10 mm..... ***5***

5. Cerci bent a little forwards at the tips (rarely straight), surstyli narrow, strongly bent forwards and outwards; cerci and surstyli with short hairs (fig. 250). Body length up to 7.5 mm ..... ***uncinata*** Mesn.

– Cerci and surstyli heavy, straight, long-haired (fig. 249). Body length to 10 mm..... ***6***

6. Face (distance between the base of the vibrissa and the dorsal edge of the 1st antennal segment - see fig. 10a) 3.3 - 5.1x as high as the width of the cheeks at their narrowest point..... ***dorsalis*** Meig.

– Face 2.6 - 3.2x as high as the width of the cheeks at their narrowest point. Mountain form ... ***grandigena*** Pand.

Medina

1. Fore tibia with one rear bristle. The thoracic dusting in front of the cross suture forms a continuous stripe which is sharply defined towards the back. Lateral scutellar bristles as long and as strong as the basal bristles. 2 st. Head of halters yellow. Males: sternite 5 without bunches of hairs. Body length 4 - 9 mm ..... ***collaris*** Fall.

– Fore tibia with 2 rear bristles. The band of dusting before the cross suture is interrupted in the middle. Lateral bristles often a little shorter and weaker than the basal bristles. 2 or 3 st. Head of halters blackish. Males: lobes of sternite 5 with a tuft of hair (figs. 205-208). Body length 3 - 5.5 mm..... ***2***

2. 2 oe (females)..... ***3***

– No oe (males) ***6***

3. Ventral sides of tergites 3 and 4 with areas of dense small spines (fig. 184). Lower edge of tergite 7 almost straight (fig. 198)..... ***multispina*** Hert.

– Ventral sides of tergites 3 and 4 without spine fields (at most with 1 - 2 rows of little spines directly at the edge of the tergites). Tergite 7 differently formed (figs. 197, 199, 200) ***4***

4. Tergite 7 only very weakly notched, its visible outline (as well as the underlying sternite) is nearly semi-circular, the lower edge more straight (fig. 197)..... ***luctuosa*** Meig.

– Tergite 7 with a strong notch in which a membrane may be seen wholly or partially (figs. 199, 200)..... ***5***

5. Tergite 7 (in lateral view) strongly angularly bent (fig. 199a); the underlying sternite is tapered in a triangular way with an angle of about 90° (fig. 199)..... ***melania*** Meig.

– Tergite 7 almost even/flat, in its upper half somewhat convex (fig. 200a); the underlying sternite is rounded (fig. 200) ..... ***separata*** Meig.

6. Hair tuft on sternite 5 comb-like, almost vertical standing up straight when in lateral view (fig. 205); when viewed from behind, the tufts are widely separated..... ***luctuosa*** Meig.

– Bristle hairs on sternite 5 form (seen from the side) a tapering tuft bent slightly forwards (figs. 206-208); seen from behind the tufts touch, at least at the tips..... ***7***

7. Hair tufts on sternite 5 (seen from the side) about half as long as tergite 5 dorsally (fig, 206)..... ***melania*** Meig.

– Hair tufts about as long as 1/3 of tergite 5 dorsally (figs. 207, 208) ***8***

8. Hair tufts on sternite 5 a little shorter than 1/3 of tergite 5 dorsally, its tip clearly curved forwards; the bristle hairs form a rather dense tuft (fig. 207). Calyptrae dark brown. Bands of dusting at the anterior edge of the tergites scarcely distinguishable from the background dusting, which becomes visible when viewed from behind ..... ***separata*** Meig.

– Hair tufts a little longer then 1/3 of sternite 5 dorsally, its tip curved forwards less; the bristle hairs are a little more scattered (fig. 208). Calyptrae light brown. Tergites at the anterior edge with bands of dense dusting which can be clearly distinguished from the light background dusting..... ***multispina*** Hert.

Istocheta

The key of Borisova-Zinov'eva (1966) also contains the eastern palaearctic species of the genus. The following "table" is based on this work, as far as features of *I. subcinerea* and *I. polyphyllae* are concerned.

1. Arista thickened only in its basal 1/4 - 1/3. 1 or 2 pairs acr before the suture. Body length 4 - 5 mm ..... ***hemichaeta*** B.B.

– Arista thickened to more than half its length (fig. 8). 3 pairs acr before the suture. Body length 6 - 9 mm ***2***

2. Arista thickened to about 2/3 of its length, its 2nd segment 1 - 2x as long as its diameter. Spacing between subapical scutellar bristles 0.8 - 1.2x as great as the distance between subapical and basal bristle ***3***

– Arista thickened to at least 4/5 of its length, its 2nd segment 2 - 4x as long as its diameter (fig. 8). Spacing between the subapical scutellar bristles 0.50 - 0.75x as great as the distance between subapical and basal bristle ***4***

3. Cheeks at their narrowest point scarcely wider than 1/2 of the minimum eye diameter. Scutellum with hair-like apical bristles. Abdomen with discal bristles. Males with 2 oe ..... ***longicornis*** Fall.

– Cheeks at their narrowest point about as wide as 2/3 of the minimum eye diameter. Scutellum without apical bristles. Discal bristles missing or weak. Males without or with 1 oe ..... ***polyphyllae*** Vill.

4. Females: sternites 3 and 4 almost as wide as sternite 5, in its posterior half with strong bristles ***subcinerea*** Bor.

– Females: sternites 3 and 4 only about half as wide as sternite 5, its bristlets scarcely longer than the hairs of sternite 5 ..... ***cinerea*** Macq.

(The males of both these species cannot yet be separated).

Lecanipa

1. Middle tibia with 2 ad. Hind tibia with 2 dorsal apical spurs. r4+5 with only 2 - 4 bristlets at its base. 2 pairs acr before the suture. Tergite 5 with clear dusting at the anterior edge; at the sides it reaches at least to half the segment length ..... ***leucomelas*** Meig.

– Middle tibia with 3 - 5 ad. Hind tibia with 3 dorsal apical spurs. r4+5 with bristlets extending almost to r-m. 3 pairs acr before the suture. Tergite 5 totally black or only with traced of dusting at the anterior edge ..... ***bicincta*** Meig.

Admontia

1. 2 Humeral bristles (as in fig. 81). Thorax before the suture without or with only 2 wide black longitudinal stripes. Middle tibia with 1 ad (in some examples of *A. blanda* in addition a short bristlet above) ***2***

– 3 Humeral bristles (as in fig. 70). Thorax before the suture with 4 black longitudinal stripes. Middle tibia with 2 - 3 ad (with *A. seria*, 1 ad) ***3***

2. Thorax before the suture with 2 wide black longitudinal stripes that are a little wider than the dusted gap in between. Palps and antennae including arista black. Parafrontalia dusted. 3rd antennal segment about 4x (females) - 6x (males) as long as the 2nd ..... ***blanda*** Fall.

– Thorax before the suture with a narrow crossband only with light, white dusting. Palps yellow. Thickened part of the arista yellowish-brown. 2nd antennal segment as well as base of the 3rd antennal segment brownish lightened. Parafrontalia shiny black. 3rd antennal segment about 7x (females) - 10x (males) as long as the 2nd ..... ***continuans*** Strobl

3. Middle tibia with 1 ad. Outer black longitudinal thoracic stripes before the suture sharply defined, directly before the suture 1 - 2x as wide as the middle black longitudinal stripes. Cheeks at their narrowest point in males 1/5 - 1/4 of the 3rd antennal segment, in females as wide as 2/5 - 3/5. Males: anterior claws as long as 1/4 - 1/3 of the last tarsal segment ..... ***seria*** Meig.

– Middle tibia with 2 - 3 ad. Outer black longitudinal stripes before the suture ± blurred, directly before the suture 2 - 5x as wide as the middle black longitudinal stripes. Cheeks at their narrowest point in males as wide as 1/4 - 6/5 of the 3rd antennal segment (fig. 9), in females as wide as 4/5 - 2/1. Males: anterior claws as long as 1/3 - 1/1 of the last tarsal segment ***4***

4. Cheeks at their narrowest point in males as wide as 1/4 - 3/5 of the 3rd antennal segment (fig. 9), in females as wide as 4/5 - 6/5. ve as a rule much weaker and shorter than the posterior oe. Tergite 3 with 2 (rarely 4) discal bristles ***5***

– Cheeks at their narrowest point in males as wide as 4/5 - 6/5 of the 3rd antennal segment, in females as wide as 3/2 - 2/1. ve about as long and as strong as the posterior oe. Tergite 3 with 4 - 8 discal bristles (in some females only 2) ***6***

5. Scutellum with diverging, sometimes only hair-like apical bristles (as in fig. 105). pd apical spur of the hind tibia about as long and as strong as the ad apical spur. Calyptrae whitish. Dusting whitish-grey. Dusting of tergites (viewed at the acute diagonal from behind) in the anterior 1/5 - 1/2 much denser than in the posterior half ..... ***grandicornis*** Zett.

– Scutellum without apical bristles. pd apical spur of the hind tibia about as long as 1/3 - 5/6 of the ad apical spur. Calyptrae yellowish. Dusting usually yellowish-grey. Dusting of tergites (viewed at the acute diagonal from behind) reaches almost to the end of the tergites ..... ***maculisquama*** Zett.

6. Anterior mouth edge not visible from the side. Mouth opening as long as 1/2 of the head height. The antennae reach to the mouth edge or almost as far. 3rd antennal segment in males 6 - 7x, in females 4 - 5x as long as the 2nd. Only a narrow stripe at the anterior edge of the tergites dusted, the posterior half remains black, irrespective of the viewing angle ..... ***podomyia*** B.B.

– Mouth edge pulled forwards, visible from the side. Mouth opening in males about as long as face height, in females as long as 3/4. The antennae are as a rule half or a whole width removed from the mouth edge. 3rd

antennal segment in males about 5x, in females about 3x as long as the 2nd. When viewed obliquely from behind, the abdominal dusting reaches to the end of the tergites..... ***cepelaki*** Mesn.

Oswaldia

1. 2 dc before the suture ***2***
– 3 dc before the suture ***3***

2. The hanging bristlets above the vibrissa reach upwards to almost half of the facial ridges. Parafrontalia hairy to the lower frontal bristle. 2 pairs acr before the suture..... ***muscaria*** Fall.
– Facial ridges only in their lower 1/6 with bristlets. Anterior half of the parafrontalia almost bare. 3 pairs acr before the suture..... ***reducta*** Vill.

3. Cheeks at their narrowest point as wide as 2/3 - 1/1 of the 3rd antennal segment. Section of m between m-cu and the deflection 0.9 - 1.3x as long as the shortest distance from the deflection to the wing edge. Frons in males 0.67 - 0.88x, in females 0.88 - 1.07x as wide as one eye. Parafrontal hairs strong, along the anterior frontal bristles with bristlets. Arista thickened in its basal 1/6 - 1/5. Dusting grey ..... ***spectabilis*** Meig.
– Cheeks at their narrowest point as wide as 1/4 - 1/3 of the 3rd antennal segment. Section of m between m-cu and the deflection 1.55 - 2.05x as long as the shortest distance from the deflection to the wing edge. Frons in males 0.5 - 0.7x, in females 0.75 - 0.92x as wide as one eye. Parafrontal hairs everywhere fine. Arista thickened in its basal 1/4. Dusting usually yellowish-grey..... ***eggeri*** B.B.

Blondelia

1. Scutellum with crossed apical bristles. 3rd antennal segment in males 2.8 - 3.8x, in females 1.9 - 2.8x as long as the 2nd. Palps yellow. tergites 3 and 4 dusted to 1/5 - 2/5 of their length ..... ***inclusa*** Hart.
– Scutellum without (rarely with hair-like) apical bristles. 3rd antennal segment in males 1.8 - 2.1x, in females 1.5 - 1.7x as long as the 2nd. Palps black or brown. Tergites 3 and 4 dusted to 3/5 - 5/6 of their length..... ***nigripes*** Fall. (+ *piniare* Hart.)
(Examples reared from *Bupalus piniarius* belong most likely to *piniariae*, see Herting 1960. Morphological features for separating of the 2 forms could not be found up to now).

Vibrissina

1. 3rd antennal segment in males 4.7 - 6.4x, in females 3.9 - 4.5x as long as the 2nd. The abdominal dusting covers ± evenly 3/5 - 4/5 of tergites 3 and 4; the black longitudinal middle stripe is weak and at certain lighting angles sometimes almost extinguished. The bristlets above the vibrissa rise to 1/2 - 4/5 of the facial ridges. Males: frons 0.63 - 0.88x as wide as one eye, without oe; anterior claws about as long as the last tarsal segment..... ***turrita*** Meig.
– 3rd antennal segment in males 3.0 - 4.8x, in females 2.9 - 3.6x as long as the 2nd. Central black longitudinal abdominal stripe pronounced, at least as wide as 1/2 the distance between the central marginal bristles. Abdominal dusting in the central area weak and only in the anterior 1/3 - 1/2 of the segments present, towards the side reaching further backwards and growing denser. The bristlets above the vibrissa rise to 2/5 - 3/5 of the facial ridges. Males: frons 0.84 - 1.02x as wide as one eye, with 2 oe; anterior claws about half as long as the last tarsal segment..... ***debilitata*** Pand.

Acemya

1. Tibiae and trochanters black. Middle tibia with 2 ad ..... ***acuticornis*** Meig.
– Tibiae and trochanters reddish-yellow. Middle tibia with 1 ad ..... ***rufitibia*** v.Ros.

Paratryphera

1. Palps yellow, in females about as thick as the 2nd antennal segment at their thickest part (measured in its centre). Abdominal hairs even, without discal bristles in between. Section of m between m-cu and the deflection 1.7 - 2.7x as long as the distance of the deflection to the wing edge. 3rd antennal segment 2.1 - 2.8x as long as the 2nd. Fore tibia with 1 posterior bristle..... ***bisetosa*** B.B.
– Palps black, only about half as wide as the 2nd antennal segment. Abdominal hairs in the central longitudinal line of the abdomen irregular, usually interspersed with small discal bristles. Section of m between m-cu and the deflection 0.9 - 1.8x as long as the distance of the deflection to the wing edge. 3rd antennal segment 1.6 - 2.1x as long as the 2nd. Fore tibia almost always with 2 posterior bristles..... ***barbatula*** Rond.

Winthemia

1. No oe (males) ***2***
– 2 oe (females)..... ***10***

2. Simultaneously: tergites 2 and 3 without marginal bristles and thorax with 2 st. Dorsum of the thorax matt black, dusting not or little visible. Middle tibia with 1 isolated ad (as in fig. 154). Abdomen densely and evenly dusted ***3***

– Tergites 2 and 3 with marginal bristles, or if without marginal bristles (*bohemani*), then thorax with 3 st. Dorsum of the thorax clearly dusted with black longitudinal stripes. Middle tibia as a rule with 2 or 3 ad, rarely with only 1 ad. Abdomen less densely dusted ***4***

3. The lowest of the row of pd-bristles on the hind tibia (not the apical spur!) is not different from the pd standing above it; it is shorter than the bristles of the ad-comb (a little shorter than in fig. 157). Frons 0.46 - 0.53x as wide as one eye. 3rd antennal segment 2.2 - 2.6x as long as the 2nd. Thorax viewed obliquely from behind matt black, on its surface at most traces of dusting, but densely dusted at the sides (roughly from the row of the ia). The black basal colour of tergite 5 does not reach the lateral edge ..... ***speciosa*** Egg.

– The lowest pd-bristle is much longer and stronger than the pd above it and also longer than the bristles of the ad-comb (as in fig. 156). Frons 0.58 - 0.66x as wide as one eye. 3rd antennal segment at most 2x as long as the 2nd. Thorax, viewed obliquely from behind, weakly dusted, with black longitudinal stripes. The black basal colour of tergite 5 reaches beyond the lateral edge ..... ***venusta*** Meig.

4. 3 st. Tibiae yellow. Tergites 2 and 3 without marginal bristles. Abdomen red; tergites 2 - 4 with a narrow black longitudinal middle stripe which narrows towards the back. ..... ***bohemani*** Zett.

– 2 st (if rarely there is a small 3rd, then abdomen has discal bristles). Tibiae black. Tergites 2 and 3 with marginal bristles. Abdomen more extensively coloured black ***5***

5. Back of the head with 1 - 2 rows of black bristlets behind the post-ocular hairs. Abdominal hairs upright. Tergites 3 and 4 often with irregular discal bristles. Middle black longitudinal thoracic stripes before the suture often merged to a single indistinct wide longitudinal stripe. ***6***

– Back of the head almost always without black bristlets (rarely a few present). Abdomen with mainly prone hairs (at least on the sides of tergite 3). Tergites 3 and 4 without discal bristles. Middle black longitudinal thoracic stripes always separate before the suture ***7***

6. Tergites dusted almost on their whole length; dusting even ..... ***variegata*** Meig.

– Dark species. Tergites dusted only to about 1/2 their length; dusting with black iridescent spots depending on angle of lighting ..... ***jacentkovskyi*** Mesn.

7. The 2 middle black longitudinal thoracic stripes before the suture (this does not refer to a third stripe directly in the centre which is sometimes present) are as wide as 1/8 - 1/4 of the separating space (as in figs. 59, 60). Marginal bristles of tergite 4 shorter than the segment. Hairs in the lateral third of the abdomen lie prone on tergite 3, but are upright on tergite 4 (especially on its posterior edge) and a little denser. Post-alar callus yellow; in front (between ia and sa) there is a yellow stripe ***8***

– The 2 middle longitudinal thoracic stripes are as wide as 1/3 - 1/1 of the separating space (fig. 61). Marginal bristles of tergite 4 longer than the segment. Abdominal hairs of tergites 3 and 4 ± prone. Post-alar callus as a rule black; no yellow stripe in front ***9***

8. The black spot of tergite 5 (= end of the abdominal central longitudinal stripe) covers 1/2 - 3/4 of the segment's length. Frons 0.40 - 0.49x as wide as one eye. Ocellar bristles longer than the ocellar triangle (measured from the post-ocellar bristles to its front edge) ..... ***cruentata*** Rond.

– The black spot covers only the anterior 1/4 - 1/3 of tergite 5. Frons 0.60 - 0.65x as wide as one eye. Ocellar bristles shorter than ocellar triangle ..... ***rufiventris*** Macq.

9. Tergites 4 and 5 show zones of shorter and denser hairs in the hindmost 2/3 of their ventral sides. Tergite 3 with 2 - 4 marginal bristles, that are at most as long as tergite 4 ..... ***quadripustulata*** F.

– Ventral hairs of tergites 4 and 5 overall ± equally long and dense. Tergite 3 with 4 - 6 marginal bristles, the middle pairs clearly longer than tergite 4 ..... ***erythrura*** Meig.
(*erythrura* is possibly only a form of *quadripustulata*)

10. Middle tibia with 1 isolated ad (as in fig. 154). Basal colour of the abdomen yellow; only the hollow of tergite 2, a narrow central longitudinal stripe on tergite 3 and the centre of the posterior edge seam are black (in *venusta* the black colouring can be a little more extensive). Dusting golden yellow ***11***

– Middle tibia with 1 or 2 ad. Colouring different ***12***

11. 3rd antennal segment 2.8 - 3x as long as the 2nd. 2 - 3 frontal bristles reach down to the cheeks ***speciosa*** Egg.

– 3rd antennal segment 1.5 - 1.8x as long as the 2nd. 4 - 5 frontal bristles reach down to the cheeks..... ***venusta*** Meig.

12. Back of the head with numerous black bristlets behind the post-ocular hairs. Tergites 3 and 4 with raised hairs and often with irregular discal bristles ***6***

– Back of the head without black bristlets behind the post-ocular hairs or at most with 1 - 3 on each side. Abdominal hairs prone (only a few raised hairs in the middle of the tergites); no discal bristles (in *rufiventris* there may be a few discals on tergite 4 in some individuals) ***13***

13. Abdomen red; tergites 2 - 4 with a narrow, black middle longitudinal stripe which tapers towards the end. 3 st. Tibia yellow ..... ***bohemani*** Zett.

– Abdomen more extensively coloured black. 2 st. Tibiae black or brown ***14***

14. The lowest of the row of pd-bristles on the hind tibia is 2 - 3.5x as long as the diameter of the hind tibia (fig. 156). Central black longitudinal thoracic stripes before the suture as wide as 1/6 - 5/6 of the separating space

(fig. 61). Marginal bristles of tergite 4 distinctly longer than the segment. Post-alar callus black or brown ..... ***quadripustulata*** F. or ***erythrura*** Meig.

(The females of these two species cannot be separated reliably at this time. If a dark species is arrived at here, where the abdominal dusting only covers about half of the anterior tergites, then it is *jacentovskyi* (see number 6); the characteristic features are sometimes only weakly developed in this species).

– Lowest pd-bristle of the hind tibia 1 - 1.8x as long as the diameter of the hind tibia (fig. 157). Central black longitudinal thoracic stripes before the suture as wide as 1/10 - 1/8 of the space in between (as in fig. 60). Marginal bristles of tergite 4 at most as long as the segment (very rarely a little longer). Post-alar callus yellow ***15***

15. The black spot on tergite 5 covers only the anterior 1/4 - 1/3 of the segment. Tergite 5 is 1.1 - 1.3x as long as tergite 4..... ***rufiventris*** Macq.

– The black spot on tergite 5 covers 1/2 - 3/4 of the segment length. Tergite 5 is 0.95 - 1.0x as long as tergite 4 ..... ***cruentata*** Rond.

Nemorilla

1. Males: post-ocellar bristles at their tip bent forwards hook-like (fig. 5). Females: frons 0.75 - 0.92x as wide as one eye; 3rd antennal segment 1.64 - 1.96x as long as the 2nd; 2nd antennal segment black to brown. Puparium with small horns on the spiracles ..... ***floralis*** Fall.

– Males: post-ocellar bristles evenly bent forwards (as in fig. 4). Females: frons 0.90 - 1.06x as wide as one eye; 3rd antennal segment 1.23 - 1.71x as long as the 2nd; 2nd antennal segment yellow to brown. Puparium without small horns on the spiracles ..... ***maculosa*** Meig.

Phebellia

1. Palps completely black. Thorax with 2 - 3 black central longitudinal stripes before the suture. Apical scutellar bristles as a rule raised in an angle of more than 45° (fig. 111). Presutural ia in males missing or rudimentary ***2***

– Palps yellow or brown, at least at the tip lightened. 2 central black longitudinal stripes before the suture. Apical bristles raised at a lesser angle..... ***3***

2. Mouth edge not or hardly pointing upwards, not visible from the side (fig. 12). Tergites covered 1/2 - 3/4 of their length with scarcely changing yellowish-grey or grey dusting..... ***nigripalpis*** R.D.

– Mouth edge pointing upwards, clearly visible from the side. Tergites covered with rather variable grey dusting for 1/3 - 1/2 of their length - when angle of light is changed. Mountain species..... ***strigifrons*** Zett.

3. 4th section of wing edge about as long as the 6th. Dorsal marginal bristles of the 3rd tergite 1.2 - 1.6x as long as the segment; distance between the outer two as great as 1/2 - 2/3 of the width of tergite 3. Body length 7 - 9.5 mm. Palps usually brown with a light tip..... ***glirina*** Rond.

– 4th section of the wing edge 1.4 - 3.0x as long as the 6th. Dorsal marginal bristles of the 3rd tergite 0.5 - 1.2x as long as the segment; distance between the outer two at most as great as 1/3 of the width of tergite 3 (if larger, then body length above 10 mm)..... ***4***

4. Tergite 5 dusted dorsally at most to 1/2 and laterally to 2/3 of its length; dusting usually weaker than on the preceding segments, sometimes almost totally extinguished..... ***5***

– Tergite 5 dusted everywhere to at least 2/3 of its length; dusting as dense as on the preceding segments. Always 4 dc behind the suture; no hairlets under the frontal bristles; the bristlets above the vibrissa only reach upwards to 1/5 or 1/4 of the facial ridges..... ***7***

5. 3 dc behind the suture (seldom 4 dc). The bristlets above the vibrissa reach up only to 1/5 to 1/4 of the facial ridges. Dusting of thorax and abdomen yellowish-grey. Males: ad-comb of the hind tibia very irregular with several longer intermediary bristles; middle tibia with 2 - 3 ad; tergites 3 and 4 with strong discal bristles; tergite 3 with 4 (-6) dorsal marginal bristles (about as long as the segment). Females: tergite 5 scarcely wider than long; dusting of tergites 3 and 4 dense, rarely changeable, tergite 5 however with only very weak dusting ..... ***triseta*** Pand.

– 4 dc behind the suture. The (partially very fine and short) bristlets above the vibrissa reach upwards to 1/3 - 1/2 of the facial ridges. Abdominal dusting blueish-white or white, in contrast to the (usually) yellowish to golden yellow dusting of the frons. Males: ad-comb of the hind tibia regular, with 1 long intermediary bristle (fig. 161); middle tibia with 1 ad (rarely a shorter one above); tergites 3 and 4 without or only with very weak discal bristles; tergite 3 with 2 short dorsal marginal bristles (0.5 - 0.9x as long as the segment). Females: 5th tergite 1.5 - 2x as wide as long; dusting of tergites 3 - 5 very changeable when lighting angle varies ***6***

6. The 3 strong bristles of the humeral callus form an angle of 90 - 120°. Cheeks almost always with a few hairlets under the frontal bristles. Dusting of thorax and abdomen blueish-white. Males: 3rd antennal segment 2 - 3x as long as the 2nd; presutural ia present..... ***villica*** Zett.

– The 3 strong bristles of the humeral callus form an angle of about 135°. Cheeks bare under the frontal bristles. Dusting of thorax and abdomen whitish. Males: 3rd antennal segment about 3.5x as long as the 2nd; presutural ia absent..... ***vicina*** Wainwright

7. Cheeks at their narrowest point 1.7 - 2.5x as wide as the palps. Tergite 5 as well as the preceding tergites with thin (but ± irregular) hairs, without discal bristles. Presutural ia missing or rudimentary. Frons 0.80 - 0.92x as wide as one eye in males, 1.10 - 1.22x in females. Females: tergite 5 notched dorso-medially. Middle tibia with 2 ad..... ***pauciseta*** Vill.

– Cheeks at their narrowest point 0.7 - 1.3x as wide as the palps. Abdomen with discal bristles, or alternatively, the short hairs are strong and bristle-like. Presutural ia almost always present. Frons narrower (except in *clavellariae*). Females: tergite 5 not notched..... ***8***

8. The section of m between m-cu and the deflection is 1.7 - 1.3x as long as the distance of the deflection from the wing edge. Middle tibia with 2 ad (seldom 3). The three strong bristles of the humeral callus form an angle of 90 - 110°. Females: 5th tergite 1.20 - 1.35x as long as tergite 4. Black longitudinal stripes at the sides of the thorax before the suture clearly defined, wedge-shaped reaching to the strong post-humeral bristle (as in fig. 59) ..... ***stulta*** Zett.

– The section of m between m-cu and the deflection is 1.0 - 1.7x as long as the distance of the deflection from the wing edge. Middle tibia as a rule with 3 - 4 ad. The three strong bristles of the humeral callus form an angle of 120 - 150°. Females: 5th tergite 1.0 - 1.1x as long as tergite 4 ..... ***9***

9. Black longitudinal stripes at the sides of the thorax before the suture clearly defined, reaching wedge-shaped to the strong outer post-humeral bristle (fig. 59). Males: cerci short, bent a little upwards at the tip (fig. 247) ..... ***glauca*** Meig.

– Black longitudinal stripes at the sides of the thorax before the suture not clearly defined, continuing to the pronotum (fig. 60). Males: cerci long and narrow, at their tips not or scarcely bent upwards (fig. 246) ***10***

10. Middle black longitudinal thoracic stripes before the suture narrow, at most half as wide as the separating space (as in fig. 59). Tergites 3 and 4 dusted to about 3/5 of their length, tergite 5 to 2/3 - 4/5; dusting very variable when lighting angle changes. Frons 0.58 - 0.72x as wide as one eye in males, 0.81 - 0.83x in females (only 4 examples measured)..... ***glaucoides*** Hert.

– Middle black longitudinal thoracic stripes before the suture almost as wide as the separating space (as in fig. 61). Tergites 3 and 4 dusted to at least 4/5 of their length covered with scarcely variable dusting, tergite 5 almost completely dusted. Frons in males 0.8x as wide as one eye (only 1 example available for measuring) ..... ***clavellariae*** B.B.

Nilea

1. The bristlets above the vibrissa reach only 1/5 - 2/5 of the facial ridges. Scutellum black, only at the tip lighter reddish. Palps yellow. Males: tergites 4 and 5 ventrally shiny black, with dense ± prone hairs. 3 st ..... ***hortulana*** Meig.

– The bristlets above the vibrissa reach 1/2 - 2/3 of the facial ridges. Scutellum predominantly reddish-yellow (at least in its hindmost 3/5). Palps yellow or black. Tergites 4 and 5 in males not so developed ventrally..... ***2***

2. 3 st. Palps (at least in the distal half) yellow. The bristlets above the vibrissa reach to 1/2 of the facial ridges or scarcely more. Tergites 3 and 4 without discal bristles. Tergite 5 often somewhat shorter than tergite 4. The ocelli usually form an isosceles triangle (the distance of the posterior ocelli from each other is shorter) . ***innoxia*** Meig.

– 4 st. Palps black or dark brown. The bristlets above the vibrissa reach to 2/3 of the facial ridges, seldom only to 1/2. Tergite 4 almost always with irregular discal bristles. Tergite 5 as least as long as tergite 4. The triangle formed by the ocelli is equilateral (distance of the ocelli from each other about equal) ..... ***rufiscutellaris*** Zett.

Phryxe

1. 4 st. Arista thickened to at least 2/3 of its length (fig. 7). 3 or 4 dc behind the suture. Parafrontalia with further bristles in front and outside the row of frontal bristles (fig. 7). Scutellum totally black or at most a little reddish at its tip..... ***2***

– 3 st. (very seldom 4 st). Arista thickened at most to 2/3 of its length (fig. 10). Always 4 dc behind the suture. Parafrontalia only with the usual hairs outside the frontal bristles (fig. 10). Scutellum at its tip ± reddish-yellow ***4***

2. Cheeks with bristles facing downwards. 3 dc behind the suture ..... ***setifacies*** Vill. (see number 102 of the genus key)

– Cheeks without bristles..... ***3***

3. Arista thickened to 2/3 - 3/4 of its length. 3 dc behind the suture. Males: cheeks strongly narrowed downwards, at their narrowest point as wide as 1/5 - 1/2 of the 3rd antennal segment..... ***hirta*** Bigot

– Arista thickened to at least 5/6 (fig. 7) in males, in females to at least 3/4 of its length. 4 dc (more rarely 3 dc) behind the suture. Males: cheeks downwards not much narrowed, at their narrowest point as wide as 1/2 - 2/3 of the 3rd antennal segment (fig. 7) ..... ***prima*** B.B.

4. Distance between the lowest frontal bristle and the uppermost bristlet above the vibrissa 1.5 - 2.5x as long as the width of the 3rd antennal segment (fig. 10). 6th wing edge section short (as in fig. 119). Dusting usually yellowish-grey ..... ***nemea*** Meig.

– Distance between the lowest frontal bristle and the uppermost bristlet above the vibrissa narrower than the width of the 3rd antennal segment..... ***5***

5. 4th+5th wing edge section together 1.1 - 1.6x as long as the 6th wing edge section (fig. 120). 3rd antennal segment on its base not or scarcely prominent (as in figs. 7, 10), in males about 4 - 4.5x, in females about 2.5 - 3x as long as the 2nd. Cheeks at their narrowest point as wide as 1/4 - 2/3 of the 3rd antennal segment. At least the posterior 1/3 of scutellum reddish-yellow. Males: anterior claws shorter than the last tarsal segment. Usually numerous species ***6***

– 4th+5th wing edge section together 1.7 - 2.5x as long as the 6th wing edge section (fig. 119). 3rd antennal segment on its base prominent (as in fig. 16), in males about 4.5 - 5.5x, in females about 3x as long as the 2nd. Cheeks at their narrowest point as wide as 1/6 - 1/2 of the 3rd antennal segment. Scutellum a little reddish usually only at its tip. Rarer species which are usually obtained by breeding ***7***

6. Abdomen, viewed from behind, predominantly black, the dusting is denser only in the anterior 1/4 - 1/3 and on the sides of the tergites; on the sides of tergite 4 it covers 1/3 - 3/5, on tergite 5 at most 1/2 the segment length. Males: surstyli widened, almost always clearly lighter than the cerci, the latter strongly bent (seen from the side) (fig. 254) ..... ***heraclei*** Meig.

– Dusting somewhat denser and reaching further backwards; on the sides of tergite 4 it covers 2/3 - 5/6, on tergite 5 at least 3/5 of segment length. Males: surstyli not widened, black like the cerci, the latter scarcely bent (fig. 253) ..... ***vulgaris*** Fall.

7. Body length 5 - 7 mm. Males: anterior claws much shorter than the last tarsal segment; surstyli very narrow (fig. 252) ..... ***magnicornis*** Zett.

– Body length 8 - 11 mm. Males: anterior claws about as long as the last tarsal segment (fig. 145); surstyli wider, similar to fig. 253..... ***8***

8. Tergite 5 no longer than the 4th. Tergites only dusted to 1/2 - 4/5 of their length ..... ***erythrostoma*** Hart.

– Tergite 5 in males 1.1 - 1.3x, in females about 1.5x as long as the 4th. Abdomen dusted almost to the end, tergites practically without a black seam at the posterior edge..... ***semicaudata*** Hart.

Pseudoperichaeta

1. Middle tibia with 1 ad. Frons in males 0.74 - 1.03x, in females 0.80 - 1.05x as wide as one eye. Section of m between m-cu and the deflection 1.6 - 3.0x as long as the distance of the deflection from the posterior edge. Cheeks at their narrowest point as wide as 1/4 - 1/2 of the 3rd antennal segment ..... ***nigrolineata*** Walk.

– Middle tibia with 2 - 3 ad. Frons in males 1.08 - 1.44x, in females 1.04 - 1.32x as wide as one eye. Section of m between m-cu and the deflection 1.0 - 1.5x as long as the distance of the deflection from the posterior edge. Cheeks at their narrowest point as wide as 2/5 - 3/4 of the 3rd antennal segment ..... ***palesoidea*** R.D.

Lydella

1. Head at the antennal base very noticeably prominent (much further than in fig. 2). 3 st. Abdomen in males without sturmia spot. m-cu shorter than the section of m between m-cu and the deflection ..... ***lacustris*** Hert.

– Head not so prominent. 4 st (some females of *stabulans* have only 3 st). Males with a sturmia spot at the ventral side of the abdomen, either on tergite 4 (fig. 186) or on the tergites 3 and 4 ..... ***2***

2. No oe (males) ***3***

– 2 oe (females)..... ***6***

3. Anterior claws and pulvillae longer than the last tarsal segment. Abdominal hairs upright. Frons a little smaller than one eye ..... ***stabulans*** Fall.

– Anterior claws and pulvillae shorter than the last tarsal segment. Abdominal hairs prone. Frons as wide as one eye or wider ***4***

4. Ventral side of the abdomen without dusting. Tergites 3 and 4 ventrally with one sturmia spot on each side; the spot of tergite 3 is more extended than that of tergite 4..... ***ripae*** Brischke

– The bands of dusting on the abdomen extend to the ventral side. Only tergite 4 ventrally with a sharply delineated sturmia spot (fig. 186) ***5***

5. The sturmia spot on the ventral side of tergite 4 is wider than long and lies closely along the anterior edge of the segment (fig. 186). Dusting yellowish-grey. Tergite 4 on the sides dusted to 2/3 - 4/5 of its length. Arista thickened to about 3/4 of its length. Section of m between m-cu and the deflection shorter than the distance of the deflection to the wing edge..... ***grisescens*** R.D.

– The sturmia spot on the ventral side of tergite 4 is almost circular. Dusting blueish-white. Tergite 4 on the sides dusted to 1/2 - 3/5 of its length. Arista thickened to barely 1/2 its length. Section of m between m-cu and the deflection as long as the distance of the deflection to the wing edge or longer..... ***thompsoni*** Hert.

6. Frons 0.95 - 1.30x as wide as one eye (fig. 1). Arista thickened to 2/5 - 1/2 (seldom to almost 3/5) of its length. The area around the base of the discal bristles of tergite 3 and 4 is noticeably less dusted than the band of dusting at the anterior edge of the segments (abdomen to be viewed obliquely from behind). Dusting white or blueish-white. The bands of dusting on the abdomen continue on the ventral side. Tergite 4 dusted on the sides to at most 1/2 of its length ***7***

– Frons 1.33 - 1.70x as wide as one eye. Arista thickened to 2/3 - 3/4 of its length. Discal bristles of tergites 3 and 4 stand in a zone where the dusting is as dense as at the anterior edge of the segments. Facial ridges (in lateral view) not concave..... ***8***

7. Facial ridges (seen from the side) a little concave at the lower part (fig. 2). Tergite 4 dusted on the sides to 1/6 - 2/5 of its length. 3rd antennal segment 1.5 - 1.9x as long as the 2nd. Arista thickened to 2/5 - 1/2 of its length. Section of m between m-cu and the deflection shorter than the distance of the deflection to the wing edge ..... ***stabulans*** Fall.

– Facial ridges straight or slightly convex. Tergite 4 dusted on the sides to almost 1/2 of its length. 3rd antennal segment 2.2 - 2.8x as l9ong as the 2nd. Arista thickened to about 1/2 its length, sometimes a little further still. Section of m between m-cu and the deflection as long as the distance of the deflection to the wing edge or longer..... ***thompsoni*** Hert.

8. The bands of dusting at the anterior edge of the abdominal segments continue on the ventral side. Dusting yellowish-grey. Tergite 4 dusted on the sides to 3/5 - 3/4 of its length. 3rd antennal segment 2.0 - 2.6x as long as the 2nd..... ***grisescens*** R.D.

– Ventral side of the abdomen not dusted, shiny black. Dusting as a rule blueish-white. Tergite 4 dusted on the sides to 2/5 - 1/2 of its length. 3rd antennal segment 1.9 - 2.1x as long as the 2nd..... ***ripae*** Brischke

Drino

1. Cheeks below frontal bristles bare. Ocellar bristles missing..... ***2***

– Cheeks below frontal bristles with a few hairs. Ocellar bristles present..... ***4***

2. Frons in males 0.72 - 0.79x, in females 0.88 - 0.99x as wide as one eye. Sparse eye hairs present, the hairlets about as long as 4 eye facets (to be viewed against a dark background!). Back of the head on top behind the post-ocular hairs with only very sparse black hairs (at most a row of hairs) or black hairs missing altogether ..... ***lota*** Meig.

– Frons in males at least 1x, in females at least 1.1x as wide as one eye. Eyes almost bare; if a few hairlets are present, then these are about as long as 2 eye facets. Back of the head on top behind the post-ocular hairs with 1 - 2 rows of black hairs..... ***3***

3. Frons in males 1.02 - 1.08x, in females 1.10 - 1.25x as wide as one eye. Frontal stripe parallel sided, scarcely broadened towards the back. Arista thickened to 1/3 - 2/5 of its length. Posterior edges of tergites 3 and 4 black for 1/5 - 1/4 of the segment, tergite 5 black at the hindmost 1/3 - 1/2. The central black longitudinal abdomenal stripe is clearly visible on all segments..... ***vicina*** Zett.

– Frons in males 1.20 - 1.45x, in females 1.35 - 1.68x as wide as one eye. Frontal stripe strongly widened towards the back. Arista thickened to 2/5 - 3/5 of its length. Tergites almost completely covered with dusting, the posterior edge however appears darker at certain lighting angles. The central black longitudinal stripe of tergites 4 and 5 is almost extinguished..... ***galii*** B.B.

4. Dusting golden yellow. Tergite 3 dusted in the centre to 3/5 - 4/5, tergite 5 to 2/3 - 1/1 of the segment length. Trochanters brown yellow. Antennae partially yellow..... ***gilva*** Hart.

– Dusting grey-white to slightly yellowish. The central posterior edge of tergite 3 (when viewed very obliquely from behind) black for 4/5 - 5/6 of the segment. Tergite 5 dusted to 1/3 - 3/5 of its length. Legs black. Antennae black, at most in females sometimes partially yellow..... ***5***

5. The dusting of tergites 4 and 5 occupies about 1/2 the segment length or more. There is no difference in the tint of the dusting of the ventral and dorsal side of the body. Cheeks at their narrowest point as wide as 1/2 - 1/1 of the 3rd antennal segment..... ***inconspicua*** Meig.

– The dusting of tergites 4 and 5 occupies less than 1/2 the segment length. Dusting of thorax and abdomen dorsally yellow, on the sides and ventrally whitish. Cheeks at their narrowest point as wide as 1/4 - 1/2 of the 3rd antennal segment..... ***bohemica*** Mesn.

Carcelia

1. Simultaneously: basicosta yellow and middle tibia with 1 ad (fig. 154)..... ***2***

– Basicosta black brown or lightened a little, but then middle tibia with 2 - 3 ad..... ***4***

2. Humeral callus (seen from the side, under the dusting) completely or predominantly yellow. Frons 0.53 - 0.61x as wide as one eye, 0.63 - 0.71x in females. Dusting yellowish-grey to golden yellow. Hairs of tergites 3 and 4 about as long as 2/5 of the corresponding segment..... ***bombylans*** R.D.

– Humeral callus totally or predominantly black (at least in its anterior half). Frons in males and females either narrower or wider than the measurements given. Dusting grey to yellowish-grey..... ***3***

3. Frons 0.42 - 0.50x as wide as one eye in males, 0.47 - 0.58x in females. Hairs of tergites 3 and 4 as long as 1/3 - 2/5 of the corresponding segment..... ***rasa*** Macq.

– Frons 0.64 - 0.72x as wide as one eye in males, 0.72 - 0.87x in females. Hairs of tergites 3 and 4 as long as 3/5 - 2/3 of the corresponding segment, sometimes with irregular discal bristles..... ***puberula*** Mesn.

4. Simultaneously: middle tibia totally yellow, also on the ventral side of its basal third, with 1 ad; tergites 3 and 4 evenly haired, without discal bristles..... ***5***

– Other combinations of features..... ***6***

5. Humeral callus (under the dusting) black. The ocelli form an isosceles triangle (the distance of the hindmost ocelli from one another is smaller). Abdominal hairs rough, the individual hairs very much thicker than the hairs of the mesopleuron. Frons 0.60 - 0.72x as wide as one eye in males, 0.70 - 0.75x in females. r4+5 with 2 - 3 bristlets at the base..... ***atricosta*** Hert.

– Humeral callus predominantly yellow. The triangle formed by the ocelli is equilateral (distance between ocelli from one another is roughly equal). Abdominal hairs about as fine as the hairs of the mesopleuron. Frons 0.67 - 0.75x as wide as one eye in males, 0.75 - 0.81x in females. r4+5 with 1, more rarely 2 bristlets at the base ..... ***rasella*** Bar.

6. Arista cylindrically thickened for at least 2/5 of its length then tapering sharply (fig. 42). Abdomen evenly haired, without discal bristles..... ***7***

– Thickening of the arista shorter in distance from the base and tapering more evenly (fig. 4). Abdomen with rougher and less even hairs, with a few stronger hairs or discal bristles ***8***

7. Cheeks at their mid-point as wide as 1/2 - 1/1 of the 3rd antennal segment. Peristome about as wide as the 3rd antennal segment. Frons 0.82 - 0.92x as wide as one eye in males, 0.9 - 1.0x in females. Cheeks below the frontal bristles with a few hairlets or (sometimes) with hairs almost down to the middle..... ***iliaca*** Ratz.

– Cheeks at their mid-point as wide as 1/5 - 1/2 of the 3rd antennal segment. Peristome much narrower than the 3rd antennal segment. Frons 0.55 - 0.65x as wide as one eye in males, 0.65 - 0.77x in females. Cheeks below the frontal bristles bare ..... ***gnava*** Meig.

8. Apical scutellar bristles much shorter and weaker than the lateral bristles, at most as long as the scutellum. The space between the subapical bristles 1.1 - 1.5x as great as the distance to the basals. Middle tibia in males with 1 ad only, in females often with a second, weaker bristle above. Females: last fore tarsal segment widened, 2 - 3x as long as the penultimate segment..... ***9***

– Apical bristles as long and as strong as the lateral bristles, longer than the scutellum. The space between the subapical bristles 1.6 - 1.9x as great as the distance to the basals. Middle tibia with 2 - 3 ad. Females: last fore tarsal segment not widened, 1 - 1.5x as long as the penultimate segment..... ***10***

9. 3rd antennal segment in males about 4x, in females about 3x as long as the 2nd. Frons 0.6 - 0.7x as wide as one eye in males, 0.6 - 0.8x in females. Males: anterior claws longer than the last tarsal segment. Females: palps at their thickest point about as wide as the 3rd antennal segment; tergite 5 with very faint dusting to 1/6 - 1/2 its length ..... ***tibialis*** R.D.

– 3rd antennal segment in males 6 - 7x, in females about 4x as long as the 2nd. Frons in both sexes 0.73 - 0.87x as wide as one eye. Males: anterior claws only as long as the last tarsal segment. Females: palps at most half as wide as the 3rd antennal segment; tergite 5 dusted to 2/3 - 4/5 of its length ..... ***falenaria*** Rond.

10. Frons 0.8 - 0.9x as wide as one eye in males, 0.86 - 1.0x in females. Space between the posterior ocelli almost as great as the distance between the anterior acr of the thorax. Middle tibia completely yellow, also on the ventral side of its base. The thin bristlets above the vibrissa reach almost to half the height of the facial ridges. Basicosta ± brown yellow, lightened..... ***laxifrons*** Vill.

– Frons narrower. Distance between the posterior ocelli much less. Facial ridges only in their lower 1/4 with bristlets. Middle tibia at least at the base of its ventral side blackened. Basicosta black brown..... ***11***

11. Tibiae black brown. Abdominal dusting faint, changing viewing angles make the black basal colour of the abdomen more prominent. Frons about 0.75x as wide as one eye in males, 0.80x in females..... ***alpestris*** Hert.

– Tibiae predominantly yellow. Abdomen more densely dusted ***12***

12. Frons 0.70 - 0.78x as wide as one eye in males, 0.75 - 0.82x in females. Tergites 3 and 4 with very distinct black bands at the posterior edge, tergite 5 dusted to only 2/3 - 3/4 of its length. Face in males as long as the frons..... ***kowarzi*** Vill.

– Frons narrower. Black bands at the posterior edge of tergites 4 and 5 very narrow, viewed obliquely, they are extinguished totally, tergite 5 dusted to the posterior edge. Face in males shorter than the frons ***13***

13. Frons 0.50 - 0.65x as wide as one eye in males, 0.63 - 0.79x in females. Males: epandrium longer than wide (fig. 196). Anterior 4 abdominal segments of the puparium on their dorsal side completely bare . ***lucorum*** Meig.

– Frons 0.44 - 0.51x as wide as one eye in males, 0.55 - 0.72x in females. Males: epandrium a little wider than long (fig. 195). Anterior 4 abdominal segments of the puparium on the dorsal side also with belt of thorns ..... ***dubia*** B.B.

Senometopia

1. 3 dc behind the suture. Tibiae black or evenly dark brown. Dusting grey ..... ***susurrans*** Rond.

– 4 dc behind the suture. Tibiae yellow, on their ventral side basally and apically a little blackened..... ***2***

2. Fore tibia (almost always) with 2 posterior bristles, the topmost one is 2 - 3x as long as the tibia diameter (fig. 148). Males: cerci much longer than the narrow surstyli (fig. 243). Tergite 4 irregularly hairy, almost always with scattered discal bristles. Dusting yellowish. The black longitudinal side stripe of the thorax behind the suture narrows towards the back and is usually extinguished long before the last dc (fig. 63). Puparium without terminal hump..... ***pollinosa*** Mesn.

– Fore tibia with 1 posterior bristle (in *intermedia*, there is sometimes a short second bristle above which is however at most 1.5x as long as the diameter of the tibia; the longitudinal side stripe of the thorax behind the suture goes to the last dc in this species, as in fig. 64). Males: cerci only a little longer than the relatively wide surstyli (figs. 240-242). Puparium (as far as known) with terminal hump..... ***3***

3. Frons 0.66 - 0.90x as wide as one eye in males, 0.78 - 1.03x in females. 3rd tergite 2.3 – 2.9x as wide as long (length measured at the dorsal middle, width at its posterior edge). Hairs on tergites 3 and 4 less dense and irregular, almost always with a few scattered discal bristles in between. Body length 5.5 - 8 mm ***4***

– Frons 0.51 - 0.70x as wide as one eye in males, 0.69 - 0.79x in females. 3rd tergite 2.7 - 3.2x as wide as long. Hairs on tergites 3 and 4 dense and even, only tergite 4 in females sometimes with a few scattered discal bristles. Body length 8 - 10 mm..... ***5***

4. Dusting yellowish. Frons 0.66 - 0.76x as wise as one eye in males, 0.78 - 0.89x in females. The black longitudinal side stripe of the thorax behind the suture goes to the last dc and does not, or hardly, become narrower towards the back (as in fig. 64)..... ***intermedia*** Hert.

– Dusting grey. Frons 0.74 - 0.90x as wide as one eye in males, 0.89 - 1.3x in females. The black longitudinal side stripe of the thorax behind the suture narrows considerably towards the back and is usually extinguished before the last dc (as in fig. 63)..... ***confundens*** Rond.

5. Dusting grey. The black longitudinal side stripe of the thorax behind the suture goes to the last dc and does not or scarcely become narrower (fig. 64) ..... ***separata*** Rond.

– Dusting yellowish. The black longitudinal side stripe of the thorax behind the suture narrows considerably towards the back and is usually extinguished long before the last dc (as in fig. 63)..... ***6***

6. No oe (males) ***7***

– 2 oe..... females of ***excisa*** Fall., ***lena*** Richt. and ***pilosa*** Bar.
(The females of these 3 species are not separable at this time)

7. Surstyli in front distally slanted (chamfered), clearly hairy in their anterior half; the cerci are taller than the surstyli by at least the width of the surstyli (fig. 242) ..... ***lena*** Richt.

– Surstyli distally rounded. The cerci are taller than the surstyli by less than the width of the surstyli (figs. 240, 241) ***8***

8. Surstyli very thin, with insignificant hairs (fig. 241) ..... ***excisa*** Fall.

– Surstyli with long and strong hairs in their distal 1/3 (fig. 240) ..... ***pilosa*** Bar.

Erycia

1. Basicosta totally yellow. Males: frons 1.15 - 1.26x as wide as one eye; ve at least half as long as the vi; abdomen evenly dusted to the end. Females: 5th tergite 1.75 - 2.0x as long as tergite 4..... ***furibunda*** Zett.

– Basicosta completely black brown or black at least at the anterior and outer edges. Males: frons at most 1.1x as wide as one eye; ve not or hardly differentiated from the post-ocular hairs; tergites with black, often very narrow bands at the posterior edge. Females: 5th tergite 1.10 - 1.78x as long as tergite 4 ..... ***2***

2. No oe (males) ***3***

– 2 oe (females)..... ***5***

3. Ventral side of abdomen without dusting, shiny black. The dusting on the sides of tergite 4 covers only 1/3 - 2/3 of the segment length, on the sides of tergite 5 only 1/3 - 1/2 of the segment length. Basicosta completely black brown. Frons 1.0 - 1.1x as wide as one eye. Tergite 4 without discal bristles..... ***fasciata*** Vill.

– Ventral side of the abdomen dusted at the anterior edge of the tergites. Dusting on the sides of tergites 4 and 5 covers at least 4/5 of segment length..... ***4***

4. Frons 0.75 - 0.92x as wide as one eye. Basicosta completely black brown. Tergite 4 with 1 - 2 irregular discal bristles. Tergite 3 often with more than 4 marginal bristles..... ***fatua*** Meig.

– Frons 0.89 - 1.07x as wide as one eye. Basicosta yellow at the posterior edge, very seldom completely black brown. Tergite 4 without discal bristles. Tergite 3 with 2 - 4 marginal bristles..... ***festinans*** Meig.
(Later studies must show whether *fatua* and *festinans* are proper species of their own, or only forms of a single species).

5. Tergites 3 and 4 with distinct black bands at the posterior edge. 5th tergite 1.1 - 1.2x as long as tergite 4 ..... ***fasciata*** Vill.

– Abdomen evenly dusted. 5th tergite 1.50 - 1.78x as long as tergite 4..... ***6***

6. Basicosta completely black brown. Frons 1.06 - 1.23x as wide as one eye. Hairs on tergite 4 upright in front and on the sides, usually 1 - 2 discal bristles present ..... ***fatua*** Meig.

– Basicosta in front and on the outside dark coloured, at the back yellow. Frons 1.20 - 1.33x as wide as one eye. Hairs of tergite 4 evenly prone everywhere, without discal bristles ..... ***festinans*** Meig.

Eumea

1. Facial ridges (seen from the side) convex in males (fig. 16), straight in females. Face distinctly longer than the frons in males, about as long in females. Under the frontal bristles only 2 - 4 hairlets. Hairs on the parafrontalia at the anterior 1/3 much more sparse and shorter than in the posterior 1/3. 3rd antennal segment in males 4.3 - 5.5x as long as the 2nd, on its base strongly prominent, in females 2.9 - 3.7x as long as the 2nd ..... ***linearicornis*** Zett.

– Facial ridges straight in males, weakly concave in females. Face about as long as the frons in males, a little shorter in females. Hairlets under the frontal bristles more numerous, often reaching down to the middle of the cheeks. Hairs on the parafrontalia in front nearly as dense and long as at the back. 3rd antennal segment in

males 3.0 - 3.9x as long as the 2nd, not prominent at its base, in females 2.1 - 2.9x as long as the 2nd ..... ***mitis*** Meig.

Myxexoristops

1. Frons 0.93 - 1.10x as wide as one eye in males, 1.0 - 1.2x in females. Palps, tibiae and abdomen (except for the dusting) black. Scutellum almost completely black, only a little lighter around the area of the subapical bristles. Middle tibia with 2 - 3 ad ..... ***hertingi*** Mesn.

– Frons at most 0.85x as wide as one eye in males, as a rule smaller than one eye in females (if wider, the abdomen is partially yellow at the sides and the scutellum at the anterior edge is ± wide lighter, red-yellow).... ***2***

2. No oe (males) ***3***

– 2 oe (females) ***7***

3. 3rd antennal segment 5.0 - 6.5x as long as the 2nd, 3.0 - 5.5x as wide as the cheeks at their narrowest point. face clearly longer than the frons. Tergites 4 and 5 dusted to 1/2 - 2/3 of their length. Longitudinal side thoracic stripes before the suture indistinctly outlined, reaching further forwards than to the strong post-humeral bristle (as in fig. 60). Palps yellow to brown ..... ***bicolor*** Vill.

– 3rd antennal segment 3.0 - 4.5x as long as the 2nd, 1.5 - 2.8x as wide as the cheeks at their narrowest point. Face about as long as the frons. Tergites 4 and 5 dusted to at least 2/3 of their length ***4***

4. Tibiae yellow or brown-yellow, but black for the basal 1/3 of their ventral side. Middle tibia with 2 ad. 3rd antennal segment 3.5 - 4.5x as long as the 2nd ..... ***bonsdorffi*** Zett.

– Tibiae black or evenly dark brown. Middle tibia with 1 ad (seldom 2). 3rd antennal segment 3 - 4x as long as the 2nd ***5***

5. Longitudinal thoracic side stripes before the suture indistinctly outlined, reaching further forward than to the strong outer post-humeral bristle (as in fig. 60). Dusting grey. Scutellum completely black ..... ***blondeli*** R.D.

– Longitudinal thoracic side stripes before the suture distinctly outlined, ending wedge-shaped near the post-humeral bristle (as in fig. 59). Dusting yellowish-grey to yellow. Scutellum a little yellow or reddish at least at its tip ***6***

6. Tergite 3 dusted only to 2/3 (rarely to 4/5) of its length. Yellow coloration on the posterior edge of the scutellum reaching to the basal bristles. Tergite 3 usually a little lighter at the sides. The hairs above the vibrissa rise only to 1/5 - 1/3 of the facial ridges ..... ***abietis*** Hert.

– Tergite 3 dusted to about 4/5 of its length. Scutellum coloured reddish or yellow only at its tip. Abdomen without lighter spots on the side. The hairs above the vibrissa rise to 1/3 - 2/5 of the facial ridges ..... ***stolida*** Stein.

7. Abdomen ± yellow at the sides and ventrally, but at least a small reddish spot at the sides of tergite 3. Tibiae usually brown-yellow ***8***

– Abdomen (except for the dusting) totally black. Tibiae black ***10***

8. Coxae and trochanters yellow (beneath the dusting). 1st and 2nd antennal segment partially lightened. Ventral side of the abdomen completely yellow. Yellow colouring on the sides of the abdomen very noticeable when viewed from above. 3rd antennal segment about 3.5x as long as the 2nd. Anterior claws a little shorter than 1/2 the last tarsal segment. Palps yellow. Middle tibia with 1 ad ..... ***bicolor*** Vill.

– Coxae, trochanters as well as the 1st and 2nd antennal segment black. Ventral side of the abdomen yellow to a varying extent but at least tergite 5 and usually also a ventral longitudinal central stripe black. Yellow colouring on the sides of the abdomen not clearly visible from above. 3rd antennal segment 2.5 - 3x as long as the 2nd (fig. 13). Anterior claws at last as long as 1/2 the last tarsal segment. Palps brown-yellow to black. ***9***

9. Tergites 3 - 5 dusted to 5/6 - 7/8 of their length. Middle tibia with 2 (- 3) ad. Tibiae yellow or brown-yellow, ventral side black in the basal 1/3 ..... ***bonsdorffi*** Zett.

– Tergites 3 - 5 dusted to 2/3 - 3/4 of their length. Middle tibia as a rule with only 1 ad. Tibiae black or evenly brown ..... ***abietis*** Hert.

10. Longitudinal thoracic side stripes before the suture indistinctly outlined and reaching further forward than to the strong outer post-humeral bristle (as in fig. 60). Dusting grey. Hairs of tergite 4 coarse and ± upright, discal bristles usually not only medio-dorsally but also further developed towards the sides ..... ***blondeli*** R.D.

– Longitudinal thoracic side stripes before the suture distinctly outlined and ending wedge-shaped beside the posthumeral bristle (as in fig. 59). Dusting yellowish to golden yellow. Tergite 4 only medio-dorsally with discal bristles and upright hairs, the hairs are more prone at the side ..... ***stolida*** Stein.

Zenillia

At the moment a safe distinction of both these species is only possible based on the male genitalia.

1. Males: Cerci apically not or scarcely widened, surstyli narrow; aedeagus strongly narrowed at the end and with only a few small thorns (fig. 235); Frons 0.65 - 0.82x as wide as one eye; 3rd antennal segment 3.1 - 4.8x as long as the 2nd. Females: 3rd antennal segment 3.0 - 3.8x as long as the 2nd ..... ***libatrix*** Panz.

– Males: Cerci strongly widened, surstyli wide; aedeagus at the end wide and spiked with numerous thorns (fig. 234); Frons 0.78 - 0.89x as wide as one eye; 3rd antennal segment 5.5 - 6.9x as long as the 2nd. Females: 3rd antennal segment 3.5 - 4.5x as long as the 2nd ..... ***dolosa*** Meig.

Pales

1. 5th tergite 0.65 - 0.70x as long as the 4th. Frons in males 0.40 - 0.46x, in females 0.70 - 0.76x as wide as one eye. 3rd antennal segment in both sexes 2.0 - 2.6x as long as the 2nd. Abdomen blue-black shiny, hardly dusted. Tibiae black or only faintly lightened ..... ***perigrina*** Hert.

– 5th tergite 0.85 - 1.00x as long as the 4th. Frons in males at least 0.65x, in females at least 0.82x as wide as one eye. 3rd antennal segment in males at least 3.0x, in females at least 2.4x as long as the 2nd. Abdomen more strongly dusted. Tibiae yellow or brown..... ***2***

2. Face in both sexes 1.08 - 1.25x as long as the frons. 3rd antennal segment in males 3.5 - 4.6x, in females 2.5 - 3.0x as long as the 2nd. Frons in males 0.72 - 0.84x, in females 0.88 - 1.00x as wide as one eye. Body more weakly dusted, rather shiny. Body length 5 - 10 mm (rarely 11mm). Males: base of the surstyli (viewed from behind) narrow (fig. 271), cerci (seen from the side) bent a little upwards at the end (fig. 269). Posterior spiracle of the puparium with 4 slits..... ***pavida*** Meig.

– Face in males 0.97 - 1.07x, in females 0.95 - 1.02x as long as the frons. 3rd antennal segment in males 3.0 - 3.7x, in females 2.4 - 2.8x as long as the 2nd. Frons in males 0.65 - 0.75x, in females 0.82 - 0.94x as wide as one eye. Body with somewhat denser and more even hairs, less shiny. Body length 10 - 12 mm (rarely only 8 - 9 mm). Males: base of the surstyli (viewed from behind) wide (fig. 272), cerci (seen from the side) not bent upwards at the end (fig. 270). Posterior spiracle of the puparium with 3 slits ..... ***processioneae*** Ratz.

Cyzenis

1. Tergites covered with variable dusting to the posterior edge. Frons 1.20 - 1.62x as wide as one eye, in males with 1 oe. Section of m between m-cu and the deflection 1.8 - 3.6x as long as the distance from the deflection to the outer edge of the wing. Tibiae usually lightened reddish-yellow, seldom completely black. Males: Hairs of tergites 3 and 4 prone ..... ***albicans*** Fall.

– Tergites covered to only 2/4 to 3/4 of their length with even dusting. Frons in males 0.77 - 1.06x, in females 0.98 - 1.16x as wide as one eye. Frons in males without oe. Section of m between m-cu and the deflection 1.4 - 2.1x as long as the distance from the deflection to the outer edge of the wing. Tibiae black. Males: Hairs of tergites 3 and 4 largely upright (especially in the middle and at the posterior edge of tergite 4) ... ***jucunda*** Meig.

Bothria

1. Tergites covered 1/3 - 3/4 of their length with even, white dusting. Frons in males 1.04 - 1.30x, in females 1.15 - 1.54x as wide as one eye. Face so deeply hollowed out, that the 3rd antennal segment can be completely hidden in it. 3rd antennal segment in males 4.4 - 6.1x, in females 3.8 - 4.7x as long as the 2nd. Facial ridges (seen from the side) convex in their upper 1/3. Body length 10 -13 mm ..... ***frontosa*** Meig.

– Tergites covered with variable dusting to the posterior edge. Frons in males 0.55 - 0.68x, in females 0.82 - 1.05x as wide as one eye. Face less deeply hollowed out, only half of the 3rd antennal segment can be hidden in it. 3rd antennal segment in males 3.1 - 4.3x, in females 2.7 - 3.3x as long as the 2nd. Facial ridges (seen from the side) straight of slightly concave in their upper 1/3. Body length 7 - 10 mm ..... ***subalpina*** Vill.

Erycilla

1. Femora black. 2nd antennal segment black or brown. Males: posterior edge of the surstyli angled (fig. 238). Females: 3rd antennal segment about 1.3x as wide as the cheeks at their narrowest point..... ***ferruginea*** Meig.

– Femora reddish-yellow. 2nd antennal segment often reddish. Males: posterior edge of the surstyli ± evenly curved (fig. 239). Females: 3rd antennal segment about as wide as the cheeks at their narrowest point ..... ***rufipes*** B.B.

Allophorocera

Up to now, differentiation between the following two species is only possible based on the male genitalia. Other distinguishing features cited in Wood (1974) (colour of palps, longitudinal thoracic stripes) are apparently not stable after studying a great series of *A.pachystyla* from the Alps.

1. Surstyli ± evenly curved ..... ***pachystyla*** Macq.

– Surstyli angled at the posterior 1/3 (see figs. 3 and 4 in the study cited above)..... ***lapponica*** Wood.

Elodia

1. Abdomen shiny black, without bands of dusting. Scutellum with (sometimes only very thin) apical bristles. 2 + 3 dc. 2nd arista segment longer than its diameter. 3rd antennal segment in males about 4x as long as the 2nd ..... ***morio*** Fall.

– Tergites 3 - 5 with a narrow band of dusting at the anterior edge. Scutellum without apical bristles. 3 + 4 (sometimes 3 + 3) dc. 2nd arista segment at most as long as its diameter. 3rd antennal segment in males 5 - 6x as long as the 2nd..... ***ambulatoria*** Meig.

Blepharipa

1. Tergite 3 always, tergite 2 usually with marginal bristles. Dusting of tergites 3 and 4 covers the complete segment length (when viewed obliquely from behind). Males: Frons 0.65 - 0.76x as wide as one eye ..... ***pratensis*** Meig.

– Tergites 2 and 3 without marginal bristles. Dusting of tergites 3 and 4 only covers 2/3 - 4/5 of the segment length. Males: Frons 0.54 - 0.64x as wide as one eye..... ***schineri*** Mesn.

Masicera

1. Males: simultaneously with 1 oe present and abdomen without sturmia spot; frons 1.04 - 1.26x as wide as one eye. Females: 3rd antennal segment a little concave at the anterior edge (fig. 41); dusting of tergite 4 reaches backwards only to 2/3 - 3/4 of the segment length; frons 1.15 - 1.28x as wide as one eye; prosternum on each side with 0 - 5 hairs..... ***silvatica*** Fall.

– Males with either 2 oe or with sturmia spot. Females: 3rd antennal segment not concave at the anterior edge; the dusting on tergite 4 reaches further backwards..... ***2***

2. Males: 2 oe; abdomen without sturmia spot; frons 1.45 - 1.71x as wide as one eye. Females: prosternum on each side with 6 - 12 hairs (fig. 68); 3rd antennal segment 3 - 3.4x as long as the 2nd; frons 1.38 - 1.64x as wide as one eye..... ***sphingivora*** R.D.

– Males: 1 oe; abdomen with sturmia spot; frons 1.08 – 1.19x as wide as one eye. Females: prosternum bare (fig. 67), seldom with 1 hair; 3rd antennal segment 2.6 – 3x as long as the 2nd; frons 1.18 – 1.25x as wide as one eye..... ***pavoniae*** R.D.

Gaedia

1. Cheeks at their narrowest point at most as wide as the 3rd antennal segment, below (real) about half as wide as at the level of the antennal base. Longest cheek bristles almost as strong as the bristles above the vibrissa. Palps often darkened. Males: frons 0.80 - 0.91x as wide as one eye; abdominal hairs upright in the middle; tergites 3 and 4 as a rule with scattered discal bristles..... ***connexa*** Meig.

– Cheeks at their narrowest point about 2x as wide as the 3rd antennal segment, below much less strongly narrowed. Cheek hairs much weaker than the bristles above the vibrissa. Palps always yellow. Males: frons 0.97 - 1.13x as wide as one eye; abdominal hairs half prone; at most a few hairs in the middle of the abdomen upright, rarely 1 - 2 discal bristles on tergite 4..... ***distincta*** Egg.

Gonia

1. Tergite 5 (viewed from behind) practically undusted, at most with a very fine dusted line at the dorsal anterior edge. Dorsal hairs of tergite 5 dense before the marginal bristles, the hairs about as long as 2/5 - 3/5 of the marginal bristles. Head without dusting (in males of the very rare *G. foersteri* with very light white dusting, only visible at certain lighting angles) ***2***

– Tergite 5 at the anterior edge with a band of dusting, which continues ± to the ventral side. Dorsal hairs of tergite 5 before the marginal bristles sparse, the hairs about as long as 1/6 - 1/3 of the marginal bristles. Head with white or yellowish dusting ***3***

2. Cheeks at their narrowest point smaller than the minimum eye diameter. Abdomen on the sides ± red. Body length 8.5 - 12 mm..... ***divisa*** Meig.

– Cheeks at their narrowest point as wide as the minimum eye diameter (males) or wider (females). Abdomen completely black. Body length 12 - 14 mm..... ***foersteri*** Meig.

3. Abdomen yellowish-red with a narrow black longitudinal stripe which tapers towards the back and ends in a point on tergite 5. Abdominal hairs in males upright in the area of the black stripe, in females with irregular discal bristles or at least scattered upright hairs..... ***vacua*** Meig.

– Abdomen with a black longitudinal stripe which broadens towards the back, or the abdomen totally black. Abdominal hairs in males ± upright or prone, in females prone, always without discal bristles..... ***4***

4. Dusting of head and abdomen yellowish. Middle dorsal black longitudinal stripe of the thorax before the suture narrow, as wide as the separating space (as in figs. 59, 60). Black longitudinal abdomenal stripe on tergite 3 at most as wide as the distance between the two central marginal bristles. Bristlet at the anterior edge of the cheeks much stronger and longer than the other cheek bristlets (2 - 3x as long). Marginal bristles of tergite 5 shorter than the segment. Flying time in 'high summer' ..... ***capitata*** Meig.

– Dusting of head and abdomen white. Middle dorsal black longitudinal stripe of the thorax before the suture as wide as 1/3 - 1/1 of the separating space (as in fig. 61). Black longitudinal abdomenal stripe wider or the abdomen completely black. Anterior cheek bristles 1 - 2x as long as the longest of the remaining cheek bristlets (fig. 11). Marginal bristles of tergite 5 at least as long as the segment. Flying time in spring ***5***

5. Cheeks at their narrowest point 0.74 - 0.98x as wide as the face (including facial ridges measured at their widest point) in males, 0.90 - 1.16x in females. Tergite 5 dusted at the sides to 1/2 - 4/5 of its length. Abdomen at the sides ± wide red-yellow (at least ventrally). Males: hairs on tergites 3 and 4 a little raised; post-ocular hairs thin, the upper ones with their tips bent forwards (fig. 55). Females: ad-comb of the hind tibia irregular with several intermediary bristles ..... ***ornata*** Meig.

– Cheeks at their narrowest point 0.52 - 0.72x as wide as the face in males, 0.65 - 0.86x in females. Tergite 5 dusted to 1/4 - 2/5 of its length at the sides..... ***6***

6. Abdomen black (very seldom a little reddish at the sides). Dorsal hairs of tergites 3 and 4 in males upright, in females ± prone. ad-comb of the hind tibia in females irregular with 2 - 3 intermediary bristles. Post-ocular hairs in males thin, their tips bent forwards (as in fig. 55) ..... ***picea*** R.D.

– Abdomen red-yellow with a black longitudinal stripe, which widens towards the back and completely occupies tergite 5. Hairs on tergites 3 and 4 in both sexes prone. ad-comb of the hind tibia in females regular, with 1 intermediary bristle (fig. 162). Post-ocular hairs in males strong, scarcely bent (fig. 11) ..... ***distinguenda*** Hert.

Onychogonia

1. Frons (viewed vertically from above) undusted and with a waxy shine, the upper margin of the facial dusting runs from the antennal base obliquely against the anterior oe. Arista almost as long as the 3rd antennal segment. Scutellum usually with 2 pairs of lateral bristles. Abdominal segments with wide bands of whitish dusting. Males: anterior claws as long as the last tarsal segment ..... ***flaviceps*** Zett.

– Parafrontalia dusted in their anterior half or further. Arista shorter than the 3rd antennal segment. Scutellum with only 1 pair of lateral bristles. Dusting of the abdomen fainter or missing altogether. Males: anterior claws a little longer than the last tarsal segment ***2***

2. Abdomen with distinct, if weak dusting. Males: notch of sternite 5 narrowed before the middle (fig. 230); cerci flattened, fused in their basal 3/5, in lateral view slender with a tip bending slightly forwards (fig. 245). Females: tergites 4 and 5 with raised hairs, the longest hairs as long as 1/2 - 3/4 of the bristles of the respective segment ..... ***cervini*** Bigot

– Abdomen undusted, strongly shiny. Males: notch of sternite 5 narrows only at the end (fig. 229); cerci fused in their basal 2/5 only and there raised in a strong wedge-shape, in lateral view wide and the tip not bent forwards (fig. 244). Females: hairs of the whole abdomen very short and depressed ..... ***suggesta*** Pand.

Pseudogonia

1. Cheek bristles much weaker than the frontal bristles. 2nd arista segment 0.2 - 0.5x as long as the 3rd segment. Scutellum with 2 weak divergent (seldom crossed) apical bristles. Basal colour of the frons black or a deep dark-red. Males with 2 oe ..... ***parisiaca*** R.D.

– The strongest cheek bristles (in front below) as strong as the frontal bristles. 2nd arista segment 0.6 - 1.1x as long as the 3rd segment. Scutellum without apical bristles. Basal colour of the frons yellow or reddish-yellow. Males without oe ..... ***rufufrons*** Wied.

Spallanzania

1. Cheeks rather evenly hairy; hairs are not or hardly stronger than the hairs of the parafrontalia directly next the eye rim. Face so deeply hollowed out that at least 1/2 the antennae can be hidden in it. Males: frons 1.35 - 1.70x as wide as one eye; beside the frontal bristles more than one row of irregular bristles. Females: frons 1.8 - 2.0x as wide as one eye..... ***hebes*** Fall.

– Cheeks with uneven hairs and bristlets; the coarsest cheek bristlets are considerably stronger and longer than the hairs of the parafrontalia directly next to the eye rim. Face not or hardly hollowed out. Males: frons 0.90 - 1.25x as wide as one eye; only one row of bristles beside the frontal bristles. Females: frons 1.2 - 1.7x as wide as one eye ***2***

2. Tergites 3 and 4 ventrally (viewed from behind) dusted to 2/5 - 4/5 of their length. Dorsal black zones of tergites 3 and 4 very variable depending on the viewing angle, not distinctly rectangular; the slight dusting of tergite 5 is equally variable and shows black spots at certain lighting angles ..... ***multisetosa*** Rond.

– Tergites 3 and 4 ventrally dusted only in the form of a narrow stripe at the anterior edge, dorsally with 2 large rectangular black spots each which are scarcely variable. Tergite 5 densely dusted only shiny black around the base of the bristles..... ***quadrimaculata*** Hert.

4.2. Subfamily Tachininae

Tachina

1. Thorax with long hairs, at least at the sides yellowish or whitish. Habits similar to bees or bumble bees ***2***

– Thorax with only the normal short black hairs ***4***

2. Tergite 5 without dusting at the dorsal anterior edge (sometimes present at the sides). Apical scutellar bristles usually strong, crossed. 1 st (seldom 0 or 2). Males: frons 0.50 - 0.69x as wide as one eye; 3rd antennal segment 2 - 3x as wide as the 2nd (each measured in the centre). Females: dorsal hairs of tergite 5 as long as 1/3 - 1/2 of the discal bristles ..... ***lurida*** F.

– Tergite 5 at the anterior edge almost always with a narrow band of dusting. Crossed apical bristles missing as a rule, when present, then ± hair-like. As a rule, 2 or 3 st. Males: frons 0.24 - 0.43x as wide as one eye; 3rd antennal segment 1.2 - 1.8x as wide as the 2nd. Females: dorsal hairs of tergite 5 as long as 2/3 - 5/6 of the discal bristles ***3***

3. Dorsal thoracic hairs pale yellow or whitish. Marginal bristles of tergite 4 as a rule shorter than the segment. Males: reddish side spot of the abdomen scarcely developed; it usually ends at the posterior edge of tergite 4 or is sometimes missing altogether. Body length 9 - 16 mm ..... ***ursina*** Meig.

– Dorsal hairs of the thorax completely or predominantly black. Marginal bristles of tergite 4 longer than the segment. Males: reddish side spot of the abdomen more extensive; it includes tergite 5 also. Body length 7 - 11 mm ..... ***nigrohirta*** Stein
(It is not yet clear whether this form is an independent species or only a variant of *ursina*).

4. Calyptrae blackish. Deep black undusted species with a yellow head. Body length 15 - 18 mm ..... ***grossa*** L.

– Calyptrae white or yellowish. Colouring different. Body length 9 - 14 mm..... ***5***

5. Tergite 2 ventrally with fair hairs. 1st arista segment usually as long as the 2nd (or at least half as long). 2 ia behind the suture (fig. 86) ..... ***praeceps*** Meig.

– Tergite 2 ventrally with black hairs. 1st arista segment as long as 1/5 - 1/3 (seldom 1/2) of the 2nd. Usually 3 ia behind the suture ***6***

6. Frons in males 0.68 - 1.08x, in females 0.94 - 1.28x as wide as one eye. Fore tarsus yellow, seldom brown. The black longitudinal abdominal stripe ends almost always in a tip on tergite 5. Males: anterior claws almost as long as the last 2 tarsal segments combined (fig. 146); frons as a rule without oe, seldom 1 oe present ..... ***fera*** L.

– Frons in males 1.10 - 1.39x, in females 1.27 - 1.55x as wide as one eye. Fore tarsus brown or black. Males: anterior claws clearly shorter than the last 2 tarsal segments combined; frons with 1 or 2 oe ***7***

7. The black longitudinal abdominal stripe widens towards the end on tergite 5, seldom ending in a point. Males: anterior claws longer than the last tarsal segment. Females: 4th segment of the fore tarsus clearly wider than long..... ***magnicornis*** Zett.

– The black longitudinal abdominal stripe ends in a tip on tergite 5. Males: anterior claws at most as long as the last tarsal segment. Females: 4th segment of the fore tarsus at most as wide as long ..... ***nupta*** Rond.
(Taking into account the large spread of variability as regards the abdominal patterning and anterior claw length in *magnicornis*, it is not impossible that *nupta* may not be an individual species, but only a form of *magnicornis*).

Nowickia

1. Tergite 2 with 2 - 6 dorsal marginal bristles. Palps at their widest point 0.3 - 0.5x as wide as the haustellum. Bare area ventro-laterally between tergites 1 and 2 black ***2***

– Tergite 2 without dorsal marginal bristles ***3***

2. 3rd antennal segment 0.6 - 0.8x as long as the 2nd, hardly wider than the latter at its distal end. Tegula black, basicosta yellow to brown ..... ***marklini*** Zett.

– 3rd antennal segment 0.9 - 1.0x as long as the 2nd, 1.5 - 2x as wide as the latter at its distal end. Tegula and basicosta uniformly black or black-brown..... ***alpina*** Zett.

3. Palps at their widest point 0.7 - 1.4x as wide as the haustellum (fig. 34). Arista 0.9 - 1.0x as long as the antenna. Cheeks at their narrowest point narrower than half the peristome or at most equally wide. Bare area ventro-laterally between tergites 1 and 2 black or dark brown. Frons in males 0.68 - 0.95x as wide as one eye. Surstyli broad (figs. 257-259) ***4***

– Palps at their widest point 0.3 - 0.5x as wide as the haustellum. Arista 0.6 - 0.9x as long as the antenna. Cheeks at their narrowest point wider than half the peristome. Bare area ventro-laterally between tergites 1 and 2 yellow. Frons in males 0.90 - 1.27x as wide as one eye. Surstyli narrow (figs. 255-256) ***6***

4. Basal half of the palps brown or blackish, the thickened distal half in contrast yellow. Males: syncercus flattened, in its dorsal centre a little concave (fig. 259); tergite 5 ventrally at each side with a scarcely dense bristle group which does not form a brush; segments 7+8 only hairy. Females: the light side spots at the anterior edge of the otherwise black tergite 5 cover 5 - 30% of the dorsal area..... ***ferox*** Panz.

– Palps uniformly coloured brown to black. Males: syncercus strongly domed upwards and compressed on the sides (figs. 257, 257); the numerous straight bristles on the ventral side of tergite 5 form a distinct brush; Segments 7+8 with bristles at least at the sides. Females: the light side spots on the anterior edge of tergite 5 cover 30 - 50% of the dorsal area ***5***

5. Males: syncercus almost as high as long (fig. 257); hairs of sternite 5 longer than the brush of tergite 5; hairs of sternite 3 bristle-like, much stronger than the ventral hairs of tergite 3..... ***atripalpis*** R.D.

– Males: syncercus about half as high as long (fig. 258); hairs of sternite 5 at most as long as the brush of tergite 5, usually shorter; hairs of sternite 3 about as long and strong than the ventral hairs of tergite 3 . ***reducta*** Mesn.

6. Cheeks and peristome predominantly with white hairs. 2nd antennal segment partially lightened, at least at the dorsal anterior edge a little reddish. Males: syncercus strongly domed upwards, its side areas a little concave (fig. 256). Females: 4th segment of the fore tarsus as long as wide or a little longer..... ***rondanii*** Giglio-Tos

– Cheeks and peristome with black hairs. 2nd antennal segment totally black. Males: syncercus not noticeably domed (fig. 255). Females: 4th segment of the fore tarsus wider than long ..... ***strobeli*** Rond.

Peleteria

1. 2nd antennal segment yellow. Cheeks at their narrowest point 0.5 - 1.2x as wide as the 3rd antennal segment (fig. 22) ***2***
– 2nd antennal segment black. Cheeks 1.5 - 2.5x as wide as the 3rd antennal segment ***4***

2. Tergites 3 and 4 with discal bristles ..... ***popeli*** Portsh.
– Tergites 3 and 4 without discal bristles ***3***

3. Peristome, cheeks and ventral side of tergite 2 with yellow hairs. Palps very short, at most 4x as long as their diameter (fig. 22), sometimes totally reduced. Tergites covered with variable dusting to their posterior edge ..... ***varia*** F.
– Peristome, cheeks and ventral side of tergite 2 with black hairs. Palps thread-like, about as long as the antennae. Tergites with very light, white dusting in their anterior half only ..... ***ferina*** Zett.

4. Tergites without dusting or only with a trace at their anterior edge. Abdomen ventrally almost always with a black longitudinal middle stripe. Males: lobes of sternite 5 closely studded with short, strong spikelets ..... ***prompta*** Meig.
– Tergites in about their anterior half clearly dusted. Abdomen ventrally without a black longitudinal middle stripe. Males: lobes of sternite 5 without spikelets ..... ***rubescens*** R.D.

Germaria

1. Ocellar bristles raised and bent backwards a little. Humeral callus black. Tergite 5 dusted to 1/2 - 2/3 of its length. Males with oe. Body length 10 - 13 mm ..... ***ruficeps*** Meig.
– Ocellar bristles pointing forwards. Humeral callus yellowish on the outside. Tergite 5 dusted to at most 1/5 of its length. Males without oe. Body length 8 - 9 mm ..... ***angustata*** Zett.

Linnaemya

1. Back of the head on top behind the post-ocular hairs with a regular row of black bristlets. m-cu straight, steeper than the post-angular vein. Section of m between m-cu and the deflection longer than 1/2 of m-cu. r4+5 with bristlets extending at least 1/2 the distance between the base and r-m ..... ***frater*** Rond.
– Back of the head on top behind the post-ocular hairs without or with only a very few black bristlets. m-cu curved, about parallel to the post-angular vein. Section of m between m-cu and the deflection shorter than 1/2 of m-cu ***2***

2. Base of the abdomen (at least of sternite 1) with fair hairs ventrally. Inside of 2nd antennal segment with an oval wart as in fig. 52 (except in the very rare *L. steini*) ***3***
– Ventral base of the abdomen with dark hairs. 2nd antennal segment without such a wart ***7***

3. Pleura with yellowish or whitish hairs. r4+5 with bristlets extending at most to 2/5 of the distance between the base and r-m. Palps very short, 1 - 4x as long as their diameter ***4***
– Pleura with black hairs. r4+5 with bristlets for 2/5 - 4/5 of the distance between the base and r-m. Palps not shortened, 7 - 10x as long as their diameter ***5***

4. Cheeks bare, at their mid-point 0.5 - 1.1x as wide as the 3rd antennal segment. Femora yellow. Males without oe ..... ***vulpina*** fall.
– Cheeks with very fine light hairs, at their mid-point 1.3 - 2x as wide as the 3rd antennal segment. Femora black or dark red-brown. Males with oe ..... ***comta*** Fall.

5. Calyptrae loam-yellow. Tergite 3 as a rule without discal bristles. Males: abdomen without light side spots. Body length 7 - 8 mm ..... ***steini*** Jacentk.
– Calyptrae whitish. Tergite 3 with discal bristles. Males: abdomen with ± distinct side spots. Body length 9 - 12 mm ***6***

6. Peristomal hairs fine (like the mesopleural hairs), at the lower area of the peristome almost always whitish. Postabdomen and posterior edge of tergite 5 black ..... ***tesselans*** R.D.
– Peristomal hairs clearly coarser than the mesopleural hairs, always completely black. Postabdomen and posterior edge of tergite 5 reddish-yellow ..... ***impudica*** Rond.

7. Back of the head on top behind the post-ocular hairs with 2 - 5 black bristles on each side in the upper section of the white hairs, about as long and strong as a middle-sized post-ocular hair (fig. 53) ***8***
– Back of the head on top without bristles, but sometimes with 1 - 2 rows of irregular fine hairs directly behind the post-ocular hairs ***10***

8. Posterior edge of tergite 5 red (at least a narrow seam). Discal bristles of tergites 3 and 4 as long as the corresponding segments or a little longer ..... ***helvetica*** Hert.
– Tergite 5 black. Discal bristles of tergites 3 and 4 a little shorter than the corresponding segments ***9***

9. Tergites 3 and 4 with lateral discal bristles. Humeral callus completely black. Tibiae usually a deep black. Males: narrower apical part of the syncercus long (fig. 283) ..... ***rossica*** Zimin

– Tergites 3 and 4 without lateral discal bristles. Humeral callus around the area of the outer humeral bristle usually a little lighter. Tibiae largely yellow. Males: narrower apical part of the syncercus short (fig. 284) ..... ***haemorrhoidalis*** Fall.

10. Tergites 3 and 4 with 2 pairs of discal bristles each. Cheeks wider than the haustellum. Males: syncercus very large (fig. 289). Humeral callus ± lightened ..... ***perinealis*** Pand.

– Tergites 3 and 4 with one pair of discal bristles each. Cheeks at their narrowest point as wide as the haustellum or narrower ***11***

11. Humeral callus completely black. Posterior edge of tergite 5 black ***12***

– Humeral callus ± reddish or yellowish, at least around the area of the outer humeral bristle. Posterior edge of tergite 5 often with a reddish seam ***13***

12. Frontal stripe before the ocellar triangle clearly narrower than at the antennal base. Haustellum 2 - 3x as long as its diameter, shorter than the minimum eye diameter. Scutellum usually with only one pair of lateral bristles. Tibiae yellowish. Males: ve scarcely distinct from the post-ocular hairs; anterior claws clearly longer than the last tarsal segment; segment 7+8 dorsally red; syncercus as in fig. 285 ..... ***fissiglobula*** Pand.

– Frontal stripe before the ocellar triangle as wide as at the antennal base or wider. Haustellum 3 - 4x as long as its diameter, at least as long as the minimum eye diameter. Scutellum with 2 pairs of lateral bristles. Tibiae dark red-brown. Males: ve strong, at least as long as 1/2 of the vi; anterior claws scarcely as long as the last tarsal segment; segment 7+8 black; syncercus as in fig. 286 ..... ***zachvatkini*** Zimin

13. Haustellum 3.5 - 4.5x as long as its diameter, clearly longer than the minimum eye diameter. Mouth edge strongly pulled forward (by more than the width of the 2nd antennal segment at its end). Males: syncercus (seen from the side) with upwards bent tip (fig. 251). Tibiae yellow. ..... ***picta*** Meig.

– Haustellum 2 - 3x as long as its diameter, as long as the minimum eye diameter or shorter. Mouth edge less strongly pulled forward (by about the width of the 2nd antennal segment at its end). Males: syncercus not bent ***14***

14. Humeral callus predominantly yellow. Tibiae yellowish. Males: syncercus with a longitudinal furrow to the tip (fig. 287). Females: tergite 6 dorsally interrupted, narrower than the hind tibia ..... ***olsufjevi*** Zimin

– Humeral callus only around the area of the outer humeral bristle with a red-yellow spot. Tibiae in the middle lightened or almost totally black. Males: syncercus pointed, not furrowed along its length (fig. 288). Females: tergite 6 dorsally not split, about as wide as the hind tibia ..... ***media*** Zimin

Lypha

1. Tergite 5 with only one clear cross row of discal bristles, its posterior 1/6 - 1/2 as well as the postabdomen red. Area under the calyptrae with a group of black hairlets. 3rd wing edge section 1.6 - 2.3x as long as the 2nd. Scutellum at least at its posterior half reddish, the bristlets on the area are bent backwards. Mouth edge pulled forwards a little, visible from the side. Bristlets above the vibrissa rising at most to 1/5 of the facial ridges. Males: sternite 4 with a dense tuft of upright hairs at the back ..... ***ruficauda*** Zett.

– Tergite 5 completely black (including the postabdomen), in its posterior 2/3 with numerous discal bristles. Area under the calyptrae bare. 3rd wing edge section 3.0 - 4.3x as long as the 2nd. Scutellum black, on its surface with almost vertically upright bristlets. Mouth edge not visible from the side. Bristlets above the vibrissa rising to at least 2/5 of the facial ridges. Males: sternite 4 without special hairs ..... ***dubia*** Fall.

Ernestia

1. Back of the head on top behind the post-ocular hairs with 2 - 4 rows of black bristlets. Cheeks bare (at most about 5 - 10 hairs below the frontal bristles) ***2***

– Back of the head on top behind the post-ocular hairs with only fair hairs (seldom with a few black bristlets in between). Cheeks hairy to at least 1/2 their length, sometimes almost to the end ***4***

2. Eye hairs (view against a dark background!) black or dark brown. Middle black longitudinal thoracic stripes before the suture fused to a common, wide stripe. Males: syncercus (seen from the side) bowed. ***vagans*** Meig.

– Eye hairs yellow. The (2 or 3) middle black longitudinal thoracic stripes before the suture separate. Males: syncercus straight ***3***

3. Scutellum with crossed apical bristles. Base of 3rd antennal segment ± yellow. Males: frons 0.17 - 0.26x as wide as one eye; anterior claws 1.5 - 1.8x as long as the last tarsal segment. Females: 4th segment of the fore tarsus almost 2x as wide as long (fig. 147). Body length 9 - 12 mm ..... ***rudis*** Fall.

– Scutellum without crossed apical bristles. 3rd antennal segment black. Males: frons 0.34 - 0.51x as wide as one eye; anterior claws 1.0 - 1.2x as long as the last tarsal segment. Females: 4th segment of the fore tarsus about as wide as long. Body length 8 - 10 mm ..... ***laevigata*** Meig

4. Cheeks, pleura as well as femora partly with yellow hairs. The dense and largely unchanging abdominal dusting covers 1/2 - 3/4 of the tergite lengths. Scutellum with thin crossed apical bristles. Males: frons at most 0.3x as wide as one eye. Females: sternite 7 with a deep indentation ..... ***puparum*** F.

– Cheeks, pleura as well as femora with completely black hairs. Abdominal dusting covers the tergites almost to the ends, with very variable iridescent spots. Scutellum without crossed apical bristles. Males: frons about 0.5x as wide as one eye. Females: sternite 7 without indentation ..... ***argentifera*** Meig.

Eurithia

1. Back of the head on top between the row of black bristlets (at the upper edge of the white hairs) and the post-ocular hairs bare or almost bare. Tergite 5 shiny black or at least clearly weaker dusted than tergite 4, often also the posterior edge of tergite 4 black. Males: syncercus as in fig. 280 ..... ***anthophila*** R.D.

– Between the bristlet row and the post-ocular hairs there are numerous further black bristlets or hairs. Dusting on tergite 5 is similar to the preceding segments ***2***

2. Cheeks 1.5 - 2x as wide as the 3rd antennal segment. Males: frons 0.77 - 0.85x as wide as one eye; syncercus dorsally with a triangular appendix ..... ***intermedia*** Zett.

– Cheeks about as wide as the 3rd antennal segment. Males: frons at most 0.76x as wide as one eye; syncercus dorsally with or without triangular appendices ***3***

3. No oe (males) ***4***

– 2 oe (females) ***12***

4. Frons 0.22 - 0.46x as wide as one eye. Syncercus with 1 or 2 triangular dorsal appendices. Haustellum 3.5 - 5x as long as its diameter. Tergite 4 as a rule only with 2 dorsal marginal bristles ***5***

– Frons 0.40 - 0.76x as wide as one eye. Syncercus without such appendices. Haustellum 2 - 3x as long as its diameter. Tergite 4 with a complete row of marginal bristles ***7***

5. Frons 0.34 - 0.46x as wide as one eye. Syncercus with 2 triangular appendices. (the appendix in fig. 262 is present 2x!) ..... ***vivida*** Zett.

– Frons 0.22 - 0.34x as wide as one eye. Syncercus with only one single triangular appendix (figs. 260, 261) ***6***

6. Syncercus-appendix small, about as long as 1/3 - 1/2 of the surstyli (fig. 261). 3 (seldom 4) dc behind the suture. Palps black. Face and frons dusted grey ..... ***connivens*** Zett.

– Syncercus-appendix large, about as long as the surstyli (fig. 260). As a rule 4 dc behind the suture. Palps yellow (at least in their apical 1/3). Face and frons dusted ± golden yellow ..... ***consobrina*** Meig.

7. Middle tibia with 1 strong inner bristle ***8***

– Middle tibia without inner bristle ***9***

8. Segment complex 6-8 shiny black, undusted. Humeral callus on the outside with only one strong basal bristle (fig. 75). Syncercus in its basal 3rd on both sides with a little keel (fig. 278). 4 dc behind the suture . ***caesia*** fall.

– At the anterior edge of the segment complex 6-8, a narrow stripe is dusted (= segment 6). Humeral callus on the outside with 2 basal bristles (fig. 76), the second however sometimes very short. Syncercus without such an enlargement. Almost always only 3 dc behind the suture ..... ***suspecta*** Pand.

9. Syncercus broad, pointed and curved (fig. 279) ..... ***indigens*** Pand.

– Syncercus ending in a smaller tip (figs. 277, 278) ***10***

10. Syncercus flat, with a very broad and long base (fig. 277) ..... ***fucosa*** Meig.

– Syncercus different ***11***

11. Syncercus (seen from the side) straight (fig. 263), slightly keeled on the sides of the base, as in *E. caesia* (fig. 278) ..... ***incongruens*** Hert.

– Syncercus (seen from the side) appears ± dented (fig. 264) ..... ***gemina*** Mesn.

12. Sternite 6 with a longitudinal furrow (figs. 189, 190) ***13***

– Sternite 6 without longitudinal furrow (fig. 191) ***14***

13. Sternite 6 with a furrow along its whole length (fig. 189) ..... ***consobrina*** Meig.

– Sternite 6 with a furrow in roughly its anterior half (fig. 190) ..... ***connivens*** Zett.

14. Sternite 6 with a deep indentation as in fig. 191 ..... ***vivida*** Zett.

– Sternite 6 ± domed, without indentation ***15***

15. Humeral callus on the outside with 2 basal bristles (fig. 76). 3 dc behind the suture ..... ***suspecta*** Pand.

– Humeral callus outside with only one basal bristle (fig. 75). Usually 4 dc behind the suture ***16***

16. Frons 0.95 - 1.10x as wide as one eye ..... ***caesia*** Fall.

– Frons 1.10 - 1.35x as wide as one eye ..... ***incongruens*** Hert.

At this time the females of the rare mountain species *fucosa*, *indigens* and *gemina* cannot be separated with certainty from *incongruens* (and in some cases also probably not from *caesia*).

Hyalurgus

1. Abdomen black, with even grey dusting. Marginal and discal bristles of tergites 3 and 4 clearly longer than the corresponding segments. Males: frons much narrower than one eye, without oe ..... ***tomostethi*** Cep.

– Abdomen ± extensively yellow or reddish-yellow (at least a trace of reddish-yellow colouring at the sides of tergites 3 and 4), dusting confined to the anterior edge of the tergites (only in very dark specimens at certain lighting angles reaching further on the last tergites). Marginal and discal bristles of tergites 3 and 4 at most as long as the corresponding segments (fig. 167) ***2***

2. Abdomen yellow with a narrow black longitudinal middle stripe which sometimes breaks up into spots (fig. 167) or may be missing altogether (especially in females). Pteropleural bristle about as long as the st or shorter. Males: frons much narrower than one eye, without oe or prevertical bristle; anterior claws a little longer than the last tarsal segment. Females: 3rd antennal segment 2 - 2.5x as long as the 2nd ..... ***lucidus*** Meig.

– Abdomen yellow, a central longitudinal stripe as well as the posterior edge of tergites 3 and 4 (ventrally also) black; the black colouring can extend so far that only tergites 3 and 4 are a little reddish at the sides. Pteropleural bristle usually much longer than the st. Males: frons about as wide as one eye, with 2 oe and one prevertical bristle; anterior claws a little shorter than the last tarsal segment. Females: 3rd antennal segment 1.5 - 1.8x as long as the 2nd ..... ***cruciger*** Zett.

Gymnocheta

1. From the side, mouth edge not, or hardly visible. Femora black, at most with a trace of metallic sheen. Males: parafrontalia black, densely dusted, sometimes with a metallic-green sheen along the row of the frontal bristles; notch of sternite 5 (when postabdomen is in the resting position) almost 2x as long as its greatest width (fig. 233). Body length 6 - 11 mm ..... ***viridis*** Fall.

– Mouth edge (seen from the side) strongly pulled forwards (as in fig. 22). Femora in their basal 2/3 metallic-green. Males: parafrontalia in a stripe along the row of the frontal bristles metallic-green; notch of sternite 5 only about as long as its greatest width. Body length 9 - 12 mm ..... ***magna*** Zimin

Cleonice

1. Abdomen completely covered with yellowish-grey dusting. Costal spine about as long as r-m. The hairy occipital widening covers roughly the lower half of the peristome. Back of the head with a few fair hairs behind the lower mouth edge. Frons in males 0.75 - 0.85x as wide as one eye ..... ***callida*** Meig.

– Abdomen shiny black, undusted. Costal spine hardly distinguishable from the surrounding hairs. The occipital widening occupies roughly the lower 3/4 of the peristome. Back of the head completely covered with black hairs. Frons in males about 0.5x as wide as one eye ..... ***nitidiuscula*** Zett.

Loewia

1. Cheeks with short bristlets for their total length (in the extention of the parafrontal bristlets) ***2***

– Cheeks bare or (in most specimens of *foeda*) in their lower half with 1 - 6 ± isolated bristlets ***3***

2. Petiole of R5 about as long as 1/2 the post-angular vein. Lateral scutellar bristles a little longer than the basal bristles. Abdomen in males scarcely dusted, middle and posterior edge of tergites shiny .... ***submetallica*** Macq.

– Petiole of R5 as long as 1/10 - 1/6 of the post-angular vein. Lateral bristles shorter than basal bristles. Abdomen in males completely dusted, a central longitudinal stripe and the posterior edge of the tergites however a little weaker ..... ***piligena*** Mesn.

3. Halters yellow-brown. Cheeks in their lower half as a rule with 1 - 6 ± isolated bristlets. Body length 6 - 8 mm. 2nd antennal segment in females red-yellow. Eyes hairy, but in females only very sparse and short. Males: frons at its narrowest point 0.20 - 0.29x as wide as one eye ..... ***foeda*** Meig.

– Halters black or dark brown. Cheeks bare. Body length 4 - 6.5 mm. 2nd antennal segment in females black or brown ***4***

4. Eyes practically bare; scattered hairs (to be seen under strong magnification against a dark background) are only about as long as one eye facet. Males: abdomen almost undusted; frons at its narrowest point 0.21 - 0.30x as wide as one eye. Females: scutellum on its surface with only very short, prone bristlets ... ***phaeoptera*** Meig.

– Eyes hairy, the hairs are about as long as 3 eye facets. Males: abdomen (viewed obliquely from behind) clearly dusted; frons at its narrowest point 0.09 - 0.18x as wide as one eye. Females: scutellum on its surface with a few upright bristles ***5***

5. Petiole of R5 very short, only about as long as the diameter of the veins. Lateral scutellar bristles as strong as the basal bristles. The longest hairs of the sternopleura in males bristlet-like, as long as 1/2 - 2/3 of the st. Body length 5.5 - 6.5 mm ..... ***adjuncta*** Hert.

– Petiole of R5 longer, usually about as long as r-m. Lateral scutellar bristles variable, as a rule shorter, sometimes missing. Hairs of the sternopleura in males thin, as long as 1/5 - 1/2 of the st. Body length 4 - 5.5 mm ..... ***nudigena*** Mesn.

Macquartia

1. Tergite 2 hollowed out to the posterior edge (as in fig. 168). 4 dc behind the suture (seldom the 2nd shortened or missing completely). Palps yellow ***2***

– Tergite 2 not hollowed out to the posterior edge (as in figs. 167, 169). 3 dc behind the suture (in some females of *praefica* 4 dc, then the first dc is very short). Palps yellow to black ***3***

2. Cheeks bare. Arista with short hairs (the longest hairlets about as long as the thickened arista base). 2 st. Calyptrae standing off from the thorax (as in fig. 116). Abdomen shiny black, almost undusted... ***pubiceps*** Zett.

– Cheeks hairy to the end. Arista practically bare. 3 st (seldom 2). Inner edge of the calyptrae lying along the thorax (as in fig. 117). Abdomen dusted, with iridescent spots ..... ***tessellum*** Meig.

3. Middle tibia with 1 ad (seldom an additional smaller ad present). Tergite 3 with a complete row of marginal bristles. Calyptrae standing off from the thorax (fig. 116). Abdomen with dense grey or yellowish-grey dusting. Cheeks hairy in their upper half or further ***4***

– Middle tibia with 2 - 5 ad. Tergite 3 with 2 - 4 dorsal marginal bristles ***5***

4. Cheeks with hairs only in their upper half. 3 st. Tergite 2 with dorsal marginal bristles. Tergite 3 with discal bristles. Abdomen without paired black spots in the dusting ..... ***grisea*** Fall.

– Cheeks completely hairy. 2 st. Tergite 2 without dorsal marginal bristles. Tergite 3 without or only with very weak discal bristles. Tergites 2 - 4 with pairs of black spots in the dusting..... ***macularis*** Vill.

5. Cheeks completely hairy. Legs of females yellow, in males at least middle and hind tibia yellow..... ***6***

– Cheeks at most hairy in their upper half. Legs black ***7***

6. Pre-alar bristle shorter than the distance of its base to the posterior edge of the humeral callus. Males: basicosta, 2nd antennal segment and femora black; tergite 3 (seen obliquely from behind) with a dark, trapezoid spot in the dusting ..... ***dispar*** Fall.

– Pre-alar bristle at least as long as the distance of its base to the posterior edge of the humeral callus. Males: basicosta and 2nd antennal segment yellow, femora ± yellow (at least on their distal ventral side); dusting of the abdomen ± even, with iridescent spots ..... ***viridana*** R.D.

7. Inner edge of the calyptrae lying close to the thorax (fig. 117). Frons in males as wide as 1/3 - 2/3 of the 3rd antennal segment ***8***

– Calyptrae standing off (as in fig. 116). Frons in males about as wide as the 3rd antennal segment ***9***

8. Hind tibia with 3 dorsal apical spurs, the central one sometimes very short. Tergite 2 as a rule with 2 dorsal marginal bristles. Females: abdomen shiny black, with only very light dusting..... ***tenebricosa*** Meig.

– Hind tibia with 2 dorsal apical spurs. Tergite 2 without dorsal marginal bristles. Females: abdomen with a weak greenish shine, more clearly dusted, with iridescent spots..... ***chalconota*** Meig.

9. Hind tibia with 2 dorsal apical spurs. Cheeks with at most 3 - 4 hairlets under the frontal bristles, the latter not crowded in front. Tergite 4 with only 2 - 4 marginal bristles. Subapical scutellar bristles a little longer than the apical bristles (as in figs. 116, 117). r4+5 with 2 - 3 bristlets at the base. Halters yellow. Females: abdomen weakly dusted ..... ***nudigena*** Mesn.

– Hind tibia with 3 dorsal apical spurs. Frontal bristles in front crowded into a group with numerous hairs. Tergite 4 with at least a complete row of discal bristles. Subapical scutellar bristles a little shorter than the apical bristles. The bristlets of r4+5 usually reach further, sometimes to the middle of the section between the base and r-m. Halters black or brown. Abdomen in females shiny black, without dusting..... ***praefica*** Meig.

Anthomyiopsis

1. 2nd and 3rd section of wing edge hairy below. Arista with fine hairs, the hairs about half as long as the thickened arista base. 3rd antennal segment 1.5 - 2.0x as long as the 2nd. Males: frons 1.4 - 1.9x as long as the face; cheeks at their mid-point mostly a little narrower than the palps, clearly narrowing downwards ..... ***nigrisquamata*** Zett.

– 2nd and 3rd section of wing edge bare below. Arista practically bare, extremely fine hairs only recognizable under the strongest magnification. 3rd antennal segment 2.0 - 2.5x as long as the 2nd. Males: frons 1.2 - 1.4x as long as the face; cheeks at their mid-point wider than the palps, not or hardly narrowed downwards ..... ***plagioderae*** Mesn.

Elfia

A revision of the genus (in a wider sense than *Phytomyptera*) was published by Andersen (1988). In this detailed study illustrations of the genitalia of males and females can also be found.

1. Abdomen completely black, practically without dusting (at most with a trace at the side of the anterior edge of the tergites). Hind tibia with 3 dorsal apical spurs ..... ***nigroaenea*** Hert.

– Anterior edge of the tergites with a narrow band of dusting, interrupted in the middle ***2***

2. Cheeks with bristlets reaching down to at least the middle..... ***riedeli*** Vill.

– Cheeks bare, a few bristlets reach down a little below the foremost frontal bristle ***3***

3. Middle tibia without ad, or with ad at most as long as the diameter of the tibia..... ***bohemica*** Kramer

– Middle tibia with 1 ad, which is longer than the diameter of the tibia ***4***

4. Hind tibia with 3 dorsal apical spurs. 3 dc before the suture. Fore tibia with 3 - 4 ad..... ***zonella*** Zett.

– Hind tibia with 2 apical spurs (the pd apical spur missing or very short). 2 dc before the suture. Fore tibia with 1 - 2 ad ***5***

5. Distance of m between m-cu and the deflection 0.8 - 1.3x as long as that between r-m and m-cu. Post-angular vein scarcely thinner than the remaining vein m. Lateral scutellar bristles longer and stronger than the ground hairs. Males: lobes of sternite 5 shorter than the basal section ..... ***cingulata*** R.D.

– Distance of m between m-cu and the deflection 1.5 - 2.0x as long as that between r-m and m-cu. Post-angular vein faded, very much finer than the remaining vein m. Lateral scutellar bristles not or scarcely differentiated from the ground hairs. Males: lobes of sternite 5 about 2x as long than the basal section ..... ***minutissima*** Zett.

Phytomyptera

The following 2 species could only be separated reliably by Andersen (1988). Here are only the most important distinguishing features:

1. Hind tibia ad with 6 - 11 little differentiated bristlets. 5th tergite 1.00 - 1.35x as long as tergite 4. Males: tergite 5 with a row of discal bristles and a row of marginal bristles; pregonite straight, with 2 apical teeth. Body length 3.5 - 5 mm ..... ***nigrina*** Meig.

– Hind tibia ad with 4 - 8 bristlets with very varying lengths (fig. 159). 5th tergite 1.20 - 1.65x as long as tergite 4. Males: tergite 5 behind the row of discal bristles more densely bristled as a rule; pregonites curved, with only one end tooth. Body length 2.5 - 5 mm ..... ***vaccinii*** Sint.

Graphogaster

1. Cheeks completely hairy ..... ***dispar*** B.B.

– Cheeks bare, in *G. nigrescens* seldom with 1 - 2 hairs..... ***2***

2. 2 dc before the suture. Mouth edge distinctly pulled forwards, easily visible from the side. Calyptrae whitish. Males: thorax viewed from in front densely dusted. Females: frons wider than one eye..... ***buccata*** Hert.

– 3 dc before the suture. Mouth edge not or scarcely visible from the side. Calyptrae browned. Males: thorax viewed from in front almost without dusting. Females: frons a little smaller than one eye ***3***

3. Dusting yellowish. Halters yellow. Tergite 3 dusted, at most a narrow stripe on the posterior edge and (sometimes) 1 - 2 small median spots black. Pre-alar bristle almost always missing ..... ***brunnescens*** Vill.

– Dusting grey. Halters ± red-brown. The black seam at the posterior edge of tergite 3 is enlarged to a large spot at the sides and the median spots are ± fused to a band; the dusting is often still more reduced. Pre-alar bristle present..... ***nigrescens*** Hert.

Goniocera

1. Cheeks hairy on their whole length, at their narrowest point as wide as 2/3 - 1/1 of the 3rd antennal segment. Peristome as wide as 2/3 - 5/6 of the maximum eye diameter. Marginal bristles of tergite 3 fine, at most as long as tergite 3 ..... ***schistacea*** B.B.

– Cheeks hairy at most in their upper half, at their narrowest point as wide as 1/4 - 1/2 of the 3rd antennal segment. Peristome about as wide as 1/2 of the maximum eye diameter. Marginal bristles of tergite 3 robust, clearly longer than tergite 3 ..... ***versicolor*** Fall.

Entomophaga

1. Sternopleura underneath the st bare. 4 dc behind the suture. Cheeks narrower than the palps, below the frontal bristles bare or at most with 1 - 2 hairlets. 1st arista segment 2 - 4x as long as its diameter. Peristome as wide as 1/6 - 1/4 of the maximum eye diameter ..... ***nigrohalterata*** Vill.

– Sternopleura underneath the st with a few hairlets (as in *Actia*, see fig. 96). 3 dc behind the suture. Cheeks wider than the palps, below the frontal bristles with 10 - 15 hairlets. 1st arista segment about 1.5x as long as its diameter. Peristome as wide as 1/2 - 3/5 of the maximum eye diameter..... ***exoleta*** Meig.

Ceromya

1. Cheeks hairy over their total length. r4+5 with bristlets only to r-m, the other veins bare. Back of the head covered with black hairs..... ***monstrosicornis*** Stein

– Cheeks at least in their lower half bare. r4+5 with bristlets extending further than r-m. At least the lower half of the back of the head with light hairs ***2***

2. r1 and cu1 bare..... ***3***

– r1 with bristlets on its whole length..... ***4***

3. Abdomen completely red-yellow or with a black central longitudinal stripe which tapers towards the back and does not quite reach the end (in some females the dark colouring may be more pronounced). Marginal bristles strong, about as long as the tergite on which they stand. Females: penultimate segment of the fore tarsus scarcely as long as wide, last segment about 2x as long as the penultimate one..... ***bicolor*** Meig.

– Abdomen with a black central longitudinal stripe which widens towards the back and occupies on tergites 4 and 5 the whole upper surface at least at the posterior edge. Sometimes tergite 3 is already largely darkened. Marginal bristles weak, shorter than the associated tergite. Females: penultimate segment of the fore tarsus about 1.5x as long as wide, last segment at most 1.5x as long as the penultimate one ..... ***flaviceps*** Ratz.

4. cu1 bare. r1 on its underside bare. Abdomen black-brown, covered with dusting..... ***flaviseta*** Vill.

– cu1 with bristlets. r1 on the underside in its distal 1/3 with bristlets. Abdomen completely or predominantly red-yellow, without dusting or with only traces of dusting at the anterior edge of the tergites..... ***5***

5. Dorsum of the thorax red-yellow, hardly dusted. Tergites 4 and 5 at their posterior edge with black-brown spots at the side. Frontal stripe about 2x as wide as one parafrontal. The strong, retrocurved oi stands before the middle of the frons ..... ***silacea*** Meig.

– Dorsum of the thorax black-brown, covered with dense, fair dusting. Abdomen without dark spots. Frontal stripe as wide as one parafrontal. The strong oi stands on the middle of the frons ..... ***dorsigera*** Hert.

Actia

1. r1, r4+5 and cu1 with bristlets (fig. 131) ***2***

– r1 and r4+5 with bristlets, cu1 bare ***7***

2. r1 above along its length with bristlets..... ***3***

– r1 above only at its distal 1/3 with bristlets (fig. 131) ***6***

3. Post-angular vein missing..... ***lamia*** Meig.

– Post-angular vein present ***4***

4. r1 bare below. cu1 to about m-cu with bristlets. Males: 3rd antennal segment 1.5 - 1.8x as long as wide. Abdomen shiny black, at the anterior edge of the tergites with only a very narrow band of dusting which is interrupted in the middle. 4 dc behind the suture..... ***pilipennis*** Fall.

– r1 with bristlets below. cu1 on 1/2 - 3/4 of the section to m-cu with bristlets. Males: 3rd antennal segment 2 - 2.5x as long as wide..... ***5***

5. Tergites dusted to 1/2 - 2/3 of their length. Frons about 1.2x as wide as one eye. Cheeks at their narrowest point 2.5 - 3x as wide as the thickened part of the arista. As a rule 3 dc behind the suture ... ***crassicornis*** Meig.

– Only the anterior 1/5 of the tergites dusted (on both sides of the black central longitudinal stripe extended backwards to 2/5 of the segment length). Frons as wide as one eye, or little wider. Cheeks at their narrowest point 1.5 - 2x as wide as the thickened part of the arista. 4 dc behind the suture, but the 2nd weaker and shorter than the others (as in fig. 84) ..... ***dubitata*** Hert.

6. Palps and basicosta yellow. Cheeks at their narrowest point about 2 - 3x as wide as the thickened part of the arista. Facial ridges straight or weakly convex. Males: 3rd antennal segment 2 - 2.5x as long as wide ..... ***nudibasis*** Stein

– Palps and basicosta black or dark brown. Cheeks at their narrowest point about as wide as the thickened part of the arista. Facial ridges strongly concave. Males: 3rd antennal segment 1.3 - 1.8x as long as wide ..... ***maksymovi*** Mesn.

7. Tergites for 2/3 - 5/6 of their length covered with dusting, which is denser in front (especially in males) and is extinguished ± towards the back. 2nd arista segment 1 - 2x as long as its diameter. 3rd arista segment thickened for 1/3 - 2/5 of its length. Cheeks at their narrowest point 1 - 1.5x as wide as the thickened part of the arista..... ***infantula*** Zett.

– Abdomen shiny black, at the anterior edge of the tergites with only a very narrow band of dusting which is interrupted in the middle. 2nd arista segment 2 - 4x as long as its diameter. 3rd arista segment thickened to 1/2 - 2/3 of its length. Cheeks at their narrowest point 2.5 - 3x as wide as the thickened arista base ..... ***nigroscutellata*** Lundb.

Peribaea

1. r1 bare. 2nd arista segment as long as 3/5 - 4/5 of the 3rd. Apical scutellar bristles hair-like or missing. Males: 3rd antennal segment deeply split (fig. 47)..... ***fissicornis*** Str.

– r1 at least uppersides in its distal 1/3 with little spines. 2nd arista segment only as long as 1/7 - 1/5 of the 3rd. Crossed apical bristles present. Males: 3rd antennal segment not split ***2***

2. Underside of r1 with a row of bristlets. Marginal bristles longer than the tergites, on which they stand. The fair dusting clearly shows the underlying black ground colour when the viewing angle is changed; seen obliquely from behind a narrow, silver-white band of dusting appears at the anterior edge of the tergites. 3rd arista segment threadlike and thin in its apical 3/5..... ***tibialis*** R.D.

– Underside of r1 bare (seldom with up to 4 bristlets). Marginal bristles at most as long as the associated tergite. The abdominal dusting is hardly changed under different viewing angles; the black ground colour is confined to a central longitudinal stripe and the posterior edge of the tergites. 3rd arista segment in its apical half thread-like thin ..... ***apicalis*** R.D.

Ceranthia

In O'Hara (1989) *Ceranthia* is a subgenus of the extended genus *Siphona*.

1. Palps very thin, practically not thickened towards the tip (fig. 33)..... ***2***

– Palps distally widened in the normal way (fig. 32) ***6***

2. 3 strong dc behind the suture (as in fig. 83); if exceptionally 4 dc are present, then the 2nd is very short (as in fig. 84)..... ***3***

– 4 dc behind the suture, the 2 in front short (as in fig. 85)..... ***4***

3. r4+5 with bristlets extending far beyond r-m. r1 with 1 - 2 bristlets in its end section. Abdomen predominantly yellow..... ***pallida*** Hert.

– r4+5 with bristlets only to r-m. r1 bare. Abdomen dark ..... ***abdominalis*** R.D.

4. Haustellum as long as 2/3 of the minimum eye diameter. Abdomen evenly dusted, without a dark centre line and with only a weak indication of dark bands at the posterior edge. Males: 3rd antennal segment straight at its anterior edge..... ***tenuipalpis*** Vill.

– Haustellum about as long as the minimum eye diameter. Abdomen with a distinctly undusted centre line and also such bands at the posterior edge. Males: 3rd antennal segment very rounded at the front..... ***5***

5. 3rd antennal segment red-yellow. Abdomen also on the upper side partially coloured yellow. 2nd arista segment considerably shorter than the evenly thickened section of the 3rd segment ..... ***lichtwardtiana*** Vill.

– 3rd antennal segment black. Abdomen on the upper side totally or almost totally dark-coloured. 2nd arista segment about as long as the evenly thickened section of the 3rd segment ..... ***tristella*** Hert.
(The distinction between *lichtwardtiana* and *tristella* can cause difficulties; subsequent studies must show whether they are really independent species).

6. 3 dc behind the suture. m-cu equidistant from r-m and the deflection of m, or the latter a little nearer. Haustellum 4 - 8x as long as its diameter (fig. 32)..... ***7***

– 4 dc behind the suture. m-cu lies nearer to r-m than to the deflection. Haustellum 2.5 - 4x as long as its diameter..... ***8***

7. r1 with bristlets in its apical 1/3 (sometimes with only 1 or 2). Back of the head concave. Abdomen predominantly red-yellow, only with narrow, inconspicuous dusting at the anterior edge of the tergites. Palps yellow..... ***samarensis*** Vill.

– r1 bare. Back of the head very convex. Abdomen on the upper side largely black, covered with fair dusting. Palps black-brown..... ***siphonoides*** Strobl.

8. 2nd arista segment as long as 2/5 - 1/2 of the 3rd. Back of the head completely covered with black hairs. Last section of cu1 about 2x as long as m-cu ..... ***brunnescens*** Vill.

– 2nd arista segment as long as 1/6 - 1/4 of the 3rd. Back of the head in its lower 1/3 with fair hairs (at least a few light hairs above the posterior mouth edge). Last section of cu1 about 1.5x as long as m-cu ***9***

9. r1 bare. Back of the head with black bristlets on its whole upper half. Scutellum black with a yellowish tip. Males: 3rd antennal segment 3 - 4x as long as the 2nd ..... ***starkei*** Mesn.

– r1 distally with 2 - 4 bristlets. Back of the head with only a few black bristlets on its upper half. Scutellum predominantly yellow. Males: 3rd antennal segment very large, 5 - 6x as long as the 2nd ..... ***verralli*** Wainwr.

Siphona

The genus *Siphona* belongs to the most complicated genera of the Tachinidae. Even for specialists, its species are sometimes difficult to determine. This key draws partially (especially regarding the newly described species therein) on the studies of Andersen (1982, 1984) in which genital features are also taken into account. The following key is arranged so that the most abundant species of the genus (*geniculata*) is reached quickly.

1. 4 dc behind the suture, the 2 at the front of about equal length (fig. 85), or the 1st even a little shorter (check dubious cases here first!)..... ***2***

– 3 dc behind the suture (fig. 83), or 4 dc, whereby the 2nd is considerably weaker and shorter than the 1st (fig. 84). ***7***

2. Tegula yellow or reddish, as light as the basicosta. 3rd antennal segment always narrower than the fore femur ***3***

– Tegula black or reddish-brown, in any case clearly darker coloured than the basicosta. Tergite 2 without dorsal marginal bristles..... ***4***

3. Cheeks with at least 6 - 8 hairlets below the frontal bristles; as a rule, the hairs reach down to the middle of the cheeks (fig. 19), sometimes to the lower eye rim. Tergite 2 with 2 dorsal marginal bristles (very rarely missing). Face only about as long as the frons. Cheeks (seen from the side) at their mid-point at least as wide as the palps. Palps as long as the 3rd antennal segment or shorter. Anterior oe about as long and strong as the great frontal bristles. Females: ground colour of the abdomen black..... ***geniculata*** DeG.

– Cheeks with only 2 - 6 fine hairlets below the frontal bristles (fig. 21) (= specimens of *cristata* and *flavifrons* with 4 dc)..... ***12***
(When these stated species do not fit, but there is a smaller species (3 - 4 mm) with definitely 4 dc, it is *pauciseta* (see number 6), in which the tegula is sometimes of a lighter coloration)

4. 2nd antennal segment a vivid yellow, nowhere darkened, in females also the base of the 3rd antennal segment yellow on the inside. Tegula quite black, basicosta whitish-yellow. Prosternum as a rule bare. Males: 3rd antennal segment at most as wide as the fore femur..... ***paludosa*** Mesn.

– 2nd antennal segment at least dorsally a little reddish-brown, darkened. The dark tegula at least a little yellow or reddish transparent, basicosta yellow; the colour contrast between these 2 sclerites therefore less clear. Prosternum with a hair or a bristlet on each side (fig. 69)..... ***5***

5. 3rd arista segment thickened to at least its middle (fig. 45). Face 1.2 - 1.5x as long as the frons. Males: 3rd antennal segment widened at half its tip (fig. 45), wider than the fore femur ..... ***nigricans*** Vill.
(*martini*, described from Sweden by Andersen in 1982 has - in contrast to *nigricans* - one prevertical av-bristle at the fore femur).

– 3rd arista segment only thickened to 1/5 - 2/5 of its length..... ***6***

6. 2nd arista segment in males clearly longer than the 2nd antennal segment, in females equally long. Face in males 1.5 - 2x as long as the frons, in females about 1.5x as long. Top third of the palps bare or almost bare. Males: 3rd antennal segment 5 - 6x as long as the 2nd, in its top half widened (as in fig. 45), wider than the fore femur. Body length 3.5 - 5 mm ..... ***boreata*** Mesn.

– 2nd arista segment in males at most as long as the 2nd antennal segment (fig. 23), in females shorter. Face in males 1.3 - 1.5x as long as the frons, in females about 1.1 - 1.2x as long. Top third of the palps with a few hairlets. Males: 3rd antennal segment about 4x as long as the 2nd, ± rounded rectangular, widest in the middle (fig. 23), at most as wide as the fore femur. Body length 3. 4 mm..... ***pauciseta*** Rond.

7. Haustellum shorter than the height of the head. Tergite 2 always without dorsal marginal bristles, in 2 species also without latero-marginal bristles ***8***

– Haustellum as long as the height of the head or longer. Tergite 2 with or without dorsal marginal bristles, but always with latero-marginal bristles..... ***12***

8. Males: claws as long as the last tarsal segment. Females: peristome almost half as wide as the maximum eye diameter; ground colour of the abdomen completely black ***9***

– Males: claws at most half as long as the last tarsal segment. Females: peristome at most as wide as 1/3 of the maximum eye diameter..... ***10***

9. Middle femur normally without a pre-apical ad-bristlet. Head of the halters blackish. Latero-marginal bristles of tergite 2 weaker than the latero-marginal bristles of tergite 3. Males: palps with hairlets at least as long as its diameter..... ***ingerae*** And.

– Middle femur with a pre-apical ad-bristlet. Head of the halters yellow. Latero-marginal bristles of tergite 2 as strong as the latero-marginal bristles of tergite 3. Males: hairlets of palps much shorter..... ***hungarica*** And.

10. Tergite 2 with strong latero-marginal bristles..... ***mesnili*** And.
(according to Andersen 1982, this species is distinguished from *confusa* by genital features)

– Tergite 2 without latero-marginal bristles (fig. 169)..... ***11***

11. Presutural ia present (fig. 83). Haustellum at most as long as the maximum eye diameter. Face in males 1.4 - 1.6x as long as the frons, in females 1.2 - 1.3x as long..... ***maculata*** Staeg.

– Presutural ia missing. Haustellum longer than the maximum eye diameter. Face in males 1.2 - 1.3x as long as the frons, in females 1.0 - 1.1x as long ..... ***collini*** Mesn.

12. Tergite 2 with dorsal marginal bristles. Face in males about 1.5x as long as the frons, in females 1.2 - 1.3x as long..... ***13***

– Tergite 2 without dorsal marginal bristles ***15***

13. Tegula dark brown, clearly darker than the basicosta. Cheeks (seen from the side) at their mid-point about as wide as the palps. Black spots around the base of the abdominal bristles large, 4 - 6x as wide as the basal thickness of one bristle. Cheek hairs strong, often reaching down to almost the middle of the cheeks. Males: 3rd antennal segment at half the tip wider than at the base, distinctly wider than the fore femur... ***rossica*** Mesn.

– Tegula yellow or reddish, as light as the basicosta. Cheeks clearly narrower than the palps. No, or much smaller black spots around the base of the abdominal bristles (at most 2 - 3x as wide as the thickness of one bristle). Cheek hairs as a rule much weaker. Males: 3rd antennal segment widest at about its middle, at most as wide as the fore femur..... ***14***

14. Abdomen completely, or at least largely yellow. 2nd antennal segment totally yellow, in females also the base of the 3rd. Dorsal marginal bristles of tergite 2 very variable, marginal bristles of tergites 3 and 4 at most as long as the segments on which they stand. Tergite 3 with 4 - 6 marginal bristles, in the latter case those on the sides are much weaker ..... ***flavifrons*** Staeg.

– Basic colouring of the abdomen (at least of tergites 4 and 5) black,. 2nd antennal segment ± strongly browned. Dorsal marginal bristles of tergite 2 very strong, marginal bristles of tergites 3 and 4 longer than the segments on which they stand. Tergite 3 with 6 almost equally long marginal bristles ..... ***setosa*** Mesn.

15. Tegula completely black, basicosta whitish-yellow. Basic colouring of the abdomen dark, but tergites 1 - 3 lighter at the sides. 2nd antennal segment vivid yellow, nowhere darkened, in females also the base of the 3rd antennal segment yellow inside. Males: 3rd antennal segment at most as wide as the fore femur..... ***paludosa*** Mesn.

– Tegula yellow or reddish-brown, not, or hardly darker than the basicosta..... ***16***

16. Peristome (seen from the side) in males as wide as 1/10 - 1/6 of the maximum eye diameter (fig. 21), in females as wide as 1/6 - 1/5. Vibrissa at or slightly above the height of the lower eye rim (fig, 21). 2nd antennal segment yellow or only very faintly browned. Base colour of the abdomen in both sexes yellow, but the last tergites often darkened. Prosternum often bare. Males: 2nd arista segment about as long as the 2nd antennal segment (fig. 21)..... ***17***

– Peristome in males as wide as 1/5 - 1/4 of the maximum eye diameter (fig. 20), in females as wide as 1/4 - 2/5. Vibrissa below the height of the lower eye rim (fig, 20). 2nd antennal segment as a rule brown (yellow in *variata*). Base colour of the abdomen in females black, in males at least tergites 4 and 5 darkened. Prosternum with one hair or bristlet on each side (as in fig. 69). Males: 2nd arista segment 1.2 - 2.0x as long as the 2nd antennal segment (fig. 20) ***18***

17. Cheeks (seen from the side) at their mid-point clearly narrower than the palps. Palps also in their distal 1/3 outside with bristlets, in females about as long as the 3rd antennal segment, in males much shorter. Frons and face ± evenly dusted. Abdomen as a rule completely yellow, the last segments are seldom a little darkened. 2nd antennal segment light yellow. Anterior oe almost as long as the great frontal bristles. Marginal bristles of

tergites 3 and 4 at most as long as the segments on which they stand. Prosternum usually with bristlets. Males: peristome as wide as 1/10 - 1/8 of the maximum eye diameter; face about 1.5x as long as the frons .. ***flavifrons*** Staeg.

– Cheeks about as wide as the palps (fig. 21). Palps at least in their distal 1/3 bare outside, in females about as long as the whole antennae, in males a little shorter (fig. 21). Dusting of the frons yellow, that of the face in contrast mostly white. Abdomen on the last segments ± darkened. 2nd antennal segment usually faintly browned. Anterior oe almost as long as the little frontal bristles (fig. 21). Marginal bristles of tergites 3 and 4 strong, longer than the segments on which they stand. Prosternum almost always bare. Males: peristome as wide as 1/8 - 1/6 of the maximum eye diameter (fig. 21); face 1.1 - 1.3x as long as the frons ..... ***cristata*** F.

18. End section of r1 often with 1 - 2 bristlets. Femora completely yellow. Males: 2nd arista segment a little longer than 1/2 the 3rd ..... ***grandistylum*** Pand.

– End section of r1 always bare. At least the hind femur a little browned apically. Males: 2nd arista segment a little shorter than 1/2 the 3rd ..... ***confusa*** Mesn.
(In the *S. variata* described by Andersen in 1982, femora and the 2nd antennal segment are completely yellow).

Aphria

1. Tegula black, basicosta yellow. 4th wing edge section at least as long as the 6th. Males: frons at most as wide as one eye; fore tarsal claws longer than the last tarsal segment. Females: ve not differentiated from the post-ocular hairs ***2***

– Tegula and basicosta yellow. 4th wing edge section shorter than the 6th. Males: frons wider than one eye; fore tarsal claws a little shorter than the last tarsal segment. Females: ve a little longer and stronger than the post-ocular hairs, bent outwards ***3***

2. r4+5 with bristlets extending at most to r-m. 1st and 2nd wing edge section bare above (fig. 142). The middle of the band of dusting is elongated backwards to a point at the anterior edge of the tergites ..... ***longirostris*** Meig.

– r4+5 with bristlets extending further than r-m. 1st and 2nd wing edge section hairy above (fig. 143). The dusting of the tergites shows no point in the middle of the tergites ..... ***longilingua*** Rond.

3. r4+5 with bristlets extending at most to r-m ..... ***latifrons*** Vill.

– r4+5 with bristlets extending much further than r-m ..... ***xyphias*** Pand.

Bithia

1. r4+5 with bristlets reaching much further than r-m. r1 and cu1 almost always with bristlets. Scutellum with a short lateral bristle ..... ***spreta*** Meig.

– r4+5 with bristlets at most extending to r-m. r1 and cu1 bare. Scutellum without lateral bristles ***2***

2. r4+5 with bristlets extending to r-m or almost as far. Tegula yellow or brown. Frons in males about as wide as one eye ..... ***glirina*** Rond.

– r4+5 with 3 - 6 bristlets on its base ***3***

3. Tergite 2 hollowed out to the posterior edge (as in fig. 168). Frons in males at most 0.95x as wide as one eye. Tegula black. Scutellum with crossed apical bristles. Tergite 2 without marginal bristles ***4***

– Tergite 2 not hollowed out to the posterior edge (as in figs. 167, 169). Frons in males wider than one eye ***6***

4. Abdomen under any viewing angle totally and evenly dusted, without dark spots or a trace of a central longitudinal stripe. The longest hairs of the arista are about half as long as the diameter of the arista near the base. Males: tergite 6 oriented vertically - lies almost flush with segments 7+8 (fig. 203); frons 0.51 - 0.59x as wide as one eye. Females: posterior edge of tergites 5 and 6 not or scarcely less dusted than the posterior edge of the previous tergites ..... ***immaculata*** Hert.

– Abdomen at certain lighting angle with at least a trace of a central longitudinal stripe. Arista with longer hairs. Males: tergite 6 has a similar position to tergite 5, it forms an acute angle with segments 7+8 (fig. 204); frons wider. Females: posterior edge of tergites 5 and 6 more faintly dusted than on the previous tergites, appearing black when viewed directly from behind ***5***

5. Dusting of the abdomen with irregular spots which appear lighter or darker depending on the viewing angle. The longest hairs of the arista are about 2/3 as long as the diameter of the thickened arista section. Males: syncercus (seen from the side) a little wavy, at the tip with a short little hook (fig. 267); segment 7+8 about as long as the epandrium (as in fig. 203); frons 0.73 - 0.95x as wide as one eye. Females: palps yellow; 2nd antennal segment red-yellow ..... ***demotica*** Egg.

– Dusting of the abdomen with or without variable spots. The longest hairs of the arista are about 3/4 as long as the diameter of the thickened arista section. Males: syncercus straight, only with a hint of a little hook (fig. 268); segment 7+8 about 1.5x as long as the epandrium (fig. 204); frons 0.59 - 0.80x as wide as one eye. Females: palps yellow to black-brown; 2nd antennal segment sometimes brownish to black-brown ..... ***modesta*** Meig.

6. Scutellum with crossed apical bristles. Tegula black. Frons in males little wider than one eye, without prevertical bristle or oe ..... ***acanthophora*** Rond.

– Scutellum without or only with hair-like divergent apical bristles. Tegula yellow or brown. Frons in males at least 1.4x as wide as one eye, with one prevertical bristle and 2 oe ***7***

7. Tergite 2 with 2 marginal bristles. Tegula the same colour as the basicosta. Males: 3rd antennal segment about 3.5x as long as the 2nd ..... ***geniculata*** Zett.

– Tergite 2 without marginal bristles. Tegula a little darker than the basicosta. Males: 3rd antennal segment about 2.5x as long as the 2nd ..... ***jacentkovskyi*** Vill.

Solieria

The females of *Solieria* are not identifiable with certainty in some cases.

1. Abdomen with (sometimes thin) discal bristles. Males: anterior claws as long as 3/4 of the last tarsal segment; frons 0.90 - 0.95x as wide as one eye, with 2 oe ..... ***borealis*** Ringd.

– Abdomen without discal bristles ***2***

2. Males (epandrium visible) ***3***

– Females ***6***

3. Fore tarsal claws only about half as long as the last tarsal segment. Frons clearly wider than one eye, with 2 oe and 1 prevertical bristle ..... ***pacifica*** Meig.

– Fore tarsal claws at least as long as the last tarsal segment. Frons as wide as one eye or narrower ***4***

4. Frons about as wide as one eye, usually with 1 - 2 small oe and a prevertical bristle. Tergites 2 and 3 with a narrow black longitudinal centre stripe which widens towards the back and occupies the last 2 tergites almost completely ..... ***vacua*** Rond.

– Frons at moat 0.8x as wide as one eye, without oe, very seldom with a prevertical bristle ***5***

5. Frons 0.6 - 0.8x as wide as one eye. Palps in their apical 1/5 - 1/4 darkened. Tergites 2 - 4 each with a trapezoid or triangular spot, which is narrow in front and broad at the back ..... ***fenestrata*** Meig.

– Frons 0.41 - 0.49x as wide as one eye. Palps only at the very tip a little darker. Abdomen with a narrow black longitudinal stripe which gradually widens at the back and completely covers tergite 5 ..... ***inanis*** Fall.

6. Palps at their tip not or hardly thickened (fig. 37). Frons 1.20 - 1.45x as wide as one eye ..... ***pacifica*** Meig

– Palps thickened ± club-shaped (figs. 35, 36). Frons 0.87 - 1.30x as wide as one eye ***7***

7. Frons 0.87 - 0.95x as wide as one eye. Palps yellow (at most at the very tip a little brownish), its thickened part about as strong as the haustellum (fig. 35) ..... ***inanis*** Fall.

– Frons wider. Palps slightly less thickened (fig. 36) ***8***

8. Palps in their apical 1/4 - 1/3 blackish or at least strongly browned. Frons 0.96 - 1.21x as wide as one eye ..... ***fenestrata*** Meig.

– Palps yellow, at most minimally browned at their tips. Frons 1.02 - 1.30x as wide as one eye ..... ***vacua*** Rond.

Angiorhina

1. Males: frons 0.24x as wide as one eye; anterior ocellus scarcely larger than the 2 posterior ones; parafrontalia at their anterior end scarcely wider than the antennal base located between them; 3rd antennal segment 1.5x as long as wide; cheek bristles much weaker and shorter than the frontal bristles; fore coxae bare on their inside; fore tarsal claws not longer than the last tarsal segment, this a little more than half as wide as long; space between the 2 ia smaller than the distance of the front ones to the suture; R5 open; the section of m between r-m and cu-m is 1.8 - 2.2x as long as that between m-cu and the deflection; lobes of sternite 5 very rounded. ..... ***fulvicornis*** Zett.

– Males: frons 0.18x as wide as one eye; anterior ocellus considerably larger than the 2 posterior ones; parafrontalia at their anterior end 1.3x as wide than the antennal base located between them; 3rd antennal segment 2x as long as wide; bristles at the lower part of the cheeks almost as long and strong than the frontal bristles; fore coxae on the largest part of their inside with short hairs; fore tarsal claws 1.2x as long as the last tarsal segment, this hardly half as wide as long; space between the 2 ia a little greater than the distance of the front ones to the suture; R5 closed at the wing edge; the section of m between r-m and cu-m is 1.4x as long as that between m-cu and the deflection; lobes of sternite 5 with hardly rounded edge/corner?, a little concave at the back ..... ***puncticeps*** Zett.

4.3. Subfamily Dexiinae

Trixa

1. Tergite 2 without discal bristles (seldom with 1 or 2). Scutellum with crossed apical bristles. Vibrissa longer and stronger than the surrounding subfacial or facial ridge bristles. Antennae as long as 1/2 - 2/3 of the face height. Femora black or dark brown. r-m is surrounded by a dark brown spot ..... ***conspersa*** Harr.

– Tergite 2 with numerous irregular discal bristles. Scutellum without crossed apical bristles. Vibrissa not differentiated from the subfacial or facial ridge bristles (fig. 29). Antennae as long as 1/4 - 1/2 of the face height. Femora totally or predominantly yellow. Vicinity of r-m is not or only very faintly darkened. ***2***

2. Scutellum completely black. Body length 12 - 14 mm ..... ***alpina*** Meig.

– Scutellum at least at its tip yellow-brown. Body length 8 - 12 mm ..... ***caerulescens*** Meig.
(*T. alpina* and *T. caerulescens* are possibly only geographical variants of a single species).

Billaea

1. Arista with hairs at least as wide as the 3rd antennal segment (fig. 46) ***2***
– Arista with smaller hairs than the 3rd antennal segment (as in fig. 40) ***3***

2. Basicosta black. Tergites 3 and 4, viewed obliquely from behind, with 2 triangular spots, which often reach as far as the anterior edge of the segments (fig. 168). 2 st. Females: ad-comb of the hind tibia irregular, with several intermediary bristles ..... ***triangulifera*** Zett.
– Basicosta yellow. Abdomen without such patterning. 3 st. Females: ad-comb of the hind tibia regular, at most with an intermediary bristle ..... ***adelpha*** Loew

3. Thorax before the suture with only 4 dark longitudinal stripes (the central stripe is missing). Facial keel at least as wide as the 3rd antennal segment. Scutellum often a little reddish transparent ..... ***pectinata*** Meig.
– Thorax before the suture with 5 dark longitudinal stripes. Facial keel much narrower than the 3rd antennal segment. Scutellum completely black ***4***

4. Tergite 2 with 2 marginal bristles. Males: hairs of tergite 3 in its central dorsal area half raised ..... ***irrorata*** Meig.
– Tergite 2 without marginal bristles. Males: hairs of tergite 3 everywhere prone ***5***

5. Longest hairs of the arista about 3x as long as the diameter of the arista base. 2nd antennal segment black or brown. 2 - 3 pairs acr before the suture. 3 st. Abdomen evenly dusted, with iridescent spots ..... ***fortis*** Rond.
– Longest hairs of the arista only little longer than the diameter of the arista base. 2nd antennal segment red. Usually 0 - 1 pair acr before the suture. 2 st. Tergites 3 and 4 with trapezoid dark spots ..... ***steini*** B.B.

Dinera

1. Tergite 2 only at its base a little hollowed out (as in fig. 170). R5 closed at the wing edge (as in fig. 128) or with a very short petiole (fig. 124). Tibiae yellow, femora yellow or brown. Abdomen densely covered with yellowish-grey dusting, without iridescent spots. Body length 5 - 7 mm ..... ***grisescens*** Fall.
– Tergite 2 hollowed out at least to the middle (as in figs. 167-169). R5 open. Legs black or dark brown. Dusting of the abdomen with iridescent spots ***2***

2. Head higher than long. Tergite 2 hollowed out to its posterior edge (as in fig. 168). 4 dc behind the suture. Body length 8 - 14 mm ..... ***ferina*** Fall.
– Head as long as high. Tergite 2 not hollowed out to its posterior edge (as in figs. 167, 169). 3 dc behind the suture. Body length 6 - 11 mm ..... ***carinifrons*** Fall.

Estheria

1. Cheeks bare ***2***
– Cheeks hairy ***3***

2. 4 Humeral bristles, the 3 strongest stand in a ± straight line (as in fig. 80). 3 dc behind the suture. Petiole of R5 at most as long as r-m, usually much shorter. Scutellum predominantly yellow ..... ***cristata*** Meig.
– 5 Humeral bristles, the 3 strongest form a triangle (as in fig. 76). 4 dc behind the suture. Petiole of R5 longer than r-m. Scutellum black ..... ***bohemani*** Rond.

3. The area around m-cu and the post-angular vein are browned. Basicosta brownish-yellow. Humeral callus in its basic colour at least partially yellow (seldom completely darkened). Body length 9 - 12 mm ..... ***picta*** Meig.
– The area around the said veins is not browned. Basicosta black-brown. Humeral callus black. Body length 9 - 14 mm ..... ***petiolata*** Bonsd.

Dexia

1. 3 - 4 st. The very fine hairs at the edge of the calyptrae is not longer than the diameter of the seam. Abdomen evenly dusted to the end, in males with a yellow basic colour with one black central longitudinal stripe (often only shining through), in females dark brown ..... ***rustica*** Fall.
– 2 st. Calyptrae at the outer edge with hairs that are 2 - 4x as long as the diameter of the seam. Tergites in males dusted to 1/2 - 5/6, in females to 1/4 - 3/4 of their length. Abdomen in males yellow with ± black posterior edge of the tergites (especially 4 and 5), in females black ..... ***vacua*** Fall.

Zeuxia

1. Petiole of R5 at least as long as 2/5 of the post-angular vein. Tergites dusted to the posterior edge. Males: parafrontalia with a row of oe (the longest about as strong as the posterior frontal bristles) ..... ***cinerea*** Meig.
– R5 open, closed or with only a very short petiole. Posterior edge of the tergites usually shiny black. Males: parafrontalia only with hairs pointing forwards (much shorter than the posterior frontal bristles) ***2***

2. The 3 strongest humeral bristles stand in a straight line (as in figs. 70, 80). Cheeks completely hairy (in females only a few hairs present). Arista with hairs at most as wide as the 3rd antennal segment. Tergite 2 without dorsal marginal bristles. Palps yellow ..... ***brevicornis*** Egg.

– The 3 strongest humeral bristles stand in a triangle (as in figs. 71, 77). Cheeks bare. Arista with hairs wider than the 3rd antennal segment. Tergite 2 usually with 2 marginal bristles. Palps black..... ***subapennina*** Rond.

Eriothrix

1. Antennae separated at their base by at least 2/3 of the width of the 1st antennal segment. Cheeks 1.5 - 2.1x as wide as the 3rd antennal segment. Males: frons 0.14 - 0.20x as wide as one eye; middle tibia without inner bristle; vi ± hair-like and bent forwards. Section of m between m-cu and the deflection longer than the distance from the deflection to the wing edge ..... ***monticola*** Egg.

– Antennae standing close together at their base, separated at most by 1/3 of the width of the 1st antennal segment. Cheeks 0.7 - 1.3x as wide as the 3rd antennal segment. Males: frons at least 0.24x as wide as one eye; middle tibia with 1 - 2 inner bristles; vi strong, crossed ***2***

2. Section of m between m-cu and the deflection longer than the distance from the deflection to the wing edge. Arista thickened only in their basal 1/5 - 1/4 (fig. 49). Dorsal bristles of the middle tergites 1.2 - 1.7x as long as the segments on which they stand. Abdomen in females quite black, in males at the sides a little reddish (but appear also quite dark when viewed from above). Abdominal hairs in males partially upright ..... ***prolixa*** Meig.

– Section of m between m-cu and the deflection as long as the distance from the deflection to the wing edge or shorter. Arista thickened at least in their basal 1/3. Dorsal bristles of the middle tergites 0.8 - 1.1x as long as the segments on which they stand. Abdomen at the sides ± wide reddish-yellow. Abdominal hairs prone ***3***

3. R5 petiolate or at least closed at the wing edge (as in fig. 128). Males: anterior claws 1.0 - 1.3x as long as the last tarsal segment; epandrium shorter than segment 7+8..... ***rufomaculatus*** DeG.

– R5 open. Males: anterior claws 1.4 - 1.8x as long (*argyreatus*, *apenninus*) or only 0.8 - 0.9x as long as the last tarsal segment (*micronyx*); epandrium at least as long as segment 7+8 (only shorter in *micronyx*)..... ***4***

4. Humeral callus with an inner anterior bristle about as long as 2/3 - 3/4 of the inner basal bristle (fig. 78). Males: frons 0.30 - 3.48x as wide as one eye, without prevertical bristle; frontal bristles becoming shorter and weaker towards the back..... ***argyreatus*** Meig.

– Humeral callus without (as in fig. 73) or only with a hair-like inner anterior bristle. Males: frons at least 0.5x as wide as one eye, with a prevertical bristle; frontal bristles of nearly equal length, the hindmost is bent backwards and mostly a little longer and stronger than the rest ***5***

5. Back of the head only with a row of black bristlets. Abdomen in males often completely covered with dusting, in females at least with very obvious dusting at the anterior edge of the tergites. Males: frons 0.50 - 0.65x as wide as one eye; frontal bristles reaching down the cheeks to about the middle of the 2nd antennal segment; epandrium about 1.5x as long as segment 7+8 (as in fig. 204) ..... ***apenninus*** Rond.

– Back of the head with 2 - 3 irregular rows of black bristlets. Dusting in males present only at the anterior edge of the tergites, in females only visible in traces. Males: frons 0.68 - 0.90x as wide as one eye; frontal bristles tufted, reaching down the cheeks to about the end of the 2nd antennal segment; epandrium shorter than segment 7+8..... ***micronyx*** Stein

Trafoia

1. 2 dc before the suture. The ocelli form an equilateral triangle. Tergites with only light dusting at their anterior edge. Tergite 2 ventrally without yellow hairs ..... ***gemina*** Hert.

– 3 dc before the suture. The ocelli form an elongated isosceles triangle (2 - 2.5x as long as the space between the posterior ocelli). Abdomen more densely and extensively dusted. Tergite 2 ventrally with yellow hairs ..... ***monticola*** B.B.

Campylocheta

1. Cheeks bare or only with 1 - 3 hairlets below the frontal bristles ***2***

– Cheeks below the frontal bristles clearly hairy, the hairlets reaching sometimes almost to the middle of the cheeks or still further..... ***3***

2. Wings without darkened zones around the veins. m-cu joins long before the middle between r-m and the deflection of m. Cheeks at their narrowest point as wide as 1/4 - 1/2 of the 3rd antennal segment. There is an additional thin bristle pair between ocellar and post-ocellar bristles. Frons in males about as wide as one eye ..... ***inepta*** Meig.

– The area around r-m, m-cu and often also the post-angular vein is browned. m-cu joins on the middle between r-m and the deflection of m or a little behind. Cheeks at their narrowest point as wide as 1/2 - 1/1 of the 3rd antennal segment. The area between ocellar and post-ocellar bristles is hairy only. Frons in males 0.6 - 0.8x as wide as one eye..... ***fuscinervis*** Stein

3. Palps with black hairs. Back of the head with 3 irregular rows of black bristlets behind the post-ocular hairs. Cheeks about as wide as the 3rd antennal segment. Males: surstyli a little shorter than the cerci ***praecox*** Meig.

– Palps at least partially with yellow hairs. Back of the head only with 2 rows of black bristlets behind the post-ocular hairs. Cheeks clearly wider than the 3rd antennal segment. Males: surstyli much longer than the cerci ..... ***latigena*** Mesn.

Blepharomyia

1. Frons in males 0.30 - 0.45x, in females 0.66 - 0.82x as wide as one eye. Antennae only about as long as 1/2 of the maximum eye diameter. 3rd antennal segment 1.5 - 1.8x as long as the 2nd. Abdomen covered with dusting to the posterior edge of the tergites (changeable according to viewing angle). Males: parafrontalia with only very fine hairs ..... ***angustifrons*** Hert.

– Frons in males 0.77 - 1.38x, in females 0.95 - 1.40x as wide as one eye. Antennae as long as 2/3 - 5/6 of the maximum eye diameter. 3rd antennal segment in females more than 2x, in males more than 3x as long as the 2nd. Posterior edge of the tergites (at least of tergite 3) ± wide black. Males: parafrontalia with stronger hairs or bristles pointing forwards (oe) ***2***

2. Frons in males 0.77 - 0.99x, in females 0.95 - 1.15x as wide as one eye. Cheeks (seen from above) everywhere densely and evenly dusted. Tergite 2 with 2 dorsal and on each side with 2 - 3 lateral marginal bristles. The dusting of tergite 3 covers 2/3 - 5/6 of the segment at the sides. Peristomal hairs thin, not or hardly coarser than the hairs of the mesopleura. Cheek bristles accompanied with at most a few short hairs; longest cheek bristle 1.5 - 2.5x as long as the width of the cheeks at their narrowest point..... ***pagana*** Meig.

– Frons in males 1.04 - 1.38x, in females 1.08 - 1.40x as wide as one eye. Cheeks (seen from above) with a black spot before the eye rim. Tergite 2 as a rule with a complete row of marginal bristles. The dusting of tergite 3 covers 1/3 - 3/5 of the segment at the sides. Peristomal hairs coarse, much coarser than the hairs of the mesopleura. The row of cheek bristles is usually accompanied by coarse hairs or short bristles; longest cheek bristle about 3x as long as the width of the cheeks at their narrowest point ..... ***piliceps*** Zett.

Ramonda

1. Propleura hairy (at least in front). Tergites 3 - 5 with distinct white dusting at the anterior edge. Behind the ocellar bristles, there is a further pair of bristles. Body length 5.5 - 7.5 mm..... ***spathulata*** Fall.

– Propleura bare. Abdomen shiny black, seldom with a trace of dusting at the anterior edge (males of *ringdahli*). 1 Pair ocellar bristles. Body length 3.5 - 6 mm ***2***

2. Basicosta vivid yellow. r4+5 with bristlets extending far beyond r-m. Hind tibia with 2 dorsal apical spurs. Palps black or dark brown, in their apical 1/3 hardly thicker than the vibrissa at its base. Males: abdomen ventrally with tuft-like raised hairs..... ***latifrons*** Zett.

– Basicosta black or brown. r4+5 with at most 1 or 2 bristlets extending beyond r-m. Hind tibia with 2 - 4 dorsal apical spurs. Palps yellow to black, in their apical 1/3 at least 2x as thick as the vibrissa at its base. Males: abdomen ventrally without tuft-like raised hairs ***3***

3. Hind tibia with 4 dorsal apical spurs. 3 st ***4***

– Hind tibia with 2 or 3 dorsal apical spurs. 2 or 3 st ***5***

4. Mouth edge (seen from the side) strongly pulled forwards. Haustellum about 5x as long as its diameter. Upper half of the back of the head with black bristlets. Palps black ..... ***jugorum*** Vill.

– Mouth edge not visible from the side. Haustellum about 2 - 2.5x as long as its diameter. Back of the head in its upper half only with 1 - 2 row of black bristlets. Palps yellow or brown ..... ***delphinensis*** Vill.

5. 3 st. r1 bare. 2nd arista segment 2.5 - 4x as long as its diameter ***6***

– 2 st. r1 in its basal 2/3 almost always with bristlets (only in *prunicia* sometimes bare). 2nd arista segment 1 - 2x as long as its diameter. Thorax before the suture practically without dusting. 1st and 2nd wing edge section bare above ***7***

6. 1st and 2nd wing edge section hairy above (fig. 144). Thorax practically without dusting before the suture, without black longitudinal stripes. Hind tibia with 3 dorsal apical spurs..... ***ringdahli*** Vill.

– 1st and 2nd wing edge section bare above (as in fig. 142). Thorax clearly dusted before the suture with 4 black longitudinal stripes. Hind tibia with 2 dorsal apical spurs ..... ***plorans*** Rond.

7. Hind tibia with 3 dorsal apical spurs ..... ***prunaria*** Rond.

– Hind tibia with 2 dorsal apical spurs ..... ***prunicia*** Hert.
(*R. prunicia* is possibly only a form of *R. prunaria*)

Wagneria

1. Scutellum without raised bristlets. Abdomen in females totally without bristles, in males with only 2 short (usually ± prone) marginal bristles on tergite 4 and a ring of weak, backwards pointing marginal bristles on tergite 5. No costal spine ..... ***alpina*** Vill.

– Scutellum with numerous raised bristlets in its dorsal area. Abdomen with more extensive and upright bristles. Costal spine longer than r-m ***2***

2. 2 st. 2 dc before the suture. Tergites 3 and 4 without discal bristles. Tergite 2 hollowed out to the posterior edge..... ***cunctans*** Meig.

– 3 st. 3 dc before the suture. Tergite 4 (and usually also tergite 3) with discal bristles. Tergite 2 not hollowed out to the posterior edge ***3***

3. Palps black. Anterior edge of the tergites with faint dusting. Tergite 4 about 2x as wide as long. Propleura bare. Fore tibia with 2 - 4 pd-bristlets. Males: anterior claws about as long as the last tarsal segment.... ***gagatea*** R.D.

– Palps yellow. Abdomen without dusting. Tergite at most 1.5x as wide as long. Propleura hairy. Fore tibia without pd-bristlets. Males: anterior claws at most as long as 2/3 of the last tarsal segment..... ***costata*** Fall.

Kirbya

1. Tergite 4 in males with 8 - 10, in females with 6 - 8 strong marginal bristles. Costal spine 1.5 - 3x as long as r-m. Tergites 3 - 5 in males with slight dusting at the anterior edge, in females without dusting .... ***moerens*** Meig.

– Tergite 4 in males with 4 - 6 weak marginal bristles, which on the sides are scarcely differentiated from the side hairs of tergite 5; in females the marginal bristles are missing completely. Costal spine 1 - 2x as long as r-m. Abdomen in both sexes shiny black, without dusting..... ***unicolor*** Vill.

Athrycia

1. Arista thickened to only about half its length. Propleura almost always hairy. Cheeks with 2 downward-curved bristles, of which the lower one is longer. Upper side of the body with yellowish, on the frons often golden yellow dusting ..... ***curvinervis*** Zett.

– Arista thickened beyond half-length (especially in males). Propleura bare. Cheeks as a rule with 3 or 4 downward-curved bristles. Dusting grey ***2***

2. The distance from the deflection of m to the posterior wing edge is 0.77 - 1.07x as long as the post-angular vein (fig. 135). 2nd antennal segment usually black, seldom brownish or reddish-yellow..... ***trepida*** Meig.

– The distance from the deflection of m to the posterior wing edge is 1.08 - 1.39x as long as the very steep post-angular vein (fig. 123). 2nd antennal segment reddish-yellow ..... ***impressa*** Wulp

Cyrtophleba

1. Tergites 3 and 4 without discal bristles (seldom a few weak discals at the posterior 1/3 of tergite 4). Abdominal hairs prone. Ocellar bristles at the height of the anterior ocellus. r4+5 with bristlets extending to r-m ..... ***ruricola*** Meig.

– Tergites 3 and 4 with strong discal bristles. Abdominal hairs upright. Ocellar bristles behind the anterior ocellus. r4+5 with bristlets extending only 1/2 the distance between the base and r-m ..... ***vernalis*** Kram.

Thelaira

1. Middle tibia with 2 ad (fig. 152). ve missing or hair-like. Calyptrae white, the edge usually yellowish. Females: penultimate tarsal segment 1.5 - 2x as long as wide; tergite 5 undusted. Males: middle dorsal hairs of tergites 3 and 4 as long as 1/4 - 2/5 of the marginal bristles; abdomen usually appears dark when seen from above ..... ***nigripes*** F.

– Middle tibia with 3 - 4 ad (fig. 153). Females: penultimate tarsal segment 1.2 - 1.4x as long as wide..... ***2***

2. ve weak, but about as long as 1/2 of vi. Calyptrae yellowish. Males: middle dorsal hairs of tergites 3 and 4 fine, as long as 1/7 - 1/5 of the marginal bristles; light side spots of the abdomen extended, clearly visible from above. Females: tergite 5 undusted ..... ***solivaga*** Harr.

– ve missing or hair-like. Calyptrae white (including the edge). Males: middle dorsal hairs of tergites 3 and 4 coarse, about as long as 1/4 of the marginal bristles; abdomen (seen from above) appears dark. Females: tergite 5 dusted at about the anterior 1/3..... ***leucozona*** Meig.

Dufouria

1. Hind tibia with 3 - 4 apical spurs. Middle tibia with 3 - 4 ad. R5 usually open (as in fig. 119). Tergite 2 in males with a complete row of marginal bristles, in females with 2 - 4 dorsal marginal bristles. Fore tibia with 2 hindmost bristles. Eyes in both sexes hairy..... ***chalybeata*** Meig.

– Hind tibia with 2 dorsal apical spurs. Middle tibia with 2 ad (seldom with a weak 3rd ad in the distal 1/4). R5 narrowly open (as in fig. 123), closed (as in fig. 128) or with very short petiole (as in fig. 124). Tergite 2 in females without, in males with 2 dorsal marginal bristles ***2***

2. The longest arista hairs are scarcely as long as the diameter of the thickened arista base. Costal spine shorter than r-m. Distance of both ia from each other is about as great as the interval of the anterior ia to the suture. Eyes hairy in males, bare or very sparsely dotted with short hairs in females. 1 Pair acr before the suture. r4+5 ± covered with bristlets between the base and r-m. Fore tibia with 1 posterior bristle. Males: the dense and long hairs of the parafrontalia goes down to about the middle of the 3rd antennal segment ..... ***nigrita*** Fall.

– The longest arista hairs are a little longer than the diameter of the thickened arista base. Costal spine almost 2x as long as r-m. Distance of both ia from each other is about 2x as great as the interval of the anterior ia to the suture. Eyes hairy bare in both sexes. No acr before the suture. r4+5 only with 2 - 3 bristlets at the base. Fore tibia with 1 - 2 posterior bristles. Males: the dense and long hairs of the parafrontalia goes down at most to the end of the 2nd antennal segment..... ***occlusa*** R.D.

Rondania

1. Petiole of R5 almost as long as the post-angular vein. Abdomen practically undusted, ± yellow (at least yellow stripes at the anterior edge of the edge of the tergites present). Middle tibia without inner bristle . ***fasciata*** Meig.

– R5 open, closed or with short petiole, the petiole in the latter case at most as long as 1/3 of the post-angular vein. Abdomen black, dusted grey with black spots. Middle tibia with inner bristle ***2***

2. Cheeks at their narrowest point as wide as 3/5 - 5/6 of the 3rd antennal segment. R5 open, seldom closed at the wing edge. Frons in males as wide as 2/3 - 1/1 of the 3rd antennal segment..... ***cucullata*** R.D.

– Cheeks at their narrowest point as wide as 1/4 - 2/5 of the 3rd antennal segment. R5 petiolate, only seldom closed at the wing edge. Frons in males as wide as 1/5 - 1/2 of the 3rd antennal segment..... ***3***

3. Petiole of R5 at most 0.24x as long as the post-angular vein. Males: calyptrae blackish. Females: tibiae black or dark brown, femora predominantly yellow (apical 1/3 often black)..... ***dimidiata*** Meig.

– Petiole of R5 0.25 - 0.33x as long as the post-angular vein. Males: calyptrae light. Females: tibiae and femora yellow..... ***dispar*** Duf.

4.4. Subfamily Phasiinae

Eliozeta

1. Antennae at their base separated by at least half the width of the 1st antennal segment. 3rd antennal segment at most 1.3x as long as the 2nd. Arista thickened to 1/5 - 1/3 of its length ..... ***helluo*** F.

– Antennae hardly separated at their base.; they almost touch. 3rd antennal segment 2.1 - 2.5x as long as the 2nd. Arista thickened to about 2/3 of its length..... ***pellucens*** F.

Ectophasia

1. Haustellum long (3.5 - 5.5x as long as its diameter). Females: sternite 7 bent forwards (fig. 228). Males (typical specimens): abdomen not or hardly longer than wide, colouring yellow with a black central longitudinal stripe, which is at least as wide as 1/5 of the abdomen (fig. 171); sternite 3 at least as wide as the ventral membrane bordering it; thorax before the scutellum often blackish, but ± densely dusted; abdomen occasionally completely black ..... ***crassipennis*** F.

– Haustellum shorter (2.8 - 5.2x as long as its diameter). Females: sternite 7 bent backwards a little at the end (fig. 227). Males (typical specimens): abdomen clearly longer than wide, colouring red with a black central longitudinal stripe (maximum 1/8 of abdomen width), which is sometimes missing completely; sternite 3 narrower than the ventral membrane (fig. 183); thorax before the scutellum shiny black, at this spot seldom with a little dusting; gynaecomorphous specimens with evenly dense abdominal dusting seem to occur almost only in this species; darkening of the abdomen is rare ..... ***oblonga*** R.D.
(On the possibility of separating the *Ectophasia*-species according to the features of the genitalia in males, see Hubenov 1982).

Gymnosoma

The species of this genus are in need of revision and even for the expert sometimes difficult to determine. This key is therefore provisional and applies only to typical representatives of the central European fauna. The last summary revision of the genus goes back to Zimin (1966).

1. Femora without spikelet comb. m-cu much steeper than the post-angular vein. The petiole of R5 ends in the wing tip (fig. 126). Males: the dusting of the thorax ends before the cross suture. Females: humeral callus dusted only in the lower half. Body length 2 - 4 mm ..... ***nitens*** Meig.

– Anterior and middle femur av and pv distally with a spikelet comb (fig. 151). m-cu runs approximately parallel to the post-angular vein. The petiole of R5 leads into the costa, clearly before the wing tip (fig. 125). Males: the dusting of the thorax reaches at least to the cross suture (usually much further). Females: humeral callus completely dusted. Body length 3.5 - 8 mm ***2***

2. Males (syncercus with one appendix, figs. 273-276) ***3***

– Females (2 plate-like cerci present, figs. 201, 202) ***8***

3. Syncercus with a finger-like appendix, which is thickened at the end (fig. 273). Thorax before the scutellum almost always with 3 spots of dusting, which may also have ± merged (fig. 66)..... ***clavatum*** Rohd.
(The species *brachypeltae* described by Dupuis (1960) can only be determined based on the features of the eggs. Zimin (1966) regards it as synonymous with *clavatum*).

– Appendix of the syncercus flat triangular (figs. 274-276) or ± finger-like, but then not thickened at the end. Thorax before the scutellum at most with one spot of dusting ***4***

4. The dusting of the thorax continues towards the back as a densely dusted fair central longitudinal line up to the tip of the scutellum. Hairs on the inner side edge of tergites 5 and 6 short, the longest hairs shorter than 1/5 of tergite 5. Appendix of the syncercus relatively broad (figs. 274, 275). Dorsal hairs of the thorax at most as long as the horizontal diameter of the bulbus..... ***5***

– Thorax and scutellum (seen obliquely from behind) without continuous line of dusting; when (in some cases) a line is suggested, it appears relatively dark and is rather changeable with varying lighting angles. The longest

hairs at the posterior side rim of tergites 5 and 6 are about as long as 1/5 - 1/4 of tergite 5. Appendix of the syncercus narrower (fig. 276) ***6***

5. "Shoulders" of the syncercus stand out clearly, its appendix wide, triangular (fig. 275) ..... ***dolycoridis*** Dup.

– "Shoulders" of the syncercus very rounded, its appendix narrower (fig. 274) ..... ***desertorum*** Rohd.
(The morphological features for separating *dolycoridis* and *desertorum* have not been completely clarified; this also applies to *carpocoridis*, described by Dupuis (1960), which belongs to the near relatives of these two species).

6. The dusting of the thorax forms a continuing cross band behind the suture, which is at its narrowest point at least as wide as the tegula (fig. 65). Dorsal hairs of the thorax 1 - 2x as long as the horizontal diameter of the bulbus. Body length 5 - 8 mm ..... ***rotundatum*** L.

– The black colouring of the thorax reaches to the suture at the sides (as in fig. 66) or nearly as far ***7***

7. Dorsal hairs of the thorax raised, 1.5 - 2x as long as the horizontal diameter of the bulbus. Body length 3.5 - 5 mm ..... ***costatum*** Panz.

– Dorsal hairs of the thorax more prone, at most as long as the horizontal diameter of the bulbus. Body length 5 - 7.5 mm ..... ***nudifrons*** Hert.

8. Cerci apically rounded (fig. 201). Sternite 8 (ovipositor) very short, not, or hardly visible from the side. Thorax before the scutellum almost always with 3 spots of dusting which can also ± merge (fig. 66) .... ***clavatum*** Rohd.

– Cerci apically pointed (fig. 202). The curved 8th sternite projects from the postabdomen; it is easily seen from the side. Thorax before the scutellum at most with one dusting spot..... ***9***

9. Parafrontalia on their total length shiny black ***10***

– Parafrontalia for at most1/2 - 3/4 of their length shiny black, sometimes only a narrow stripe along the upper eye rim ***11***

10. Dorsal hairs of the thorax ± raised, longer than the horizontal diameter of the bulbus. Tergite 5 completely or predominantly black. Body length 3.5 - 5 mm ..... ***costatum*** Panz.

– Dorsal hairs of the thorax prone, shorter than the horizontal diameter of the bulbus. Tergite 5 red, with a ± roundish black blemish. Body length 5 - 7.5 mm ..... ***nudifrons*** Hert.

11. Dorsal hairs of the thorax ± raised, 1 - 2x as long as the horizontal diameter of the bulbus. The pre-scutellar acr and dc reach towards the back over half the length of the scutellum. The longest hairs at the posterior side edge of tergites 5 and 6 are about as long as 1/4 of tergite 5. Scutellum only at the tip with a spot of dusting, seldom also on its base or on the thorax directly before the scutellum with a little dusting ..... ***rotundatum*** L.

– Dorsal hairs of the thorax prone, shorter than the horizontal diameter of the bulbus. The pre-scutellar acr and dc reach towards the back at most to the anterior 1/3 of the scutellum. Hairs at the posterior side edge of tergites 5 and 6 short, the longest hairs at most as long as 1/5 of tergite 5. Scutellum with a continuous central line of dusting, which continues usually on the posterior 1/5 - 1/3 of the thorax..... ***12***

12. Posterior edge of sternite 7 in the middle domed towards the back..... ***dolycoridis*** Dup.

– Posterior edge of sternite 7 straight. East-palaearctic species ..... ***desertorum*** Rohd.

Opesia

1. Frontal bristles reaching down to the cheeks to the middle of the 2nd antennal segment or further. 1 st. Vertical bristles before the post-ocular hairs not differentiated. Males: anterior claws hardly longer than the last tarsal segment. Females: the shiny black sternite 7 is longer than wide ..... ***descendens*** Hert.

– Frontal bristles reaching down at most to the end of the 1st antennal segment. 2 - 3 st (very seldom only 1 st). Vertical bristles at least a little stronger than the post-ocular hairs (fig. 58). Males: anterior claws about as long as the last 2 tarsal segments together ***2***

2. Thorax before the suture with 3 black middle stripes (in males often merged, in females, the central stripe is sometimes only faintly visible). Basicosta black-brown, like the tegula. Calyptrae white (males) or faintly yellowish (females). 2 st (seldom 3, very seldom 1 st). Frontal bristles in males accompanied by 15 - 20 hairs, which are only a little shorter than the frontal bristles. Females: sternite 7 (shiny black) shorter than sternite 6 ..... ***cana*** Meig.

– Thorax before the suture with 2 widely spaced black middle stripes. Basicosta clearly lighter than the tegula. Calyptrae yellow. 3 st. Frontal bristles in males only accompanied by 4 - 8 short hairs. Females: sternite 7 much longer than sternite 6..... ***grandis*** Egg.

Phasia

1. Parafrontalia outside the row of frontal bristles without hairs (fig. 26) ***2***

– Parafrontalia in front outside the row of frontal bristles hairy, at least with 1 - 2 rows of hairs..... ***5***

2. Thorax dusted, with 4 black longitudinal stripes. Abdomen black or ± reddish, with light, grey-white dusting. Wings in males with dark spots. Females: sternite 7 with an oval opening. Body length 6 - 10 mm ..... ***subcoleoptrata*** L.

– Thorax matt-black, without longitudinal stripes. Tergite 2 black, tergites 3 - 5 with whitish or silver-grey dusting. Wings in males without spots. Females: sternite 7 without opening. Body length 2.5 - 5.5 mm ***3***

3. Halters yellow. Entire hairs of the peristome whitish. Females: sternite 7 conical (as in fig. 215) ..... ***theodori*** Draber
(The separation of this species from the closely related *P.mesnili* Draber and *P. karczewskii* Draber still poses difficulties).

– Halters black or dark brown. Hairs of the peristome black or to a smaller extent whitish. Females: sternite 7 different (figs. 213, 214) ***4***

4. Hairs of the peristome black. Females: sternite 7 not split at the end, curved downwards (fig. 214) ..... ***pusilla*** Meig.

– Hairs of the peristome predominantly white (at least behind near the mouth edge). Females: sternite 7 split at the end, the two tips are bent upwards and to the sides (fig. 213) ..... ***pandellei*** Dup.

5. Hairs of the peristome black. Thorax completely matt-black, without stripes or spots. Males: wings without spots. Females: sternite 7 in the form of a faintly domed plate, seen from the side straight. Body length 2.5 - 4 mm ..... ***barbifrons*** Girsch.

– Hairs of the peristome whitish or yellowish. Thorax dusted, with stripes or spots (only in very small females of *obesa*, which sometimes only reach 4 mm, the dusting may be absent). Males: wings spotted. Females: sternite 7 different (figs. 212, 215, 216). Body length 4 - 12 mm ***6***

6. Hind femur in its basal 2/5 - 2/3 reddish. Sides of the thorax with dense ginger or reddish-yellow hairs ..... ***hemiptera*** F.

– Hind femur black. Sides of the thorax with black, whitish or yellowish hairs ***7***

7. Males ***8***

– Females (laying apparatus visible, figs. 212, 215, 216) ***10***

8. A narrow stripe of tergite 6 is visible from above (about as long as 1/8 - 1/5 of tergite 5). Frons at its narrowest point clearly narrower than the 3rd antennal segment. Mouth edge scarcely pulled forward. Body length 7 - 12 mm ..... ***aurigera*** Egg.

– Tergite 6 not visible from above, or only as a very narrow seam. Frons at its narrowest point about as wide as the 3rd antennal segment or wider. Mouth edge strongly pulled forwards. Body length 5 - 9 mm ***9***

9. Thorax before the suture with 4 black longitudinal stripes, about as wide as the dusted space in between. Dusting of the thorax before the scutellum dark- or light-grey. The bare stripe beside the eye rim is almost as wide as the hairy zone of the parafrontalia beside the row of frontal bristles. Abdomen shiny black or blue, without reddish-yellow zones, with or without grey dusting ..... ***obesa*** F.

– Thorax before the suture black, only at certain lighting angles with a hint of stripes. Before the scutellum there is a large golden yellow spot of dusting. The bare stripe beside the eye rim is at most as wide as 1/4 of the hairy zone of the parafrontalia. Abdomen shiny black or blue, with reddish-yellow zones of varying extent, tergite 5 in its posterior half with a halfmoon-shaped, gold-coloured dusting spot ..... ***aurulans*** F.

10. Sternite ± conical, straight (fig. 215). Body length 4 - 7 mm ..... ***obesa*** F.

– Sternite 7 different (figs. 212, 216). Body length 6.5 - 12 mm ***11***

11. Sternite 7 plate-like, bent downwards (fig. 216). Sternite 6 with a row of bristles at the posterior edge, not pointed like an appendix ..... ***aurulans*** Meig.

– Sternite 7 thorn-like, slightly curved upwards (fig. 212). Sternite 6 without a noticeable bristle row, pointed appendix-like ..... ***aurigera*** Egg.

Catharosia

1. Apical scutellar bristles weak, at most half as long as the basal bristles. Palps very shortened, at most 2 - 3x as long as their diameter. Calyptrae and wing scales blackened. Wings strongly browned, the post-angular vein lies partly in the darkened area. Antennae yellow to brown. Males: frons about as wide as one eye ..... ***flavicornis*** Zett.

– Apical scutellar bristles about as long and as strong as the basal bristles. Palps normal, at least as long as the 3rd antennal segment. At least the wing scale light. Wings not as strongly browned, the post-angular vein lies wholly in the light area. Antennae dark brown to black. Males: frons at most as wide as the 3rd antennal segment ***2***

2. Calyptrae blackish, wing scales somewhat lighter. Petiole of R5 1.5 - 2x as long as the post-angular vein (fig. 139). Propleura in front with 1 - 4 bristlets or hairs. Body length 2.5 - 4 mm ..... ***pygmaea*** Fall.

– Calyptrae and wing scales whitish. Petiole of R5 2 - 3x as long as the post-angular vein. Propleura bare. Body length 1.8 - 2.5 mm ..... ***albisquama*** Vill.

Strongygaster

1. Face (between the height of the vibrissae and the upper edge of the 1st antennal segment) 1.7 - 2.1x as high as the distance of the vibrissae from each other. Palps yellow, evenly thin, not thickened at the end, with only sparse and short hairs. Thorax and abdomen with dense, yellowish-grey dusting ..... ***globula*** Meig.

– Face 1.0 - 1.3x as high as the distance of the vibrissae from each other. Palps brown or black, distally thickened in the usual way, with long and raised hairs. Thorax (including scutellum) matt-black, only at the sides (especially at the humeral callus and behind) as well as before the scutellum blurred zones of grey

dusting . Abdomen: tergite 2 black, tergite 3 black with a dusted central longitudinal stripe, tergites 4 and 5 dusted whitish-grey ..... ***celer*** Meig.

Dionaea

1. Body clearly dusted. Median marginal bristles of tergites in a row with the other marginal bristles. Females: tergite 5 postero-dorsally not flattened; arms of the pincer hardly curved upwards, on its inner edge with 4 - 7 little teeth (fig. 178) ..... ***aurifrons*** Meig.

– Dusting much weaker, appearing almost black. Median marginal bristles moved a little further forwards. Females: tergite 5 postero-dorsally with a clear depression; arms of the pincer clearly curved upwards, at the inner edge with 9 little teeth (fig. 177)..... ***flavisquamis*** R.D.

Leucostoma

The difficult genus *Leucostoma* has not yet been revised. This key must therefore be regarded as provisional.

1. Cheeks covered with hairs. Females: tergite 5 on its area flattened and with a finely wrinkled structure, posterior edge deeply notched; pincer very solid (fig. 179)..... ***meridianum*** Rond.
(Of the southern European *nudifaciens* Tsch. 1 female is also known from Austria. This species has the same features as *meridianum*, has however bare cheeks).

– Cheeks bare, the parafrontal hairs reach only slightly below the frontal bristles. Females: tergite 5 on its area not flattened, smooth, its posterior edge not or little notched ***2***

2. Males (abdomen at the end without pincer)..... ***3***

– Females (abdomen at the end with a pincer, figs. 173, 179-180) ***8***

3. Tergite 5 very short, dorsally only as long as 1/8 - 1/6 of tergite 4, its ventral edge developed lobe-like. Tergite 4 dusted to 1/2 - 5/6 of its length, tergite 5 completely black. Postabdomen strongly domed out of the abdomen ..... ***abbreviatum*** Hert.

– Tergite 5 normally developed, hardly shorter than tergite 4. Tergites 4 and 5 both either wholly shiny black, or covered with dusting. Postabdomen retracted into tergite 5 ..... ***4***

4. Abdomen overall shiny black ..... ***simplex*** Fall.

– Tergites 4 and 5 dusted ***5***

5. Frons 0.32 - 0.42x as wide as one eye. Segment complex 6-8 strongly domed. smaller than the epandrium, with 2 - 8 hairs (fig. 193). Parafrontalia and hairy part of the cheeks clearly more faintly dusted than the hairless part of the cheeks (seen obliquely from in front)..... ***anthracinum*** Meig.

– Frons 0.43 - 0.73x as wide as one eye. Segment complex 6-8 larger, more plate-shaped and less strongly domed, with 4 - 20 hairs (fig. 194). Parafrontalia and cheeks ± evenly dusted ***6***

6. Tergite 5 at the back ventrally flatly domed, like the whole tergite (fig. 188). Syncercus broad and flat (fig. 290). Linking area between epandrium and syncercus a little narrowed/waisted. Parafrontalia with 3 - 4 rows of hairs ..... ***crassum*** Kugl.

– The ventral posterior edge of tergite 5 protrudes bulge-like (fig187). Syncercus narrower (fig. 291). Linking area between epandrium and syncercus not waisted. Parafrontalia with 2 - 3 rows of hairs..... ***7***

7. Syncercus narrow, with long upright hairs (fig. 291), seen from the side ± evenly curved (fig. 266). Epandrium scarcely wider than high. Abdominal hairs as long as 1/3 - 1/2 of the marginal bristles. Parafrontalia with 2 - 3 rows of hairs. Thorax (seen from in front) as a rule only very faintly dusted ..... ***tetraptera*** Meig.

– Syncercus wider, with shorter hairs, seen from the side more hook-shaped (fig. 265). Epandrium 2x as wide as high. Abdominal hairs as long as 1/4 - 1/3 of the marginal bristles. Parafrontalia with 2 rows of hairs. Thorax (seen from in front) clearly dusted..... ***turonicum*** Dup.
(A reliable distinction between the males of *tetraptera* and *turonicum* is in some cases not yet possible).

8. Tergite 5 completely retracted into tergite 4. Pincer with thin arms, at most as wide as 1/3 of tergite 4 at its posterior edge, spikelets missing completely or at any rate not visible from directly above.... ***abbreviatum*** Hert.

– Tergite 5 never completely retracted into tergite 4. Arms of the pincer wider, always with little spikes, clearly visible from above (figs. 173, 179-182) ***9***

9. Abdomen narrow (fig. 173), 3rd tergite 0.9 - 1.4x as wide as long (width measured in the middle). Marginal bristles of tergites 3 and 4 largely prone, at most 1 pair on tergite 3 standing vertical. Sternite 6 with a small, wedge-shaped impression at the posterior edge ***10***

– Abdomen normally egg-shaped, 3rd tergite 1.6 - 2.3x as wide as long. Tergites 3 and 4 with a ring of upright marginal bristles. Sternite 6 without impression at the posterior edge ***11***

10. Sternite 7 divided into 2 lobes. Arms of the pincer evenly narrowing towards the end (fig. 173). Parafrontalia (seen obliquely from the front) at the height of the oe almost undusted, shiny like on the vertex ..... ***anthracinum*** Meig.

– Sternite 7 undivided. Arms of the pincer in their distal half flattened and widened (fig, 180). Parafrontalia densely dusted to at least the level of the oe ..... ***tetraptera*** Meig.

11. Arms of the pincer broad, flattened, with 3 little teeth crowded together (fig. 181)..... ***turonicum*** Dup.

– Arms of the pincer not flattened, evenly tapered towards the back, with 5 - 8 little teeth, arranged in a row (fig. 182) ***12***

12. The lobes of sternite 7 form (seen from the side) an angle of 0 - 30º with the pincer (fig. 211) (for a correct estimation of this feature, the ovipositor must be in its resting position, which is almost always the case). Distance between the little teeth is so great that almost another tooth could be placed in between (fig. 182). Frons 0.76 - 0.98x as wide as one eye ..... ***simplex*** Fall.

– The lobes of sternite 7 form an angle of about 60 - 90º with the pincer (fig. 210). Little teeth stand closer together. Frons 0.98 - 1.15x as wide as one eye ..... ***crassum*** Kugl.
(A safe separation of the females of *simplex* and *crassum* is not yet possible in some cases).

Labigastera

1. No oe (males) ***2***

– 2 oe (females) ***4***

2. Tergites 2 and 3 with a complete row of marginal bristles ..... ***forcipata*** Meig.

– Tergites 2 and 3 with only 2 dorsal marginal bristles and on each side 1 - 2 latero-marginals ***3***

3. Hairs of the cerci in front even, shorter than the cerci-diameter ("in front" relates here to the situation in the resting position of the postabdomen) ..... ***nitidula*** Meig.

– Hairs of the cerci in front irregular, tuft-like, the longest hairs about 2x as long as the cerci-diameter ..... ***pauciseta*** Rond.

4. Tergite 3 with a row of 6 - 8 marginal bristles. Tergite 5 with hairs only at the sides and the posterior edge, in the middle of its dorsal area smooth and shiny, at its posterior edge with a deep depression (fig. 175). The cerci and the arms of the divided 7th sternite protrude far into the space enclosed by the pincer (when viewed vertically from above) ..... ***forcipata*** Meig.

– Tergite 3 with 2 - 4 marginal bristles (including latero-marginals). Tergite 5 usually also hairy across its surface, the depression on the posterior edge considerably smaller (figs. 174, 176). When viewing the pincer vertically from above at most the hairy posterior edge of the named sclerites is visible ***5***

5. Tergite 5 about as long as 1/3 of tergite 4. Arms of the pincer thin (fig. 176) ..... ***nitidula*** Meig.

– Tergite 5 as long as 1/2 - 3/4 of tergite 4. Arms of the pincer very robust (fig. 174) ..... ***pauciseta*** Rond.

Cylindromyia

1. Hind tibia without pv-bristle ***2***

– Hind tibia with 1 - 2 pv-bristles (fig. 163) ***7***

2. Vibrissa only as long as 1/5 - 1/3 of the face height. Propleura hairy in front. Peristomal and subfacial bristles missing. Frontal stripe yellow. Females: edges of tergite 4 ventrally studded with areas of little spikes ..... ***rufifrons*** Loew

– Vibrissa longer than half the head height. Propleura bare. Peristomal and subfacial bristles present (sometimes short). Frontal stripe black or dark brown. Females: tergite 4 without spikes ***3***

3. Abdomen red to the tip (with the exception of a black spot at the base). Tergites 2 - 4 almost always with discal bristles. Body length 11 - 14 mm ..... ***bicolor*** Oliv.

– Tergites 4 and 5 black, sometimes also a black longitudinal stripe present on tergite 3. Abdomen without discal bristles ***4***

4. Tergite 2 ventrally with 2 - 4 bristlets near to its posterior corners (fig. 219) ***5***

– Tergite 2 ventrally only with hairs, often almost bare ***6***

5. 3rd antennal segment 1.6 - 1.8x as long as the 2nd. 2nd arista segment hardly longer than its diameter. Cheeks 1.4 - 2.0x as wide as the 3rd antennal segment. Palps about as long as the diameter of the haustellum. ve 0.4 - 0.6x as long as the vi. Back of the head with white hairs only. The section of m between r-m and m-cu is 3.2 - 4.0x as long as that between m-cu and the deflection. Dorsal marginal bristles of tergites 2 - 4 moved forwards only to 1/5 of segment length (fig. 219) ..... ***brevicornis*** Loew

– 3rd antennal segment 3x as long as the 2nd. 2nd arista segment 2 - 3x as long than its diameter. Cheeks 0.4 - 0.9x as wide as the 3rd antennal segment. Palps not recognizable. ve missing. Back of the head at the upper end of the white hairs with a few black bristlets. The section of m between r-m and m-cu is 2.3 - 3.2x as long as that between m-cu and the deflection. Dorsal marginal bristles of tergites 2 to 2/5, on tergites 3 and 4 moved forwards to 1/3 of segment length ..... ***xylotina*** Egg.

6. Basicosta yellow-brown like the bordering section of the costa (seldom darkened). Back of the head on both sides of the bare sector with 1 - 4 black bristlets in the white hairs. Frons in males 0.60 - 0.72x, in females 0.68 - 0.76x as wide as one eye. ve missing. Males: hind tibia and femur behind and ventrally with long raised hairs, likewise the undersides of tergites 2 and 3. Females: tergite 4 with a ring of 6 marginal bristles ..... ***pilipes*** Loew

– Basicosta black-brown (like the tegula). Back of the head with white hairs only. Frons in males 0.70 - 0.82x, in females 0.80 - 0.92x as wide as one eye. A faint ve present (distinguished from the post-ocular hairs by the slightly advanced position and the outward curve). Males: hind legs and ventral side of tergite 3 with normal, short hairs. Females: tergite 4 with only 4 marginal bristles ..... ***brassicaria*** F.

7. Apical scutellar bristles missing ***8***

– Crossed apical bristles present ***9***

8. 1 st (fig. 99). Abdomen without discal bristles. Calyptrae at the inner edge narrowly blackened. Frons 0.57 - 0.75x as wide as one eye. Males: arista in its apical 1/3 lance-shaped and broadened (fig. 48). Females: posterior ventral edge of tergite 4 studded with little spikes, tergite 2 without spikes ..... ***pusilla*** Meig.

– 2 st. Tergites 2 - 4 with discal bristles. Calyptrae yellow-brown at the inner edge. Frons in males 0.70 - 0.85x, in females 0.80 - 0.90x as wide as one eye. Males: arista apically normal, thread-like. Females: posterior ventral edge of tergite 2 swollen and studded with little spikes, tergite 4 without spikes ..... ***interrupta*** Meig.

9. Posterior sa present. Dorsal area of the thorax sideways from the postsutural dc to the ia and sa hairless. Abdomen without discal bristles. Middle tibia with a little pd-bristle in addition to the 2 pv-bristles. 3rd antennal segment 2.9 - 3.6x as long as wide. 2nd antennal segment as well as a basal longitudinal stripe at the inside of the 3rd, yellow. Males: 1st segment of the fore tarsus in its apical half widened ventrally and fitted with a double comb of short spines. Females: tergite 2 ventrally without swelling or spines ..... ***intermedia*** Meig.

– Posterior sa missing. Dorsal area of the thorax sideways from the postsutural dc to the ia and sa with a few scattered hairs. Abdomen usually with discal bristles. Middle tibia without pd-bristles. 3rd antennal segment 1.8 - 2.2x as long as its maximum width. Antennae black, sometimes at the border between the 2nd and 3rd antennal segment a little yellowish. Males: 1st segment of the fore tarsus without widening or spines. Females: tergite 2 ventrally near its hinder corners with spines ..... ***auriceps*** Meig.

Hemyda

1. Vibrissa about as long as face height. Eye scarcely kidney-shaped. Frons at least 0.75x as wide as one eye. 2 st. Marginal bristles of the abdomen about as long as 1/3 - 1/2 of the associated tergites. The black longitudinal central abdomenal stripe is interrupted sometimes at the border between tergites 2 and 3. Tergite 5 with raised hairs ..... ***vittata*** Meig.

– Vibrissa only as long as 1/5 - 2/5 of face height. Eye strongly kidney-shaped. Frons at most 0.5x as wide as one eye. 1 st. Marginal bristles of the abdomen as long as 1/6 - 1/4 of the associated tergites. Tergite 2 with a black spot at the anterior edge, tergite 3 with such in its posterior 1/3 or both tergites totally without spots. Tergite 5 with short prone hairs ..... ***obscuripennis*** Meig.

Besseria

1. Post-angular vein missing (fig. 141) ..... ***anthophila*** Loew
(see number 242 of the genus key)

– Post-angular vein present ***2***

2. R5 open. Thorax without acr before the scutellum ..... ***lateritia*** Meig.
(see comment at number 260 of the genus key)

– R5 petiolate (as in fig. 126). 1 Pair acr before the scutellum ***3***

3. Posterior edge of the scutellum with a row of 6 - 12 ± parallel bristles (fig. 120). Palps as long as 1/5 - 2/5 of the 3rd antennal segment ..... ***melanura*** Meig.

– Posterior edge of the scutellum only with subapicals and crossed apical bristles. Palps about as long as the 3rd antennal segment ***4***

4. Peristome dusted white. Frontal stripe with a yellow ground colour. Middle tibia with 2 inner bristles, the upper often much weaker. Males: tergite 5 with short upright hairs; cerci-surstyli complex 2 - 3x as long as the epandrium, roof-like developed, inside with a ring of yellow scale hairs. Females: tergites 2 and 3 ventrally with a spine field ..... ***dimidiata*** Zett.

– Peristome at least in its front half shiny black. Frontal stripe in the ground colour black. Middle tibia with 1 inner bristle. Males: tergite 5 dorsally hairless, smooth and shiny; cerci and surstyli a little shorter than the epandrium, without yellow scale hairs. Females: spine field only present on tergite 2 ..... ***reflexa*** R.D.

Phania

1. ad apical spur of the fore tibia clearly longer than the dorsal apical spur. In males, tergites 2 - 4, in females tergites 2 and 3 dusted almost to the posterior edge. Frons in males 0.75 - 0.80x as wide as one eye ..... ***speculifrons*** Vill.

– ad apical spur of the fore tibia at most as long as the dorsal apical spur. Abdomen shiny black, without dusting. Frons in males at most 0.75x as wide as one eye ***2***

2. Vibrissa about as long as the face height. 2 ia behind the suture. Marginal bristles of tergites 3 and 4 strong, longer than the segments on which they stand (fig. 221). Metathorax at the back broadly closed (fig. 166). Males: tergites 2 and 3 with a complete ring of marginal bristles ..... ***funesta*** Meig.

– Vibrissa about half as long as the face height. 1 ia behind the suture. Marginal bristles of tergites 3 and 4 weak, at most as long as the segments on which they stand (fig. 220). Metathorax at the back membranous (as in fig. 165) or (only in *curvicauda*) closed by a narrow bridge. Males: tergites 2 and 3 with 2 (seldom 4) dorsal marginal bristles and 1 pair latero-marginal bristles ***3***

3. Males: frons about as wide as the 3rd antennal segment; vi not differentiated from the post-ocular hairs. Females: parafrontalia at least in their upper 2/3 shiny black without any trace of dusting ***4***

– Males: frons 1.5 - 3x as wide as the 3rd antennal segment; vi present. Females: parafrontalia dusted ***5***

4. Calyptrae (in males little, in females more pronounced) brownish or blackened, at least 3x as long as the white wing scale. Metathorax at the back closed by a narrow bridge. R5 open. Females: postabdomen narrow, 1.5 - 2x as wide as the hind femur; trochanters of the back legs without spines..... ***curvicauda*** Fall..

– Calyptrae at most 2x as long as the wing scale, both white. Metathorax behind membranous (as in fig. 165). R5 closed at the wing edge (in southern European specimens sometimes with a short petiole). Females: postabdomen thick, 2.5 - 3.5x as wide as the hind femur; trochanters of the hind legs ventrally or postero-ventrally with short spines ..... ***albisquama*** Vill.

5. Distal 1/5 of the hind tibia in addition to the 3 - 4 dorsal apical spurs with further 4 - 6 bristles in dorsal position. Males: frons 0.62 - 0.75x as wide as one eye; frontal stripe at the middle of the frons 1 - 1.5x as wide as one parafrontal. Females: the postabdomen reaches at least to the middle of tergite 1+2 (as in fig. 221) .... ***thoracica*** Meig.

– Hind tibia with 2 - 3 dorsal apical spurs, without further dorsal bristles in the distal 1/5. Males: frons 0.40 - 0.58x as wide as one eye; frontal stripe on the middle of the frons 2 - 4x as wide as one parafrontal. Females: postabdomen folded underneath and reaches forwards at most to the ventral posterior edge of tergite 1+2 (fig. 220) ..... ***incrassata*** Pand.

5. Key to the higher categories

The following keys are meant to demonstrate how the higher groups the Tachinidae (subfamilies and tribes of the catalogues of Herting & Dely-Draskovits 1993, as in Chapter 6) can be explained according to present knowledge. Supplementation or alteration may be expected with advancing knowledge. Strictly speaking the tables are only valid for species that are represented in our fauna.

The indicated features cannot be explained here in the detail. You are referred to the following detailed works: Mesnil 1944 - 1975 (external morphology), Herting 1957 (Post-abdomen of the Female), Herting 1960 (Biology), Verbeke 1962 and Tschorsnig 1985 (Post-abdomen of the male). More broadly based studies of eggs, larvae and pupae as well as the reproductive organs of the females are yet to be made.

5.1. Key to the subfamilies

1. Parasitoids of Heteroptera (Except: *Strongygaster*). Oviparous[1] species (Except: *Strongygaster* and *Redtenbacheria*). Male post-abdomen: Hypandrium so elongated, that the post gonites are attached at the back; Sternite 5 simple in structure (usually plate-like or curved), membranous cross-line and microtrichia almost always missing; Distiphallus almost always without small thorns, simply tubular or with specialized formation (these features of the post-abdomen are not valid for the Eutherini). Female post-abdomen frequently with specialized laying-apparatus (figs. 173 - 182, 185, 212 - 216, 220, 221, 227, 228). External morphology: 2 widely spaced ia behind the suture (figs. 88, 89), sometimes only 1 ia (fig. 87) or ia completely absent; Eyes, Prosternum and Arista always bare, Tergite 2 not hollowed up to the posterior edge (as in figs. 171 - 173); Sternites often ± lying freely in the ventral membrane of the abdomen (fig. 183) ..... ***Phasiinae***

– Parasitoids of Lepidoptera and/or other orders, never however from Heteroptera. Male post-abdomen: The pre-gonites are set in front in the center of the Hypandriums; Sternite 5 usually with lobes, membranous cross-line and microtrichia; Distiphallus with thorn-like structures. External morphology: Almost always 3 ia (rarely missing the first, as in fig. 86); Tergites covering or almost covering the Sternites ***2***

2. Male post-abdomen: Pre-gonites plate-like and (simultaneously) Distiphallus easily movable from the combined Basiphallus-Epiphallus structure. Ovo-larviparous species ..... ***Dexiinae***

– Male post-abdomen: Pre-gonites and Aedeagus not with these specialized structures ***3***

3. Chorion of the eggs thin, dorsal and ventral surfaces the same. Ovo-larviparous species. Male post-abdomen: Tergite 6 not longitudinally divided, rarely completely reduced; lateroventral area of the Distiphallus usually not or hardly sclerotized. External morphology: Prosternum usually bare; ad-Apical spur of the fore tibia usually as strong as the dorsal Apical spur ..... ***Tachininae***

– Chorion of the eggs dorsally either thick and hard-shelled or at least with an obviously polygonal structure, ventrally thin-skinned transparent. Oviparous or ovo-larviparous species. Male Post-abdomen: Tergite 6 ± longitudinally divided or reduced completely; lateroventral area of the Distiphallus strongly sclerotized. External morphology: Prosternum almost always hairy; ad-Apical spur of the foretibia usually much weaker and shorter than the dorsal Apical spur..... ***Exoristinae***

5.2. Key to the tribes

5.2.1. Subfamily Exoristinae

1. Parasitoids of Orthoptera. End of the 3rd antennal segment with a pointed tip (fig. 39). Male post-abdomen: Distiphallus much reduced; Ejaculatory apodeme rudimentary; Cerci fused to form a Syncercus ..... ***Acemyini*** s.str. (without *Thrixion*)

– Parasitoids of other orders. 3rd antennal segment without such a tip. Male post-abdomen different ***2***

2. Barrette hairy (fig. 97) ***3***

– Barrette bare or at most with 1 - 3 bristlets..... ***4***

3. Outside edge of the Calyptrae strongly convex (fig. 112). Humeral callus with 4 bristles. oviparous or ovo-larviparous species. Egg with a dorsal operculum (see Tschorsnig 1988). Female: Ovipositor normal ... ***Ethillini***

– Outside edge of the Calyptrae not conspicuously convex (fig. 113 - 117). Humeral callus with 5 bristles. Oviparous species. Egg without an operculum. Female: Ovipositor elongated..... ***Winthemiini***

4. Pre-alar bristle shorter and weaker then the Notopleurals (fig. 82). Oviparous or ovo-larviparous species ***5***

– Pre-alar bristle longer and stronger than the Notopleurals (figs. 1, 2). Ovo-larviparous species (Except: *Aplomya*, *Phebellia nigripalpis*) ***6***

5. Deflection of m angular, with a shadow fold (fig. 127). Oviparous species. Male Post-abdomen: Cerci grow together to form a Syncercus ..... ***Exoristini***

– Deflection of m rounded, without a shadow fold (as in figs. 128, 132). Ovo-larviparous species, rarely oviparous (*Belida*, *Meigenia*). Male Post-abdomen: Apical Cerci always separate ..... ***Blondeliini***

[1] CR: Oviparous means the adults lay eggs, ovo-larviparous means they lay eggs that either hatch inside the body or immediately after laying.

6. Micro-oviparous species (the tiny eggs with their ready-to-hatch larva are swallowed by the host with their food). Male Post-abdomen: True binding membrane between Sternite 6 and Segment 7 usually very narrow, occasionally overlapping or growing together; Sensilla trichodea on Sternite 5 always absent..... ***Goniini***

– Ovo-larviparous species, rarely oviparous. Male Post-abdomen: True binding membrane between Sternite 6 and Segment 7 wide; Sensilla trichodea on Sternite 5 existing in most genera ..... ***Eryciini***

5.2.2. Subfamily Tachininae

1. 1st Larval stage armoured with dark chitinous plates or scales. pv-Apical spur of the hind tibia approximately as long and strong as the av-Apical spur (fig. 158). Structure of male post-abdomen: Basiphallus with basal appendices; jointed appendage of the post-gonites separated from the post-gonites by a light intermediary zone; Basiphallus in a resting position sunken in between the pre-gonites (only different in the Macquartiini) ...***2***

– 1st Larval stage unarmoured, segments with or without a belt of small thorns. pv-Apical spur of the hind tibia usually clearly shorter and weaker than the av-Apical spur. Structure of the male post-abdomen different (only the Microphthalmini similar) ***8***

2. Upper side of Calyptrae hairy (fig. 115) ..... ***Nemoraeini***

– Upper side of Calyptrae not hairy ***3***

3. Hind coxae posterodorsally hairy (as in fig. 165). Males: Post-abdomen forming a capsule; Tergite 6 usually wholly reduced ..... ***Tachinini***

– Hind coxae posterodorsally bare. Male Post-abdomen different ***4***

4. Arista comprising 3 approximately equal segments (fig. 44). Parasitoids of Forficulidae ..... ***Triarthriini***

– Arista different. Other hosts ***5***

5. Humeral bristles as in figs. 74, 78 ..... ***Linnaemyini***

– Humeral bristles different ***6***

6. Base of r4+5 with one strong bristle (as in fig. 129), sometimes with a smaller hair before and behind it. Frons in both sexes at least as wide as one eye. Back of the head covered with only black hairs..... ***Neaerini*** s.str (= only *Neaera*)

– Base of r4+5 with one or more hairs ***7***

7. Simultaneously with the following features: Back of the head covered with black hair; Frons of the Males very narrow (as in fig. 58); Humeral callus with 3 bristles a straight line (as in fig. 70); Scutellum with strongly crossed Apical bristles, without Lateral bristles (figs. 116, 117). Parasitoids of Coleoptera larvae .. ***Macquartiini***

– Other combination of features. Back of the head usually with light hairs, rarely covered with black hairs. Humeral bristles usually as in figs. 75, 76. Various hosts..... ***Ernestiini***

8. Females with 2 Spermatheca. Pre-gonite of the Males membranous at their front edge. Sub-apical scutellar bristles convergent (fig. 103) ..... ***Siphonini***

– Females with 3 Spermatheca. Male Pre-gonite different. Sub-apical bristles not convergent ***9***

9. Male Post-abdomen: Position of the Cerci and Surstyli pincer-like; Basal membrane of the Distiphallus with ventral sclerotisations. Female Post-abdomen: Sternite 8 larger than Sternite 7..... ***Graphogastrini*** (= Neaerini Herting partially, see Andersen 1988)

– Male and Female Post-abdomen different ***10***

10. Peristome wide, without occipital widening (fig. 24). Mouth-edge strongly narrowed (viewed from the front). Parasitoids of the larvae of Scarabaeidae. 1st Larval stage with long upright hairs (not known in the genus *Melisoneura*, it possibly does not belong here, since the Post-abdomen of the Males has a different structure) ..... ***Microphthalmini***

– Occipital widening usually present, if reduced (Brachymerini), then the mouth-edge is developed normally. 1st Larval stage different. Other hosts ***11***

11. Parasitoids of Hymenoptera Symphyta. Occipital widening reduced. Cheek strongly hairy and partially bristled. 4 Humeral bristles, 3 strongest in the shape of a triangle (as in fig. 77) ..... ***Brachymerini***

– Parasitoids of Lepidoptera. Occipital widening normal. Cheeks bare or almost bare. Humeral callus with 2 bristles (as in fig. 81) or 3 in a straight line (as in fig. 70)..... ***12***

12. Lateral scutellar bristles as long and strong as the Sub-apicals. Base of r4+5 with 1 strong bristle. Haustellum short, approximately 2x as long as the diameter. Prosternum sometimes with 1 - 2 bristlets on each side. The only native species parasitizes caterpillars of Nymphalidae ..... ***Pelatachinini***

– Lateral scutellar bristles absent or hair-like. r4+5 with hairs or bristles ± along its length. Haustellum many times longer. Prosternum always bare. Hosts are concealed caterpillars of Microlepidoptera ***13***

13. pv-Apical spur of the Hind tibia approximately as long and strong as the av-Apical spur (as in fig. 158). Thorax dorsally usually with 2 wide black longitudinal stripes (fig. 62). Abdomen compressed laterally ..... ***Minthoini***

– pv-Apical spur of the Hind tibia shorter and weaker than the av-Apical spur. Thorax dorsally with normal 4 longitudinal stripes. Abdomen not compressed laterally..... ***Leskiini***

5.2.3. Subfamily Dexiinae

1. Parasitoids on the larvae of Coleoptera (Except: *Trixa*). The Frontal bristles reach down at most up to the base of the 1st antennal segment. Peristome almost as wide as the length of the antenna or wider (figs. 28, 29).

Arista almost always hairy or feathered. Face often with a distinct central keel. Post-abdomen of the Males simultaneously with the following 3 features: Acrophallus with a granular or scale-like structure; Surstyli broad, inside hollowed out and ear-like; Processus longi short, scale-like..... ***Dexiini***

– Parasitoids of Lepidoptera, Hymenoptera or the Imagines of Coleoptera. Frontal bristles reach further down. Peristome narrower. Arista usually bare. Face without central keel. Post-abdomen of the Males not with this combination of features..... ***2***

2. Parasitoids on the Imagines of Coleoptera. Females usually with a specially adapted ovipositor (figs. 218, 222 - 224). Normally 2 widely spaced ia behind the suture. Male Post-abdomen: Sternite 5 without membranous cross-line, Connection to Sternite 6 membranous..... ***Dufouriini***

– Parasitoids of Lepidoptera, rarely Hymenoptera. Ovipositor not especially adapted. Almost always 3 ia behind the suture. Male Post-abdomen: Sternite 5 with membranous cross-line, Connection to Sternite 6 articulated ..... ***Voriini***

5.2.4. Subfamily Phasiinae

1. Ovo-larviparous species. Parasitoids of Formicidae. Male Post-abdomen: Aedeagus very strongly reduced; Ejaculatory apodeme completely reduced..... ***Strongygastrini***

– Oviparous species. Parasitoids of Heteroptera. Male Post-abdomen different ***2***

2. Female Post-abdomen with an egg-laying piercer [=*Legestachel*], formed from the 10th Sternite (Post-genital plate) (fig. 221); Tergite 7 fused with Sternite 7 to form a common complex, hook-like and elongated. Male Post-abdomen: With a special shaped membrane between Sternite 6 and the Hypandrium; Hypandrium jointed in a horseshoe-shape basal part and in a separate complex which carries the fixed Pre and Post-gonite. Metathorax closed behind with a sclerotized bridge (fig. 166)..... ***Cylindromyiini***

– Female without an egg-laying piercer or with an egg-laying piercer, formed from the 8th sternite (figs. 213 - 216); Segment 7 not developed as above. Male Post-abdomen not with these specialized structures. Metathorax membranous behind (as in fig. 165) ***3***

3. Ocellar bristles erect and somewhat bent behind (usually not as strong - as in figs. 11, 55). Post-abdomen of the Females with a pincer (figs. 173 - 182, 210, 211) (only rudimentary in *Brullaea*), always with an egg-laying piercer. Male Post-abdomen: Hypandrium elongated, can be articulated out to the Epandrium; Pre- and Post-gonite in pincer-like position; Aedeagus very simple tube-like structure ..... ***Leucostomatini***

– Ocellar bristles not so bent or absent. Female Post-abdomen without pincers. Male Post-abdomen differently constructed ***4***

4. Face deeply hollowed out. Stalk of R5 longer than the post-angular vein (fig. 139). Postscutellum sometimes not or only weakly convex. Female: Post-abdomen with an egg-laying piercer; Abdomen ventrally with a cushion of short, black thorns (fig. 185). Males: Surstyli wholly reduced; Articulated appendage of the Post-gonite very big, clearly segmented; Arms of Sternite 6 fused on both sides with Segment 7+8 (these 3 features not valid in the divergent genus *Litophasia*) ..... ***Catharosiini***

– Face not or hardly hollowed out. Stalk of R5 absent or much shorter than the post-angular vein. Postscutellum normally convex. Post-abdomen of Males and Females different..... ***5***

5. Dorsal Chorion of the eggs without a "Window"[2]. Male Post-abdomen corresponds to the design of the Phasiinae; Distiphallus commonly with very complex structures (Tschorsnig 1985). Scutellum with only 2 pairs of marginal-bristles (fig. 101). Abdomen often rounded (fig. 172) or very flattened (figs. 171, 183) and bristling usually very reduced ..... ***Phasiini***

– Dorsal Chorion of the eggs with "Window" (Herting 1966). Male Post-abdomen very divergent from the other Phasiinae (Tschorsnig 1985). Scutellum with 3 - 4 pairs of marginal-bristles. Abdomen with normal Discal and Marginal bristles..... ***Eutherini***

[2] For reference, Herting uses the word "Fenster".

6. Most important data on the distribution and ecology of individual species

6.1. General observations

For each species - as far as any statement can be made depending on the available data - the following, short information is given. Sources are, in the first instance, material collected by the authors themselves, but also revisions of museum and private collections as well as credible data from the literature. Due to lack of space, these numerous literature sources can regretfully not be cited here. Comprehensive revisions have so far been carried out on the collections of the Natural Science Museums of Stuttgart, Freiburg/Br., Kassel and Wiesbaden as well as the collection M. P. Riedel in Berlin; the collections of the science museums in Vienna, Frankfurt/Main and Karlsruhe were examined in relation to host data only. Most of the data obtained are stored in the form of "dBASE" data bases (at the moment more than 50,000 data sets). There was also a list of partially unpublished original data from the former GDR by J. Ziegler (Eberswalde) which was used as a control, as well as a database with host finds from Great Britain by R. Belshaw (London).

Species name (almost always) in the nomenclature of Herting & Dely-Draskovits (1993), in "[]" follow the most important synonyms and varying spellings (only in so far as they differ from Herting 1960 and Mesnil 1944-1975).

Rough distribution in Western Europe. [As a rule, Eastern Europe and the eastern palearctic are not considered; numerous data on these are to be found in Herting (1984). Likewise unmentioned is Great Britain for which a new work by Belshaw (1993) is available.] Then follows the regional distribution in the German-speaking areas. The abbreviations mean: SH Schleswig-Holstein; NS Niedersachsen; NW Nordrhein-Westfalen; HE Hessen; RP Rheinland-Pfalz (including Saarland); BW Baden-Wuerttemberg; BY Bayern; NB Neue Bundeslaender (former GDR); A Austria; CH Switzerland (without the Wallis or the Tessin!). Gaps in the distribution data mean that a species has not been identified with certainty there. For the new federal states (GDR) a check list by Ziegler (1993) is available.

Habitat of the imagines, as far as could be ascertained, based on collection activities; the lack of space prohibits a detailed listing of the sometimes very varied habitats. In mountain-dwelling species, the altitude is then mentioned (as far as is known).

Flying times and number of generations for average conditions in central Europe. For species with a wide distribution it must be noted that they fly a little earlier in the south or in lowlands than in the north or in mountains (extreme values are contained in the band width of the data). Annual variations occur by way of the actual weather conditions. Some species in southern Europe have two or more, but in northern Europe only one generation. The statement "at least two generations" means that on the basis of collection data a third generation seems possible but has not yet been proved.

More details of circumstances and frequency of finds. In more common species the situation (or catching method) whereby they are statistically most easily found (eg on flowers, foliage or in grass) is stated; this does not exclude that for instance a typical flower visitor can also be caught on foliage. Visits to flowers are often dependent on the time of year (see Tschorsnig 1983). The parasitic flies visit predominantly Umbelliferae or Euphorbiaceae, species with a particularly long proboscis also Compositae. In order to characterise the frequency of species, rough guide values are used in this work, based on the number of available central European finds in open countryside or from rearing: very rare (fewer than 10 data); rare (10-20 data); not rare (20-50 data); frequent (50-200 data); very frequent (more than 200 data). As far as a special habitat is given, the cited frequency is valid only for this. The population strength of the Tachinidae can be subject to very great fluctuations from year to year. "Rare" only means "rarely collected". This means that individual species may occur frequently in nature, although they are rarely found by collectors, due to their particular habits or because they are inconspicuous. The actual importance of parasitic flies in nature is often only indicated by the results of breeding.

Known hosts at this time, or - when there are numerous hosts - , the family of the hosts. Among the lists, the most important hosts or host families are named first. If only a few hosts are known, these are named even when they do not occur in central Europe. Very unclear examples or absolute exceptions have been omitted without explanation. The statements "especially" or "above all" mean, that many breeding reports from one host are present; if it is about particularly frequently bred hosts, a special preference for this host cannot be derived from this. In butterflies and sawflies the parasitised stages are always caterpillars or larvae, resp.; in beetles - if not stated otherwise - the larvae. The host lists do not always agree with the data from Herting (1960), because in the meantime numerous new findings and corrections have been made. At the present time, a catalogue of all palearctic host findings is being created at the Natural Science Museum Stuttgart. Due to the great number of cases requiring investigation, several more years will be required for this work.

6.2. Subfamily Exoristinae

6.2.1. Exoristini

Exorista civilis (Rondani)

Southern Europe, also reported from Poland and the Slovakia; in German-speaking areas only one found from south-eastern Austria (Leitha mountains). May to September (Southern Europe). In open areas also in Southern Europe rare. *Loxostege sticticalis* L. (Pyralidae); other different Pyralidae, Noctuidae or Geometridae reported rarely.

Exorista cuneata Herting

Southern France, the Tessin; A (Wiener Neustadt, Wechsel). Data of finds from Early May to End September. Very rare. Host: *Allantus cinctus* L. (Tenthredinidae).

Exorista deligata Pandellé [*aberrans* (Strobl)]

Southern Europe, but also reported from Southern Sweden and Finland; no reliable reports for the German-speaking areas. Data of finds from April to August (Southern Europe). Very rare. *Acanthopsyche atra* L, *Pachythelia villosella* Ochs, *Psyche constancella* Bruand, *Sterrhopteryx hirsutella* Hueb. (Psychidae).

Exorista fasciata (Fallén)

Temperate Europe to England and Norway; NS, BW, BY, NB / A, CH. Dry Areas: heath, Pine forest, dunes. Mid May to Mid September, especially Mid July to Mid August, at least 2 generations. Usually on flowers; rare. Numerous Lasiocampidae, Lymantriidae, Zygaenidae and Arctiidae, rarely on Noctuidae, Nymphalidae, Sphingidae or Geometridae.

Exorista florentina Herting

Italy, Croatia; one record from south-eastern Austria (Hainburg a. D.). June (Sicily). Very rare. Host unknown.

Exorista glossatorum (Rondani) [*baranoffi* (Wainwright)]

Italy, Switzerland (the Wallis), Southern France, Slovakia, Hungary, Southern England; still no proven records for the German-speaking areas, occurrence in other especially warm areas can not be excluded. In dry, warm mountainous areas from the valleys to the tree line. Mid May to Early September. Visits flowers or on mountain-top foliage; rare. Host unknown.

Exorista grandis (Zetterstedt)

Temperate Europe (in Mediterranean area very rare) to Scotland, Southern Sweden, Finland; NS, NW, BW, BY, NB / A, CH. Areas of heath, dry, warm forest edges. Mid May to End June, a single specimen End July/Early August (incomplete 2nd generation?). In open areas rare, most often reared from the host. *Saturnia pavonia* L, *S. pyri* Schiff. (Saturniidae); very rare on other Macrolepidoptera.

Exorista larvarum (Linnaeus)

Europe to Ireland, Scotland and Finland; NS, NW, HE, RP, BW, BY, NB / A. Open countryside, thin deciduous woodland, orchards, Pine forest. Mid May to End September, especially End July to Early September, at least 2 generations. Usually on flowers; not rare, easier to rear from the host than to catch in open areas. Numerous Lymantriidae, Lasiocampidae, Noctuidae, Arctiidae and Zygaenidae, rare on Sphingidae, Nymphalidae, Pieridae, Notodontidae, Geometridae and Endromididae.

Exorista mimula (Meigen) [*erucarum* (Rondani), *pratensis* (Robineau-Desvoidy), *verax* (Robineau-Desvoidy)]

Europe (more in Temperate areas) to Southern England, Southern Sweden and Norway; NW, HE, BW, BY, NB / A, CH. Open countryside, dry to moderately damp meadows. Early May to Mid June (a few specimens) and Early July to Mid September, presumably 2 generations. Caught from flowers or in grass; not rare. *Athalia rosae* L, *Cladius pectinicornis* Geoffr, *Pristiphora pallidiventris* Fall. (Tenthredinidae).

Exorista nova (Rondani)

Southern Europe (to southern Brittany); one example reared from BW (Talheim, Schwäbische Alb). Usually May and June (southern Europe). In open areas in southern Europe very rare, most often reared from the host: *Zygaena spp.* (Zygaenidae).

Exorista rustica (Fallén)

Europe to Ireland, England, Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Open countryside, dry to damp meadows, gardens, fields, wasteland. Mid May to End June (few specimens) and Early July to Early October, at least 2 generations. Visits flowers, also caught in grass; very frequent. Numerous Tenthredininae.

Exorista segregata (Rondani)

Southern Europe; not proven in Central Europe, one record in south-eastern Austria can not be ruled out. Open Mediterranean countryside. In Southern Europe from March to December, in several generations. Visits flowers; frequent in Southern Europe. Various Lymantriidae, Zygaenidae, Noctuidae, Lasiocampidae, Arctiidae, Thaumetopoeidae, Nymphalidae, Pieridae and Saturniidae.

Exorista sorbillans (Wiedemann)

Southern Europe; only one found in Temperate Europe from south-eastern Austria (Hainburg a. D.). August (so far as is known). Also in Southern Europe in open areas very rare, usually obtained from the host. Various Lymantriidae, Lasiocampidae, Saturniidae (not *Saturnia*), Noctuidae, Bombycidae, Sphingidae, Danaidae & others.

Exorista tubulosa Herting

Temperate Europe to Southern England and Southern Sweden; BW, BY / A, CH. Warm, dry, open countryside. Data of finds from Mid June to End August. Visits flowers; rare. Host unknown.

Neophryxe vallina (Rondani) [*Exorista fingana* Herting]

Southern Europe to the Wallis, Eastern Slovakia; in the region still no proof. Date of finds: June and August (Southern Europe). Very rare. Host: *Nola togatulalis* Hueb. (Nolidae).

Chetogena acuminata Rondani [*Spoggosia*, *Chaetogena*]

Southern Europe, on sea-shore to the Netherlands and Southern England; CH (Vaud). Dry, warm, open countryside, sand dunes. End June to Mid September, probably 1 generation (in Southern Europe several generations from Early April to Early October). Visits flowers; in Southern Europe frequent, in Central Europe very rare. Larva the genus *Blaps*, *Gonocephalum*, *Opatrum*, *Pedinus* and *Platyscelis* (Tenebrionidae).

Chetogena fasciata (Egger) [*Spoggosia*, *Chaetogena*]
South-eastern Europe, Slovakia; NW (Rüster Mark b. Dorsten), NB (Frankfurt/Oder) / A (Niederösterreich, Oststeiermark, Wien, Leitha mountains). Early April to End May, 1 generation. Rare. *Penthophera morio* L. (Lymantriidae); *Procris pruni* Schiff. (Zygaenidae).

Chetogena filipalpis Rondani [*Spoggosia*, *Chaetogena*]
Southern Europe to the Wallis, the Tessin; BY (Dachau) / A. Dry, warm, open grassland. Early May to End May and Mid June to End August, 2 generations (in Southern Europe in several generations from March to October). Caught from flowers or in grass; in Southern Europe frequent, in warmer regions of Austria not rare, in the remaining areas very rare. Numerous Psychidae.

Chetogena obliquata (Fallén) [*Spoggosia echinura* (Robineau-Desvoidy), *Chaetogena*]
Europe to Southern Sweden, Norway; NW, RP, BW, BY, NB / A, CH. Dry meadows, dry, warm forest edges. Early April to End June, 1 generation. Locally common (Kaiserstuhl). *Lasiocampa trifolii* Esp, *L. quercus* L, *Eriogaster philippsi* Bart. (Lasiocampidae); *Ocnogyna baetica* Ramb. (Arctiidae); *Zygaena maroccana* Roths. (Zygaenidae).

Diplostichus janitrix (Hartig)
Temperate Europe to Southern England, Southern Sweden, Finland; NS, HE, RP, BW, NB / A, CH. Pine forest. End June to Mid September, probably only 1 generation. Doesn't visit flowers; in open areas very rare, most often reared from the host. *Diprion spp*. (Diprionidae).

Parasetigena silvestris (Robineau-Desvoidy) [*segregata* auct, *Phorocera agilis* (Robineau-Desvoidy)]
Europe to Southern England, Southern Sweden; NW, BW, BY, NB / A, CH. Deciduous woodland, mixed woodlands, Pine forest. Early May to End June, 1 generation. On foliage; usually rather rare, however very frequent where their host is massed. *Lymantria dispar* L, *L. monacha* L. (Lymantriidae).

Phorocera assimilis (Fallén)
Europe to England and Southern Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, orchards. Mid April to Mid June, 1 generation. On foliage; frequent. Noctuidae and Geometridae living in Deciduous woodland.

Phorocera grandis (Rondani)
Southern Europe (to Paris, Slovakia); NW (Finds around 1900), BW (only an old, uncertain record), NB / A. Deciduous woodland. Mid April to Mid June, 1 generation. On foliage; very rare. *Euproctis chrysorrhoea* L. (Lymantriidae), *Thaumetopoea pityocampa* Schiff. (Thaumetopoeidae).

Phorocera obscura (Fallén)
Europe to England, Norway, Finland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, orchards. Early April to Mid June, 1 generation. On foliage; very frequent. Woodland dwelling Geometridae, and (rarer) on Noctuidae.

Phorinia aurifrons Robineau-Desvoidy
Europe to Northern Germany; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry deciduous woodland edges, hedges, bushes, heath. Early May to Mid September, at least 2 generations. In Spring on foliage, in High-Summer on flowers; not rare. Host: *Cosymbia punctaria* L. (Geometridae).

Bessa parallela (Meigen) [*fugax* (Rondani)]
Europe to Southern England and Southern Sweden; NS, NW, HE, BW, BY, NB / A, CH. Hedges, bushes, orchards, thin deciduous woodland. Early May to Mid September, several generations. Doesn't normally visit flowers; in open areas not rare, most often reared from the host. Numerous Microlepidoptera, especially Hyponomeutidae, Tortricidae and Pyralidae, rare a few Macrolepidoptera.

Bessa selecta (Meigen)
Europe to Central England, Central Sweden, Finland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Hedges, bushes, orchards, thin deciduous woodland. Mid May to Early October, several generations. Occasionally visits flowers; in open areas not rare, most often reared from the host. Numerous Tenthredinidae, rare also from *Diprion polytomus* Hart. (Diprionidae) and Argidae.

6.2.2. Blondeliini

Belida angelicae (Meigen) [*Aporotachina*]
Europe to England and Lapland; NS, BW, BY, NB / A, CH. Warmer forest edges, bushes. Mid June to Early September, probably 1 generation. Visits flowers; in warmer Central Europe (Oberrhein) locally common. *Arge berberidis* Klug, rarer *A. nigripes* Retz. and *A. sorbi* Schedl (Argidae).

Belida latifrons (Jacentkovsky) [*Aporotachina*]
Eastern Europe (Poland, Czech Republic); Not known from the German-speaking regions. June/July. Very rare. Host unknown.

Meigenia dorsalis (Meigen) [*pilosa* Baranov]
Europe to England, Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Hedges, bushes, gardens, forest edges. Early May to End September, several generations. On foliage or flowers; frequent. Various Chrysomelidae (*Chrysolina*, *Crioceris*, *Melasoma*, *Phytodecta*).

Meigenia grandigena (Pandellé)
Pyrenees, Alps, high highlands; BW, BY / A, CH. Bushy forest edges, path edges and meadows from 800 - 2000m. End June to End August. On foliage of herbaceous plants; rare. Host unknown.

Meigenia incana (Fallén)
Temperate Europe to Sweden; NW, BW, NB / A. Dry, warm areas. Mid May to Early October. Rare. Host unknown.

Meigenia majuscula (Rondani)
Southern Europe to Slovakia (after Belshaw 1993 also a few old finds in Southern England); BW (Ostwürttemberg, Blasienberg). On mountain tops. Early May to Mid August (Southern Europe). In Southern Europe locally common, from Central Europe until now only 1 specimen known. *Chrysolina montana* Gebler (Chrysomelidae).

Meigenia mutabilis (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Hedges, bushes, gardens, deciduous forest edges. Mid April to Mid October, several generations. On foliage or flowers; very frequent. Numerous Chrysomelidae, however also *Athalia spp.* (Tenthredinidae).

Meigenia uncinata Mesnil
Europe to Brandenburg; HE, RP, BW, BY, NB / A, CH. Up to now mainly caught on scrubby, dry slopes above brooks lined with Alder. Mid May to End September, especially August. Visits flowers; in warmer Central Europe locally frequent. *Agelastica alni* L. (Chrysomelidae).

Conogaster pruinosa (Meigen)
Southern Europe to Central France (Seine-et-Oise) and the Wallis; A (Kärnten). Dry, coarse areas with herbage or flower-rich ruderal vegetation. End May to Early July, probably only 1 generation. On *Daucus* flowers; in Southern Europe locally common, in Central Europe very rare. Host unknown.

Zaira cinerea (Fallén) [*Viviania*]
Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A, CH. Prefers open areas with Ruderal flora, areas of heath. Mid May to End August, 1 generation. In Malaise traps not rare, otherwise only singles. Imagines from Carabidae (*Carabus*, *Harpalus*, *Pterostichus*, *Zabrus*, *Amara*, *Broscus*).

Gastrolepta anthracina (Meigen)
Temperate Europe to Brandenburg (in Southern Europe rare); NW, HE, RP, BW, BY, NB / A, CH. Deciduous forest edges, bushes. 2 generations: Mid May to End June and Mid July to Mid September. In Malaise traps locally frequent, otherwise rather rare. *Lagria hirta* L. (Lagriidae).

Trigonospila ludio (Zetterstedt)
A few old finds scattered through Europe (Denmark, Italy); for the region only one old record from the Oststeiermark (Wechsel). Host unknown.

Medina collaris (Fallén) [*Degeeria*]
Europe to Northern Scandinavia (in Southern Europe rare); NS, NW, HE, BW, BY, NB / A. Prefers warm, dry situations. 2 generations: End May to Mid July and Early August to Mid September. Altogether frequent, however usually only individuals found. Imagines from *Lochmaea suturalis* Thoms, *L. capreae* L. and *Galerucella luteola* Muell. (Chrysomelidae).

Medina luctuosa (Meigen) [*Degeeria*]
Temperate Europe to Sweden (in Southern Europe very rare); NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges, areas of heath. Early May to Mid September, at least 2 generations. Not rare. Imagines the genus *Haltica* (Chrysomelidae).

Medina melania (Meigen) [*Degeeria*, *funebris* (Meigen)]
Temperate Western Europe; NW, RP, BW, NB / A, CH. Early May to End August, at least 2 generations. In Malaise traps or on foliage; rare. Host unknown.

Medina multispina (Herting) [*Degeeria*]
Temperate Europe; NW, BW, BY, NB / A, CH. Data of finds from End May to End August, probably 2 generations. In open areas very rarely caught, most often reared from the host. Imagines from *Hypera postica* Gyll. and *Tanymecus palliatus* F. (Curculionidae).

Medina separata (Meigen) [*Degeeria*]
Europe to Northern Scandinavia (in Southern Europe rare); NS, NW, RP, BW, BY, NB / A, CH. Bushes, hedges, forest edges. Early May to Mid September, several generations. In Malaise traps or on foliage; frequent. Imagines of numerous Coccinellidae and of some Chrysomelinae (*Phyllodecta*, *Plagiodera*, *Gastrophysa*, *Agelastica*).

Paratrixa polonica Brauer & Bergenstamm
Found scattered through Temperate Europe; BY (Erlangen), NB (Berlin, Frankfurt/Oder). Warm, dry areas. Data of finds from End May to Early September. Very rare. Imagines from *Anisodactylus binotatus* F, *Agonum viduum* Panz. and *Amara plebeja* Gyll. (Carabidae).

Policheta unicolor (Fallén) [*Perichaeta*]
Europe to Scandinavia (rare in Southern Europe); NW, RP, BW, BY, NB / A, CH. Open countryside, Ruderal areas. End May to Mid October, at least 2 generations. Visits flowers; rare. Imagines from *Chrysolina banksi* F, *C. geminata* Payk, *C. graminis* L. and *C. haemoptera* L. (Chrysomelidae).

Istocheta cinerea (Macquart) [*Hyperecteina*, *Istochaeta*, *metopina* Schiner]
Southern Europe to Alsace and Slovakia; BW (Markgröningen) / A. Warm, dry areas. End April to Early June, 1 generation. Day-flying; very rare. Imagines from *Rhizotrogus aestivus* Oliv. and *R. carduorum* Erichs. (Scarabaeidae).

Istocheta hemichaeta (Brauer & Bergenstamm) [*Hyperecteina*, *Urophylloides*, *Istochaeta*]
Warmer areas in Central Europe (south to the southern Tirol); BW (Sandhausen), NB (Dresden, Genthin, Frankfurt/Oder) / A (Kärnten, Linzer Becken). Open sandy areas. End April to End May, 1 generation. Day-flying, caught from *Euphorbia* flowers; very rare. Imagines from *Maladera holosericea* Scop. and *M. orientalis* Motsch. (Scarabaeidae).

Istocheta longicornis (Fallén) [*Hyperecteina*, *Istochaeta*]
Temperate Europe to Scandinavia; BW (Grißheim), NB (this species is cited as *I. cinerea* in Reidel's paper of 1934). June to Mid July, 1 generation in two-yearly cycles. Dusk-flying; very rare. Imagines from *Amphimallon solstitialis* L. (Scarabaeidae).

Istocheta polyphyllae (Villeneuve) [*Hyperecteina*, *Istochaeta*]
South-western France, Hungary, Ukraine; NB (environs of Dresden, Potsdam; eggs on the host proven). Until now all specimens have been reared from the host. Very rare. Imagines from *Polyphylla fullo* L. (Scarabaeidae).

Istocheta subcinerea (Borisova) [*Hyperecteina*, *Istochaeta*]
Ukraine, Finland; in the region not yet proven. Imagines from *Amphimallon solstitialis* L. (Scarabaeidae).

Staurochaeta albocingulata (Fallén)
Europe to Sweden; NW, BW, NB / A, CH. Heath or dry slopes with *Juniperus*. Early June to Early August, 1 generation. On or in immediate proximity of *Juniperus*; in Southern Europe frequent, in Central Europe very rare. *Monoctenus juniperi* L. (Diprionidae).

Lecanipa bicincta (Meigen) [*Lecanipus*]
Central Europe; RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes. End May to End August, probably only 1 generation (in warmer areas possibly also one partial 2nd generation). On foliage or in Malaise traps; not rare. Host unknown.

Lecanipa leucomelas (Meigen) [*Lecanipus*]
Southern Europe to Paris, Slovakia; RP, BW / A. Dry, warm forest edges, bushes. End May to End July, 1 generation. On foliage or in Malaise traps; locally common (southern Oberrheinebene), otherwise very rare. Host unknown.

Leiophora innoxia (Meigen) [*Arrhinomyia*]
Europe to Southern Scandinavia; SH, HE, RP, BW, BY, NB / A, CH. Prefers warmer areas. End May to End September, probably 2 generations. Not rare in Malaise traps, otherwise rare. Reported from *Tetrix bipunctata* L. and *T. tenuicornis* Sahlb. (Tetrigidae).

Admontia blanda (Fallén) [*Trichoparia*]
Europe to Scotland and Northern Scandinavia; NS, NW, BW, BY, NB / A, CH. Early June to End October, especially August, probably several generations. Altogether not rare, normally however only individuals. *Nephrotoma pratensis* L, *Tipula nubeculosa* Meig. (Tipulidae).

Admontia cepelaki (Mesnil) [*Trichoparia*]
Pyrenees, Alps; A (Tirol), CH (Graubünden). High Alpine grasslands and scree from 1800 - 3000 m. Early July to Mid August, 1 generation. On rocks or on flowers; rare. Host unknown.

Admontia continuans Strobl
A (Admont), CH (Delémont). Mid July to End August, 1 generation. Very rare. Host unknown.

Admontia grandicornis (Zetterstedt) [*Trichoparia*]
Temperate Europe to Scotland and Northern Scandinavia; NW, BW, BY, NB / A, CH. In Central Europe from sea-level to approximately 1200 m. 1 generation from Mid May to Mid July, a single specimen also in August (partial 2nd generation?). Not rare. *Tipula spec*. (Tipulidae).

Admontia maculisquama (Zetterstedt) [*Trichoparia*]
Europe to Scotland and Sweden; NW, HE, BW, NB / A, CH. In Central Europe from sea-level to approximately 1200 m. End May to Mid August, probably only 1 generation. Usually in Malaise traps; not rare. *Tipula hortulana* Meig, *T. lunata* L. (Tipulidae).

Admontia podomyia (Brauer & Bergenstamm) [*Trichoparia*]
Alps, Schwarzwald; BW, BY / A, CH. On meadows in the forested zone from 900 - 1800 m. Mid June to Mid September, especially August, probably 1 generation. Not rare. Host unknown.

Admontia seria (Meigen) [*Trichoparia*]
Temperate Europe to England and Sweden; RP, BW, BY, NB / A, CH. From sea-level to approximately 500 m. Data of finds from Early June to Mid October. Very rarely caught, most often reared from the host. *Ctenophora bimaculata* L, *C.atrata* L, *C. pectinicornis* L, *Tipula irrorata* Macq, *T. flavolineata* Meig. (Tipulidae).

Oswaldia eggeri (Brauer & Bergenstamm)
Temperate Europe to Münsterland; NW, BW, BY, NB / A, CH. Deciduous woodland. Mid May to End July, 1 generation. On foliage; locally common. Host unknown.

Oswaldia muscaria (Fallén)
Temperate Europe to Central Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland. Mid April to End June, 1 generation. On foliage; frequent. Various Noctuidae and Geometridae living on deciduous trees.

Oswaldia reducta (Villeneuve)
Slovakia, Southern Poland; from the region not yet known. Early July to Mid August, 1 generation. Very rare. Host unknown.

Oswaldia spectabilis (Meigen) [*albisquama* (Zetterstedt)]
Europe to Southern Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry slopes, warm forest edges. Mid June to End August, 1 generation. Visits flowers; not rare (in Southern Europe frequent). *Deilephila porcellus* L, *Macroglossum stellatarum* L. (Sphingidae); *Dasychira selenitica* Esp. (Lymantriidae).

Hemimacquartia paradoxa Brauer & Bergenstamm
Czech Republic, Slovakia, Sweden, Scotland; NB (Genthin, Bad Elster). Data of finds from End May to August. Very rare. Host unknown.

Lomachantha parra Rondani [*Lomacantha*]
Southern Europe to Brandenburg; NB (Berlin) / A (the Vienna basin), CH (Jura). Probably restricted to very warm places. Mid July to End August, 1 generation. In Southern Europe locally frequent, in Central Europe very rare. *Procris globulariae* Hueb. (Zygaenidae).

Paracraspedothrix montivaga Villeneuve
Temperate Europe to Northern Sweden; BW, BY, NB / A, CH. Forest edges. Several generations from Early May to End October. In Malaise traps locally frequent, only very rarely found without this trap. Host unknown.

Ligeria angusticornis (Loew) [*Anachaetopsis*, *ocypterina* auct.]
Europe to Finland; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes, dry slopes. Early May to Mid September, probably 2 overlapping generations. In warmer areas (Oberrheinebene) locally frequent, otherwise rather rare. *Emmelina monodactyla* L, *Leioptilus lithodactylus* Treits, *L. tephradactylus* Hueb, *Pterophorus nephelodactylus* Eversm, *P. pentadactylus* L, *P. xanthodactylus* Treits. (Pterophoridae).

Picconia incurva (Zetterstedt)
Europe to Sweden; BW, BY, NB / A, CH. Dry, warm, open countryside. Early May to Early July, 1 generation. Caught from low vegetation; rare. *Galeruca pomonae* Scop, *G. tanaceti* L, *Arima marginata* F. (Chrysomelidae).

Erynniopsis antennata (Rondani) [*rondanii* Townsend]
Southern Europe (Italy, Southern France, Bulgaria); in the region still no proof. In open areas very rare, most often reared from *Galerucella*. *Galerucella luteola* Muell, *Diorhabda elongata* Brullé (Chrysomelidae).

Ligeriella aristata (Villeneuve)
Finds scattered through Europe to St. Petersburg; BW (Gauchachschlucht) / A (Kleinzell b. Hainfeld), CH (Jura). End June to End August, probably 1 generation. Very rare. No reliable host data known.

Robinaldia angustata (Villeneuve) [*Picconia*]
Morocco, Southern France; NB (Frankfurt/Oder). Data of finds from Early May to End May. Very rare. Host unknown.

Blondelia inclusa (Hartig)
Europe to Sweden; NS, RP, BW, BY, NB / A. Pine forest. Data of finds from Mid May to Mid September, probably 2 generations. In open areas very rarely found, but regularly reared from the host. *Diprion spp*, *Microdiprion pallipes* Fall, *Neodiprion sertifer* Geoffr. (Diprionidae).

Blondelia nigripes (Fallén)
Europe to Northern Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, hedges, deciduous woodland, orchards, meadows. Mid April to End October, especially May and (very numerous) August, several generations. On flowers or foliage; frequent, in warmer areas sometimes very frequent. Very polyphagous from numerous Lepidoptera (preferably unhairy caterpillars) and also Tenthredinidae.

Blondelia piniariae (Hartig)
Europe to Sweden; NS, RP, BW, NB. Pine forest. End June to Mid August, 1 generation. Only specimens extracted from the host could have been assigned to this species until now, courtesy of Herting (1960). *Bupalus piniarius* L. (Geometridae).

Compsilura concinnata (Meigen)
Europe to Southern Sweden; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes. 2 generations: Early May to Early July and (usually more numerously) End July to End September. On flowers or foliage; in warmer Central Europe (Oberrhein) locally frequent, otherwise rather rarely found, however, frequently obtained from the host. Very polyphagous from numerous (also hairy) Lepidoptera; Microlepidoptera and Tenthredinidae only very rare parsitised.

Vibrissina debilitata (Pandellé)
Southern Europe to the Tessin, however also England and St. Petersburg; NW (Burscheid, Münster). Mid July to End August, probably 1 generation (in Southern Europe a further generation in May/June). In Southern Europe locally common, in Central Europe very rare. Host unknown.

Vibrissina turrita (Meigen)
Europe to Southern Sweden; NS, NW, BW, BY, NB / A, CH. Forest edges, areas of heath. Mid June to Mid October, at least 2 generations. On foliage; locally common. Numerous Tenthredinidae and Argidae.

6.2.3. Acemyini

Acemya acuticornis (Meigen) [*Acemyia*]
Europe to Sweden, Finland; NS, HE, RP, BW, BY, NB / A, CH. Dry slopes, dry meadows. 2 generations: Early May to End June and Mid July to Early September. Caught in grass or from flowers; not rare. Numerous species of Acrididae (Orthoptera).

Acemya rufitibia (von Roser) [*Acemyia*]
Europe to Brandenburg; RP, BW, BY, NB / A, CH. Dry slopes, dry meadows. End May to Mid July, 1 generation. In grass or on flowers; rarer than *A. acuticornis*. *Chorthippus mollis* Charp, *C. spec*, *Euchorthippus pulvinatus* F.-W. (Acrididae).

6.2.4. Ethillini

Prosethilla kramerella (Stein) [*Chaetinella*]
Scattered finds from Southern Europe to Belgium; RP (Altenahr), BW (Kaiserstuhl, Stromberg, Markgröningen, Pforzheim), NB (Thüringen) / A (Wienerwald). Scrubby, dry slopes. End April to Mid June, 1 generation. On foliage or in Malaise traps; rare. Host unknown.

Ethilla aemula (Meigen)
Southern Europe to Central France; RP (Boppard), BW (Kaiserstuhl, Sandhausen), BY (Taubertal) / A. Dry, warm, open or scrubby hillsides, open sandy areas. Mid June to End August, probably only 1 generation (in Southern Europe 2 generations). Rare, in the Vienna basin not rare. *Eucrostes beryllaria* Mann (Geometridae).

Paratryphera barbatula (Rondani) [*Ethilla*]
Europe to St. Petersburg; HE, RP, BW, NB / A, CH. Scrubby and open dry slopes, dry grassland; prefers warm localities. 2 generations: End May to Early July and Mid July to End September. On flowers or foliage; in Southern Germany locally common. *Scopula immutata* L. (Geometridae).

Paratryphera bisetosa (Brauer & Bergenstamm) [*Ethilla*]
Southern Europe, individuals also in Central Europe to Sweden; BW (Kaiserstuhl) / A (Wienerwald), CH (Jura). Warm, dry localities. Mid July to End August, 1 generation. Very rare. *Hemistola chrysoprasaria* Esp. (Geometridae).

Atylomyia loewi Brauer
Southern Europe to Brandenburg; NB (Berlin, Frankfurt/Oder) / A (Hainburg, Neusiedl). Dry, warm areas. Data of finds from End May to Mid August, probably 2 generations. Caught from flowers or low vegetation; in Southern Europe frequent, in Central Europe very rare. Host unknown.

6.2.5. Winthemiini

Rhaphiochaeta breviseta (Zetterstedt)
Temperate Europe to Norway; SH, HE, RP, BW, BY, NB / A. Early May to Mid June, 1 generation. Rare. Host unknown.

Smidtia conspersa (Meigen)
Europe to Southern Sweden; SH, NS, NW, HE, BW, BY, NB / A, CH. Deciduous woodland, bushes. Mid April to Mid June, 1 generation. On foliage; frequent. Various Geometridae living in deciduous woodland, rarer Noctuidae (*Orthosia*).

Timavia amoena (Meigen) [*Nemosturmia*, *Winthemia*]
Europe to Norway; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Pine forest, areas of heath, deciduous woodland. End April to End July, probably only 1 generation. On foliage or in Malaise traps; not rare. In smaller numbers from *Panolis flammea* Denis & Schiff. (Noctuidae), furthermore single records from *Drymonia dodonides* Staud. (Notodontidae), *Eurois occulta* L. and *Orthosia incerta* Hufn. (Noctuidae), *Chesias legatella* Denis & Schiff, *Angerona prunaria* L, *Arichanna melanaria* L. and *Biston betularia* L. (Geometridae).

Winthemia bohemani (Zetterstedt)
Europe to Southern Sweden; NW, BW, NB / A. Early August to Early September, 1 generation. Very rare. *Smerinthus populi* L, *S. ocellatus* L. (Sphingidae).

Winthemia cruentata (Rondani)
Europe to Southern Sweden; SH, NS, NW, HE, RP, BW, BY, NB / A. Found scattered from Early April to End October, following generations still unclear. In open areas very rare, frequently reared from the specific host. *Sphinx ligustri* L. (Sphingidae), also individual records reported from different Sphingidae, Noctuidae or Notodontidae.

Winthemia erythrura (Meigen).
Europe to Southern Norway; NW, HE, RP, BW, BY, NB. Data of finds from Mid May to Mid August, especially June. Rare. Host not known for certain.

Winthemia jacentkovskyi Mesnil
Pyrenees, Slovakia, Hungary; BY (Taubertal), NB (Thüringen) / A (Mödling). Deciduous forest edges. Mid May to Early June, 1 generation. Very rare. Host unknown.

Winthemia quadripustulata (Fabricius)
Europe to Lapland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, deciduous woodland. Early May to Early October, several generations. On foliage and flowers; frequent. Mainly Noctuidae (especially *Cucullia spp.*), rarer on other Geometridae, Notodontidae, Nymphalidae and Arctiidae.

Winthemia rufiventris (Macquart)
Southern Europe; BW (Stuttgart) / A, CH (Zürich). No data for finds in open countryside in Central Europe (only reared material), Flight-time in Southern Europe Early May to Mid June. Very rare. *Smerinthus populi* L. (Sphingidae), one also from *Saturnia pyri* Schiff. (Saturniidae).

Winthemia speciosa (Egger) [*speciosissima* Mesnil]
Europe to Southern Sweden; SH, HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges. Mid July to Mid September, 1 generation. On foliage; rare. *Notodonta ziczac* L. (Notodontidae).

Winthemia variegata (Meigen)
Temperate Europe to St. Petersburg; NW, HE, BW, BY, NB / A. Deciduous woodland, especially wet woodland. Early May to Early June, 1 generation. On foliage; locally common. *Brachionycha sphinx* Hufn. (Noctuidae).

Winthemia venusta (Meigen)
Scattered records in Europe to St. Petersburg; NW (Type from Stolberg), BW (Freiburg). Data of finds from End May to End June. Very rare. *Thaumetopoea processionea* L. (Thaumetopoeidae).

Nemorilla floralis (Fallén)
Temperate Europe to Sweden; SH, NS, NW, HE, BW, BY, NB / A, CH. Bushes, hedges, forest edges. Early May to Mid October, especially August, several generations. Usually on foliage; frequent. Numerous Microlepidoptera, rare also a few Macrolepidoptera.

Nemorilla maculosa (Meigen)
Europe to Southern Sweden (in Southern Europe frequent); NS, HE, BW, BY, NB / A, CH. Bushes, hedges, forest edges; more heat-loving than the previous species. Early May to Mid September, especially August, several generations. In Central Europe rarer than the previous species, in the North very rare. Numerous Microlepidoptera, rare also a few Macrolepidoptera.

6.2.6. Eryciini

Aplomya confinis (Fallén) [*Aplomyia*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Scrubby dry slopes, warm, dry forest edges, dry meadows. Early May to Early October, several generations. On flowers or foliage; in warmer Central Europe (and in Southern Europe) frequent, in the North rare. Specific parasitoid of Lycaenidae.

Phebellia clavellariae (Brauer & Bergenstamm)
Poland, Bohemia; in the region still no proof. No records from open country, until now only known from reared material. Very rare. *Pseudoclavellaria amerinae* L, *Cimbex spec*. (Cimbicidae).

Phebellia glauca (Meigen)
Temperate Europe to Scotland and Sweden; NS, NW, BY, NB / A. Birch woodland, heath, moorland. Early June to Early September. In cooler parts of Central Europe not rare, otherwise very rare. *Cimbex femorata* L, *C. spec*. (Cimbicidae); also a few Noctuidae were reported: *Acronicta auricoma* Denis & Schiff, *A. psi* L, *A. tridens* Denis & Schiff. and *Minucia lunaris* Denis & Schiff.

Phebellia glaucoides Herting
Poland, Bohemia, Sweden, Norway; NW (Münster, Dorsten, Lavesum). Ecological requirements probably similar to the previous species. Data of finds from Early June to End June. Very rare. Host unknown.

Phebellia glirina (Rondani)
Temperate Europe to Scotland; HE, RP, BY, NB / A, CH. End May to Early September, probably 2 generations. Usually rare. *Abia sericea* L. (Cimbicidae).

Phebellia nigripalpis (Robineau-Desvoidy) [*Prooppia*, *agnata* (Rondani), *fuscipennis* (Robineau-Desvoidy)]
Europe to Sweden; NS, NW, RP, BW, BY, NB / A, CH. Warm forest edges, bushes. 2 generations: Early April to End June and (less frequently) Mid July to End August. On foliage or flowers; in warmer Central Europe locally frequent, otherwise rather rare. Host unknown.

Phebellia pauciseta (Villeneuve)
Scattered finds through temperate Europe; NW (Münster, Dorsten, Haltern), RP (Altenahr), BW (Freiburg, Kaiserstuhl), BY (Bad Brückenau). Deciduous woodland, bushes. Mid May to End June, 1 generation. On foliage; rare. Host unknown.

Phebellia strigifrons (Zetterstedt) [*lapponica* (Ringdahl)]
Northern Scandinavia, Western Alps (Hautes-Alpes, the Wallis); also likely to be found in other parts of the Alps. Mountainous areas from 1700 m, Arctic areas. End June to Early August, 1 generation. On low vegetation, also on mountain tops; rare. Host unknown.

Phebellia stulta (Zetterstedt) [*quadriseta* (Villeneuve)]
Temperate Europe to Sweden; NS, NW, NB / CH. End July to Early September, 1 generation. In cooler parts of Central Europe rare, otherwise very rare. Host unknown.

Phebellia triseta (Pandellé)
Europe to Northern Poland, St. Petersburg; BW (Oberrhein), BY (environs of München) / A (Bad Hall). Deciduous woodland. Early June to Early July (1 generation), a few specimens also End July to End August (2nd generation?). On foliage; very rare. Host not known for certain.

Phebellia vicina (Wainwright)
Scotland, Sweden; from the region not yet known. Data of finds from Mid June to Early September. Very rare. Host unknown.

Phebellia villica (Zetterstedt) [*aestivalis* (Robineau-Desvoidy)]
Temperate Europe to Lapland; NS, NW, BW, BY, NB. Areas of heath, deciduous woodland. 2 generations: Early June to End June and End July to Mid September. On foliage; rare. *Ptilodon capucina* L. (Notodontidae).

Thelymyia saltuum (Meigen)
Temperate Europe to Sweden; NS, BY, NB. Prefers cooler area in Central Europe. Early July to Mid August, 1 generation. Rare. Host unknown.

Ptesiomyia alacris (Meigen)
Europe to Sweden; HE, BY, NB. Mid May to Mid June, 1 generation. In Central Europe very rare (in Southern Europe locally common). Host unknown.

Nilea hortulana (Meigen) [*Platymyia*]
Europe to Sweden; SH, NS, NW, BW, BY, NB / A, CH. Deciduous woodland. End May to Mid August, probably 2 generations. In open areas rare, more frequently reared from the host. Deciduous woodland dwelling species of *Acronicta* (Noctuidae), rarer on other Noctuidae, Lymantriidae (*Dasychira*, *Orgyia*) or Notodontidae (*Phalera*).

Nilea innoxia Robineau-Desvoidy [*lethifera* (Pandellé)]
Europe to Sweden; BW (Grißheim) / A, CH. Early June to Mid September, probably 2 generations. Rare. *Acronicta rumicis* L. (Noctuidae); individuals also from *Euproctis chrysorrhoea* L. (Lymantriidae), *Trichiura crataegi* L. (Lasiocampidae) and *Smerinthus ocellatus* L. (Sphingidae).

Nilea rufiscutellaris (Zetterstedt) [*temeraria* (Robineau-Desvoidy)]
Europe to Sweden; BW, BY, NB / A. 2 generations: End April to Early June and Mid July to End August. Rare. *Acronicta auricoma* Denis & Schiff, rarer from *A. euphorbiae* Denis & Schiff, *A. rumicis* L. (Noctuidae) and *Arctia caja* L. (Arctiidae).

Phonomyia aristata (Rondani)
Southern Europe to the Wallis; A (Neusiedler See). Data of finds from End May to Mid September (Southern Europe). Very rare. Host unknown.

Tlephusa cincinna (Rondani) [*diligens* (Zetterstedt)]
Europe to Scandinavia; BY (Allgäu), NB / A, CH. Prefers mountains (in Southern Europe to 1700 m). Mid June to End August, probably 1 generation. In Central Europe very rare; not rare in Scandinavia and in southern Places the Alps. Host not known for certain.

Epicampocera succincta (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. 2 generations: End April to End June and Early July to Early October. In Spring on foliage, in Summer visits flowers; frequent. *Pieris rapae* L, *P. napi* L, *P. melete* Ménétr. (Pieridae); One record also from *Hadena bicruris* Hufn. (Noctuidae) and *Boarmia selenaria* Schiff. (Geometridae).

Buquetia musca Robineau-Desvoidy
Europe to Northern Poland, St. Petersburg; NS, HE, RP, BW, BY, NB / A. Prefers warmer areas. Data of finds from Mid June to Mid September. (in Southern Europe 2 generations). In open areas in Central Europe very rare (commoner in Southern Europe), regularly reared from the host. *Papilio machaon* L. (Papilionidae).

Phryxe erythrostoma (Hartig)
Europe to Sweden; NS, NW, HE, RP, BW, BY, NB / A. Pine forest. Data of finds from End May to End August. In open areas rare, regularly reared from the specific host. *Hyloicus pinastri* L. (Sphingidae); also single records from *Smerinthus ocellatus* L. and *Sphinx ligustri* L. (Sphingidae), *Dasychira pudibunda* L. (Lymantriidae) and *Cucullia artemisiae* Hufn. (Noctuidae).

Phryxe heraclei (Meigen) [*latilobata* Wainwright]
Temperate Europe to Southern Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous forest edges, bushes, meadows. 2 generations: Early May to Early July and (rather more numerously) Mid July to Mid September. In Spring on foliage, in summer on flowers; locally frequent (Oberrhein), otherwise mostly not rare. Many from *Philudoria potatoria* L. (Lasiocampidae); Single records from *Lasiocampa quercus* L. and *L. trifolii* Esp. (Lasiocampidae), *Laelia coenosa* Hueb. (Lymantriidae), *Eurois prasina* F. (Noctuidae) and *Heteropterus morpheus* Pall. (Hesperiidae).

Phryxe hirta (Bigot)
South-western Europe to Hautes-Alpes; in the region still no proof. End May to Early August. In South-west European mountains locally common. *Heterogynis penella* Hueb. (Heterogynidae).

Phryxe magnicornis (Zetterstedt) [*longicauda* Wainwright]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes, meadows. End April to Mid September, probably several generations. In open areas rare, more commonly reared from the host. Prefers small caterpillars; numerous Zygaenidae and Geometridae, rarer also from a few Lycaenidae, Tortricidae and Pieridae.

Phryxe nemea (Meigen)
Temperate Europe to Sweden and Finland (in Southern Europe very rare); SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous forest edges, bushes, hedges, orchards. Several generations from Mid April to Mid October. On foliage, in high-summer also on flowers; frequent. Very numerous Macrolepidoptera, rare in a few Microlepidoptera; strongly hairy caterpillars are avoided.

Phryxe prima (Brauer & Bergenstamm)
Southern Europe to Brandenburg; HE, RP, BW, BY, NB / A. Warm, dry areas. Mid June to Mid August, 1 generation. In open areas very rare, usually obtained from the host. *Zygaena spp.* (Zygaenidae).

Phryxe semicaudata Herting
Southern Europe to Austria; A (Hainburg/Donau). Very rare. *Thaumetopoea processionea* L. (Thaumetopoeidae).

Phryxe setifacies (Villeneuve)
South-western Europe to the Wallis; A (Burgenland). Warm, dry, open countryside. Mid April to End August (Southern Europe). Even in Southern Europe rare, most often reared from the host. *Zygaena spp*. (Zygaenidae).

Phryxe vulgaris (Fallén)
Europe to Lapland (in Southern Europe frequent); SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, farmland, bushes. Several generations from End April to End October. Visits flowers; everywhere frequent. Very many Macrolepidoptera, especially large Butterflies, Noctuidae and Geometridae; strongly hairy caterpillars are avoided.

Madremyia clausa (Villeneuve) [*Phryxe*]
Lapland, Norway (Dovrefjell). Very rare. Host unknown.

Periarchiclops scutellaris (Fallén)
Scattered finds through Europe to Scandinavia; NS, BY, NB / CH. Data of finds from Mid June to End September. Very rare. *Acronicta euphorbiae* Denis & Schiff, *A. auricoma* Denis & Schiff, *A. rumicis* L, *Conistra rubiginea* Denis & Schiff. (Noctuidae); *Lasiocampa quercus* L. (Lasiocampidae).

Bactromyia aurulenta (Meigen)
Europe to Sweden; SH, NS, NW, HE, RP, BW, BY, NB / A. Bushes, deciduous forest edges. 2 generations: End April to End June and (more numerously) Early July to End September. Usually on foliage; not rare. Various Lepidoptera, mainly *Hyponomeuta spp*. (Hyponomeutidae), a few Geometridae, *Bena fagana* F. (Noctuidae) and *Thecla quercus* L. (Lycaenidae).

Pseudoperichaeta nigrolineata (Walker) [*insidiosa* (Robineau-Desvoidy)]
Europe to Southern Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges. Early May to Mid September, at least 2 generations. In Malaise traps or on foliage not rare, more commonly reared from the host than caught in open areas. Numerous Microlepidoptera, especially Tortricidae and Pyralidae.

Pseudoperichaeta palesoidea (Robineau-Desvoidy)
Europe to Lapland; HE, BW, BY / A, CH. Prefers warmer mountainous areas. Early May to Mid September, at least 2 generations. Visits flowers; rare (in Southern Europe commoner, especially in mountains). *Depressaria pastinacella* Dup, *D. marcella* Reb. (Oecophoridae) and a few Tortricidae.

Catagonia aberrans (Rondani) [*Sisyropa*]
Southern Europe to Rheinland-Pfalz; RP (Altenahr), BW, BY / A, CH. Warm, dry, scrubby countryside. Mid June to Early September, 1 generation. On flowers or foliage; in warmer places not rare (Oberrhein, Niederösterreich). *Monophadnus spinolae* Klug (Tenthredinidae).

Lydella grisescens Robineau-Desvoidy
Europe to Southern England, Niedersachsen; NS, HE, RP, BW, BY, NB / A, CH. Prefers warm, dry, open areas. End May to End September, at least 2 generations. Most common in warm areas. Host not known for certain.

Lydella lacustris Herting
A (Neusiedler See); Until now only 2 specimens known. Data of finds from End May to End June. Host unknown.

Lydella ripae (Brischke)
Denmark, Scandinavia, Poland; NS, NB. Sand dunes, the sea-shore, very rare also in open countryside inland. 2 generations: Early June to Early July and Mid July to End September. Usually rare. *Photedes elymi* Treits, *Mesoligia literosa* Haw. (Noctuidae).

Lydella stabulans (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Herbage in deforested areas, damp meadows, wet woodland. Early May to Mid September, at least 2 generations. Sitting or flying between grass and bushes; usually frequent. Boring caterpillars of various Noctuidae.

Lydella thompsoni Herting
Southern Europe to Central France; BW (Südbaden, Karlsruhe, Stuttgart) / A, CH. Maize fields, reeds and "Riedgrasbestände" (a wet habitat with sedges). May to September, 2 generations (only 1 generation in cooler areas). In open areas very rare, more usually obtained from the host. Regularly from *Ostrinia nubilalis* Hueb. (Pyralidae), however also some from *Nonagria* and *Sesamia* species (Noctuidae).

Cadurciella tritaeniata (Rondani)
Europe to Scandinavia; SH, BW, NB / A, CH. Scrubby or open countryside. End May to End July, 1 generation. Rare (commoner in Southern Europe). *Callophrys rubi* L. (Lycaenidae).

Drino bohemica Mesnil
Sweden, Finland. Spruce forest. No data from open country known, only reared material. Rare. *Diprion hercyniae* Hart, *D. polytomus* Hart. (Diprionidae).

Drino galii (Brauer & Bergenstamm)
Europe to Sweden; NS, BY, NB / A. Early June to Mid August, probably 1 generation. Rare. *Celerio galii* Rott, rarer *C. euphorbiae* L. (Sphingidae).

Drino gilva (Hartig)
Europe to Holland, Northern Poland; NW, RP, BW, BY, NB / A, CH. Pine forest. Early June to End August, 2 generations (in mountains only 1 generation). In open areas rare, most often reared from the host. *Diprion spp*. (especially *Diprion pini* L.), *Neodiprion sertifer* Geoffr, *Microdiprion pallipes* Fall. (Diprionidae).

Drino inconspicua (Meigen)
Europe to Sweden; SH, NS, NW, RP, BW, BY, NB / A, CH. Prefers Pine forest. Early June to Mid September, mostly 2 generations. In open areas rather rare, more commonly reared from the host. *Diprion spp.* (Diprionidae), however also a few Lepidoptera, especially *Lymantria dispar* L. (Lymantriidae) and *Dendrolimus pini* L. (Lasiocampidae).

Drino lota (Meigen)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Early June to End August, 1 generation. In open areas usually rare, more commonly reared from the host. Regularly from *Deilephila elpenor* L, rarer also from *D. porcellus* L. or *Smerinthus populi* L. (Sphingidae).

Drino vicina (Zetterstedt)
Europe to Scandinavia; HE, RP, BW, BY, NB / A, CH. Warm, dry areas. Early June to End August, 1 generation. Visits flowers; not rare. Mainly *Proserpinus proserpinus* Pall. (Sphingidae), also a few large caterpillars from various Sphingidae, Noctuidae, Notodontidae, Bombycidae or Arctiidae.

Thelyconychia solivaga (Rondani)
Southern Europe; BW (Sandhausen, Mühlacker). In Central Europe only in extremely xerothermic places (extensively managed vineyards, sand dunes). Early June to End September, at least 2 generations. Caught in Malaise traps and in grass; rare. Host not known for certain.

Amelibaea tultschensis (Brauer & Bergenstamm) [*Phebellia*]
Southern Alps to the Wallis, Slovakia, Hungary. High Alpine grasslands in warmer situations, from about 1800 - 2000 m. Early July to End July, 1 generation. Usually on flowers; very rare. *Ocnogyna parasita* Hueb. (Arctiidae).

Huebneria affinis (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. 2 generations: End April to End June and (much more numerously) Early July to End September. Common. Arctiidae (especially *Arctia caja* L. and *Phragmatobia fuliginosa* L.), rarer on hairy caterpillars of other families.

Tryphera lugubris (Meigen) [*Huebneria*]
Europe to Denmark, Rügen (main distribution in Southern Europe); SH, NB / A. Xerothermic situations, sea-shore. July/August. Very rare (in Southern Europe locally frequent). *Ocnogyna baetica* Ramb, *Coscinia cribraria* L. (Arctiidae), *Syntomis spec.* (Syntomididae).

Carcelia atricosta Herting
Scattered through Europe to Norway; NW (Hopsten). June (so far as is known). Very rare. *Orgyia antiqua* L, *O. recens* Hueb. (Lymantriidae), individuals also reported from *Malacosoma neustria* L. (Lasiocampidae) and *Acronicta psi* L. (Noctuidae).

Carcelia bombylans Robineau-Desvoidy
Europe to Finland; NS, NW, HE, RP, BW, BY, NB / A, CH. Warm, dry deciduous forest edges, bushes. End May (a single specimen from Mid April) to Mid September, 2 generations. On foliage; not rare. A few Arctiidae (especially *Spilosoma*); records from Lymantriidae are doubtful.

Carcelia dubia (Brauer & Bergenstamm)
Southern Europe to Hessen; HE (Wiesbaden), RP, BW / A, CH. End April to End August, 2 generations. Rare. *Callimorpha dominula* L, *Tyria jacobaeae* L, rarer *Arctia hebe* L. and *A. villica* L. (Arctiidae).

Carcelia falenaria (Rondani) [*phalaenaria*]
Southern Europe, individuals also in Central Europe to Brandenburg; NB (Frankfurt/Oder, Leipzig) / A (Burgenland). Warm, dry areas. Mid April to Mid June, 1 generation (in Southern Europe a second generation in August/September.). Very rare (in Southern Europe not rare). *Syntomis phegea* L. (Syntomididae).

Carcelia gnava (Meigen) [*excavata* (Zetterstedt)]
Europe to Sweden, Finland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes, orchards. 2 generations: Mid April to End June and Early July to Mid September. In open areas not rare, most often reared from the host. *Malacosoma neustria* L. (Lasiocampidae), *Dasychira pudibunda* L, *Leucoma salicis* L. (Lymantriidae), rarer a few other Lymantriidae, Lasiocampidae or also Arctiidae, Notodontidae and Thyatiridae.

Carcelia iliaca (Ratzeburg) [*processioneae* (Ratzeburg)]
Southern Europe to the Rheinland; NW (only the Type), BW / A, CH. Deciduous woodland, Pine forest. End April to Early July, 1 generation. Rare, most often reared from the host. *Thaumetopoea processionea* L, *T. pinivora* Treits. (Thaumetopoeidae).

Carcelia kowarzi Villeneuve
Pyrenees, Eastern France, the Wallis, the Tessin; BW (Stuttgart) / A (Steiermark). Data of finds from Mid June to Early September. Very rare. *Diacrisia sannio* L. (Arctiidae).

Carcelia laxifrons Villeneuve
Europe to Sweden; NS, NW, BW, NB / A. Early May to Early June, 1 generation. In open areas usually rare, more commonly reared from the host. Regularly from *Euproctis chrysorrhoea* L. (Lymantriidae); rarely from *Dasychira fascelina* L, *Leucoma salicis* L. (Lymantriidae), *Malacosoma castrensis* L, *M. neustria* L. (Lasiocampidae) and *Brephos notha* Hueb. (Geometridae).

Carcelia lucorum (Meigen)
Europe to Scandinavia; SH, NW, HE, BW, BY, NB / A, CH. Deciduous forest edges, meadows. 2 generations: Early April to End June and Mid July to End September. In southern-central Europe (and in Southern Europe)

often frequent, otherwise rather rare or only found from the host. Arctiidae (especially *Arctia caja* L, *A. villica* L. and *Phragmatobia fuliginosa* L.); Some hosts of other families are cited (mostly not yet checked).

Carcelia puberula Mesnil
Europe to Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland. End April to Early July, 1 generation (in Southern Europe also a partial 2nd generation). On foliage; locally common. Single record from *Lymantria monacha* L. (Lymantriidae).

Carcelia rasa (Macquart) [*amphion* Robineau-Desvoidy]
Europe to Northern Germany, England; NS, NW, HE, BW, NB / A. Deciduous woodland. 2 generations: Mid May to Early July and End July to Mid September. In open areas rare, more commonly obtained through breeding. Various Lymantriidae (especially *Dasychira spp*, *Orgyia spp.* and *Euproctis spp.*).

Carcelia rasella Baranov [*mollis* Herting]
Found scattered through Europe to Northern Germany; NW, BW, NB. Mid April to Early June, 1 generation. On foliage; very rare. *Malacosoma neustria* L. (Lasiocampidae).

Carcelia tibialis (Robineau-Desvoidy) [*patellipalpis* (Pandellé)]
Europe to Northern Poland; NW, HE, BW, NB / A, CH. Bushes, forest edges. Early May to Early July, 1 generation (in Southern Europe also in August). On foliage; usually rare. Host not known for certain.

Senometopia confundens (Rondani) [*Eucarcelia*, *leucophaea* (Rondani)]
Southern Europe, individuals also in Central Europe to Brandenburg; RP (Mainz), NB (Frankfurt/Oder) / A (Niederösterreich, Burgenland). Data of finds from Mid May to End August, probably 2 generations. Rare. Host unknown.

Senometopia excisa (Fallén) [*Eucarcelia*]
Europe to Sweden; SH, NW, HE, BW, BY / A. Bushes, deciduous forest edges. Data of finds from End May to End September, probably 2 generations. Rare. Various Notodontidae (especially *Phalera*), Noctuidae, Geometridae and Nymphalidae (*Gonepteryx rhamni* L.).

Senometopia intermedia (Herting) [*Eucarcelia*]
Found scattered through Europe to England; NS (Hannover), RP (Bienwald). Data of finds from End July to Early September. Very rare. *Abraxas marginata* L, *A. sylvata* Scop. (Geometridae).

Senometopia lena (Richter) [*Eucarcelia*]
The Tessin, South-western Germany; BW (Kaiserstuhl, Freiburg, Stuttgart, Markgröningen). Deciduous forest edges. Data of finds from Early August to End August. On foliage; very rare. *Ptilophora plumigera* Esp. (Notodontidae).

Senometopia pilosa (Baranov) [*Eucarcelia*]
CH (the Wallis, the Tessin); in the region still no proof. Data of finds from End May to End September. Very rare. *Abrostola tripartita* Hufn. (Noctuidae).

Senometopia pollinosa (Mesnil) [*Eucarcelia*, *rutilla* (Villeneuve), *obesa* (Zetterstedt)]
Temperate Europe to Scandinavia; NS, NW, HE, BW, NB / A, CH. Pine forest. Mid June to Early October (especially End June to Mid August), 2 generations. In open areas not rare, more frequently reared from the host. *Bupalus piniarius* L, rarer *Semiothisa liturata* Cl. (Geometridae).

Senometopia separata (Rondani) [*Eucarcelia*]
Europe to Scandinavia; NS, NW, BW, BY, NB. Data of finds from End May to Mid July, possibly only 1 generation. In open areas very rare, most often reared from the host. Prefered hosts are *Endromis versicolora* L. (Endromididae), *Lymantria dispar* L. (Lymantriidae) and a few *Acronicta*-species (Noctuidae); a few more hosts (especially Notodontidae) have been reported, however possibly refer to *S. excisa*.

Senometopia susurrans (Rondani) [*Eucarcelia*]
Southern Europe to South-western Germany; BW (Oberrhein) / A, CH. Warm, dry areas. End May to Early September, probably 2 generations. On foliage; rare. Reared from an unidentified Geometrid catterpillar.

Thecocarcelia acutangulata (Macquart) [*incedens* (Rondani)]
Southern Europe, individuals also in Central Europe to Southern England; HE, BW / A. Warm, dry areas. End May to Early September, 2 generations. Very rare. *Thymelicus lineola* Ochs, *Halpe varia* Murr. (Hesperiidae).

Erycia fasciata Villeneuve
Southern Europe to the Tessin; A (Niederösterreich, Burgenland). Data of finds from End June to Mid August, probably 1 generation. Very rare. *Melitaea didyma* Esp. (Nymphalidae).

Erycia fatua (Meigen)
Europe to St. Petersburg; BW, BY, NB / A. Warm, dry, scrubby or open grassy countryside. Mid June to Early September, 1 generation. In warm areas locally common. *Melitaea athalia* Rott, *M. britomartis* Assm, *M. cinxia* L, *M. deione* Dup. (Nymphalidae).

Erycia festinans (Meigen)
Southern Europe, individuals also in Central Europe to Sweden; NB (Dessau). Warm, dry, open countryside. Early July to Early August (in Southern Europe from End May to Early July), 1 generation. In Central Europe very rare. *Melitaea cinxia* L, *M. didyma* Esp. (Nymphalidae).

Erycia furibunda (Zetterstedt) [*cinerea* Robineau-Desvoidy]
Southern Europe, individuals also in Central Europe to Belgium, St. Petersburg; BW (Freiburg), BY (Dachau), NB (Dessau, Berlin) / A (Admont). Mid June to Mid August, 1 generation. In Central Europe very rare. *Melitaea aurinia* Rott, *M. maturna* L. (Nymphalidae).

Xylotachina diluta (Meigen)
Europe to Scandinavia; NB (Lausitz) / A. End May to Early July in Southern Europe; from Central Europe no known records from open country. In open areas very rare, most often reared from the host. *Cossus cossus* L. (Cossidae).

Alsomyia capillata (Rondani)
Southern Europe to Southern Germany; BW (Kaiserstuhl), BY (Dachau) / A, CH (Jura). Warm, dry areas. Data of finds from Mid June to Mid August, probably 1 generation. Very rare. *Zygaena erythrus* Hueb, *Z. graslini* Led, *Z. purpuralis* Bruenn, *Z. transalpina* Esp. (Zygaenidae).

Townsendiellomyia nidicola (Townsend) [*Alsomyia*]
Southern Europe, individuals also in warmer Central Europe; NB (Elbauegebiet) / A (Niederösterreich, Burgenland). End June to Early August, 1 generation. In open areas very rare, more frequently obtained from the host. *Euproctis chrysorrhoea* L. (Lymantriidae).

6.2.7. Goniini

Platymya fimbriata (Meigen) [*Platymyia*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges. 2 generations: Mid May to Early July and Mid July to End September. In low vegetation; frequent. Host not known for certain; the morphology of *P. fimbriata* is not practically separable from North American *P. confusionis* (Sellers), the latter having been reared from *Crambus spp*. (Pyralidae).

Eumea linearicornis (Zetterstedt) [*Platymyia*, *westermanni* (Zetterstedt)]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes. Mid April to Mid October, several generations. On foliage; frequent. Various Tortricidae (especially *Archips*) as well as *Eurrhypara hortulata* L. (Pyralidae) and a few deciduous woodland dwelling Noctuidae (especially *Orthosia*, *Cosmia*).

Eumea mitis (Meigen) [*Platymyia*]
Europe to Sweden, Finland; SH, NS, NW, HE, BW, BY, NB / A, CH. Deciduous woodland, bushes. 2 generations: End April to End June and (more numerously) Early July to Early October. On foliage; rarer than the last species. Various Tortricidae, Pyralidae and Psychidae (*Psyche viciella* Schiff.), rarer a few Noctuidae living in deciduous woodland.

Myxexoristops abietis Herting
Central Europe to Sweden; BW, BY, NB / A, CH. Spruce forest. Mid June to Early September (especially July), 1 generation. In open areas very rare, more commonly reared from the host. *Cephalcia abietis* L, possibly also *C. falleni* Dalm. (Pamphiliidae).

Myxexoristops bicolor (Villeneuve)
Central Europe; HE, RP, BW, NB / A. Conniferous forest the highlands and the Alps. End May to Mid August, 1 generation. Very rare. *Cephalcia falleni* Dalm, *C. abietis* L. (Pamphiliidae).

Myxexoristops blondeli (Robineau-Desvoidy)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes. Mid April to End July (especially End May to End June), probably only 1 generation. On foliage; not rare. *Neurotoma saltuum* L. (Pamphiliidae); *Mesoneura opaca* Klug, *Pristiphora moesta* Zadd. (Tenthredinidae).

Myxexoristops bonsdorffi (Zetterstedt)
Temperate Europe to Sweden, Finland; NS, NW, BW, NB. End May to Early August, 1 generation. Rare. *Acantholyda posticalis* Mats, *A. erythrocephala* L. (Pamphiliidae).

Myxexoristops hertingi Mesnil
Temperate Europe to Poland; NW, NB / A. Pine forest. End May to Early July, 1 generation (single specimen also August/September = partial 2nd generation?). In open areas very rare, usually obtained from the host. *Acantholyda erythrocephala* L, rare *A. posticalis* Mats. (Pamphiliidae).

Myxexoristops stolida (Stein)
Temperate Europe to Scandinavia; SH, NS, NW, RP, BW, BY, NB / A, CH. Bushes, deciduous woodland. End May to Early July, 1 generation (individual specimens Mid July to End August = partial 2nd generation?). On foliage; not rare. Numerous Tenthredinidae, especially the genera *Croesus*, *Hemichroa*, *Nematus* and *Pristiphora*.

Euexorista obumbrata (Pandellé) [*Myxexoristops*]
Scattered through temperate Europe to St. Petersburg; NW (Arnsberg), BY (Dachau) / A (environs of Wien). Herbage in deforested areas. Mid July to Mid August, 1 generation. Very rare. Host not known for certain.

Zenillia dolosa (Meigen)
Europe to Northern Germany; NS, NW, BW, BY, NB / A. Mid May to Mid September, probably 2 generations. In open areas very rare, more commonly obtained from the host. Hyponomeutidae, rarer Oecophoridae, Tortricidae and Pyralidae, only individual also from a few Macrolepidoptera.

Zenillia libatrix (Panzer)
Europe to Scandinavia; NS, NW, BW, BY, NB / A, CH. Bushes, forest edges. End April to Mid September (especially May), probably 2 generations. In open areas slightly commoner than the previous species, and also most often reared from the host. Numerous Macrolepidoptera however only few Microlepidoptera; especially from *Thaumetopoea processionea* L. (Thaumetopoeidae), *Euproctis chrysorrhoea* L, *E. similis* Fuessl, *Lymantria dispar* L. (Lymantriidae), *Malacosoma neustria* L. (Lasiocampidae) and *Hyphantria cunea* Drur. (Arctiidae).

Clemelis pullata (Meigen)
Europe to Sweden, Finland (main distribution in Southern Europe); HE, BW, BY, NB / A, CH. Dry, warm forest edges, meadows, bushes. 2 generations: Mid May to End June and (more numerously) Early July to End September. In warmer Central Europe locally common, in the North very rare (frequent in Southern Europe). *Loxostege sticticalis* L. and different Pyralidae, rarer reports in a few Psychidae, Scythrididae and Tortricidae.

Pales processioneae (Ratzeburg) [*opulenta* Herting]
Southern Europe to South-western Germany; RP, BW / A, CH. Warmer Oak forest. 2 generations: Early May to End June and (much more numerously) Mid July to Early September. In warmer Central Europe locally common (commoner in Southern Europe). *Thaumetopoea processionea* L. (Thaumetopoeidae).

Pales pavida (Meigen) [*Ctenophorocera*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes, meadows. Spring generation from Mid April to End June, summer generation from Early July to Mid September, individual specimens at End October. (= partial 3rd generation?). On flowers or foliage; frequent. Polyphagous on numerous Macrolepidoptera and some Microlepidoptera.

Pales peregrina Herting
CH (the Tessin), A (Obertraun). August. Very rare. Host unknown.

Phryno vetula (Meigen)
Europe to Southern England, Denmark; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes. Mid April to End June, 1 generation. On foliage; frequent. Deciduous woodland dwelling Noctuidae (especially *Orthosia*, *Cosmia*) and Geometridae (especially *Erannis*), single records also from *Polyploca diluta* Denis & Schiff. (Thyatiridae) and *Lasiocampa quercus* L. (Lasiocampidae).

Cyzenis albicans (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes, orchards. Mid April to Mid June, 1 generation. On foliage; frequent, very frequent when the host is also very common. *Operophthera brumata* L. (Geometridae); individuals also reported from other deciduous woodland dwelling Geometridae, Noctuidae or Plutellidae.

Cyzenis jucunda (Meigen)
Temperate Europe to Sweden; NW, BW, BY, NB / A, CH. Mid April to Early June, 1 generation. Rare. Host not known for certain.

Bothria frontosa (Meigen)
Europe to Belgium, Southern Sweden; NW (Blankenstein), BW (Oberrhein) / A (Burgenland). Dry meadows or bushes in warm areas. Mid March to Mid May, 1 generation. Rare. *Noctua comes* Hueb, *Mesogona acetosellae* Denis & Schiff. (Noctuidae).

Bothria subalpina Villeneuve
Europe to Scandinavia; NW, HE, BW, NB / A, CH. Early April to End May, 1 generation. Rare. *Cosmia trapezina* L. (Noctuidae).

Ceromasia rubrifrons (Macquart)
Southern Europe, individuals also in Central Europe to Denmark; NS, NW, BW, BY, NB / A, CH. Warm, open countryside. End May to End September, probably 2 generations. In Central Europe rare (frequent in Southern Europe). *Zygaena spp.* (Zygaenidae), rare also from some Lymantriidae, Geometridae, Arctiidae, Hesperiidae, Nymphalidae and Pieridae.

Erycilla ferruginea (Meigen) [*Erycina rutila* (Meigen) by Mesnil (1944 - 1975)]
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Conniferous and deciduous woodland, moderately damp meadows; from the plain to highland areas. End May to Early October (especially Mid July to End August), possibly only 1 long generation. Visits flowers; often very frequent. *Tipula spec.* (Tipulidae).

Erycilla rufipes (Brauer & Bergenstamm)
Finds scattered through Europe; NB (Oberlausitz) / A (Kraubath/Mur). July (so far as is known). Very rare. Host unknown.

Allophorocera lapponica Wood
Northern Finland, Northern Sweden. July. Very rare. Host unknown.

Allophorocera pachystyla (Macquart)
Alps; A, CH. Scree and High Alpine grasslands from 1700 - 3000 m. End June to Mid August, 1 generation. Very rare. Host unknown.

Rhacodinella apicata (Pandellé) [*Discochaeta*]
Scattered through Europe (Pyrenees, the Tessin, Southern Poland, St. Petersburg); in the region still no proof. Mid June to Early September, 1 generation (partial 2nd generation possible). Usually very rare, locally however numerous. From Pine forest in Poland it has been known from different Noctuidae, Lymantriidae, Saturniidae and Geometridae.

Ocytata pallipes (Fallén) [*Rhacodineura*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes, meadows. Early May to End October (especially End July to End August), 2 generations. In Malaise traps regular and very frequent, however also on foliage and flowers not rare. *Forficula auricularia* L, rarer *F. tomis* Kol. and *Chelidurella acanthopygia* Gené (Forficulidae).

Pexopsis aprica (Meigen)
Europe to North-western Germany; NW, HE, RP, BW, BY, NB / A, CH. Warm, dry, open or scrubby countryside. End April to Early June, 1 generation. Very rare. Imagines from *Melolontha melolontha* L. and *Rhizotrogus aestivus* Oliv. (Scarabaeidae).

Erythrocera nigripes (Robineau-Desvoidy)
Europe to Brandenburg; BW, BY, NB / A, CH. Warm, dry, open countryside, prefers sandy areas. 2 clearly separate generations: Early May to Early June and Early August to Mid September. Caught in grass, locally common. Host unknown.

Eurysthaea scutellaris (Robineau-Desvoidy) [*Discochaeta hyponomeutae* (Rondani)]
Europe to Southern England and Northern Germany; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges. End April to Mid September (especially July), at least 2 generations. In open areas not rare, most often reared from the host. Hyponomeutidae, rarer Tortricidae and Pyralidae; also individuals reported from a few Geometridae, Noctuidae and Arctiidae reported.

Erynnia ocypterata (Fallén)
Europe to Scandinavia; NS (Hamburg area), NB (Brandenburg). Early May to Early September, 2 generations. In Central Europe very rare. *Sparganothis pilleriana* Schiff. (Tortricidae); rarer *Anacampsis obscurella* Denis & Schiff. and *Nothris obscuripennis* Frey. (Gelechiidae).

Elodia ambulatoria (Meigen) [*convexifrons* (Zetterstedt)]
Europe to Scandinavia; SH, HE, RP, BW, BY, NB / A, CH. Forest edges. Data of finds from End May to Early September. In open areas very rare (most only in Malaise traps), on the other hand frequently found from Bracket fungi. Tineidae in Bracket fungi (especially *Morophaga boleti* F.).

Elodia morio (Fallén) [*tragica* (Meigen)]
Europe to Scandinavia; SH, NS, NW, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes, orchards. Early April to Early September. (especially May/June), 2 generations. In open areas rare, on the other hand more commonly reared from the host. Numerous Tortricidae (especially *Tortrix viridana* L. and *Cydia pomonella* L.), however also a few Gelechiidae, Oecophoridae, Pyralidae and Plutellidae.

Sturmia bella (Meigen)
Europe to Finland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges; Prefers warmer areas. Main flight-time Mid July to Mid September, few specimens however Early May to Mid October. On flowers and foliage; in warmer Central Europe in open areas not rare (in the North rare), much more often reared from the host. Species of the genera *Aglais*, *Araschnia*, *Inachis*, *Nymphalis* and *Vanessa* (Nymphalidae); rarely individuals from other Macrolepidoptera.

Blepharipa pratensis (Meigen) [*Sturmia*, *scutellata* (Robineau-Desvoidy)]
Europe to Finland; SH, NW, HE, BW, BY, NB / A. Warmer, deciduous woodland, Pine forest. End April to End July (especially Mid May to Mid June), 1 generation. On foliage; frequent where 'Gypsy Moth' (*Lymantria dispar*) are massed, otherwise (especially in the North) rather rare. *Lymantria dispar* L. (Lymantriidae) and *Dendrolimus pini* L. (Lasiocampidae), individual reports from a few other Macrolepidoptera.

Blepharipa schineri (Mesnil) [*Sturmia*]
Europe to Brandenburg; BW, NB / A, CH. Warm deciduous woodland. Mid April to Early July (especially May), 1 generation (a maximum of approximately 3 weeks earlier than the previous species). On foliage; much rarer than the previous species. *Lymantria dispar* L. (Lymantriidae), also reported singly from some Notodontidae, Lasiocampidae and Endromididae.

Masicera pavoniae (Robineau-Desvoidy) [*pratensis* Meigen]
Europe to Northern Poland; NS, NW, HE, BW, BY, NB / A, CH. Open countryside, heath. Mid May to Early July, 1 generation. In open areas rare, more commonly reared from the host. *Saturnia pavonia* L, *S. pyri* Schiff, *S. spini* Schiff. (Saturniidae); other hosts only very rarely and exceptionally.

Masicera silvatica (Fallén)
Europe to Southern Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Open grasslands, dry slopes. Mid June to Early September (especially August), probably only 1 generation. Visits flowers; in warmer Central Europe locally frequent. *Macrothylacia rubi* L. (Lasiocampidae).

Masicera sphingivora (Robineau-Desvoidy) [*cuculliae* Robineau-Desvoidy]
Southern Europe, individuals also in Central Europe; HE, BW, BY, NB / A, CH. Warm, open countryside. End May to Early September, probably 2 generations. In Central Europe very rare, most often reared from the host. Sphingidae (especially *Celerio spp.*), however also different Noctuidae, Lymantriidae, Lasiocampidae and Nymphalidae, only now and then from hosts of other families.

Prosopea nigricans (Egger) [*Prosopaea*]
Southern Europe to the Wallis, Slovakia; A (Niederösterreich). Prefers warm mountainous areas. Early May to End September, several generations (Southern Europe). In Southern Europe locally frequent, in Central Europe very rare and probably restricted to very warm, rocky locations. Arctiidae the subfamily Lithosiinae (*Lithosia quadra* L, *Paidia murina* Hueb, *Eilema spec.*), rarer Arctiinae (*Tyria jacobaeae* L.).

Gaedia connexa (Meigen)
Southern Europe, individuals also in Central Europe; RP (Kreuzberg), NB (Dresden) / A. Warm, dry, open situations. Early July to Mid September, 1 generation (in Southern Europe 2 generations). In Central Europe very rare (not rare in warmer Austria). Host unknown.

Gaedia distincta Egger
France (Hautes-Alpes), CH (the Wallis), Slovakia; NB (Sachsen) / A (Wiener Neustadt). Data of finds from Mid June to Mid September. Very rare. Host unknown.

Hebia flavipes Robineau-Desvoidy
Temperate Europe to Southern Sweden, Finland; NS, NW, HE, RP, BW, BY, NB / A. Deciduous woodland. Mid April to Early June, 1 generation. On foliage or in Malaise traps; locally common. *Colotois pennaria* L, rarer *Larentia spec*. (Geometridae) or *Orthosia miniosa* Denis & Schiff. (Noctuidae).

Frontina laeta (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Thin woodland, warm, dry, open or scrubby countryside. Early July to End September (especially August), 1 generation. Visits flowers; in warmer areas not rare, in the North rare. *Smerinthus ocellatus* L, rarer *S. populi* L. or *Sphinx ligustri* L. (Sphingidae).

Thelymorpha marmorata (Fabricius) [*Histochaeta*]
Europe to Sweden, Finland; NS, HE, BW, BY, NB / A, CH. Prefers warm mountainous areas, only individual records from the plain. 2 generations: Early May to End June and Early July to Mid September. In Central Europe rare, commoner in southern places in the Alps. *Arctia caja* L, individuals also a few other Arctiidae, Lasiocampidae, Lymantriidae, Noctuidae or also Nymphalidae and Papilionidae.

Baumhaueria goniaeformis (Meigen)
Europe to Southern Sweden; NW (Krefeld-Uerdingen), HE (Frankfurt), NB (Berlin, Chemnitz, Genthin). End April to Early June, 1 generation. Visits flowers on *Euphorbia*; very rare, from the German-speaking areas only findings before 1924. Predominantly Lasiocampidae (*Eriogaster lanestris* L, *E. philippsi* Bart, *Malacosoma neustria* L. and *Lasiocampa trifolii* Esp.), however a few reports from Arctiidae, Noctuidae, Lymantriidae and Sphingidae.

Pachystylum bremii Macquart [*Chaetomera fumipennis* Brauer & Bergenstamm]
Southern Europe, individuals also in Central Europe; BY (Oberfranken) / A (Tirol, Steiermark), CH (Uri). Data of finds from Mid June to End August (Central Europe). Visits flowers; in Central Europe very rare, in Southern Europe (in warmer mountainous areas) locally frequent. Host unknown.

Brachicheta strigata (Meigen) [*Brachychaeta*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry meadows. End March to End May, 1 generation. Caught in grass; not rare. Host unknown.

Masistylum arcuatum (Mik)
Alps, Pyrenees; A (Steiermark). Places from 1200 to 2300 m. End July to Mid September, 1 generation. Very rare. Host unknown.

Gonia capitata (DeGeer) [*Salmacia*]
Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A. Dry meadows. End June to Early September, 1 generation. Visits flowers; usually rare. *Agrotis exclamationis* L, *A. segetum* Schiff, *A. ypsilon* Hufn, *Euxoa obelisca* Schiff. (Noctuidae).

Gonia distinguenda Herting [*Salmacia*]
Found scattered through Europe to Northern Germany; NW, BY, NB / A. Mid April to End May, 1 generation. Locally common. *Staurophora celsia* L, *Calamia tridens* Hufn. (Noctuidae).

Gonia divisa Meigen [*Salmacia*]
Europe to Southern Sweden; NS, NW, RP, BW, BY, NB / A. Thin woodland, dry meadows. Mid March to End May (especially End-April), 1 generation. In dry grass or on the bare ground; on sandy ground locally frequent, otherwise rare. Host unknown.

Gonia foersteri Meigen [*Salmacia*]
Finds scattered in Europe; NW (Stolberg), NB (Warnemünde) / A (Niederösterreich). March/April. Very rare (from Central Europe vouchers before 1924 only). Host unknown.

Gonia ornata Meigen [*Salmacia*]
Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A. Warm, dry, open areas, especially sandy areas, dunes. End March to End May (especially End April), 1 generation. On flowers or in dry grass; in Central Europe usually rare (commoner in Southern Europe). Predominantly Noctuidae (*Agrotis*, *Euxoa*, *Mamestra*, *Colocasia*, *Plusia*), individuals however also reported from Lymantriidae, Lasiocampidae and Psychidae.

Gonia picea (Robineau-Desvoidy) [*Salmacia*, *sicula* Robineau-Desvoidy]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry to moderately damp meadows. End February to Early June (especially April), 1 generation. In grass, rarer on flowers; usually frequent, locally and very frequent in some years. *Cerapteryx graminis* L, individuals from a few other Noctuidae.

Gonia vacua Meigen [*Salmacia*]
Southern Europe, individuals also in Central Europe; NW, HE, BW, NB / A, CH. In Central Europe restricted to very warm places. End April to Early June, 1 generation. Very rare (not rare in Southern Europe). Host unknown.

Onychogonia cervini (Bigot)
Alps, Norway; BY (Allgäu) / A (Lechtaler and Oetztaler Alps). Alpine places from 2000 to 2900 m. Mid July to Mid August, 1 generation. On mountain tops; very rare. *Orodemnias cervini* Fall. (Arctiidae).

Onychogonia flaviceps (Zetterstedt) [*interrupta* (Rondani)]
Alps, Apennines, Scandinavian mountains; A, CH. Alpine places from 1200 to 2000 m. End June to Early September. (especially End July/Early August), 1 generation. In low vegetation or on flowers; locally common. *Mamestra glauca* Hueb, *Plusia aemula* Denis & Schiff. (Noctuidae), *Gnophos caelibaria* H.-S. (Geometridae).

Onychogonia suggesta (Pandellé)
Alps, Pyrenees; BY (Risserkogel, Hochgern) / A (Kasberg). Alpine places from 1700 to 2900 m. Mid July to Mid August, 1 generation. On mountain tops; very rare. Host unknown.

Pseudogonia parisiaca (Robineau-Desvoidy) [*Isomera blondeli* Robineau-Desvoidy, *cognata* (Rondani)]
Southern Europe to Central France, the Wallis, Slovakia; A (Niederösterreich, Burgenland). In Central Europe only in especially warm places. 2 generations: Early May to End June and Mid July to Mid September. Rare (in Southern Europe locally common). Various Arctiidae.

Pseudogonia rufifrons (Wiedemann) [*Isomera cinerascens* (Rondani)]
Southern Europe to South-western Germany; BW (Oberrhein) / A (Niederösterreich). Open, grassy countryside. Mid June to Early September, possibly only 1 generation (in Southern Europe at least 2 generations). Rare (in Southern Europe frequent). Various Noctuidae (*Agrotis*, *Leucania*, *Mamestra*, *Apamea*, *Spodoptera*, *Heliothis*).

Spallanzania hebes (Fallén)
Europe to Sweden, Finland; HE, RP, BW, NB / A. Open, grassy countryside. 2 generations: Early June to Mid July and End July to Mid September. In warmer Central Europe not rare, commoner in Southern Europe. Noctuidae, especially *Agrotis segetum* Schiff, *A. exclamationis* L. and *Heliothis armigera* Hueb.

Spallanzania multisetosa (Rondani)
Southern Europe to the Wallis; in the region still no proof. End April to End August. In Southern Europe locally frequent. Host unknown.

Spallanzania quadrimaculata Herting
The Wallis, the Tessin, Piemont, Hungary; in the region still no proof. End June to Early September. Very rare. Host unknown.

6.3. Subfamily Tachininae

6.3.1. Tachinini

Tachina fera (Linnaeus) [*Echinomyia*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest, meadows. 2 generations: End April to End June and (more numerously) Mid July to Mid October. Visits flowers; usually very frequent. Numerous Noctuidae.

Tachina grossa (Linnaeus) [*Echinomyia*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Thin woodland, areas of heath. End June to Early September, 1 generation (in Southern Europe possibly 2 generations). Visits flowers; usually rare, locally and however frequent in some years. *Macrothylacia rubi* L. and *Lasiocampa quercus* L. (Lasiocampidae), rare a few other Lasiocampidae and Lymantriidae reported.

Tachina lurida (Fabricius) [*Servillia*]
Europe to Northern Germany and Southern England; SH, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes. Early April to Mid June, 1 generation. On foliage; not rare. *Orthosia stabilis* Denis & Schiff. and *O. cruda* Denis & Schiff. (Noctuidae); Single records also from *Cucullia verbasci* L. (Noctuidae), *Notodonta anceps* Goez. (Notodontidae), *Dendrolimus pini* L. and *Malacosoma neustria* L. (Lasiocampidae).

Tachina magnicornis (Zetterstedt) [*Echinomyia*, *vernalis* (Robineau-Desvoidy)]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Somewhat more heat-loving than *T. fera*; more in open, dry biotypes. Mid April to End September, at least 2 generations (no recognisably clear borders between the generations). Visits flowers; in Central Europe not so frequent as *T. fera* (in Southern Europe often commoner). Numerous Noctuidae (especially *Agrotis spp*, *Panolis flammea* Schiff.); reported once also from *Malacosoma* (Lasiocampidae).

Tachina nigrohirta (Stein) [*Servillia*]
Austria, Slovakia, Southern Germany; BW (Horb/Neckar, Bad Säckingen) / A (Oberösterreich). April, 1 generation. Very rare. Host unknown.

Tachina nupta (Rondani) [*Echinomyia*]
Southern Europe to Southern Germany; HE, BW, BY / A. Dry, warm forest edges, meadows. Data of finds from Early May to Mid September. Rare. A few Noctuidae reported from Kazakhstan and Japan.

Tachina praeceps Meigen [*Echinomyia*]
Southern Europe to Slovakia; from Central Europe only one old breeding record from Wiesbaden. Early May to End September (Southern Europe). Also in Southern Europe not frequent. *Euproctis chrysorrhoea* L. (Lymantriidae), *Malacosoma spp.* (Lasiocampidae) as well as a few Arctiidae, Noctuidae and Sphingidae.

Tachina ursina (Meigen) [*Servillia*]
Europe to Southern England, Finland; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Warm, dry forest edges, forest-paths. End March to Mid May, 1 generation. On the ground, on tree-trunks or in grass; usually rare. Host unknown.

Nowickia alpina (Zetterstedt)
Scandinavian mountains. July. Very rare. Host unknown.

Nowickia atripalpis (Robineau-Desvoidy)
Pyrenees (and other South European mountains), Alps, highlands; NS, BY, NB / A, CH. Usually in places between 900 and 2000 m, singles however also in the North German Plain. End June to End September, 1 generation. Rare (locally frequent in warmer parts of the Alps). Definite hosts unknown.

Nowickia ferox (Panzer)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, areas of heath, forest edges; in mountains to 1500 m. Mid June to Early October, 1 generation. Visits flowers; frequent. *Apamea monoglypha* Hufn. (Noctuidae).

Nowickia marklini (Zetterstedt)
Scandinavian mountains, Alps and higher highlands; BW (Schwarzwald), BY, NB (Erzgebirge) / A, CH. Meadows and forest in places from 1000 - 2200 m. Mid July to Early September, 1 generation. Usually rare. Host unknown.

Nowickia reducta Mesnil
Alps, Pyrenees; A, CH. Warmer mountainous areas from 1800 - 2900 m. Mid July to End August, 1 generation. Usually on mountain tops; rare. Host unknown.

Nowickia rondanii (Giglio-Tos)
South European Mountains, Alps (to Graubünden, the Wallis). Warmer mountainous areas from 600 - 2000 m. End April to Mid August (Southern Europe). Usually in the vicinity of mountain streams; in Southern Europe locally common. *Euterpia laudeti* Boisd. (Noctuidae).

Nowickia strobeli (Rondani)
Alps; BY / A, CH. Places from 1500 - 2000 m. End July to End August, 1 generation. Also on mountain tops; very rare. Host unknown.

Peleteria ferina (Zetterstedt)
Found scattered through Europe to Scandinavia; from Central Europe mostly old records only: NB (Thüringen) / A. Data of finds from Mid June to Mid August. Rare. *Hyphoraia aulica* L, individuals also *Arctia villica* L. and *Parasemia plantaginis* L. (Arctiidae).

Peleteria popeli (Portshinsky)
Found scattered through Europe to Southern Sweden; NW (Senne), BY, NB. Prefers sandy areas, especially on the Baltic coast. Data of finds from Mid July to Mid September. Very rare. *Coscinia striata* L. (Arctiidae).

Peleteria prompta (Meigen)
Alps; BY / A, CH. Places from 1500 - 2900 m. Mid June to End August, 1 generation. Usually found on mountain tops and sometimes frequent there. Host unknown.

Peleteria rubescens (Robineau-Desvoidy) [*nigricornis* (Meigen)]
Europe (predominantly Southern Europe) to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A. Warm, dry, open countryside; in Central Europe predominantly in sandy areas (in Southern Europe also in mountains to 2900 m). Mid May to End September, 2 generations. Caught in low vegetation or from flowers; locally frequent. Noctuidae the genera *Agrotis* and *Euxoa*, occasionally reported from other families.

Peleteria varia (Fabricius) [*pyrrhogaster* (Rondani)]
Southern Europe to Slovakia; A (Niederösterreich, Burgenland). Warm, dry, open countryside. Data of finds from Mid June to Mid September. In Central Europe very rare (frequent in Southern Europe). Host unknown.

Sarromyia nubigena Pokorny
Central Alps, Pyrenees; A (Ferwall). Places above the tree-line (2500 - 3000 m). July. Very rare. *Oreopsyche leschenaulti* Staud. (Psychidae).

Germaria angustata (Zetterstedt)
North Sea and Baltic coasts (rare inland); SH, NS. Sand dunes. Data of finds from End May to Mid August. Rare. Host unknown.

Germaria ruficeps (Fallén)
Temperate Europe to Scandinavia; BW, BY, NB / A, CH. Dry, warm areas. End June to Mid September, probably only 1 generation. Visits flowers; usually rare. Host unknown.

6.3.2. Nemoraeini

Nemoraea pellucida (Meigen)
Europe to Scandinavia; SH, NS, NW, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes. 2 generations: Early May to Early July and (much more numerously) Mid July to Early October (especially August). In warmer Central Europe locally frequent, in the North rare. Various Noctuidae and Arctiidae (especially *Hyphantria cunea* Drur.), rarer from a few Geometridae, Lymantriidae, Sphingidae and Notodontidae.

6.3.3. Linnaemyini

Linnaemya comta (Fallén) [*Linnaemyia*, *compta*]
Europe to Scandinavia; SH, NS, NW, HE, BW, BY, NB / A, CH. Prefers warmer, open areas. Data of finds from End May to Mid September. In Central Europe rare (more frequent in Southern Europe). *Agrotis ypsilon* Hufn, *A. segetum* Schiff, *A. exclamationis* L, *Euxoa aquilina* Schiff. (Noctuidae).

Linnaemya fissiglobula Pandellé [*Linnaemyia*]
Southern Europe, individuals also in Central Europe; BW (Oberrhein, Konstanz, Bonndorf), BY (Dachau) / A (Steiermark). Bushes. End June to End August, 1 generation. Visits flowers; usually rare. Host unknown.

Linnaemya frater (Rondani) [*Linnaemyia*]
Southern Europe to the Wallis, Slovakia; A (Niederösterreich, Steiermark, Burgenland). Dry, warm forest edges, bushes. Mid July to Early September, 1 generation. In Austria locally common. Host unknown.

Linnaemya haemorrhoidalis (Fallén) [*Linnaemyia*]
Scandinavia, Pyrenees, Alps, highlands; HE, BW, BY, NB / A, CH. In the forest-zone, usually between 500 and 1000 m. Early June to Mid September, probably only 1 generation. Not rare. Host unknown.

Linnaemya helvetica Herting [*Linnaemyia*]
Alps, Pyrenees and other high Southern European mountains; A (Tirol), CH (Graubünden). Warm situations, from the valleys to 2000 m. End May to Early August, 1 generation. Visits flowers; locally frequent (especially in Southern Europe). Host unknown.

Linnaemya impudica (Rondani) [*Linnaemyia*]
Southern Europe to Brandenburg; HE, BW, BY, NB / A, CH. Dry, warm areas. 2 generations: Mid May to End June and (more numerously) Mid July to End September. In Central Europe usually rare (commoner in Southern Europe). *Agrotis spec*. (Noctuidae).

Linnaemya media Zimin [*Linnaemyia*]
Southern Europe to the Wallis, Slovakia; A (Niederösterreich, Burgenland). Warm, dry, open areas. Mid May to End September, 2 generations (Southern Europe). Very rare (in Southern Europe locally common). In Japan reared from *Leucoma candida* Staud. and *L. salicis* L. (Lymantriidae).

Linnaemya olsufjevi Zimin [*Linnaemyia*]
Found scattered through Europe to Southern Sweden, St. Petersburg; NB (Sachsen-Anhalt) / A (Hausegg). Early July to Early August, 1 generation. Very rare (locally common in Southern Europe). *Leucoma salicis* L. (Lymantriidae).

Linnaemya perinealis Pandellé [*Linnaemyia*]
Central and Southern Alps, Southern Norway, St. Petersburg; in the region still no proof. From the valleys to 2000 m. Early July to End September, 1 generation. On flowers; rare. Host unknown.

Linnaemya picta (Meigen) [*Linnaemyia*, *retroflexa* Pandellé]
Europe to Northern Germany, St. Petersburg; NS, HE, RP, BW, BY, NB / A, CH. Warm forest edges, bushes. 2 generations: Mid May to Early July and (more numerously) Mid July to Early October. (especially August). Visits flowers; in warmer Central Europe often very frequent, in the North rare. *Agrotis spec*, *Amathes c-nigrum* L, *Eurois prasina* F, *Mamestra brassicae* L. (Noctuidae).

Linnaemya rossica Zimin [*Linnaemyia*]
Alps, highlands, Scotland, Sweden; BW, BY / A, CH. In the forest-zone, usually between 500 and 1000 m. Mid July to Mid September, 1 generation. Rare. *Amathes agathina* Dup. (Noctuidae).

Linnaemya steini Jacentkovsky [*Linnaemyia*]
Scattered finds through Europe to St. Petersburg; BY (Bad Kissingen). July (so far as is known). Very rare. Host unknown.

Linnaemya tessellans (Robineau-Desvoidy) [*Linnaemyia*, *pudica* (Rondani)]
Europe to Southern England (absent in Scandinavia, in Southern Europe rare); SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes, meadows. 2 generations: Mid May to End June and (more numerously) Mid July to Mid September. Visits flowers; frequent. *Amathes c-nigrum* L. (Noctuidae).

Linnaemya vulpina (Fallén) [*Linnaemyia*]
Europe to Scandinavia; SH, NS, NW, HE, BW, BY, NB / A, CH. Prefers warm, open areas (heath, meadows). Early July to Mid September, 1 generation. In warmer Central Europe not rare (frequent in Southern Europe). *Lycophotia porphyrea* Schiff, rarer *Blepharita satura* Denis & Schiff, *Chilodes maritima* Tausch. and *Nonagria geminipuncta* Haw. (Noctuidae).

Linnaemya zachvatkini Zimin [*Linnaemyia*]
The Tessin, Hungary; A (Graz). Data of finds from End May to End October. Only locally frequent in the Tessin, otherwise very rare. In Japan reared from *Leucania separata* Walk. (Noctuidae).

Chrysosomopsis aurata (Fallén) [*Chrysocosmius*]
Europe to Finland; HE, BW, BY, NB / A, CH. Forest edges, bushes; in warmer places in the Alps to 1800 m. Early June to Early September (especially July), 1 generation. Rare (commoner in Niederösterreich and warmer places in the Alps). *Mesoleuca alaudaria* Frey.; rarer *Eupithecia veratraria* H.-S. and *Horisme tersata* Denis & Schiff. (Geometridae).

Lydina aenea (Meigen)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes; in warmer places in the Alps to 2000 m. 2 clearly separate, similar strength generations: Early May to Early July and End July to Early October. In Malaise traps frequent, otherwise rather rare. Host not known for certain.

Lypha dubia (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, rarer also Pine and Larch forest. Early April to Early June, individual specimens at End June, 1 generation. On foliage and on tree-trunks; frequent, in some years very frequent. *Operophthera brumata* L. (rare a few different Geometridae) as well as different Tortricidae (especially *Zeiraphera diniana* Guen, *Rhyacionia buoliana* Schiff. and *Tortrix viridana* L.).

Lypha ruficauda (Zetterstedt)
Temperate Europe to Scandinavia (especially Alps, Northern Europe); SH, NS, NW, HE, BW, BY, NB / A, CH. Prefers cool, damp areas; in the Alps to 1700 m. Mid June to End August, 1 generation. Rare. *Hydriomena impluviata* Denis & Schiff. and *H. ruberata* Frey. (Geometridae).

Petagnia subpetiolata Rondani
Southern Europe (predominantly Alps) to the Wallis; A (Niederösterreich, Steiermark). Early July to Mid September, 1 generation. Very rare. Host unknown.

6.3.4. Ernestiini

Ernestia argentifera (Meigen) [*Meriania*]
Southern Europe, individuals also in warmer Central Europe; BY / A, CH. Mid April to End May, 1 generation. Very rare (also in Southern Europe not frequent). *Mesogona acetosellae* Denis & Schiff, *Orthosia cruda* Denis & Schiff, *O. miniosa* Denis & Schiff, *O. stabilis* Denis & Schiff, *Dryobotodes protea* Denis & Schiff. (Noctuidae).

Ernestia laevigata (Meigen) [*nielseni* (Villeneuve)]
Temperate Europe to Central Sweden; SH, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland. Mid April to End June, 1 generation. On foliage; not rare. Deciduous woodland dwelling Noctuidae (especially *Cosmia trapezina* L. and *Orthosia spp.*).

Ernestia puparum (Fabricius) [*Meriania*]
Europe to Southern Sweden; SH, NW, HE, RP, BW, BY, NB / A, CH. Warm, dry forest. End March to End May, 1 generation. Sitting on forest paths or on tree-trunks; usually rare. Host unknown.

Ernestia rudis (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, Pine forest. Early May to Mid July, 1 generation. On foliage; frequent. *Panolis flammea* Denis & Schiff, *Orthosia spp.* and a few other Noctuidae.

Ernestia vagans (Meigen)
Europe to Northern Sweden; NW, HE, BW, NB / A, CH. Deciduous woodland. End April to End June, 1 generation. On foliage; usually rare. *Polyploca flavicornis* L. and *P. ridens* F. (Thyatiridae).

Appendicia truncata (Zetterstedt) [*Ernestia*]
Northern Central Europe and Northern Europe; SH, NS, NW, NB. Grassy edges of Pine forest. Early May to Mid June, 1 generation. In grassy and herbaceous vegetation; locally common. *Cerapteryx graminis* L. (Noctuidae).

Fausta nemorum (Meigen) [*Ernestia*]
Europe to England, Northern Poland; BW, BY, NB / A, CH. Forest, bushes. Data of finds from Mid May to Early August (especially May/June). Rare (commoner in Southern Europe). Host not known for certain.

Eurithia anthophila (Robineau-Desvoidy) [*Eurythia*, *Ernestia*, *radicum* (Fabricius)]
Europe to Scandinavia (in Southern Europe rare); SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges. Mid July to Mid September, 1 generation. Visits flowers; frequent. *Spilosoma lutea* Hufn, *S. menthastri* Esper (Arctiidae); reported also from *Ptilodon capucina* L. (Notodontidae), *Mamestra oleracea* L. and *M. persicariae* L. (Noctuidae).

Eurithia caesia (Fallén) [*Eurythia*, *Ernestia*]
Europe to Scandinavia; SH, HE, RP, BW, BY, NB / A, CH. Prefers cool, damp areas (mountains). Data of finds from Early June to End September. Usually rare (commoner in the Alps and the Pyrenees). *Hadena spp*, once also from *Noctua pronuba* L. (Noctuidae).

Eurithia connivens (Zetterstedt) [*Eurythia*, *Ernestia*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Moderately damp to dry meadows, forest edges. Early July to Mid September, 1 generation. Visits flowers; not rare. *Euplexia lucipara* L. (Noctuidae).

Eurithia consobrina (Meigen) [*Eurythia*, *Ernestia*]
Europe to Scandinavia (in Southern Europe rare); SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. 2 generations: Mid May to Early July and (more numerously) Mid July to End September. Usually on flowers; not rare. *Mamestra spp.* (especially *M. brassicae* L.), only individual reports from other Noctuidae.

Eurithia gemina Mesnil [*Eurythia*]
Alps; BY (Allgäu). In the tree-zone from about 1500 - 2000 m. Mid June to End August, 1 generation. On flowers; very rare. Host unknown.

Eurithia incongruens Herting
Alps; BW (Kaiserstuhl). End May to Early August, probably 1 generation. On flowers or foliage; locally common (Kaiserstuhl). Host unknown.

Eurithia indigens (Pandellé) [*monticola* Mesnil]
Pyrenees, Alps (Hautes-Alpes, the Wallis). End July to Early August. Very rare. Host unknown.

Eurithia intermedia (Zetterstedt) [*Eurythia*, *Ernestia*, *conjugata* (Zetterstedt)]
Europe to Scandinavia; NB (Brandenburg). Dry, warm areas. End April to Mid June, 1 generation. On *Euphorbia*-flowers; rare. Host unknown.

Eurithia suspecta (Pandellé) [*Eurythia*]
Central Alps, Pyrenees; A, CH. Meadows and forest edges from 1200 - 2000 m. Early July to End August, 1 generation. Visits flowers; in warmer places the Alps not rare. Host unknown.

Eurithia vivida (Zetterstedt) [*Eurythia*, *Ernestia*]
Europe to Scandinavia; NW, BW, BY / A, CH. Mountainous areas to 2000 m, rare also in the plain. Mid May to Early September, at least in mountains only 1 generation. In mountains and in Northern Scandinavia not rare. Reported from *Orthosia opima* Hueb. and *Lithophane lambda* F. (Noctuidae).

Emporomyia kaufmanni Brauer & Bergenstamm
Central Alps; A, CH. Mid July to End August, 1 generation. Very rare. Host unknown.

Hyalurgus cruciger (Zetterstedt)
Scandinavian mountains, Alps, Pyrenees; A, CH. Places between 1200 and 2000 m. End June to End August, 1 generation. Visits flowers; usually rare. *Pristiphora laricis* Hart. and other species of the genus *Pristiphora*, *Pachynematus imperfectus* Zadd, *Anoplonyx ovatus* Zadd, *A. duplex* Lep, *Hemichroa crocea* Geoffr, *Nematus melanaspis* Hart, *N. umbratus* Thoms. (Tenthredinidae).

Hyalurgus lucidus (Meigen)
Europe to Scandinavia; HE (Bad Wildungen), RP (Eifel), BW (Schwarzwald), BY / A, CH. Forested-zone in mountains from 600 to 2000 m. Early July to End August, 1 generation. Visits flowers; in the Alps and in Northern Europe locally common, otherwise rare. Tenthredinidae of the genera *Pristiphora*, *Nematus*, *Croesus*, *Hemichroa* and *Trichiocampus*.

Hyalurgus tomostethi Cepelák
Czech Republic (Mähren), CH (the Tessin); in the region still no proof. Early April to End May, 1 generation. Very rare. *Tomostethus nigritus* F. (Tenthredinidae).

Gymnocheta magna Zimin [*Gymnochaeta*]
Only very scattered finds through Europe; BY (Dachauer and Murnauer Moos) / CH (Jura, Étang de Gruère). Moorland. Early May to End June, 1 generation. Very rare. Host unknown.

Gymnocheta viridis (Fallén) [*Gymnochaeta*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, meadows. Mid March to End June (especially Mid April to Mid May), 1 generation. In dry grass or on tree-trunks; usually frequent. *Photedes minima* Haw, *P. pygmina* Haw. and *Apamea secalis* L. (Noctuidae); possibly also *Scotopteryx chenopodiata* L. (Geometridae).

Zophomyia temula (Scopoli)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, Ruderal areas, forest edges. End April to Mid August (especially May/June), probably only 1 generation. Visits flowers; usually frequent. Host unknown.

Cleonice callida (Meigen) [*Steiniella*]
Temperate Europe to Scandinavia; NS, NW, HE, BW, NB / A. Thin woodland, bushes. Early May to Mid July, 1 generation. On foliage; rare. *Melasoma populi* L, rarer *M. saliceti* Weise and *M. vigintipuncatata* Scop. (Chrysomelidae).

Cleonice nitidiuscula (Zetterstedt)
Northern Scandinavia, St. Petersburg, Czech Republic. Cool, damp areas, moorland. June/July. Very rare. *Melasoma saliceti* Weise (Chrysomelidae).

Loewia adjuncta Herting
Found scattered through warmer Europe; A (Steiermark, Niederösterreich), CH (Jura). Prefers mountains. Early July to End August, 1 generation. Very rare. Host unknown.

Loewia foeda (Meigen)
Temperate Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A, CH. Forest, bushes, meadows. End June to End August, 1 generation. In Malaise traps not rare, otherwise rare. *Lithobius spec.* (Lithobiidae).

Loewia nudigena Mesnil
Alps, Pyrenees; RP (Altenahr) / CH (Jura). Data of finds from End June to End September. In Malaise traps or on flowers; locally frequent (Swiss Jura, Alps), otherwise very rare. Host unknown.

Loewia phaeoptera (Meigen)
Europe to Scandinavia; NW, HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes, meadows. End May to End August (especially July/August), probably 1 generation. Not rare. Host unknown.

Loewia piligena Mesnil
A (Kärnten, Steiermark, Burgenland). Data of finds from End July to Mid August. Very rare. Host unknown.

Loewia submetallica (Macquart) [*piliceps* Mesnil]
Europe to Southern Sweden; NS, RP, BW, BY / A, CH. Dry slopes, dry, warm forest edges, bushes. Early June to Mid August, 1 generation. Rare (more frequent in Southern Europe). Host unknown.

Synactia parvula (Rondani)
Warm areas in Central and Southern Europe; NS, NW, BW, BY, NB / A, CH. Forest edges, dry slopes. Mid July to Early September, 1 generation. Predominantly in Malaise traps or on flowers; not rare. Host unknown.

Eloceria delecta (Meigen) [*Helocera*]
Europe to Scandinavia; NW, HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes. End May to End September (especially July/August), possibly only 1 generation (?). In Malaise traps frequent, otherwise rather rare. *Lithobius forficatus* L, *L. spec.* (Lithobiidae).

6.3.5. Brachymerini

Pseudopachystylum gonioides (Zetterstedt)
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest areas (especially Conniferous forest in the highlands). Data of finds from Mid May to Early August (2 generations?). Rare. *Acantholyda posticalis* Mats, *A. erythrocephala* L, *Cephalcia spec.* (Pamphiliidae).

6.3.6. Pelatachinini

Pelatachina tibialis (Fallén)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges. 1 generation from End April to Early July (especially May); Single specimens from End July to End August might also be an incomplete 2nd generation. On foliage; frequent. *Aglais urticae* L, *Inachis io* L, *Nymphalis antiopa* L, *N. polychloros* L, *Vanessa atalanta* L, *V. indica* Herbst (Nymphalidae); only individuals reported from some Noctuidae.

6.3.7. Macquartiini

Macquartia chalconota (Meigen)
Europe to Southern Sweden, St. Petersburg; NW, BW, BY, NB / A. Prefers dry, warm areas. End May to Mid September, probably 2 generations. In low vegetation; rare (commoner in Southern Europe). Reported from *Chrysolina americana* L. (Chrysomelidae).

Macquartia dispar (Fallén)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes. 1 strong generation from End April to Early June, single specimens of succesive generation(s) to Mid October. On foliage; local and frequent in some years. Reported from *Chrysolina americana* L, *C. sanguinolenta* L. and *Timarcha normanna* Reiche (Chrysomelidae).

Macquartia grisea (Fallén)
Europe to Central Sweden; NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges. End April to Early October (especially May and July/August), at least 2 generations. On foliage; frequent. *Chrysolina fastuosa* Scop, *C. oricalcia* Muell, *C. sanguinolenta* L. (Chrysomelidae).

Macquartia macularis Villeneuve
Scattered finds through Southern Europe to the Wallis, Czech Republic. July. Very rare. Host unknown.

Macquartia nudigena Mesnil
Temperate Europe to Scandinavia; RP, BW, NB / CH. End April to End June, 1 generation. Rare. Host unknown.

Macquartia praefica (Meigen) [*Bebricia*]
Europe to Southern England; NW, HE, RP, BW, BY / A. Dry, warm forest edges, meadows. 1 generation from Early June to End July; individual specimens in August/September. Might also be an incomplete 2nd generation. On flowers or in grass; in warmer Central Europe not rare (commoner in Southern Europe). Only an old, doubtful record from *Chrysolina varians* Schall. (Chrysomelidae).

Macquartia pubiceps (Zetterstedt) [*nubilis* (Rondani)]
Europe to Scandinavia; NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes. End April to End October, at least 2 generations. In low vegetation; not rare. Host unknown.

Macquartia tenebricosa (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, meadows. Mid April to Early October, several generations. In low vegetation; frequent. *Chrysolina spp.* (especially *C. varians* Schall.) (Chrysomelidae).

Macquartia tessellum (Meigen) [*brevicornis* (Macquart)]
Southern Europe, only very scattered records in warmer Central Europe; BW (Konstanz) / CH (Jura). Prefers dry, open countryside. Data of finds from End May to Mid September. In low vegetation or on rocks; very rare (in Southern Europe frequent). Chrysomelidae (*Chrysolina*, *Phytodecta*, *Colaphellus*, *Entomoscelis*).

Macquartia viridana Robineau-Desvoidy [*flavipes* (Meigen)]
Europe to Southern England; HE, RP, BW, BY, NB / A, CH. Dry meadows, bushes. Early April to End June, 1 generation. Caught in grass; in warmer Central Europe not rare. Reported from *Colaphellus sophiae* Schall. (Chrysomelidae).

Macroprosopa atrata (Fallén)
Europe to Scandinavia; NS, NW, BW, BY, NB / A, CH. Forest edges, bushes. 2 generations: Mid May to Early July and (more numerously) Mid July to Mid October (especially August/September). Rare. Host unknown.

Anthomyiopsis nigrisquamata (Zetterstedt)
Found scattered through Europe to Northern Scandinavia; BW, BY / A, CH. Data of finds from Mid June to End August. Very rare (occurs earlier in Northern Europe). *Phyllodecta vitellinae* L, possibly also *Colaspidema atra* Oliv. (Chrysomelidae).

Anthomyiopsis plagioderae Mesnil
Southern Europe, individuals also in Central Europe; NW (Köln, Duisburg), BW. June (so far as is known). In open areas very rare, most often reared from the host. *Plagiodera versicolora* Laich, only once from *Phyllodecta vitellinae* L. (on *Salix*) (Chrysomelidae).

6.3.8. Triarthriini

Triarthria setipennis (Fallén) [*Digonochaeta*, *spinipennis* (Meigen)]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes. End April to End September (especially May/June), 2 generations (also one partial 3rd generation in very warm areas). In Malaise traps very frequent, otherwise rather rare. *Forficula auricularia* L, rarer *F. decipiens* Gené and *Chelidura albipennis* Charp. (Forficulidae).

Trichactia pictiventris (Zetterstedt)
Found scattered through Europe to Southern Sweden; HE (Kassel; old find) / A (Niederösterreich, Steiermark), CH (Jura, Vaud). Prefers mountains. Mid June to End August, 1 generation. Rare. Host unknown.

6.3.9. Neaerini

Neaera laticornis (Meigen)
Found scattered through Europe to St. Petersburg; in the region still no proof. Data of finds from Mid June to Early September, probably only 1 generation. Very rare (commoner in Southern England). *Eucosma fulvana* Steph. (Tortricidae), *Platyedra malvella* Hueb. (Gelechiidae).

Elfia bohemica (Kramer) [*Craspedothrix*]
Northern Europe, Alps and highlands; NB / CH. Prefers boreomontane conniferous forest. Data of finds from End May to Early August. Very rare. Reared from *Zeiraphera diniana* Guen, a further record from *Cydia pactolana* Zell. (Tortricidae).

Elfia cingulata (Robineau-Desvoidy) [*Craspedothrix*, *zonella* (Zetterstedt) in Herting (1960)]
Europe to Scandinavia; NW, RP, BW / A, CH. Forest. Early May to Mid October (especially August). In Malaise traps and also from the host not rarely found, otherwise hardly found. Microlepidoptera on bracket fungi or rotting wood, especially *Nemapogon spp*. (Tineidae), however also Oecophoridae, Gelechiidae, Tortricidae and Psychidae.

Elfia minutissima (Zetterstedt)
Temperate Europe to Scandinavia; NW, RP, BW / A, CH. Bushes, forest edges. End May to Mid September. In Malaise traps not rare. Host unknown.

Elfia nigroaenea Herting [*Craspedothrix*, *vivipara* (Brauer & Bergenstamm) in Herting (1960)]
Found scattered through Central and Northern Europe; BW (environs of Biberach/Riß, Schwarzwald) / A (Steiermark). Data of finds from End May to Early August. Very rare. *Cydia pactolana* Zell, *C. zebeana* Ratz. (Tortricidae).

Elfia riedeli (Villeneuve)
Poland (Schlesien), Sweden. Data of finds from End June to Early August. Very rare. Host unknown.

Elfia zonella (Zetterstedt) [*Craspedothrix*]
Temperate Europe to Sweden; NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes. 2 generations: Mid May to End June and (much more numerously) Early July to End September. In Malaise traps often frequent, otherwise rare. Host unknown; the record of *Oecophora bractella* L. (Oecophoridae) in Andersen (1988) is fallacious and refers to *Elfia cingulata*.

Gwenda canella (Herting) [*Elfia*]
Poland; CH (Graubünden). August. Very rare. Host unknown.

Phytomyptera vaccinii Sintenis [*gracilariae* (Hering)]
Scattered finds through Europe; BW (Stuttgart) / CH (Jura, St. Gallen). Data of finds from End May to Early August. Very rare. *Caloptilia elongella* L, *C. roscipenella* Hueb, *C. semifascia* Haw. (Gracilariidae), *Epinotia tedella* Cl. (Tortricidae).

Phytomyptera nigrina (Meigen)
Europe to Scandinavia; NW, BW, NB / A, CH. Bushes, forest edges, orchards. Early May to End September. In open areas rare, more commonly reared from the host. Numerous Microlepidoptera (Tortricidae, Pterophoridae, Gelechiidae, Plutellidae, Cochylidae & others).

Graphogaster brunnescens Villeneuve
Temperate Europe to Northern Sweden; SH, NS, NW, BW, NB. End June to Early September, probably 1 generation. Rare. *Acleris ferrugana* Denis & Schiff, *Epinotia proximana* H. S, *Petrova resinella* L. (Tortricidae), *Teleiodes notatella* Hueb. (Gelechiidae), *Leucoptera laburnella* Staint. (Lyonetiidae).

Graphogaster buccata Herting
Alps (Hautes-Alpes, the Wallis, Stilfser Joch), Finland. July/August. Very rare. Host unknown.

Graphogaster dispar (Brauer & Bergenstamm) [*Anurogyna*]
Alps, Pyrenees, Scandinavia; A (Oetztaler Alps), CH (Engadin). Areas near the tree-line. End June to Early August, 1 generation. Very rare. Host unknown.

Graphogaster nigrescens Herting
NB (Sachsen-Anhalt) / A (Burgenland). Mid April to Mid May, 1 generation. Very rare. Host unknown.

Ancistrophora mikii Schiner [*miki*]
Central Alps; CH (Engadin, Berner Oberland). High places above the tree-line. Early July to Mid August, 1 generation. On rocks and rubble, locally common. Host unknown.

6.3.10. Siphonini

Goniocera schistacea Brauer & Bergenstamm
Found scattered through Europe to Southern Sweden; NS, NB. Data of finds from Mid May to Mid June. Very rare. *Malacosoma castrensis* L. (Lasiocampidae).

Goniocera versicolor (Fallén)
Europe to Southern Sweden; NW (Krefeld-Uerdingen), NB (Sachsen). Early May to Early June, individual specimens also July/August. Rare. *Malacosoma neustria* L, a record also from *M. castrensis* L. (Lasiocampidae).

Entomophaga exoleta (Meigen) [*Actia*]
Southern France, Hungary, Slovakia, Southern England. April/May. Very rare. Host not known for certain.

Entomophaga nigrohalterata (Villeneuve) [*Ceromyia*]
Temperate Europe to Southern Sweden; NW, RP, BW, BY, NB / CH. Deciduous woodland. Mid April to Early June, 1 generation. In Malaise traps locally common, otherwise very rare. *Ypsolopha alpella* Schiff, *Y. costella* F, *Y. ustella* Cl. (Plutellidae).

Ceromya bicolor (Meigen) [*Actia*, *Ceromyia*]
Europe to Scandinavia; RP, BW, BY, NB / A. Dry, warm forest edges, bushes. Mid May to Mid July, 1 generation. Rare. *Lasiocampa quercus* L, rarer *Lasiocampa trifolii* Esp, *Eriogaster lanestris* L, *E. rimicola* Hueb. and *Gastropacha quercifolia* L. (Lasiocampidae), once also from *Phragmatobia fuliginosa* L. (Arctiidae).

Ceromya dorsigera Herting [*Ceromyia*]
Northern-Spain, the Tessin; BW (Oberrhein). Dry, warm areas. Data of finds from End June to End August. Rare. Host unknown.

Ceromya flaviceps (Ratzeburg) [*Ceromyia*]
Few finds in Central and Northern Europe; RP (Speyer), NB (Genthin, Berlin, Thüringen) / CH (Jura). Mid April to Early June, 1 generation. Rare. Reported from *Dendrolimus pini* L. (Lasiocampidae).

Ceromya flaviseta (Villeneuve) [*Ceromyia*]
Scattered through Central Europe; RP, BW, NB / CH. Forest edges. Early May to End June, 1 generation; 1 specimen Mid August (= partial 2nd generation?). Rare. Host unknown.

Ceromya monstrosicornis (Stein) [*Ceromyia*]
Southern England, Slovakia; NB (Mecklenburg). Early May to Mid June, 1 generation. Very rare. Host unknown.

Ceromya silacea (Meigen) [*Actia*, *Ceromyia*]
Europe to Scandinavia; NW, RP, BW, BY, NB / A. Bushes, forest edges. Data of finds from End May to End August (especially July/August). In Malaise traps or on foliage; locally common. *Lithacodia pygarga* Hufn. (Noctuidae).

Actia crassicornis (Meigen)
Europe to Scandinavia; NS, BW, BY, NB / A, CH. Prefers dry, warm areas. Early May to Early September (especially July/August). Locally common (commoner in Southern Europe). *Depressaria spp.* (Oecophoridae); very rare also from Tortricidae.

Actia dubitata Herting
Found scattered through Europe; HE, RP, BW, BY, NB / A, CH. Dry, warm forest edges. Mid May to End September (especially July/August). In Malaise traps not rare. *Depressaria spp.* (Oecophoridae).

Actia infantula (Zetterstedt)
Europe to Central Sweden; NW, RP, BW / A, CH. Dry, warm forest edges. Early June to End September. In Malaise traps not rare. *Monopis rusticella* Cl. (Tineidae).

Actia lamia (Meigen) [*frontalis* (Macquart)]
Europe to Scandinavia (rare in Southern Europe); NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, meadows. Early April to End September (from May to August without recognisable peak), at least 2 generations. In Malaise traps very frequent. *Epiblema scutulana* Denis & Schiff. (Tortricidae).

Actia maksymovi Mesnil
Alps, higher highlands, Scandinavia; BW (Schwarzwald) / A, CH. Conniferous woodland. Mid May to Early October, at least 2 generations. In Malaise traps not rare. Tortricidae (predominantly on *Larix*, however also on *Abies* and *Picea*).

Actia nigroscutellata Lundbeck

Northern Europe and cool areas of Central Europe; BW. Data of finds from Early July to End August. Very rare. *Rhopobota ustomaculana* Curt, *Cydia servillana* Dup, *Olethreutes spec*. (Tortricidae), *Elachista megerleella* Hueb. (Elachistidae).

Actia nudibasis Stein

Europe to Scandinavia; SH, NS, BW, NB / CH. Pine forest. 2 generations: Early May to Mid June and Mid July to End August. Regularly and most commonly reared from the host; in open areas rare. Microlepidoptera on *Pinus*: *Rhyacionia buoliana* Schiff. and *Petrova resinella* L. (Tortricidae), rarer *Dioryctria mutatella* Fuchs, *D. splendidella* H.-S. (Pyralidae) also *Exoteleia dodecella* L. (Gelechiidae).

Actia pilipennis (Fallén)

Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, bushes. Early May to End September, at least 2 generations. On foliage or in Malaise traps; not rare. Numerous Tortricidae (especially *Tortrix*), rarer from a few other Microlepidoptera.

Peribaea apicalis Robineau-Desvoidy [*Strobliomyia*]

Europe to Northern Germany; NW, RP, BW, BY, NB / A, CH. Dry, warm forest edges, bushes. 2 generations: Early May to Early July and Mid July to Mid September. On flowers or in Malaise traps; in warmer Central Europe not rare (commoner in Southern Europe). Various Geometridae (*Ematurga*, *Ennomos*, *Erannis*, *Alsophila*, *Apocheima*).

Peribaea fissicornis (Strobl) [*Strobliomyia*]

Europe to Scandinavia; SH, NW, RP, BW, BY, NB / A, CH. Prefers deciduous woodland. Mid April to End September, several generations. In Malaise traps or on foliage; not rare. Various Geometridae.

Peribaea tibialis (Robineau-Desvoidy) [*Strobliomyia*]

Europe to Northern Germany; NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, dry, warm forest edges. 2 generations: Early May to End June and (more numerously) Early July to Early October. Caught in a Malaise trap or in low vegetation; in warmer Central Europe (and in Southern Europe) very frequent. Various Noctuidae, rarer from a few other Macrolepidoptera; most records from Geometrids remain to be confirmed, a large part may possibly relate to *P. apicalis*.

Ceranthia abdominalis (Robineau-Desvoidy) [*anomala* (Zetterstedt)]

Europe to Scandinavia (in Southern Europe rare); NS, NW, HE, RP, BW, BY, NB / A, CH. Warm, dry areas. Early June to Mid September (especially August). Visits flowers; not rare. *Cosymbia spp*, once also from *Thera variata* Denis & Schiff. (Geometridae).

Ceranthia brunnescens (Villeneuve) [*Asiphona*]

Central Europe; NW, RP, BW, BY, NB / CH. Forest edges. 1 generation from Mid April to End May, individual specimens also in July (incomplete 2nd generation?). In Malaise traps locally common, almost never found without this trapping method. Host unknown.

Ceranthia lichtwardtiana (Villeneuve)

Finds scattered through Europe to England; NB (Potsdam) / A (Niederösterreich). Data of finds from Mid June to Early September. Very rare. *Eupithecia spp*, *Acasis viretata* Hueb. (Geometridae), *Oxyptilus pilosellae* Zell. (Pterophoridae).

Ceranthia pallida Herting

A (Steiermark, Niederösterreich). August (so far as is known). Very rare. *Eupithecia denotata* Hueb. (Geometridae).

Ceranthia samarensis (Villeneuve) [*Asiphona*]

Finds scattered in Europe to Southern Sweden; HE, BW / A. Warm, deciduous woodland. Data of finds from Early June to Early September. Rare. *Lymantria dispar* L, *Orgyia recens* Hueb. (Lymantriidae).

Ceranthia siphonoides (Strobl) [*Asiphona*]

Central Europe; NS, NW, BY, NB / A, CH. Prefers mountains (Alps and highlands), rarer in the plain. Mid July to End August, 1 generation. Rare. *Ecliptopera silaceata* Denis & Schiff, *Xanthorrhoe biriviata* Borkh, *Cabera pusaria* L. (Geometridae).

Ceranthia starkei (Mesnil) [*Asiphona*]

Central Europe; RP, BW, BY, NB / A, CH. Dry, warm forest edges. Early May to End June, 1 generation. In Malaise traps locally common. Host unknown.

Ceranthia tenuipalpis (Villeneuve)

Very scattered finds in Central and Northern Europe; NB (Berlin). June/July. Very rare. Host unknown.

Ceranthia tristella Herting

Alps, Sweden; A, CH. Data of finds from Early June to Early August. Very rare. *Eupithecia silenata* Assm, *E. undata* Frey. (Geometridae).

Ceranthia verralli (Wainwright)

Alps, Northern Europe; A (Kärnten). Data of finds from Mid July to Mid August. Very rare. Host unknown.

Siphona boreata Mesnil

Northern Europe, individuals also in Central Europe; NW, BW, BY, NB / A. Early May to Mid September. Rare. Host unknown.

Siphona collini Mesnil
Europe to Scandinavia; NW, HE, BW, NB / A, CH. Prefers dry, warm areas. Mid April to End September. Not rare. *Agrotis segetum* Schiff, *Euxoa obelisca* Schiff, *E. tritici* L, *Ochropleura candelisequa* Schiff, *Cerapteryx graminis* L. (Noctuidae).

Siphona confusa Mesnil
Europe to Scandinavia; NS, BW, NB / A, CH. End April to Mid July, probably only 1 generation. Rare. *Leucania litoralis* Curt, *Phlogophora meticulosa* L. (Noctuidae), *Oporinia autumnata* Borkh. (Geometridae).

Siphona cristata (Fabricius)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A. Mid May to Mid October (especially August). Not rare. Various Noctuidae (especially *Mamestra*).

Siphona flavifrons Staeger
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges. End May to Mid October (especially July/August). In Malaise traps or on flowers; frequent. Host not known for certain.

Siphona geniculata (DeGeer)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Damp meadows, wet woodland. Early May to End October. (especially August/September), several generations. Caught from flowers or in grass; very frequent. *Tipula spp*. (Tipulidae).

Siphona grandistylum Pandellé
Alps, Pyrenees, Norway; A (Tirol), CH (Jura). End June to Early August, 1 generation. Very rare. Host unknown.

Siphona hungarica Andersen
Hungary; BW (Sandhausen), NB (Sachsen-Anhalt) / A (Burgenland). Mid April to Early June, 1 generation. In Central Europe rare. Host unknown.

Siphona ingerae Andersen
Denmark, England, Sweden; NB. End March to End May, 1 generation. Rare. Host unknown.

Siphona maculata Staeger
Central and Northern Europe; NW, HE, RP, BW, BY, NB / A, CH. Forest edges. Early April to Mid June, 1 generation. Common. *Euxoa obelisca* Schiff. (Noctuidae).

Siphona martini Andersen
Sweden. Early July to Early August. Very rare. Host unknown.

Siphona mesnili Andersen
Northern Europe, Alps; NB. Early April to End June, 1 generation. In Northern Europe not rare. Host unknown.

Siphona nigricans (Villeneuve) [*hokkaidensis* Mesnil, *silvarum* Herting]
Europe to Scandinavia; BW, BY, NB / A, CH. Forest edges. Mid May to End September. Usually in Malaise traps; locally common. *Tipula irrorata* Macq. (Tipulidae).

Siphona paludosa Mesnil
Northern and Central Europe; NS, NW, HE, BW, BY / A. End May to End August. Rare. Host unknown.

Siphona pauciseta Rondani [*delicatula* Mesnil]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges, orchards. End April to Early October, several generations. In Malaise traps locally very frequent, otherwise rare. From Great Britain one record from *Polyploca flavicornis* L. (Thyatiridae).

Siphona rossica Mesnil
Europe to Sweden; NW, BW, NB / A. Mid May to Mid August. Very rare. Host unknown.

Siphona setosa Mesnil
Scattered through Europe to Scandinavia; NS, NW, NB / A. End July to End September, probably 1 generation. Rare. *Meganephria oxyacanthae* L. (Noctuidae), *Eupithecia succenturiata* L. (Geometridae).

Siphona variata Andersen
Denmark. June/July. Very rare. *Leucania litoralis* Curt. (Noctuidae).

6.3.11. Leskiini

Aphria latifrons Villeneuve
Southern Europe to Eastern France, the Wallis. Warm mountain valleys. End May to Mid September (Southern Europe). Very rare. Host unknown.

Aphria longilingua Rondani
Europe to Northern Germany; NS, NW, NB. Dry, warm areas. Early June to End August, 1 generation. In Central Europe very rare (commoner in South European mountains). Host unknown.

Aphria longirostris (Meigen)
Europe to Scandinavia; HE, BY, NB / CH. Dry, warm areas. Mid May to Mid September. Rare (commoner in South European mountains). *Nephopteryx hostilis* Steph, *N. rhenella* Zinck. (Pyralidae).

Aphria xyphias Pandellé
Southern Europe; A (Hainburg). Data of finds from Early June to Mid August. Very rare. Host unknown.

Demoticus amorphus Villeneuve
Scattered through Europe; BY (Nordbayern) / CH (Jura). Early June to End June, one find in End August. Very rare. Host unknown.

Demoticus plebejus (Fallén)
Europe to Scandinavia; NW, HE, BW, BY, NB / A, CH. Dry, warm areas. Mid June to End September (1 generation?). Visits flowers; not rare. Host unknown.

Bithia acanthophora (Rondani)
Southern Europe, individuals also in Central Europe; RP (Schloßböckelheim), BY (Taubertal). Early June to End August. Very rare. Host unknown.

Bithia demotica (Egger)
Southern Europe to the Wallis; A (Niederösterreich, Burgenland). Early June to Early September. Very rare (commoner in South European mountains). Host unknown.

Bithia geniculata (Zetterstedt) [*Rhinotachina*]
Northern Central Europe to Scandinavia; NB (Brandenburg). Sandy areas. Data of finds: June and End August to Early October. Rare. *Eucosma messingiana* Fisch. (Tortricidae).

Bithia glirina (Rondani) [*Rhinotachina*]
Southern Europe, individuals also in Central Europe; BW, BY, NB / A. Dry, warm areas. Mid June to Early August, 1 generation. Very rare. *Chamaesphecia spp.* (Sesiidae).

Bithia immaculata (Herting)
Southern Europe to Slovakia; in the region still no proof. Early June to Mid July. In Southern Europe not rare. Host unknown.

Bithia jacentkovskyi (Villeneuve)
Southern Europe, individuals also in Central Europe; RP (Boppard) / A (Burgenland). Early July to Mid September. Very rare. *Euzophera cinerosella* Zell. (Pyralidae).

Bithia modesta (Meigen) [*Rhinotachina*]
Southern Europe to the Wallis, also reported from Southern England; in the region still no proof. Mid May to End July, individuals also August/September (Southern Europe). Visits flowers; in Southern Europe frequent. *Bembecia spp.* (Sesiidae).

Bithia spreta (Meigen)
Europe to Southern Sweden; NW, HE, RP, BW, BY, NB / A, CH. Meadows, dry, warm forest edges. End June to End September (especially August), 1 generation. Visits flowers; in warmer Central Europe frequent, in the North rare. *Agapeta zoegana* L. (Cochylidae).

Atylostoma tricolor (Mik)
Few finds in Europe to Belgium; A (Hainburg a. D, Graz). End June to Early August. Very rare. *Eurrhypara hortulata* L. (Pyralidae).

Leskia aurea (Fallén)
Europe to Scandinavia; NW, HE, RP, BW, BY, NB / A, CH. Forest edges, bushes. 2 generations: End May to End June and (much more numerously) Mid July to Early September. Visits flowers; not rare. Wood-boring Sesiidae (especially *Synanthedon vespiformis* L. and *S. myopaeformis* Borkh.).

Solieria borealis Ringdahl
Sweden (Jämtland, Lapland). July. Very rare. Host unknown.

Solieria fenestrata (Meigen) [*fuscana* Robineau-Desvoidy]
Europe to Northern Germany, Southern England; SH, NW, HE, RP, BW, BY, NB / A, CH. Meadows, dry, warm forest edges. 2 generations: Early May to End June and Early July to Mid September. Visits flowers; frequent. Host unknown.

Solieria inanis (Fallén)
Europe to Scandinavia; NS, HE, BW, BY, NB / A, CH. Forest edges. Early May to End September (especially July/August). Not rare. Host not known for certain.

Solieria pacifica (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Moderately damp to dry meadows, forest edges. Mid May to Early October (especially July/August), several generations. Caught in a Malaise trap, on flowers or in grass; very frequent. *Olethreutes striana* Denis & Schiff. and *O. lucivagana* Zell. (Tortricidae).

Solieria vacua (Rondani)
Europe to England; RP, BW / A, CH. Meadows, dry, warm forest edges. 2 generations: End May to Mid June (only single specimens) and End July to Mid September (numerously). Visits flowers; in warmer Central Europe not rare. One breeding report either from *Epiblema medullana* Staud. (Tortricidae) or *Agapeta zoegana* L. (Cochylidae).

6.3.12. Minthoini

Mintho rufiventris (Fallén)
Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A, CH. Forest edges, bushes. End April to Early October. On flowers, foliage and in grass, regularly found also in buildings on windows; not rare (in Southern Europe

frequent on mountain tops on rocks). *Herculia glaucinalis* L, *Myelois ceratoniae* Zell. (Pyralidae), *Bembecia ichneumoniformis* F. (Sesiidae).

Minthodes picta (Zetterstedt)
Western and Southern Central Alps, Pyrenees, Northern Sweden. Warmer Alpine places from 1000 to 2000 m. Mid June to Mid August, 1 generation. Locally common. *Myrmecozela ochraceella* Zell. (Tineidae).

6.3.13. Microphthalmini

Microphthalma europaea Egger
Southern Europe, individuals also in warmer Central Europe (to Paris); A (Niederösterreich). Open, dry countryside. Probably 2 generations: Early June to End July and Early August to End September. Very rare (not rare in Southern Europe). Various Scarabaeidae (e.g. *Amphimallon*, *Cetonia*, *Melolontha*, *Oryctes*, *Polyphylla*).

Dexiosoma caninum (Fabricius) [*canina*]
Temperate Europe to Scandinavia; SH, NS, NW, HE, BW, BY, NB / A, CH. Forest edges, bushes. Mid June to End September, 1 generation. On foliage; often frequent. Host not known for certain.

Melisoneura leucoptera (Meigen)
Southern Europe, individuals also in warmer Central Europe; BW (Oberrhein), BY (Taubertal, Dachau) / A (Niederösterreich). Dry meadows, bushes. Early June to End June, 1 generation. Rare. *Serica spec.* (Scarabaeidae).

Angiorhina fulvicornis (Zetterstedt) [*Myiophasia*]
Northern Sweden, St. Petersburg. Very rare. Host unknown.

Angiorhina puncticeps (Zetterstedt) [*Myiophasia*, *asiatica* (Herting)]
Sweden. Very rare. Host unknown.

6.4. Subfamily Dexiinae

6.4.1. Dexiini

Trixa alpina Meigen [*Murana*]
Alps, Northern Europe; BW (Isny), BY / A, CH. Mid May to End August. Very rare. Host unknown.

Trixa caerulescens Meigen [*Murana*]
Temperate Europe to Scandinavia; NW, BW, BY, NB. Prefers cooler places (North German Plains, highlands). Early May to End June, 1 generation. In low vegetation; usually rare. Host unknown.

Trixa conspersa (Harris) [*oestroidea* (Robineau-Desvoidy), *variegata* Meigen]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows and forest edges usually cooler places (highlands). 2 generations: Early May to Mid July and End July to Early October. In fresh herbage; usually frequent. *Hepialus lupulinus* L, *H. spec.* (Hepialidae).

Billaea adelpha (Loew) [*subrotundata* (Rondani)]
Southern Europe to the Wallis, the Tessin; A (the Vienna baisin). Dry, warm areas. Mid June to End August, 1 generation. Visits flowers; rare (commoner in Southern Europe). *Aromia moschata* L, *Lamia textor* L, *Prionus coriarius* L, *Tetropium fuscum* F. (Cerambycidae); *Capnodis tenebrionis* L. (Buprestidae).

Billaea fortis (Rondani)
Southern Europe to the Tessin. End July to Mid October. Rare. Host unknown.

Billaea irrorata (Meigen)
Europe to Scandinavia; SH, NS, NW, HE, BW, BY, NB / A, CH. Bushes, forest edges. Mid June to Mid August, 1 generation. In open areas very rare, however usually frequently reared from the main host. *Saperda populnea* L, rare also *Oberea spp.* (Cerambycidae).

Billaea pectinata (Meigen)
Southern Europe and warmer parts of Central Europe; BW, BY / A, CH. End June to Early September, 1 generation. Locally common. *Cetonia aurata* L, *Potosia cuprea* L, *Amphimallon solstitialis* L. (Scarabaeidae), *Prionus coriarius* L. (Cerambycidae).

Billaea steini (Brauer and Bergenstamm)
Sweden (Gotland), Hungary. July (so far as is known). Very rare. Host unknown.

Billaea triangulifera (Zetterstedt)
Europe to Scandinavia (in Southern Europe only in mountains); NW, HE, BW, BY, NB / A, CH. Prefers cool, damp areas (highlands). 2 generations: Mid May to Mid June (only single specimens) and Early July to End September (numerously). Visits flowers; frequent. Cerambycidae (*Tetropium*, *Stenostola*, *Acanthocinus*, *Leiopus*, *Oplosia*, *Morimus*, *Pyrrhidium*, *Rhagium*, *Saperda*, *Saphanus*, *Xylotrechus*).

Villanovia villicornis (Zetterstedt)
Lapland; A (Ennstaler Alps), CH (Graubünden). End July to Mid August. Very rare. *Acmaeops septentrionis* Thoms, *A. marginata* F. (Cerambycidae).

Dinera carinifrons (Fallén) [*Phorostoma*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, meadows; in the Alps to 2000 m. End May to Early October. (especially August), possibly 2 generations. Visits flowers; frequent. In Great Britain reported from *Aphodius ater* DeG. (Scarabaeidae).

Dinera ferina (Fallén) [*Phorostoma*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, deforested areas, meadows. Early June to End September (especially End July to Mid August), probably only 1 generation. Visits flowers; locally very frequent. *Sinodendron cylindricum* L, ?*Dorcus parallelopipedus* L. (Lucanidae); *Helops coeruleus* L. (Tenebrionidae).

Dinera grisescens (Fallén)
Europe to Scandinavia; NS, NW, HE, BW, BY, NB / A, CH. Ruderal areas, dry meadows. End May to Early October (without a peak), probably at least 2 generations. Caught in low plant growth; usually frequent. *Harpalus spec.* (Carabidae).

Estheria bohemani (Rondani)
Europe to Scandinavia; NW, NB / A, CH. Prefers mountains (to 1900 m). Mid June to Early September. In the Alps locally frequent, otherwise rare. Host unknown.

Estheria cristata (Meigen)
Europe to Northern Germany, England; NS, NW, HE, BW, BY, NB / A, CH. Meadows, bushes. End June to Early September (especially July), 1 generation. Visits flowers; in warmer Central Europe not rare (commoner in Southern Europe). *Phyllopertha horticola* L. (Scarabaeidae).

Estheria petiolata (Bonsdorff) [*Dexiomorpha*]
Europe to Finland; BY, NB (Brandenburg, Thüringen) / A, CH. Prefers mountains (to 1900 m). Mid June to Early September, 1 generation. In warmer places the Alps frequent, otherwise rare. *Amphimallon solstitialis* L. (Scarabaeidae).

Estheria picta (Meigen) [*Dexiomorpha*]
Europe to Northern Germany, St. Petersburg; NS (Lüneburg), NB (Brandenburg) / A (Burgenland). Prefers warm sandy areas. End July to Mid September, 1 generation. Local and frequent in some years (Frankfurt/Oder), otherwise rare. *Rhizotrogus spp*, *Amphimallon spp.* (Scarabaeidae).

Dexia rustica (Fabricius)
Europe to Central Sweden; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, deforested areas. Early June to Early October (especially July), 1 generation. On flowers or in grass; locally common. *Melolontha spp*, *Amphimallon solstitialis* L, individuals also *Phyllopertha horticola* L, *Rhizotrogus aequinoctialis* Herbst and *R. marginipes* Muls. (Scarabaeidae).

Dexia vacua (Fallén)
Europe to Scandinavia; HE, BW, BY, NB / A. Early July to End September, 1 generation. Rare. *Serica brunnea* L. (Scarabaeidae).

Prosena siberita (Fabricius)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, dry slopes (especially sandy areas). Mid June to Early October (especially July/August), 1 generation. Caught from flowers or in grass; in warmer Central Europe frequent. *Anomala spp.*; from Japan also reported from *Adoretus*, *Mimela*, *Popillia* and *Serica* (Scarabaeidae).

Zeuxia brevicornis (Egger)
South-east Europe to Triest, Hungary, Slovakia; possibly also in Austria. Mid June to Early August, 1 generation. Rare. Host unknown.

Zeuxia cinerea Meigen
Europe to Paris, Brandenburg; BW, BY, NB / A, CH. Dry open countryside. End May to Mid September, probably 2 generations. In low vegetation, usually on flowers; rare (frequent in Southern Europe). *Cleonus mendicus* Gyll, *Larinus obtusus* Gyll, *L. planus* F. (Curculionidae).

Zeuxia subapennina Rondani
Southern Europe, individuals also in warmer Central Europe; A (the Vienna baisin), CH (Aargau, Graubünden). Dry, warm areas. End June to Early August, 1 generation. Very rare (commoner in Southern Europe). *Phytoecia cylindrica* L. (Cerambycidae).

6.4.2. Voriini

Eriothrix apenninus (Rondani) [*apennina*]
Southern Europe to Western Alps (Hautes-Alpes), Slovakia; in the region still no proof. Early June to Early September. In Southern Europe not rare. Host unknown.

Eriothrix argyreatus (Meigen) [*argyreata*]
Europe to Southern Sweden; BY (Nürnberg), NB (Brandenburg) / A (Tirol, Burgenland), CH (Graubünden). Prefers sandy areas. Early July to Early September, 1 generation. Rare (commoner in dry, warm Alpine valleys). Host unknown.

Eriothrix micronyx Stein
Alps; A (Oetztaler Alps), CH (Graubünden). High places from 2000 m. August. Very rare. Host unknown.

Eriothrix monticola (Egger)
Alps, Pyrenees, Apennines; BY / A, CH. From the valleys to 2000 m. Mid June to Early September, 1 generation. Not rare. Host unknown.

Eriothrix prolixa (Meigen)
Europe to Scandinavia; BW, BY, NB / A, CH. Meadows. 2 generations: End May to Early July and Mid July to Mid September. Locally common. *Onocera obductella* Zell, possibly also *Pyrausta porphyralis* Denis & Schiff. (Pyralidae).

Eriothrix rufomaculatus (DeGeer) [*rufomaculata*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, Ruderal areas, fields. 1 strong generation in high-summer from End June to Early October (especially Mid July to End August), very few specimens also in May (partial Spring generation). Caught from flowers or in grass; very frequent. Host not known for sure.

Trafoia gemina Herting
Sweden (Södermanland); A (Schladminger Tauern). June (so far as is known). Very rare. *Cosmorrhoe ocellata* L. (Geometridae).

Trafoia monticola Brauer & Bergenstamm
Europe to Sweden; BY, NB / A, CH. Mountainous areas to 1800 m. Mid June to End September, probably 2 generations. Rare. Host unknown

Campylocheta fuscinervis (Stein) [*Campylochaeta*]
Europe to Brandenburg, Northern Poland; HE, RP, BW, BY, NB / A. Meadows. Early April to Mid May, 1 generation. Rare. Reported from *Thyatira batis* L. (Thyatiridae).

Campylocheta inepta (Meigen) [*Campylochaeta*]
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Areas of heath, bushes, thin forest edges. Mid May to End August (especially June/July), probably only 1 generation (in Southern Europe at least 2 generations from March to November). Locally frequent. Numerous Geometridae, however also a few Noctuidae or individuals from other Macrolepidoptera.

Campylocheta latigena Mesnil [*Campylochaeta*]
Southern France; A (Burgenland). April/May. Very rare. Host unknown.

Campylocheta praecox (Meigen) [*Campylochaeta*]
Temperate Europe to Scandinavia; NS, NW, HE, BW, NB / A, CH. Deciduous woodland. End March to End May (especially April), 1 generation. On tree-trunks; not rare. *Colotois pennaria* L, *Crocallis elinguaria* L. (Geometridae), *Thyatira batis* L. (Thyatiridae).

Blepharomyia angustifrons Herting [*pagana* (Meigen) in Herting (1960)]
Temperate Europe to Sweden; NW (Dorsten), RP (Mainz), BY (Amberg), NB (Berlin) / CH (Jura). Early May to End May, 1 generation. Rare. Single records from *Panolis flammea* Denis & Schiff. (Noctuidae).

Blepharomyia pagana (Meigen) [*amplicornis* (Zetterstedt)]
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland. Mid April to Mid June (in mountains to Mid July), 1 generation. In Malaise traps or on foliage; not rare. Deciduous woodland dwelling Geometridae, very rare also a few Noctuidae and Notodontidae.

Blepharomyia piliceps (Zetterstedt)
Temperate Europe to Scandinavia; NS, NW, BY, NB / A, CH. Prefers cooler places (Northern Europe, mountains). Early April to Mid May (in mountains to Early July), 1 generation. In open areas very rare; most often reared from the host. Various Geometridae (especially *Lygris populata* L.); Single records also from one Noctuidae (*Lithomoia solidaginis* Hueb.).

Peteina erinaceus (Fabricius) [*Petina*]
Europe to Scandinavia; NS, BW, NB / A. End June to Mid August, 1 generation. Rare. One old breeding record each from *Cucullia asteris* Denis & Schiff. and *Plusia gamma* L. (Noctuidae).

Petinarctia stylata (Brauer & Bergenstamm)
Northern Europe (Sweden), Greenland. May/June. Rare. Host unknown.

Ramonda delphinensis (Villeneuve)
West and Central Alps. Places between 1500 and 2300 m. Early July to Early August, 1 generation. Visits flowers; rare. Host unknown.

Ramonda jugorum (Villeneuve) [*Peteinomima*]
Alps; A (Arlberg), CH (Berner Alps). July. Very rare. Host unknown.

Ramonda latifrons (Zetterstedt) [*Wagneria*]
Europe to Scandinavia; SH, NS, RP, BW, BY, NB / CH. Bushes, meadows. 2 generations: End May to Early July and Early August to End September. Rare. *Leucania ferrago* F, *L. spec.* (Noctuidae).

Ramonda plorans (Rondani)
Southern Europe, individuals also in warmer Central Europe; A (Mödling). Data of finds from End April to Mid September. (Southern Europe). Very rare. *Phragmatobia fuliginosa* L. (Arctiidae).

Ramonda prunaria (Rondani) [*Wagneria*]
Europe to Scandinavia; HE, BW, BY, NB / A, CH. Bushes, dry, warm deciduous forest edges; in the Alps in warmer places to 2100 m. Mid April to Mid September (without a peak), at least 2 generations. In warmer Central

Europe in Malaise traps frequent, otherwise rather rare. Noctuidae (*Leucania*, *Caradrina*, *Ochropleura*, *Cerapteryx*, *Agrochola*, *Meristis*, *Noctua*).

Ramonda prunicia (Herting)
Southern Europe, individuals also in Central Europe; NB (Brandenburg, Sachsen, Sachsen-Anhalt) / A (Tirol). Dry, warm areas. Data of finds from End May to End August. Very rare (also in Southern Europe not frequent). *Agrotis spec*, *Bena fagana* F. (Noctuidae).

Ramonda ringdahli (Villeneuve) [*Wagneria*]
Northern Europe, Alps, Pyrenees; BW (Bad Mergentheim); A (Tirol, Steiermark). Data of finds from End May to End September. In open areas very rare; most often reared from the host. *Entephria caesiata* Denis & Schiff, *Oporinia autumnata* Borkh, *O. dilutata* Schiff. (Geometridae).

Ramonda spathulata (Fallén) [*Wagneria*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges. A strong Spring generation from Mid April to Mid June and subsequently found singlely to End October. On foliage or in Malaise traps; often frequent. Various Noctuidae.

Periscepsia carbonaria (Panzer) [*Wagneria*, *nigrans* (Meigen)]
Europe to Scandinavia; BW, BY, NB. Prefers warm sandy areas (dunes, thin Pine forest). Mid May to End October, several generations. In low vegetation or on rocks; locally common. *Agrotis spp*, *Euxoa obelisca* Schiff. (Noctuidae).

Wagneria alpina Villeneuve [*Aphelogaster*]
Alps, Pyrenees, Scandinavia; CH (Graubünden). Warmer Alpine places from 1200 to 2400 m. Mid June to End August, 1 generation. Usually on rocks; locally common. Host unknown.

Wagneria costata (Fallén)
Europe to Scandinavia; NW, BW. Bushes, dry, warm forest edges. Early May to End June, 1 generation. In Malaise traps or on foliage; rare. Host not known for certain.

Wagneria cunctans (Meigen)
Southern Europe, individuals also in Central Europe; NB (Frankfurt/Oder). Early April to End May, 1 generation. Very rare (in Southern Europe on rocks locally frequent). *Agrochola lychnidis* Denis & Schiff. (Noctuidae).

Wagneria gagatea Robineau-Desvoidy [*succincta* Meigen]
Temperate Europe to Northern Germany, Southern England; NW, BW, BY, NB / A, CH. Deciduous woodland. End April to End June, 1 generation. In Malaise traps or on foliage; in warmer Central Europe locally frequent. One breeding record each from *Drymonia ruficornis* Hufn. (Notodontidae), *Orthosia cruda* Denis & Schiff, *O. stabilis* Denis & Schiff, *Conistra vaccinii* L. (Noctuidae), *Operophthera brumata* L, *Erannis defoliaria* Cl. (Geometridae) and *Araschnia levana* L. (Nymphalidae).

Kirbya moerens (Meigen)
Southern Europe and warmer parts of Central Europe (to Paris, Aachen); NW, RP, BW / CH. Meadows, forest edges. End Feb to Mid May, 1 generation. In dry grass and on leaf-letter of the previous year; usually rare, local however frequent in some years (Oberrhein). Host unknown.

Kirbya unicolor Villeneuve
NB (Frankfurt/Oder). Mid March to End-April, 1 generation. Very rare. Host unknown.

Athrycia curvinervis (Zetterstedt)
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Early July to Mid September (single specimens from Early June), possibly only 1 generation. Locally common. *Mamestra spp*, once also from *Euplexia lucipara* L. (Noctuidae).

Athrycia impressa (Wulp)
Europe to Scandinavia; NS, NW, BY, NB / A. Data of finds from Mid June to Mid August (in Southern Europe from End April to Early September). Rare (commoner in Southern Europe). *Anarta myrtilli* L, *Leucania evidens* Hueb. (Noctuidae); *Rhyparia purpurata* L. (Arctiidae).

Athrycia trepida (Meigen)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Forest edges, meadows. End April to Mid July. On flowers or foliage; frequent. Various Noctuidae (especially *Orthosia spp.*).

Voria ruralis (Fallén)
Europe to Scandinavia; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges. Mid May to Early November (especially August/September), several generations. In low (mostly herbaceous) vegetation and on flowers; very frequent. *Plusia spp.* (especially *P. gamma* L.), very occasionally also other Noctuidae or other Macrolepidoptera.

Cyrtophleba ruricola (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, meadows, forest edges. Early April to End September (especially May/June). On foliage or flowers; in warmer Central Europe (and in Southern Europe) frequent. Various Noctuidae (especially *Apopestes spectrum* Esp.), *Pachycnemia hippocastanaria* Hueb. (Geometridae).

Cyrtophleba vernalis (Kramer)
Southern Sweden, Slovakia, Poland, St. Petersburg; NB (Oberlausitz). Mid April to Early June, 1 generation. Very rare. Host unknown.

Hyleorus elatus (Meigen) [*Steiniomyia*]
Europe to Holland, Northern Germany, Northern Poland; NS, NW, RP, BW, BY, NB / A. Deciduous woodland, bushes. Mid July to Early September, 1 generation. On foliage; rare. *Euproctis similis* Fuessl, in Japan also *E. xanthocampa* Dyar (Lymantriidae).

Klugia marginata (Meigen)
Europe to Scandinavia; BY, NB / A. Meadows, dunes; in mountains in warm places to 2000 m. End May to Early July, few specimens also in August (incomplete 2 generation?). Rare. Host unknown.

Chaetovoria antennata (Villeneuve)
Central and Western Alps, Northern Scandinavia. High places in the mountains to 2800 m. Early July to End July, 1 generation. Very rare. Host unknown.

Phyllomya volvulus (Fabricius) [*Phyllomyia*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous and conniferous forest, deforested areas, bushes; in mountains to 1900 m. Mid May to Early September (especially June), probably only 1 generation (earlier in the plain, in mountains later). On foliage; frequent. *Pachyprotasis rapae* L, *Macrophya albicincta* Schr, *Aglaostigma fulvipes* Scop, *A. nebulosa* André, *Tenthredo scrophulariae* L. (Tenthredinidae).

Phenicellia haematodes (Meigen) [*Phoenicella*, *Thelaira*]
Found scattered through Europe to Northern Germany; NB (Frankfurt/Oder). Dry, warm, open countryside. End June to Mid August, 1 generation. In open areas very rare; more often reared from the main host. *Arctia hebe* L.; Only reported once from *Coscinia striata* L. and *Rhyparia purpurata* L. (Arctiidae).

Thelaira leucozona (Panzer)
Southern Europe to the Tessin, Slovakia; NW (Aachen, before 1809). August (so far as is known). Very rare. *Arctia caja* L. (Arctiidae).

Thelaira nigripes (Fabricius)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland (preferably wet woodland), bushes. Mid May to Mid August (especially Mid June to Early July), probably 1 generation. In low herbage or on the foliage of bushes; frequent. Mainly Arctiidae, however also a few Noctuidae or other Macrolepidoptera.

Thelaira solivaga (Harris)
Europe to Southern England, Southern Norway; BW, BY, NB / A, CH. Possibly 2 generations: Mid May to End June and Mid July to Early September. Much rarer than the previous species (more likely in Southern Europe). *Phragmatobia fuliginosa* L, *Arctia villica* L, *A. caja* L, *Ocnogyna corsica* Ramb. (Arctiidae).

Halidaya aurea Egger
Southern Europe, individuals also in warmer Central Europe; A (Wien, Neusiedl, Klosterneuburg). In the vicinity of streams. Mid July to Early September, 1 generation. Very rare. Reported from *Ochlodes venata* Brem. & Grey (Hesperiidae) and *Spilosoma lutea* Hufn. (Arctiidae).

Stomina tachinoides (Fallén)
Europe to Central Sweden; RP, BW, BY, NB / A. Data of finds from Mid July to Mid October (especially August). Rare (more likely in Southern Europe). Host unknown.

6.4.3. Dufouriini

Dufouria chalybeata (Meigen)
Temperate Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Bushes, forest edges. Mid May to Mid July, 1 generation. In low vegetation; altogether frequent, however usually only single specimens. Imagines from *Cassida rubiginosa* Muell, *C. viridis* L. and *C. deflorata* Suff. (Chrysomelidae).

Dufouria nigrita (Fallén)
Southern Europe to Scandinavia; HE, BW, BY, NB / A, CH. Bushes, forest edges, meadows; usually on warmer localities than the previous species. Mid May to End July, 1 generation. In low vegetation; not rare. Host unknown.

Dufouria occlusa (Robineau-Desvoidy) [*nitida* (Röder)]
Central Europe to Northern Poland; BY (Dachau, Lohr a. Main), NB (Brandenburg) / A (Oberösterreich, Burgenland). Mid May to End June, 1 generation. Rare. *Cassida nobilis* L, *C. vittata* Vill. (Chrysomelidae).

Chetoptilia puella (Rondani)
Southern Europe, individuals also in warmer Central Europe; RP (Königsbach), BW (Radolfzell), NB (Oberlausitz). Mid July to Early September, 1 generation. Rare. Imagines from *Bytiscus betulae* L. (Curculionidae).

Rondania cucullata Robineau-Desvoidy
Southern Europe and warmer parts of Central Europe; HE, RP, BW, BY, NB / A, CH. Dry, warm areas. End May to End September, probably at least 2 generations. Usually rare. Imagines from *Cleonus mendicus* Gyll.; Records from other Curculionidae (*Bothynoderes*, *Brachderes*, *Larinus*, *Rhytidoderes*, *Strophosomus*) have still not been checked and could also refer to other species.

Rondania dimidiata (Meigen)
Europe to Scandinavia; NS (Harz), BY (Allgäu), NB (Berlin, Thüringen) / A (Burgenland), CH (Jura). Forest edges, meadows. End April to Early September, at least 2 generations. In warmer Central Europe in Malaise traps locally frequent; otherwise in low vegetation and rare. Imagines from *Otiorrhynchus niger* F. and *O. edithae* Reitt.; Records from other Curculionidae (*Brachderes*, *Liparus*) has still not been checked.

Rondania dispar (Dufour)
Southern Europe, Netherlands (Arnhem); in the region not yet proven. Found in Southern Europe from Early May to Mid September. Rare. Imagines from *Brachderes incanus* L. and *B. lusitanicus* F. (Curculionidae).

Rondania fasciata (Macquart)
Europe to Scandinavia; RP, BW, BY, NB / A, CH. Forest edges, bushes. Early May to End July, 1 generation. In Malaise traps locally frequent; otherwise rare. Imagines from *Strophosomus spec*. (Curculionidae).

Pandelleia otiorrhynchi Villeneuve [*sexpunctata* (Pandellé) in Herting (1960)]
Central Europe; RP (Saar, Mosel), NB (Naumburg/Saale) / CH (Graubünden). Data of finds from End July to Early September. Very rare. Imagines from *Otiorrhynchus sulcatus* F. (Curculionidae).

Microsoma exiguum (Meigen) [*Campogaster*, *exigua*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. End April to Mid October (without a peak), several generations. Caught in Malaise trap very frequently; otherwise in low vegetation and rather rare. Imagines from *Sitona spp*, individuals also *Hypera postica* Gyll. and *Polydrosus inustus* Germ. (Curculionidae).

Freraea gagatea Robineau-Desvoidy [*albipennis* (Zetterstedt)]
Europe to Scandinavia; NW, BW, NB / A, CH. Mid June to Mid September (especially July), possibly only 1 generation. In Malaise traps locally common; otherwise very rare. Imagines from *Harpalus rufipes* DeG, *H. tardus* Panz. and *Amara aulica* Panz. (Carabidae); one report also from *Agrilus viridis* L. (Buprestidae).

6.5. Subfamily Phasiinae

6.5.1. Eutherini

Redtenbacheria insignis Egger
Europe to Southern Sweden, St. Petersburg; BW, NB / A, CH. Forest edges. Mid June to Mid August, probably 1 generation. Rare. An old record from *Lymantria monacha* L. (Lymantriidae) could not yet be confirmed.

6.5.2. Phasiini

Eliozeta helluo (Fabricius) [*Clytiomyia*, *Heliozeta*]
Southern Europe and warmer parts of Central Europe; RP, BW, BY, NB / A, CH. Dry, warm, open countryside. Probably 2 generations: Mid May to End June and (more numerously) Early July to End August. Caught from flowers or in grass; locally common. *Eurygaster spp*. (Pentatomidae).

Eliozeta pellucens (Fallén) [*Clytiomyia*, *Heliozeta*]
Europe to Scandinavia; NW, HE, RP, BW, BY, NB / A, CH. Dry, warm, open countryside. Mid May to Early September. (especially June). Visits flowers; locally common. *Sehirus bicolor* L, *Cydnus aterrimus* Foerst. (Cydnidae).

Clytiomya continua (Panzer) [*Clytiomyia*]
Europe to Central Sweden; HE, RP, BW, BY, NB / A, CH. Dry, warm, open countryside. Early May to Early September (especially June/July). Visits flowers; locally common. *Eurydema spp*. (Pentatomidae).

Ectophasia crassipennis (Fabricius) [*Phasia*]
Southern Europe and warmer parts of Central Europe; NW, HE, RP, BW, BY, NB / A, CH. Dry slopes, meadows. Mid May to End September (especially Early August to Early September). Visits flowers; in warmer Europe often very frequent, in the North rare. Numerous Pentatomidae; individuals also reported from Coreidae and Lygaeidae.

Ectophasia oblonga (Robineau-Desvoidy)
Europe to Brandenburg; RP, BW, BY, NB / A. Dry, warm areas. Mid May to End September (especially July/August). Visits flowers; in warmer Central Europe locally common (frequent in Southern Europe). Various Pentatomidae (especially *Eurygaster spp*.), however also a few Coreidae and Lygaeidae.

Subclytia rotundiventris (Fallén) [*Clytiomyia*]
Europe to Scandinavia; NS, HE, BW, BY, NB / A, CH. Forest edges. End June to Mid September, probably 1 generation. Rare. *Elasmucha grisea* L.; reported on other Pentatomidae *Elasmostethus interstinctus* L, *Cyphostethus tristriatus* F. and *Piezodorus lituratus* F.

Gymnosoma clavatum (Rohdendorf) [*clavata*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Prefers dry, warm areas. Mid May to End September (especially July/August). Visits flowers; in warmer Central Europe locally frequent. Various Pentatomidae.

Gymnosoma costatum (Panzer) [*intermedia* Loew, *costata*]
Europe to Hessen; HE, RP, BW, BY, NB / A, CH. Forest edges, meadows. Mid May to Mid September (especially July/August). In warmer places in Central Europe not rare. *Eusarcoris fabricii* Kirk. (Pentatomidae).

Gymnosoma desertorum (Rohdendorf)
Eastern Palearctic species, reaching into Poland. Steppes. Various Pentatomidae (*Aelia*, *Carpocoris*, *Cnephosa*, *Croantha*, *Dolycoris*, *Eurygaster*).

Gymnosoma dolycoridis Dupuis [*costatum* (Panzer) in Herting (1960)]
Europe to Northern Germany; NS, HE, RP, BW, BY, NB / A, CH. Dry, warm areas. End May to End September (especially August/September). Visits flowers; in warmer Central Europe locally common. *Dolycoris baccarum* L. and a few other Pentatomidae.

Gymnosoma nitens Meigen
Europe to Northern Germany, Southern England, Northern Poland; NW, HE, RP, BW, BY, NB / A, CH. Dry meadows (prefers sandy areas). Early May to Early September (a weak peak in June). In warmer places locally common. *Sciocoris cursitans* F, *S. helferi* Fieb. (Pentatomidae).

Gymnosoma nudifrons Herting
Europe to Scandinavia; NS, HE, RP, BW, BY, NB / A, CH. Pine forest, dry meadows. Early May to End September (especially July/August). Caught from flowers or in grass; locally frequent. A few Pentatomidae (*Antheminia*, *Carpocoris*, *Holcostethus*, *Phimodera*) angegeben have been recorded from Siberia.

Gymnosoma rotundatum (Linnaeus) [*rotundata*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. Early May to Mid October (especially End July to Mid August). Visits flowers; in warmer Central Europe often very frequent. Pentatomidae; however, most data are old and can refers to other species of *Gymnosoma*.

Cistogaster globosa (Fabricius) [*Gymnosoma*]
Europe to Scandinavia (in Mediterranean area rare or absent); SH, NS, HE, RP, BW, BY, NB / A, CH. Dry meadows. Mid May to Mid September (especially July/August). Caught from flowers or in grass; Frequent in warmer places Central Europe. *Aelia acuminata* L, rarer *A. rostrata* Boh. and *A. sibirica* Reut. (Pentatomidae).

Opesia cana (Meigen)
Europe to Southern England, Southern Sweden; BW (Wutachschlucht), NB (Brandenburg) / A (Linzer Becken). Meadows, forest edges. Early May to End June, 1 generation. Rare. Host unknown.

Opesia descendens Herting
Southern Europe, individuals also in Central Europe: RP (Kennfus) / A (Burgenland, Linzer Becken). Early September to End September, 1 generation. Very rare. Host unknown.

Opesia grandis (Egger)
Found scattered through Europe to Northern Germany, Northern Poland; NB (Brandenburg, Rügen) / A (Steiermark, Wein). July (so far as is known). Very rare. Host unknown.

Elomya lateralis (Meigen) [*Helomyia*, *Elomyia*]
Southern Europe, individuals also in warmer Central Europe; BW (Oberrhein) / A (the Vienna baisin). Warm, dry, open countryside. End May to Mid August (especially June/July). Rare (in Southern Europe usually frequent). Numerous Pentatomidae (especially *Aelia spp*, *Eurygaster spp.*), however also a few Lygaeidae and Coreidae.

Phasia aurigera (Egger) [*Allophora*]
Europe to Central France (Seine-et-Oise), Central Germany; HE, RP, BW, BY, NB / A, CH. Dry slopes, warm forest edges. 2 generations: End May to End July and (much more numerously) Mid August to Mid October. Visits flowers; in warmer Central Europe locally common. *Palomena prasina* L, *Rhaphigaster nebulosa* Poda (Pentatomidae); *Coreus marginatus* L, *Gonocerus acuteangulatus* Goez, *G. juniperi* H.-S. (Coreidae).

Phasia aurulans Meigen [*Allophora*]
Europe to Belgium, Central Sweden; HE (Wiesbaden), BW (Stromberg), NB (Thüringen). Dry meadows. Data of finds from Mid June to Mid October. Rare. Host unknown.

Phasia barbifrons (Girschner) [*Allophora*]
Europe to Central France, Brandenburg; NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland, meadows. 2 generations: End May to Early July and (much more numerously) End July to Early October. (especially August). Visits flowers; in warmer Central Europe locally common (frequent in some years). Host unknown.

Phasia hemiptera (Fabricius) [*Allophora*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry slopes, meadows, warm forest edges. 2 generations: Mid April to Mid June and (much more numerously) Mid July to End September. Visits flowers; in warmer Central Europe locally frequent (in Northern Europe only individuals and also in Southern Europe rather rare). *Palomena prasina* L, *Pentatoma metallifera* Motsch, *P. rufipes* L. (Pentatomidae).

Phasia obesa (Fabricius) [*Allophora*]
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry meadows. Early May to End October (especially Mid July to Mid September). Caught from flowers or in grass; in warmer Central Europe (and in Southern Europe) often very frequent. *Neottiglossa pusilla* Gm, *Zicrona caerulea* L. (Pentatomidae); *Sehirus melanopterus* H.-S. (Cydnidae); *Myrmus miriformis* Fall. (Coreidae); *Beosus maritimus* Scop. (Lygaeidae); *Leptopterna dolabrata* L, *Lygus pratensis* L. (Miridae).

Phasia pandellei (Dupuis) [*Allophora*]
Southern Europe, individuals also in warmer Central Europe; HE (Wiesbaden), BW (Sandhausen, Stromberg). Data of finds from Early May to Early September, probably 2 generations. Caught from flowers or in grass; rare. Host unknown.

Phasia pusilla Meigen [*Allophora*]
Europe to Scandinavia; HE, RP, BW, NB / A, CH. Meadows, deforested areas. Early May to Mid September, probably 2 generations. Caught from flowers or in grass; in warmer places not rare (in Southern Europe frequent). Various Lygaeidae, Cydnidae and Anthocoridae.

Phasia subcoleoptrata (Linnaeus) [*Allophora*]
Europe to Sweden; BY (Coburg) / A (Wienerwald). End April to Mid May and End June to Mid July. Rare (more common in Southern and Eastern Europe). *Eurygaster spp.*; rarer *Dolycoris spp.* or *Aelia rostrata* Boh. (Pentatomidae).

Phasia theodori (Draber-Monko) [*Allophora*]
Southern Europe, scattered also in warmer Central Europe; BW (Sandhausen). Dry meadows. May (in Southern Europe from Early May to Mid September). Very rare. Host unknown; the related *P. mesnili* (Draber-Monko) has been bred from *Eusarcoris spp.* (Pentatomidae).

6.5.3. Catharosiini

Catharosia albisquama (Villeneuve)
Southern Europe, individuals also in warmer Central Europe; BW (Sandhausen, Kaiserstuhl, Stromberg, Mühlacker, Badenweiler). Dry, warm, open places (Inland dunes, vinyards, dry grasslands). 2 generations: Early May to Mid June and (more numerously) Early July to Early September. Caught from flowers and in grass; usually rare. Host unknown.

Catharosia flavicornis (Zetterstedt)
Finds scattered in Europe to Northern Poland; in the region still no proof. Prefers dry, open countryside. May to Mid September, probably 2 generations. Ground living and therefore usually very rarely found. *Emblethis verbasci* F. (Lygaeidae).

Catharosia pygmaea (Fallén)
Europe to Scandinavia; RP, BW, BY, NB / A, CH. Prefers dry, open countryside. 2 generations: Mid May to End June and (more numerously) End July to Mid September. Caught in a Malaise trap or in low vegetation; locally common. *Beosus maritimus* Scop. (Lygaeidae).

Litophasia hyalipennis (Fallén)
Europe to Southern England, Southern Sweden; RP (Boppard, Grünstadt), BW (Kaiserstuhl). Dry, open countryside. Mid July to End August, 1 generation. Caught from flowers; rare. Host unknown.

6.5.4. Strongygastrini

Strongygaster celer (Meigen) [*Tamiclea*]
Europe to Scandinavia; BY (Bamberg), NB (Berlin, Genthin) / CH (Jura). Meadows. Mid May to Mid June, 1 specimen Mid August. Very rare (commoner in Southern Europe). Host unknown.

Strongygaster globula (Meigen) [*Tamiclea*]
Europe to Belgium, St. Petersburg; RP, BW, BY, NB / A, CH. Meadows, dry deciduous woodland. End June to Mid September, 1 generation. Visits flowers; in warmer Central Europe not rare. *Lasius niger* L, *L. alienus* Foerst. (Formicidae).

6.5.5. Leucostomatini

Dionaea aurifrons (Meigen)
Europe to Southern England; BW, BY, NB / A, CH. Dry meadows. Mid May to Mid September. (especially June/July). Visits flowers; usually rare (commoner in Southern Europe). *Dicranocephalus agilis* Scop, *Riptortus clavatus* Thunb. (Coreidae).

Dionaea flavisquamis Robineau-Desvoidy
France; BW (Kaiserstuhl) / CH (Jura). Data of finds from Early June to End August. Very rare. Host unknown.

Eulabidogaster setifacies (Rondani) [*Dionaea*]
Southern Europe and warmer parts of Central Europe; RP, BW, BY / A, CH. Dry slopes. Mid June to Early September. Visits flowers; locally common. *Corizus hyoscyami* L. (Coreidae).

Leucostoma abbreviatum Herting [*abbreviata*]
Southern Europe, individuals also in warmer Central Europe; BW (Kaiserstuhl) / A (Burgenland). Found Early June to End June and Early September. Very rare. Host unknown.

Leucostoma anthracinum (Meigen) [*anthracina*]
Southern Europe and warmer parts of Central Europe; RP, BW, BY, NB / A, CH. Dry meadows. End May to Early September (without a clear peak). Caught from flowers or in grass; not rare. Host unknown.

Leucostoma crassum Kugler [*crassa*]
Southern Europe, individuals also in warmer Central Europe; BW (Kaiserstuhl, Enz by Mühlacker and Niefern), NB (Thüringen) [Up to now only females have been found in Central Europe. The revision of the genus *Leucostoma* must show whether these specimens are really the genuine *L. crassum*]. Dry slopes. Data of finds from Mid June to End September. Rare (frequent in Southern Europe). *Lygaeus spp*, *Tropidothorax leucopterus* Goez. (Lygaeidae).

Leucostoma meridianum (Rondani) [*meridiana*]
Southern Europe, individuals also in warmer Central Europe; A (Burgenland). August (in Southern Europe from Mid June to Early September). Very rare. *Myrmus miriformis* Fall, *Stictopleurus punctatonervosus* Goez. (Coreidae).

Leucostoma nudifacies Tschorsnig
Spain; A (Niederösterreich). June (so far as is known). Very rare. Host unknown.

Leucostoma simplex (Fallén)
Europe to Central Sweden; NS, HE, BW, BY, NB / A, CH. Dry meadows. Mid May to Mid September (especially June/July). Caught from flowers or in grass; in warmer Central Europe (and in Southern Europe) frequent, in the North rare. *Nabis myrmecoides* Costa (Nabidae).

Leucostoma tetraptera (Meigen)
Southern Europe, individuals also in warmer Central Europe; A (Burgenland). Data of finds from Mid June to Mid September. Very rare. Host unknown.

Leucostoma turonicum Dupuis [*turonica*]
Southern Europe, individuals also in warmer Central Europe; A (Burgenland). Data of finds from Early June to End August. Very rare. Host unknown.

Clairvillia biguttata (Meigen)
Europe to Belgium, Brandenburg, St. Petersburg; HE, BW, BY, NB. Dry meadows. Early June to Mid September. (especially End July to Mid August). In warmer Central Europe locally common (frequent in Southern Europe). *Coriomeris denticulatus* Scop. (Coreidae).

Brullaea ocypteroidea Robineau-Desvoidy
Europe to Brandenburg; HE, RP, BW, BY, NB / A. Dry meadows, thin forest edges. Mid June to Early September. (especially July), 1 generation. Visits flowers; in warmer Central Europe locally common. Host unknown.

Labigastera forcipata (Meigen) [*Dionaea*, *Labigaster*]
Europe to Southern England, Southern Sweden (Gotland); HE, RP, BW, BY, NB / A, CH. Dry meadows. Mid May to Early September (especially End May to Early July). Visits flowers; in warmer Central Europe locally frequent. *Enoplops scapha* F, *Dicranocephalus agilis* Scop. (Coreidae).

Labigastera nitidula (Meigen) [*Labigaster*]
Southern Europe to Central France (Seine-et-Oise), the Wallis; in the region still no proof. Dry meadows. Mid May to End August. In Southern Europe not rare. Host unknown.

Labigastera pauciseta (Rondani) [*Labigaster*]
Southern Europe, individuals also in warmer Central Europe; BW (Sandhausen) / A (Klagenfurt). Dry meadows. Early June to End July, individual specimens in September. In Southern Europe not rare. Host unknown.

Cinochira atra Zetterstedt
Temperate Europe to Scandinavia; NW, BW, NB / CH. Forest edges, bushes. Mid May to Early October, probably more than 2 generations. In Malaise traps locally frequent, otherwise very rarely found. *Drymus brunneus* Sahlb, *D. sylvaticus* F, *Scolopostethus decoratus* Hahn, *S. thomsoni* Reut, *Eremocoris plebejus* Fall. (Lygaeidae).

6.5.6. Cylindromyiini

Lophosia fasciata Meigen
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous forest edges. Mid July to Mid September, 1 generation. On flowers or foliage; in warmer Central Europe locally common. *Acanthosoma haemorrhoidale* L, *Aelia acuminata* L. (Pentatomidae).

Cylindromyia auriceps (Meigen)
Europe to Sweden (Gotland), St. Petersburg; HE, RP, BW, BY, NB / A, CH. Dry meadows. Mid June to Mid September. Visits flowers; frequent. *Aelia spp*, *Dolycoris baccarum* L. (Pentatomidae).

Cylindromyia bicolor (Olivier)
Southern Europe to South-western Germany; BW (Oberrhein) / A. Dry meadows, bushes. Mid July to Early October (especially August). Visits flowers; locally common. *Rhaphigaster nebulosa* Poda (Pentatomidae).

Cylindromyia brassicaria (Fabricius)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Meadows, bushes, forest edges. End May to End September (without a distinct peak). Visits flowers; frequent. *Dolycoris spp.* (Pentatomidae).

Cylindromyia brevicornis (Loew)
Europe to Brandenburg; NW, HE, BW, BY, NB / A, CH. From the plain to the high mountains (in warm places to 2500 m). End May to Early September. Rare. *Dolycoris baccarum* L. (Pentatomidae).

Cylindromyia intermedia (Meigen)
Southern Europe to the Wallis, Slovakia; A (Wien, Oetztal). Dry meadows. End June to Mid September. Very rare (in Southern Europe frequent). *Brachynema germari* Kol, *Dolycoris baccarum* L. (Pentatomidae).

Cylindromyia interrupta (Meigen)
Europe to Scandinavia; NS, NW, HE, RP, BW, BY, NB / A, CH. Dry meadows. Mid May to End September. Caught in grass; locally common (in Southern Europe rare). Host unknown.

Cylindromyia pilipes (Loew)
Southern Europe and warmer parts of Central Europe; HE, RP, BW, BY / A, CH. Dry meadows, bushes. Early June to Mid September (especially July). Visits flowers; locally common. *Holcostethus vernalis* Wolff, *Dolycoris baccarum* L, *Piezodorus lituratus* F. (Pentatomidae).

Cylindromyia pusilla (Meigen)
Europe to Scandinavia; NW, HE, BW, BY, NB / A. Dry meadows. End May to Early September. Caught from flowers or in grass; locally common. *Sciocoris cursitans* F. (Pentatomidae).

Cylindromyia rufifrons (Loew)
Southern Europe to Slovakia. Early June to End September. In Southern Europe not rare. *Odontotarsus spec*. (Pentatomidae).

Cylindromyia xylotina (Egger)
Southern Europe, individuals also in warmer Central Europe; BY (Nürnberg) / A (Wien, Burgenland). Prefers warm mountainous areas. Early June to Mid August, probably only 1 generation. Very rare. Host unknown.

Hemyda obscuripennis (Meigen)
Europe to Paris, Sachsen; HE, RP, BW, BY, NB / A, CH. Deciduous woodland, meadows. Probably 2 generations: Mid June to Mid July and End July to Mid September. On foliage or in grass, rare on flowers; locally common in warmer Central Europe. Possibly *Arma custos* F. and *Troilus luridus* F. (Pentatomidae).

Hemyda vittata (Meigen) [*Phania*]
Temperate Europe to Southern Sweden; SH, NS, NW, HE, RP, BW, BY, NB / A, CH. Deciduous woodland. 2 generations: Early May to Early July and Mid July to End September. On foliage; locally common. *Arma custos* F, *Dinorhynchus dybowskyi* Jak, possibly also *Troilus luridus* F. (Pentatomidae).

Besseria anthophila (Loew)
Alps, Pyrenees, St. Petersburg, Finland; BY (München, Mittenwald) / A, CH. Meadows to 1800 m. Mid June to Early August, 1 generation. Caught from low Composites. Host unknown.

Besseria dimidiata (Zetterstedt) [*bicolor* (Perris)]
Southern Europe, individuals also in Central Europe; NB (Brandenburg) / A (Wein). Prefers sandy areas. Data of finds from Mid June to Mid August. Very rare. *Menaccarus arenicola* Scholtz (Pentatomidae).

Besseria lateritia (Meigen)
Southern Europe; A (Burgenland, Kärnten). Dry meadows. Early May to Early August. Visits flowers; very rare (not rare in Southern Europe). *Psacasta exanthematica* Scop. (Pentatomidae).

Besseria melanura (Meigen)
Found scattered through Europe to Southern Sweden, St. Petersburg; BY (Bamberg), NB. Dry, warm, open countryside. Data of finds from End June to Mid July. Very rare. Host unknown.

Besseria reflexa (Robineau-Desvoidy) [*appendiculata* (Perris)]
Southern Europe and warmer parts of Central Europe; BW (Kaiserstuhl, Stromberg, Mühlacker) / A (Linzer Becken). Dry meadows. End May to Early August. Caught from flowers and in grass; very rare. Host unknown.

Phania albisquama (Villeneuve)
Southern Europe, individuals also in warmer Central Europe; NB (Frankfurt/Oder). Dry meadows. August (in Southern Europe from End April to Early August). Visits flowers; very rare (in Southern Europe locally frequent). Host unknown.

Phania curvicauda (Fallén) [*Weberia*]
Europe to Sweden, Finland; BW, BY, NB / A. Dry meadows. Mid June to End July, 1 generation. Locally common. Host unknown.

Phania funesta (Meigen) [*Weberia*, *pseudofunesta* (Villeneuve)]
Europe to Southern England, Northern Germany, Northern Poland; NW, HE, RP, BW, BY, NB / A, CH. Meadows, forest edges. Early May to Early October (a weak peak from Mid July to Early August). Caught from flowers or in grass or in Malaise traps; very frequent. *Legnotus limbosus* Geoffr. (Cydnidae).

Phania incrassata Pandellé
Europe (predominantly Central Europe) to Westfalen; NW, HE, BW, BY, NB / A. Meadows, forest edges. Mid May to Early July, 1 generation. Locally common. *Sehirus bicolor* L. (Cydnidae).

Phania speculifrons (Villeneuve)
Found scattered through Europe to Central Germany; BW (Kaiserstuhl), NB (Sachsen) / A (Linzer Becken). Dry meadows. Mid June to Mid July, 1 generation. Very rare. Host unknown.

Phania thoracica Meigen
Europe to Scandinavia; NB (Rügen) / A, CH. Prefers mountains (in warm places to 1500 m). Mid June to Mid August, 1 generation. Rare. Host unknown.

7. Bibliography

Andersen, S. (1982): Revision of European species of Siphona Meigen (Diptera: Tachinidae). Ent. scand. 13: 149 - 172; Stockholm.

- (1984): A new species of Siphona Meigen from Hungary (Diptera: Tachinidae). Folia ent. hung. 45: 5 - 8; Budapest.

- (1988): Revision of European species of Phytomyptera Rondani (Diptera, Tachinidae). Ent. scand. 19: 43 - 80; Stockholm.

Belshaw, R. (1993): Tachinid flies (Diptera: Tachinidae). Handbks Ident. Br. Insects 10, 4a(i): 169 pp.; London.

Borisova-Zinov'eva, K. B. (1966): On some species difficult to distinguish belonging to the genus Hyperecteina Schin. (Diptera, Larvaevoridae). Acta ent. bohemoslov. 63: 420 - 439; Praha.

Dupuis, C. (1960): Contributions à l'étude des Phasiinae cimicophages. XXIV. Les Gymnosoma ouest-paléarctiques (à l'exclusion du groupe de costata Pz.). Cah. Nat. 16: 69 - 76; Paris.

Herting, B. (1957): Das weibliche Postabdomen der calyptraten Fliegen (Diptera) und sein Merkmalswert für die Systematik der Gruppe. Z. Morph. Ökol. Tiere 45: 429 - 461; Berlin.

- (1960): Biologie der westpaläarktischen Raupenfliegen (Dipt., Tachinidae). Monogrn angew. Ent. 16: 188 S.; Berlin.

- (1966): Beiträge zur Kenntnis der europäischen Raupenfliegen (Dipt. Tachinidae) IX. Stuttg. Beitr. Naturk. 146: 12 S.; Stuttgart.

- (1983): Phasiinae. In: Lindner, E. (Hrsg.): Die Fliegen der paläarktischen Region, Teil 64c: 1 - 88; Stuttgart.

- (1984): Catalogue of Palearctic Tachinidae (Diptera). Stuttg. Beitr. Naturk. (A) 369: 228 pp.; Stuttgart.

Herting, B. & Dely-Draskovits, A. (1993): Family Tachinidae. In: Soos, A. & Papp, L. (Edit.): Catalogue of Palearctic Diptera 13: 118 - 624; Budapest.

Hubenov, Z. K. (1982): Morphologische Untersuchungen über den Artenkomplex Phasia crassipennis F. (Diptera, Tachinidae). Ent. Abh. Mus. Tierk. Dresden 45: 91 - 98; Dresden.

Mesnil, L. P. (1944-1975): Larvaevorinae (Tachininae). In: Lindner, E. (Hrsg.): Die Fliegen der paläarktischen Region, Teil 64g: 1435 S.; Stuttgart.

- (1980): Dexiinae. In: Lindner, E. (Hrsg.): Die Fliegen der paläarktischen Region, Teil 64f: 1 - 52; Stuttgart.

O'Hara, J. E. (1989): Systematics of the genus group taxa of the Siphonini (Diptera: Tachinidae). Quaestiones Ent. 25: 1 - 229; Edmonton.

Riedel, M. P. (1934): Die bei Frankfurt (Oder) vorkommenden Arten der Dipteren-Familie Tachinidae (einschl. Sarcophagidae). Dt. ent. Z. 1934: 252 - 272; Berlin.

Tschorsnig, H. P. (1983): Untersuchungen zur Ökologie der Raupenfliegen (Dipt., Tachinidae) im Mooswald, am Kaiserstuhl und im Rhein-Trockenwald. Mitt. bad. Landesver. Naturk. Naturschutz 13: 213 - 236; Freiburg i. Br.

- (1985): Taxonomie forstlich wichtiger Parasiten: Untersuchungen zur Struktur des männlichen Postabdomens der Raupenfliegen (Diptera, Tachinidae). Stuttg. Beitr. Naturk. (A) 383: 137 S.; Stuttgart.

- (1988): Morphologie der Eier und Eilarven der Ethillini (Diptera: Tachinidae). Stuttg. Beitr. Naturk. (A) 418: 10 S.; Stuttgart.

Verbeke, J. (1962): Contribution à l'étude des Tachinidae africains (Diptera). Résult. scient. Explor. hydrobiol. Lacs Kivu, Eduard et Albert 3: 77 - 187; Bruxelles.

Wood, D. M. (1974): Notes on Allophorocera with a description of a new species (Diptera: Tachinidae) from Finland. Can. Ent. 106: 667 - 671; Ottawa.

Ziegler, J. (1993): Tachinidae. In: Menzel, F. & Bährmann, R. (Hrsg.): Zweiflügler (Diptera) Ostdeutschlands; Kritische Liste ausgewählter Familien. Nova suppl. ent. 5: 70 - 82; Eberswalde.

Zimin, L. S. (1966): A review of the tribe Gymnosomatini (Diptera, Tachinidae) of the fauna of the USSR, parasitizing phytophagous bugs. Ent. Obozr. 45: 424 - 456; Moskva.

8. First suppliment to the original (March 2001)

by Hans-Peter Tschorsnig, March 2001

Our understanding of the Central European Tachinid fauna is increasing every year and so the original paper has become slightly out of date in the interceding after seven years. The following document gives only the most important changes and additions.

8.1. General notes

- Warning! As many Tachinidae have a very wide distribution, the keys will also work to a certain extent for southern Europe. This is not recommended however, because Mediterranean species (which are not included) may possibly key out as Central European ones.
- [p. 11] If there is no satisfying result with the generic key, Tschorsnig & Richter (1998) should be used. This more complete key contains some improvements.
- [p. 5] The terms of the parts of the body are not quite consistent with the Manual of Nearctic Diptera (see McAlpine 1981). The terminology of this Manual should be used preferably.[3]
- [p. 76] Concerning the distribution of the species, there are many new records for regions in Central Europe, e.g. Danielzik (1996), Drees (1997), Dunk & Tschorsnig (1998), Herting & Tschorsnig (1997), Tschorsnig (1996, 1997a-d, 1998), Tschorsnig & Brechtel (1999), Tschorsnig & Doczkal (2000), Tschorsnig & Herting (2000), Tschorsnig & Niehuis (2000), Tschorsnig & Schubert (1999), Tschorsnig & Ziegler (1999), Zeegers (1998), Ziegler (2000).

8.2. More specific notes

- [p. 34] *Exorista nympharum* (Rondani) is new for Central Europe (usually Mediterranean in distribution). The male has the distiphallus notched (compare Fig. 6 in Herting 1967).
- [p. 34] *Exorista palligera* Mesnil is known also from Austria and Switzerland (compare the description of Mesnil 1970). It is however not yet solved if it represents only a variety of *rustica*, or if it is a valid species.
- [p. 35] The complex *Chetogena fasciata* (Egger) has been revised by Ziegler (1999). He described a new species, *C. tschorsnigi* Ziegler, which is also present in Central Europe. The geographical records "NW" and "NB", and the host *Procris pruni* refer to this new species.
- [p. 36] There is a new species of *Meigenia* (*M. simplex*), which has also been found in Austria and France. See the description of Tschorsnig & Herting (1998).
- [p. 38] Three dorsocentral bristles before the suture may be rarely also present in *Oswaldia muscaria*.
- [p. 47] *Erycilla* is regarded as a generic synonym of *Allophorocera*.
- [p. 51] The Mediterranean *Peleteria ruficornis* (Macquart) has been found in an old collection as collected near Chiemsee (southern Bavaria). It can be separated from the other *Peleteria* by its broad red margin of abdominal tergite 5.
- [p. 54] *Cleonice* "*callida*" consists of two species, the true *callida* Meigen and a new species, *C. keteli* Ziegler. See the description of Ziegler (2000). The host record *Melasoma vigintipunctata* refers to *keteli*.
- [p. 55] Andersen (1988) regards *Elfia* as a synonym of *Phytomyptera*. I will follow him.
- [p. 56+] The keys for the Siphonini should be entirely replaced by the more modern and complete ones of Andersen (1996). They include some new species and also changes of certain names. The name *Siphona geniculata* however should be retained in its accustomed sense (compare Herting, Tschorsnig & O'Hara 1999).
- [p. 100] The host record *Oxyptilus pilosellae* Zell. for *Ceranthia lichtwardtiana* is erroneous.
- [p. 63] The complex *Campylocheta fuscinervis* has been revised by Ziegler (1996). *C. similis* Ziegler & Shima is also present in Central Europe.
- [p. 65] The number of anterodorsal bristles and the absence or presence of the outer vertical bristle is unfortunately no fully reliable character for the separation of the species of *Thelaira*. Figures 43 - 45 of the male genitalia in Ziegler & Shima (1996) should be used.
- [p. 13] *Phyllomya procera* (Meigen) is new for Central Europe and doesn't key out as it is not included. Use Tschorsnig & Richter (1998) for this genus. *P. procera* can be separated from the other Central European species, *P. volvulus*, by the absence of discal bristles on the abdomen. It can be swept from Bracken fern (*Pteridium aquilinum*).
- [p. 66] It must be emphasized again that the key to *Gymnosoma* is merely a preliminary one. There may be specimens which cannot be keyed out satisfactorily.

[3] CR: I will do this when I next have time.

- [p. 67] The complex *Phasia theodori - mesnili - karczewskii* was studied by Ziegler (1994). The valid name for *P. theodori* Draber-Monko is *P. mesnili* Draber-Monko. *P. karczewskii* is also present in Central Europe.
- [p. 70] The posteroventral bristle on the hind tibia may be lacking sometimes in certain populations of *Cylindromyia intermedia*. Such specimens can be separated from *C. pilipes* by the short vibrissa, and the lacking or very short basal bristles of the scutellum.

8.3. References

Andersen, S. (1988): Revision of European species of Phytomyptera Rondani (Diptera, Tachinidae). - Ent. scand. 19: 43 - 80; Kobenhavn.

Andersen, S. (1996): The Siphonini (Diptera: Tachinidae) of Europe. - Fauna Ent. scand. 33: 148 pp.; Leiden.

Danielzik, J. (1997): Raupenfliegen vom Niederrhein und aus Westfalen (Diptera, Tachinidae). - Natur am Niederrhein (N.F.) 12: 62 - 63; Krefeld.

Drees, M. (1997): Nachweise wärmeliebender Phasiinen in Südwestfalen (Diptera: Tachinidae). - Ent. Z. Frankf.a.M. 107: 64 - 68; Frankfurt/Main.

Dunk, K. v. d. & Tschorsnig, H.-P. (1998): Zweiflügler aus Bayern XIII (Diptera, Tachinidae). - Entomofauna 19: 145 - 169; Ansfelden.

Herting, B. (1967a): Beiträge zur Kenntnis der europäischen Raupenfliegen (Dipt. Tachinidae) X. - Stuttg. Beitr. Naturk. 173: 11 pp.; Stuttgart.

Herting, B. & Tschorsnig, H.-P. (1997): Raupenfliegen (Diptera, Tachinidae) aus der Schweiz. - Mitt. schweiz. ent. Ges. 70: 77 - 92.

Herting, B., Tschorsnig, H.-P. & O'Hara, J. (1999): Case 3084 - Musca geniculata DeGeer, 1776 and Stomoxys cristata Fabricius, 1805 (currently Siphona geniculata and Siphona cristata; Insecta, Diptera): proposed conservation of usage of the specific names by the replacement of the lectotype of M. geniculata by a neotype. - Bull. zool. Nom. 56: 235 - 239.

McAlpine, J. F. (1981): Morphology and terminology - adults. - In: McAlpine, J. F. & al.: Manual of Nearctic Diptera 1: 9 - 63; Ottawa.

Mesnil, L. P. (1970): Descriptions de nouveaux Tachinaires de l'ancien monde, et notes synonymiques (Dipt. Tachinidae). - Mushi 44: 89 - 123; Fukuoka.

Tschorsnig, H.-P. (1996): Bemerkenswerte Raupenfliegen aus der Sammlung Alfred Greb (Diptera: Tachinidae). - Mitt. ent. Ver. Stuttgart 31: 107 - 108; Stuttgart.

Tschorsnig, H.-P. (1997a): Raupenfliegen (Diptera, Tachinidae) aus dem schweizerischen Nationalpark und seiner Umgebung, gesammelt von Fred Keiser. - Mitt. schweiz. ent. Ges. 70: 101 - 116.

Tschorsnig, H.-P. (1997b): Korrekturen und Nachträge zu den Raupenfliegen (Diptera, Tachinidae) der Sammlung T. Schneid im Naturkundemuseum Bamberg. - Ber. naturf. Ges. Bamberg 71: 1 - 9; Bamberg.

Tschorsnig, H.-P. (1997c): Raupenfliegen-Zuchtbefunde und einige bemerkenswerte faunistische Angaben aus der Sammlung Rudolf Gauss (Diptera: Tachinidae). - Mitt. ent. Ver. Stuttgart 32: 79 - 82; Stuttgart.

Tschorsnig, H.-P. (1997d): Gezogene Raupenfliegen (Diptera, Tachinidae) aus der Sammlung Karl Burmann im Tiroler Landesmuseum Ferdinandeum. - Veröff. Tiroler Landesmuseum Ferdinandeum 77: 293 - 296; Innsbruck.

Tschorsnig, H.-P. (1998): Beiträge zur Tachiniden-Fauna Tirols (Insecta: Diptera). - Ber. naturw.-med. Ver. Innsbruck 85: 333 - 337; Innsbruck.

Tschorsnig, H.-P. & Brechtel, F. (1999): Raupenfliegen (Diptera: Tachinidae) aus dem Bienwald (Rheinland-Pfalz). - Mitt. Pollichia 86: 127 - 138; Bad Dürkheim.

Tschorsnig, H.-P. & Doczkal, D. (2000): Raupenfliegen (Diptera: Tachinidae) vom Flugplatz Söllingen bei Baden-Baden. - Mitt. bad. Landesver. Naturk. Naturschutz (N.F.) 17: 599 - 607; Freiburg i.Br..

Tschorsnig, H.-P. & Herting, B. (1998): A new species of the genus Meigenia Robineau-Desvoidy (Diptera: Tachinidae). - Stuttg. Beitr. Naturk.(A) 569: 5 pp.; Stuttgart.

Tschorsnig, H.-P. & Herting, B. (2000): Raupenfliegen (Diptera, Tachinidae) aus der Trockenaue am südbadischen Oberrhein. In: Vom Wildstrom zur Trockenaue: Natur und Geschichte der Flusslandschaft am südlichen Oberrhein. - Naturschutz-Spektrum: Themen 92: 233 - 241; Ubstadt-Weiher.

Tschorsnig, H.-P. & Niehuis, M. (2000): Raupenfliegen (Diptera: Tachinidae) eines xerothermen Standortes im Mittelrheintal (Rheinland-Pfalz). - Fauna Flora Rheinland-Pfalz 9: 631 - 638; Landau.

Tschorsnig, H.-P. & Richter, V. A. (1998): 3.54. Family Tachinidae. - In: Papp. L. & Darvas, B. (Eds.): Contributions to a Manual of Palaearctic Diptera 3: 691 - 827; Budapest.

Tschorsnig, H.-P. & Schubert, H. (1999): Raupenfliegen aus Baumkronen in Mitteleuropa (Diptera, Tachinidae). - Entomofauna 20: 269 - 280; Ansfelden.

Tschorsnig, H.-P. & Ziegler, J. (1999): Tachinidae. - In: Schumann, H., Bährmann, R. & Stark, A. (Hrsg.): Checkliste der Dipteren Deutschlands. - Studia dipt. Suppl. 2: 204 - 214; Halle/Saale.

Zeegers, T. (1998): An annoted checklist of the Dutch tachinid flies (Diptera: Tachinidae). - Ent.Ber.,Amst. 58: 165 - 200; Amsterdam.

Ziegler, J. (1994): Die Arten der Gattung Phasia, Untergattung Hyalomya R.-D., in Mitteleuropa (Diptera, Tachinidae). - Studia dipt. 1: 157 - 180; Halle/Saale.

Ziegler, J. (1996a): Campylocheta fuscinervis auctorum - ein Artenkomplex (Diptera, Tachinidae). - Studia dipt. 3: 311 - 322; Halle/Saale.

Ziegler, J. (1999a): Eine neue paläarktische Art aus der Raupenfliegengattung Chetogena (Diptera, Tachinidae). - Studia dipt. 6: 437 - 444; Halle/Saale.

Ziegler, J. (2000): 5.3.83 Tachinidae. - In: Ziegler, J. & Menzel, F. (Hrsg.): Die historische Dipteren-Sammlung Carl Friedrich Ketel. - Nova Suppl. ent. 14: 201 - 229; Berlin.

Ziegler, J. & Shima, H. (1996): Tachinid flies of the Ussuri area (Diptera, Tachinidae). - Beitr. Ent. 46: 379 - 478; Berlin.

9. Notes on the English translation

This paper was originally published in German in 'Stuttgarter Beiträge zur Naturkunde Serie A (Biologie) 506, p1-170. 4.9.1994' and has been translated by Rotraud Rayner and Chris Raper. We suggest that readers should obtain a copy of the original from the authors/publishers and that this translation should be used as an aid to the use of the original key.

Where possible we have adapted the terms to suit English preferences (e.g. Colyer & Hammond, 1951 and Belshaw, 1993) but where the authors have chosen to name and define a part not covered by these works we have either left the term directly translated from the original or chosen an appropriate word or phrase. Each translated term is accompanied by the original German word in bracketed italics, either in the definition of terms or in the text where it is first used.

The grammar is sometimes a little awkward but we have started with quite a litteral translation and I intend to improve the readability over time as I get used to the key. Any suggestions for improvements should be emailed to chris.raper@hartslock.org.uk

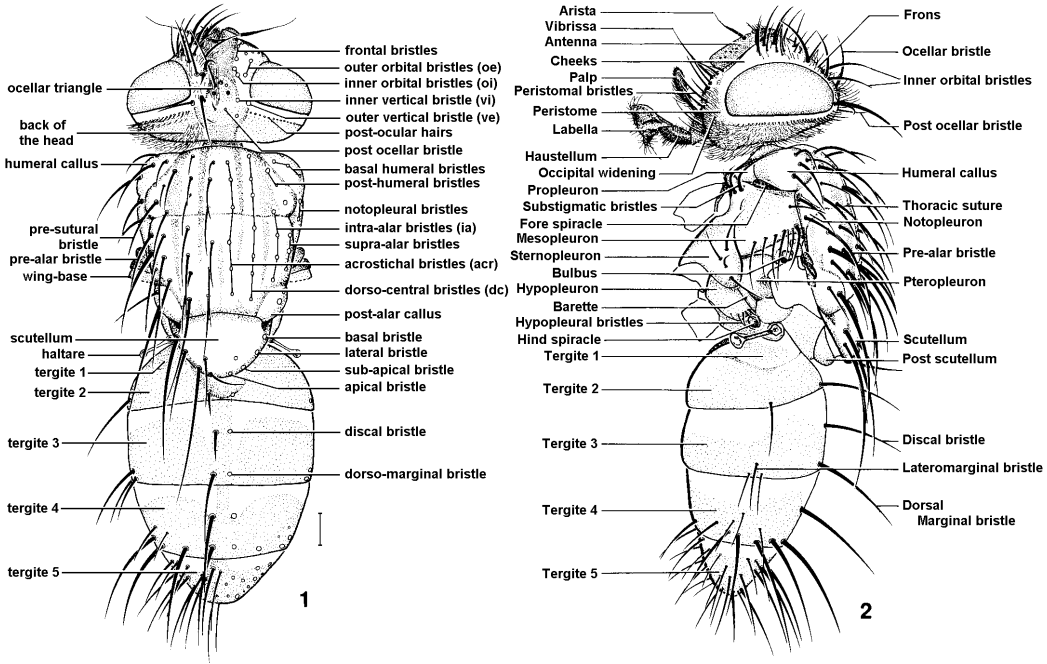
The layout has been altered slightly to make it easier to work on and easier to read but we have kept the text as true to the original as possible. Unfortunately this re-formatting has meant that page numbers are not the same as in the original – this means the indexes have also had to be totally re-structured but to compensate for this we have added many more cross-references to aid movement between different sections of the document. The process of completely cross-referencing is not yet complete but I hope to finish this in the next few months.

9.1. Additional acknowledgements for this edition

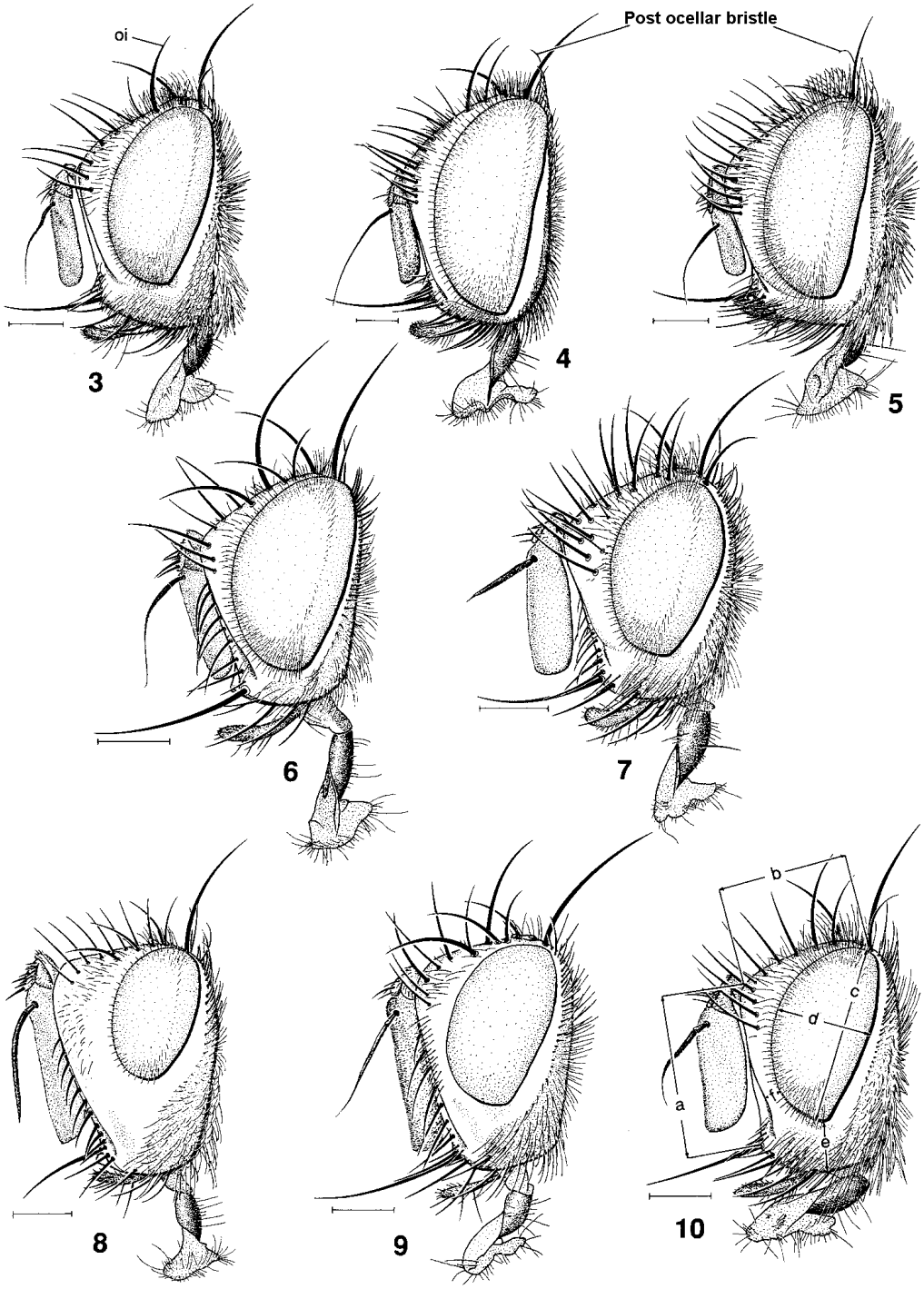
We would like to thank the following people:

1. Dr Hans-Peter Tschorsnig & Dr Benno Herting for allowing us to translate their work and for their help during the translation process.
2. Peter Chandler, Martin Harvey & Jim O'Hara and all others for their advice and encouragement during the long and arduous translation procedure.

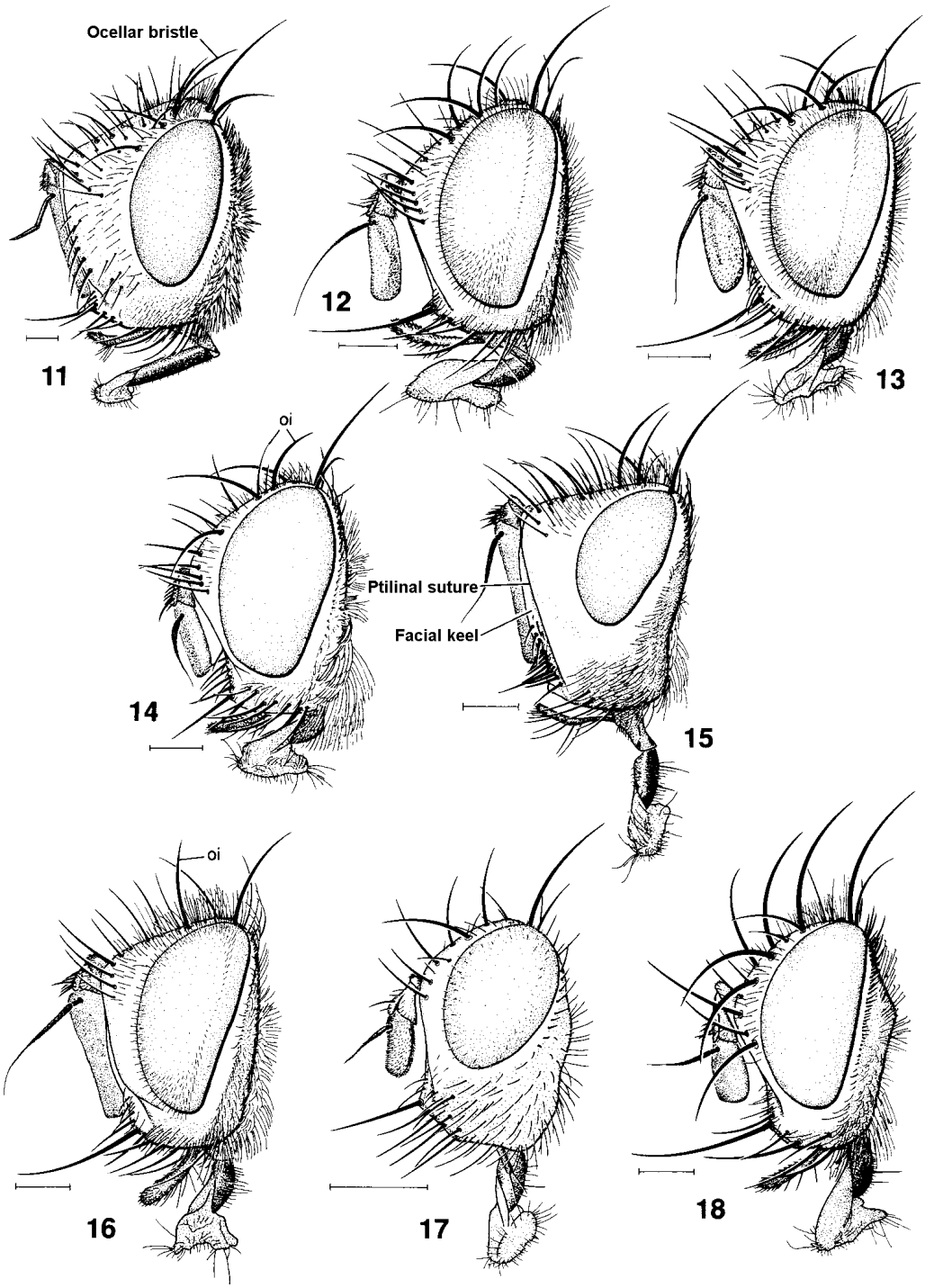
10. Figures



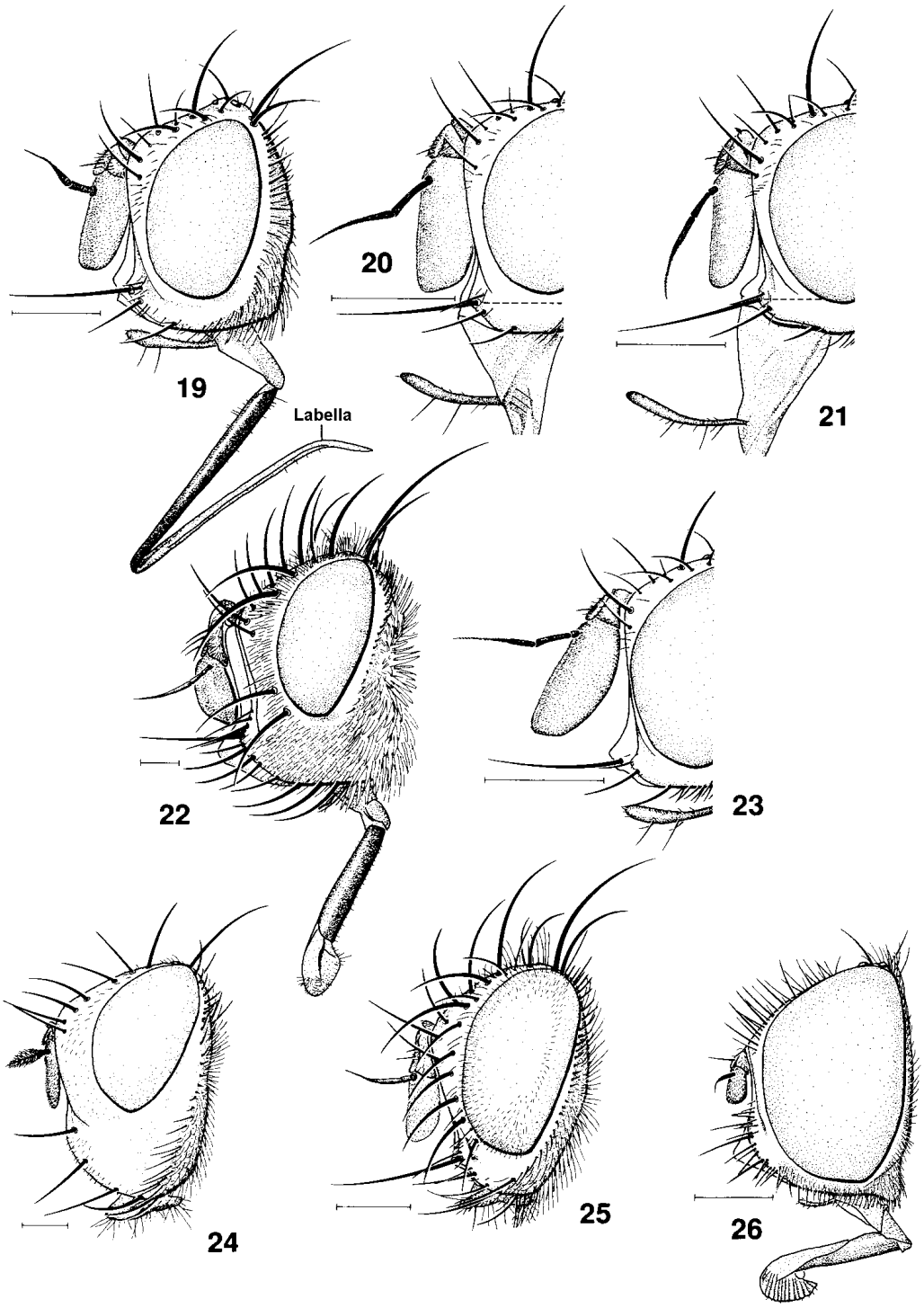
figs.1 - 2. *Lydella stabulans* (female) (without wings and legs, only hairs on the head shown). 1. dorsal view, 2. lateral view. Scale: 0.5 mm.



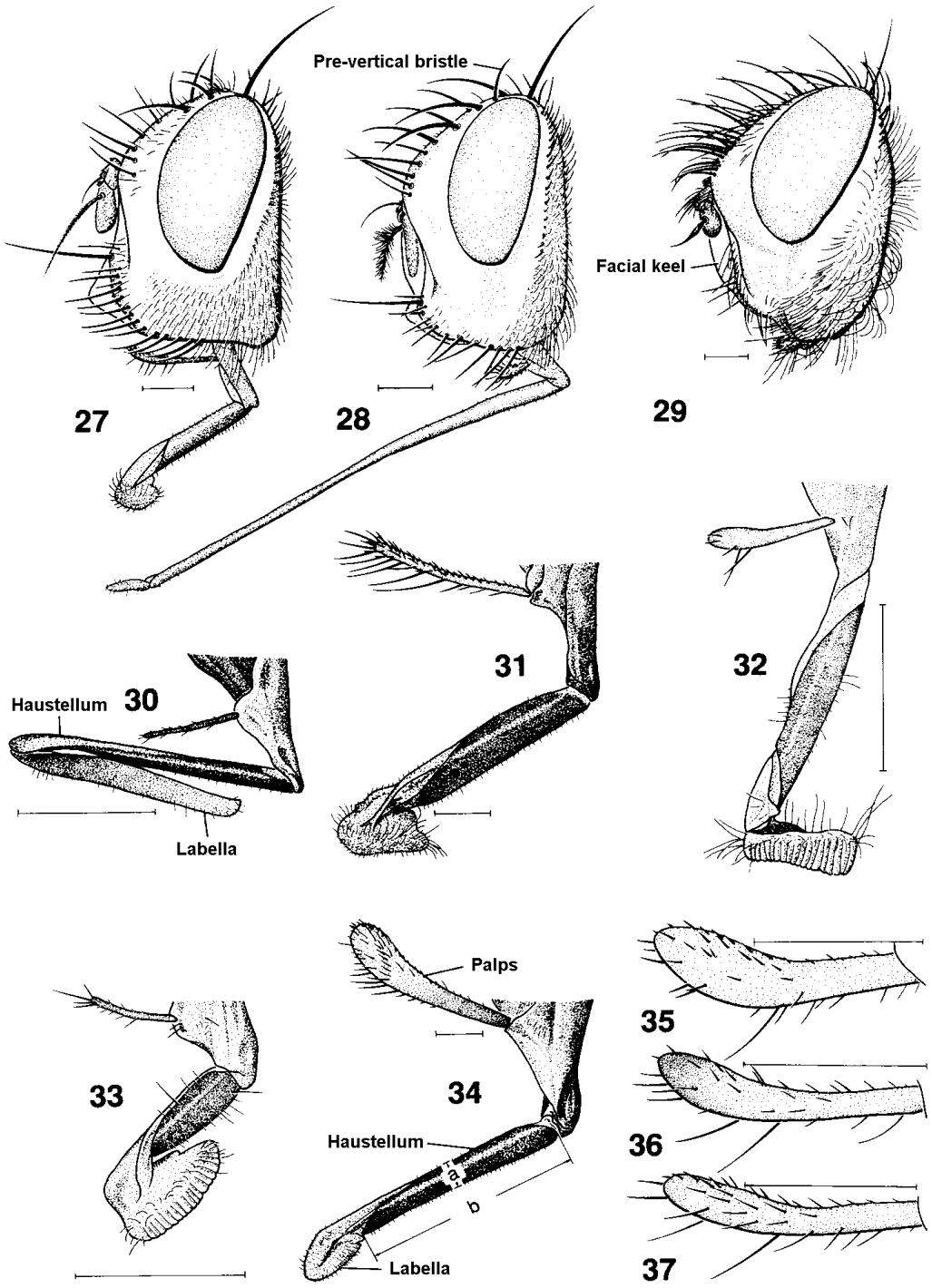
figs.3 - 10. Head, lateral view. **3.** *Catagonia aberrans* (male), **4.** *Carcelia bombylans* (male), **5.** *Nemorilla floralis* (male), ***6.*** *Phorinia aurifrons* (female), *7. Phryxe prima* (male), **8.** *Istocheta cinerea* (male), **9.** *Admontia maculisquama* (male), **10.** *Phryxe nemea* (male) (a = Face height; b = Length of the frons; c = Maximum eye diameter; d = Minimum eye diameter; e = Width of the Peristome; f = Width of the cheeks at their narrowest point). Scale: 0.5 mm.



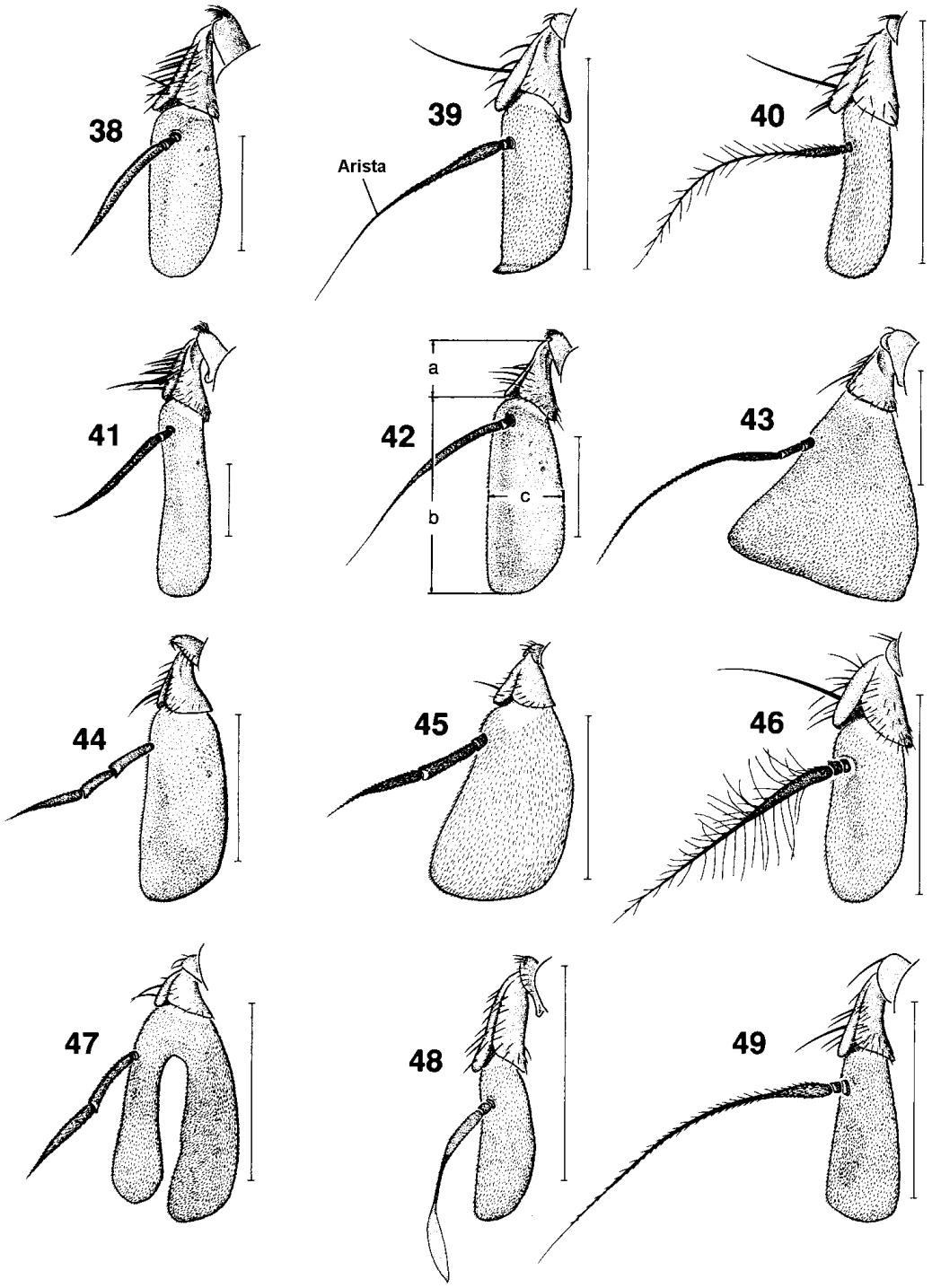
figs.11 - 18. Head, lateral view. **11.** *Gonia distinguenda* (male), **12.** *Phebellia nigripalpis* (female), **13.** *Myxexoristops blondeli* (female), **14.** *Townsendiellomyia nidicola* (female), **15.** *Pexopsis aprica* (male), **16.** *Eumea linearicornis* (male), **17.** *Petagnia subpetiolata* (male), **18.** *Voria ruralis* (male). Scale: 0.5 mm.



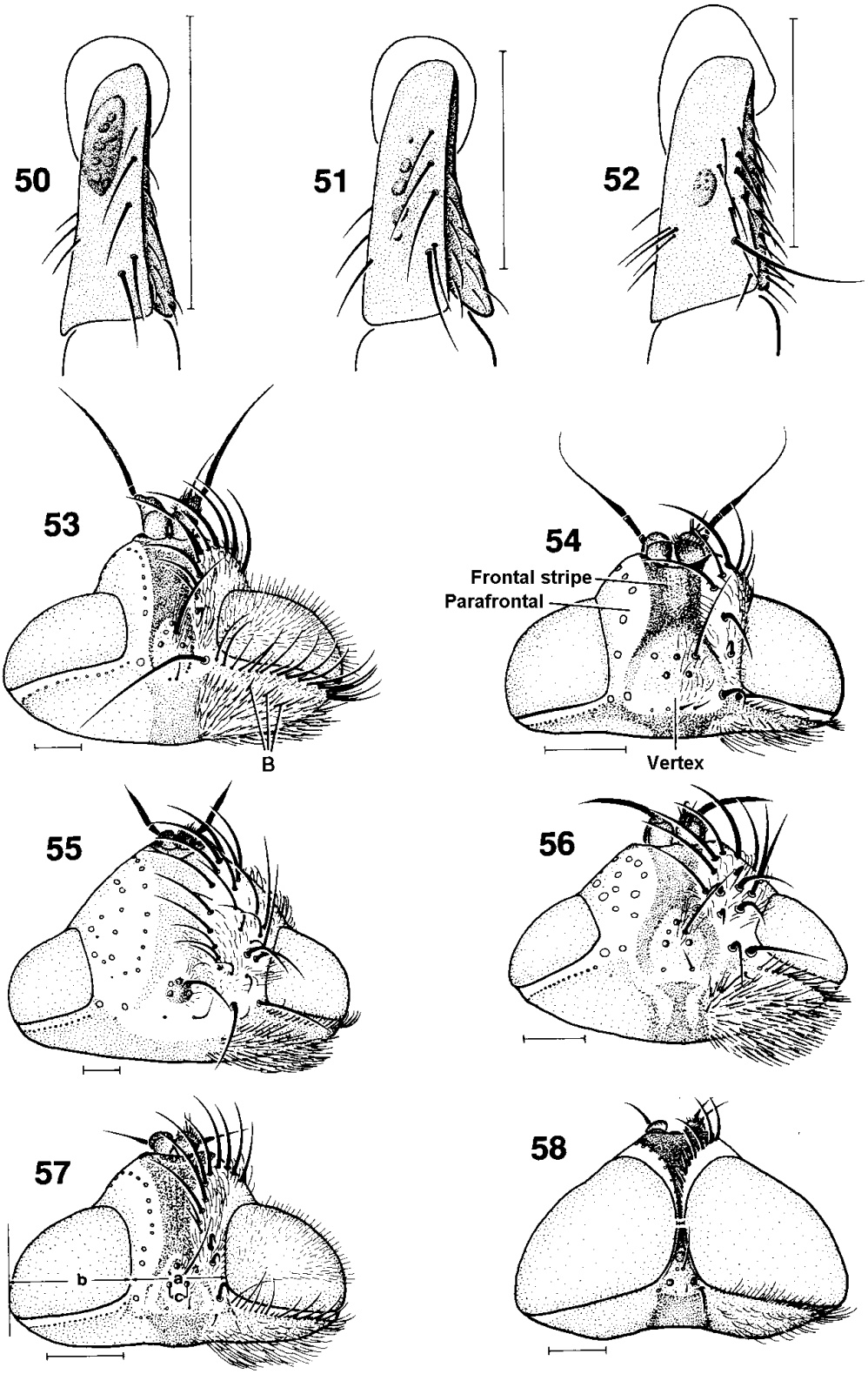
figs.19 - 26. Head, lateral view. **19.** *Siphona geniculata* (male), **20.** *Siphona confusa* (male), **21.** *Siphona cristata* (male), **22.** *Peleteria varia* (male), **23.** *Siphona pauciseta* (male), **24.** *Dexiosoma caninum* (male), **25.** *Cyrtophleba ruricola* (male), **26.** *Phasia pusilla* (female). Scale: 0.5 mm.



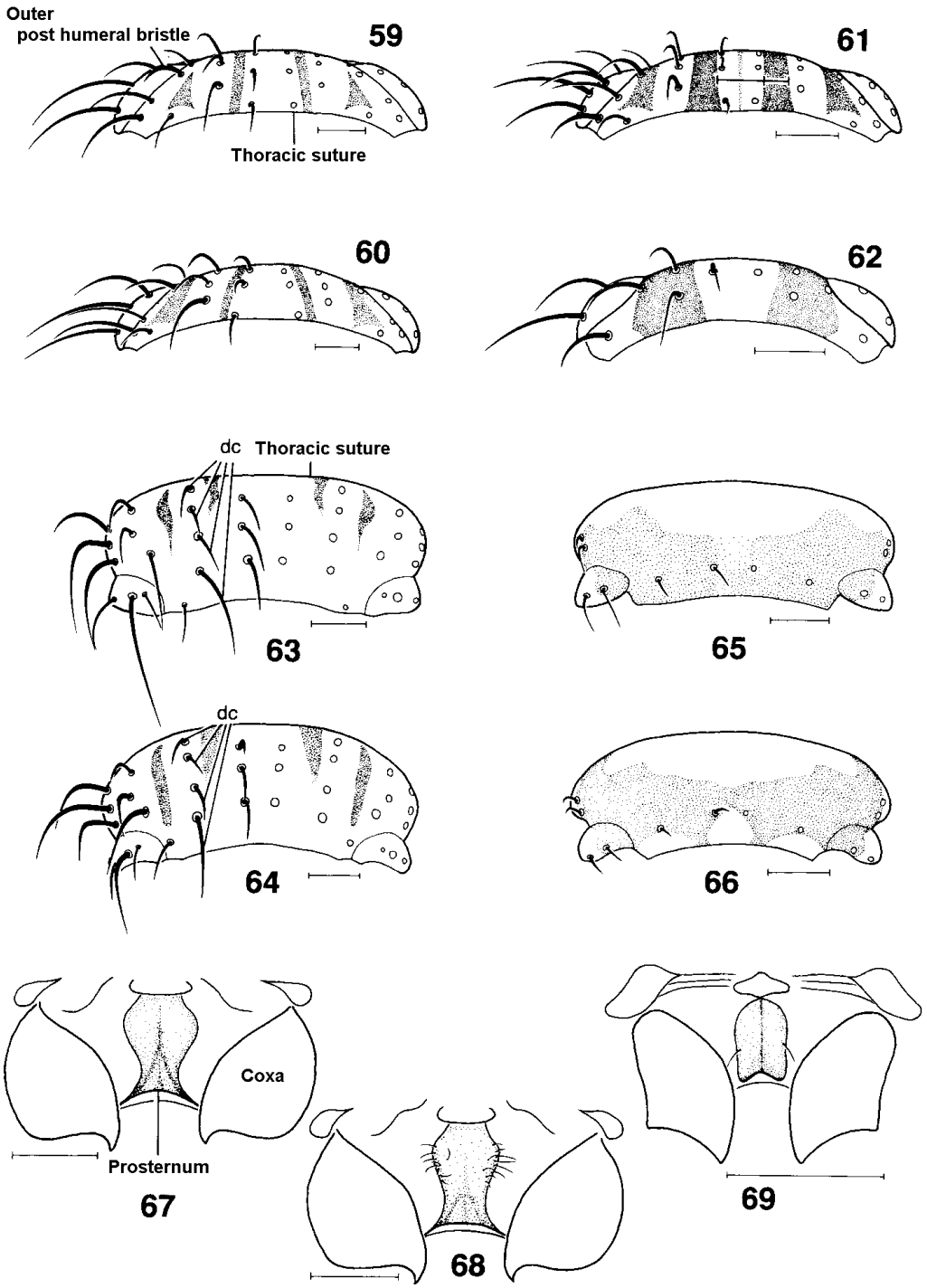
figs.27 - 29. Head, lateral view. **27.** *Stomina tachinoides* (female), **28.** *Prosena siberita* (female), **29.** *Trixa caerulescens* (male) .
figs.30 - 34. Proboscis with palps, lateral view. **30.** *Ancistrophora mikii* (female), **31.** *Tachina fera* (male), **32.** *Ceranthia samarensis* (male), **33.** *Ceranthia abdominalis* (male), **34.** *Nowickia ferox* (female) (a = Diameter of the Haustellum; b = Length of the Haustellum).
figs.35 - 37. Palps, lateral view. **35.** *Solieria inanis* (female), **36.** *Solieria fenestrata* (female), **37.** *Solieria pacifica* (female). Scale: 0.5 mm.



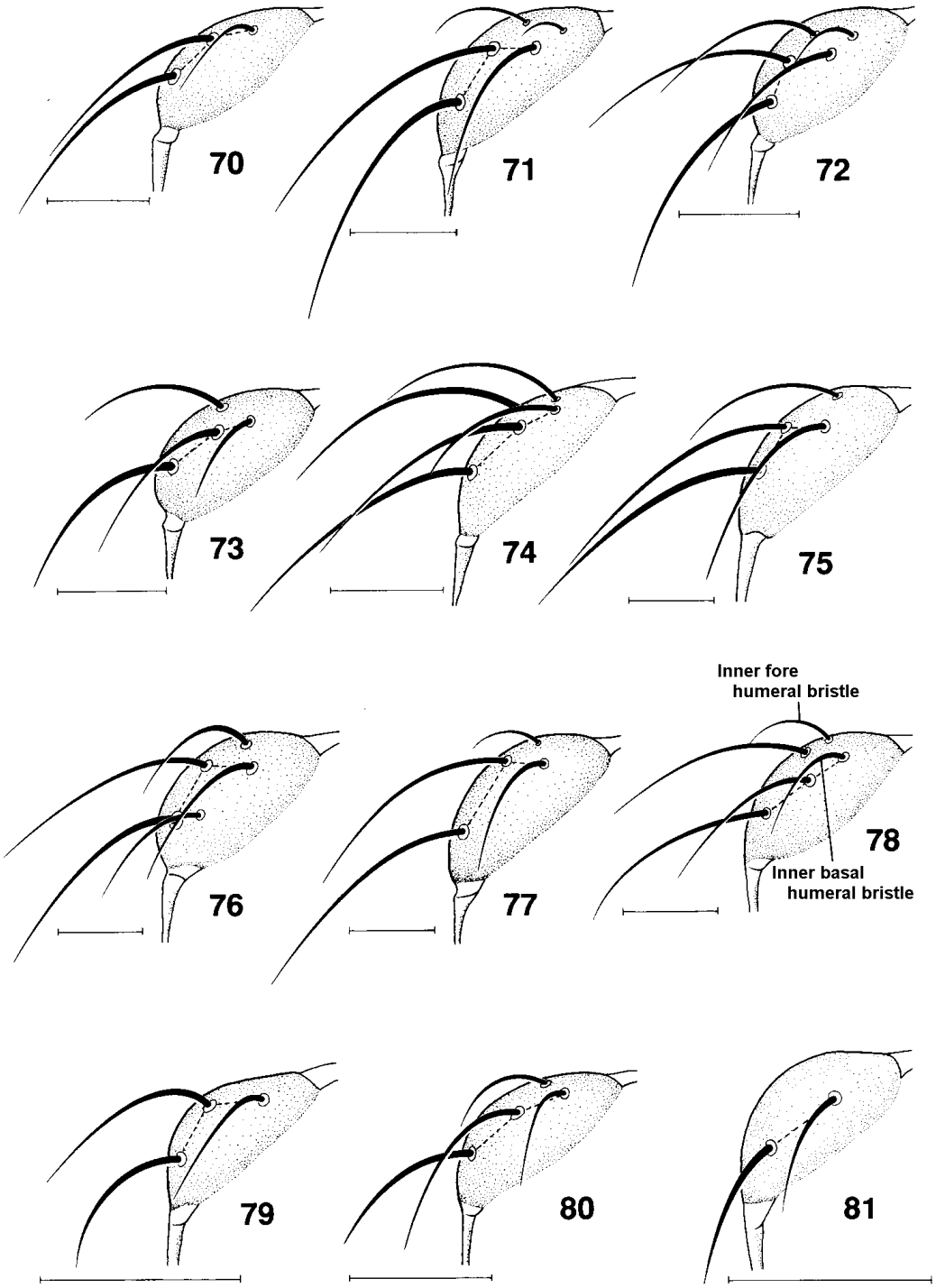
figs.38 - 49. Left antenna, lateral view. **38.** *Rhaphiochaeta breviseta* (male), **39.** *Acemya acuticornis* (male), **40.** *Gastrolepta anthracina* (male), **41.** *Masicera silvatica* (female), **42.** *Carcelia iliaca* (male) (a = Length of the 2nd antennal segment; b = Length of the third antennal segment; c = Width of the third antennal segment), **43.** *Lophosia fasciata* (male), **44.** *Triarthria setipennis* (female), **45.** *Siphona nigricans* (male), **46.** *Billaea triangulifera* (male), **47.** *Peribaea fissicornis* (male), **48.** *Cylindromyia pusilla* (male), **49.** *Eriothrix prolixa* (male). Scale: 0.5 mm.



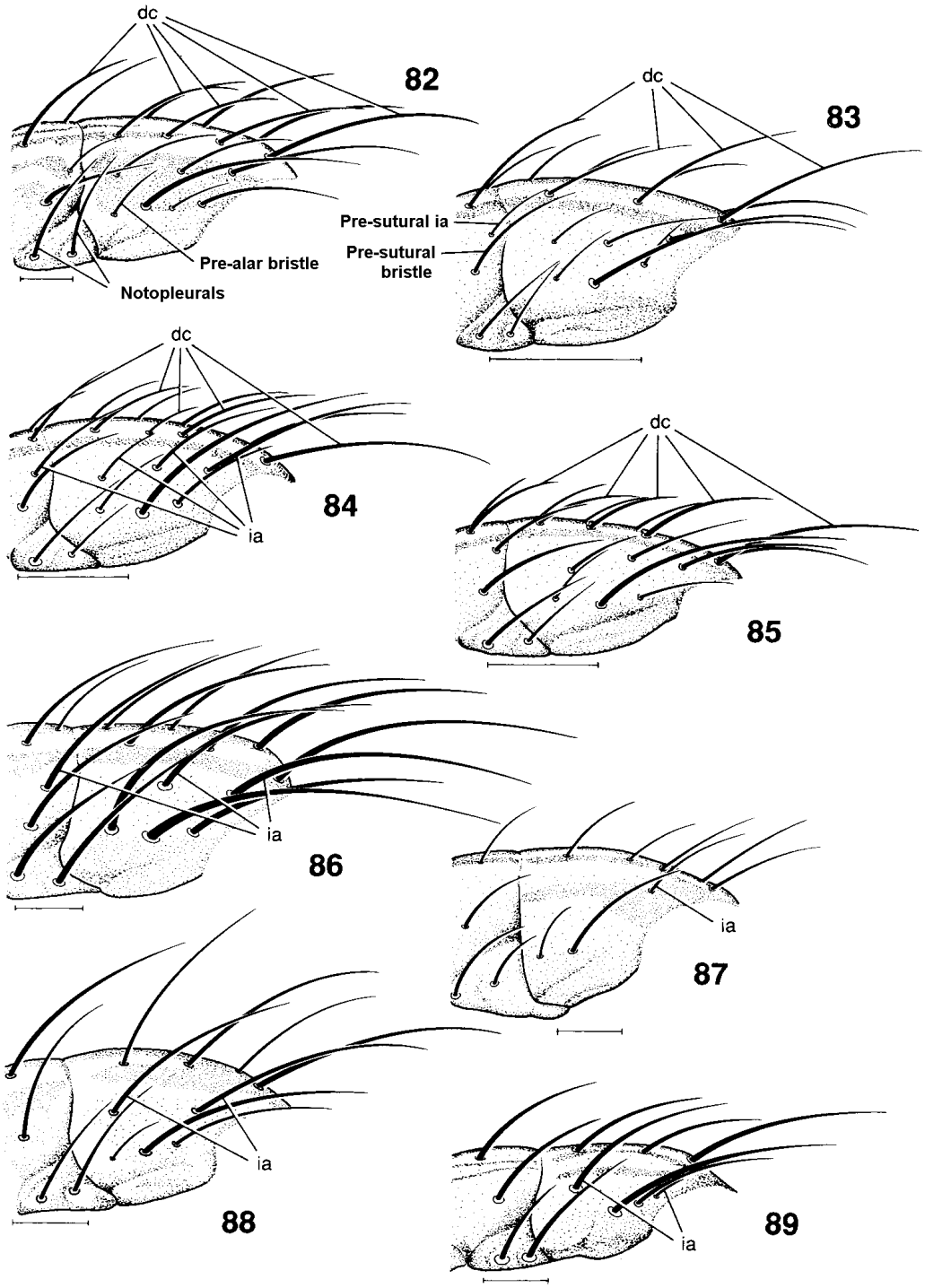
figs.50 - 52. 2nd Antennal segment, frontal view. **50.** *Exorista civilis* (female), **51.** *Exorista deligata* (male), **52.** *Linnaemya tessellans* (male). **figs.53 - 58.** Head, dorsal view. **53.** *Linnaemya haemorrhoidalis* (male) (B = Bristles in the upper extent of the white hair), **54.** *Bessa selecta* (male), **55.** *Gonia ornata* (male), **56.** *Thelymorpha marmorata* (male), **57.** *Pseudoperichaeta nigrolineata* (male) (a = Width of the frons; b = Width of one eye; c = Distance between the hindmost Ocelli), **58.** *Opesia cana* (female). Scale: 0.5 mm.



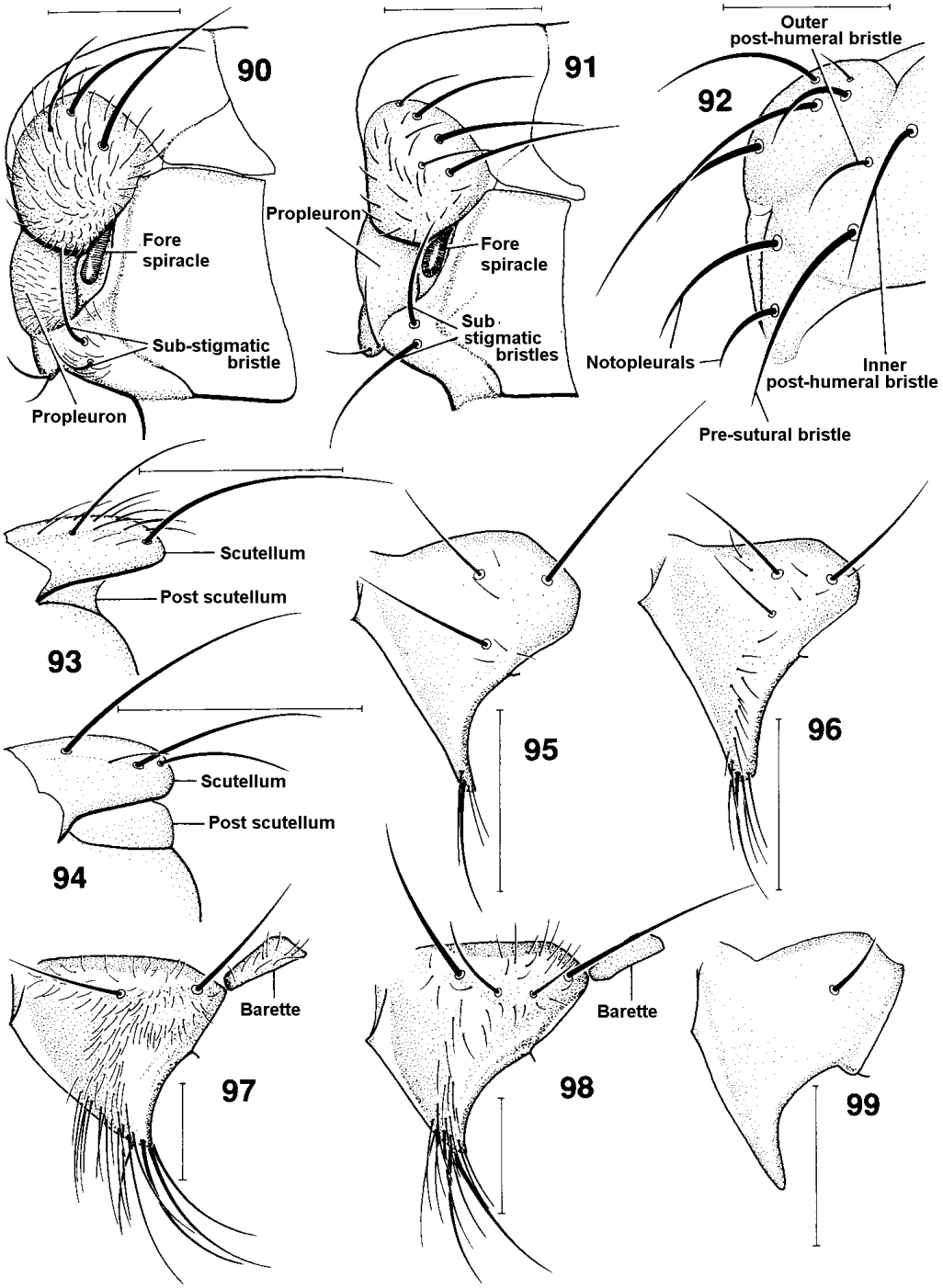
figs.59 - 62. Thorax before the suture, viewed obliquely from behind and above (shown without hairs). **59.** *Phebellia glauca* (female), **60.** *Phebellia glaucoides* (female), **61.** *Winthemia quadripustulata* (female), **62.** *Mintho rufiventris* (female). **figs.63 - 66.** Thorax behind the suture, viewed obliquely from behind and above (shown without hairs). **63.** *Senometopia pollinosa* (female), **64.** *Senometopia separata* (female), **65.** *Gymnosoma rotundatum* (male), **66.** *Gymnosoma clavatum* (male). **figs.67 - 69.** Prosternum. **67.** *Masicera pavoniae* (female), **68.** *Masicera sphingivora* (female), **69.** *Siphona pauciseta* (female). Scale: 0.5 mm.



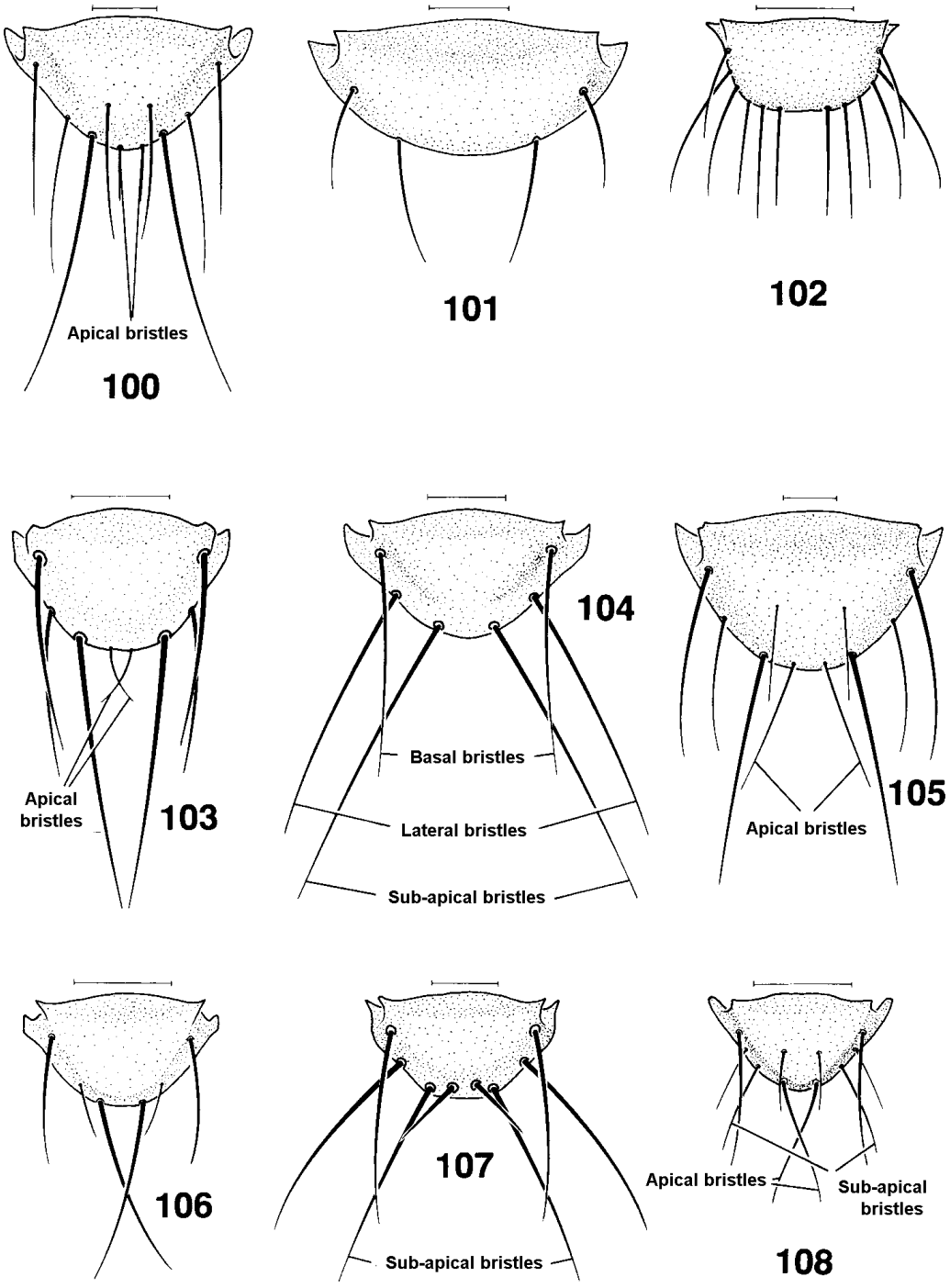
figs.70 - 81. Left Humeralcallus, dorsal view (shown without hairs). **70.** *Huebneria affinis* (male), **71.** *Phebellia villica* (male), **72.** *Myxexoristops blondeli* (female), **73.** *Phryxe vulgaris* (male), **74.** *Chrysosomopsis auratus* (male), **75.** *Eurithia caesia* (male), **76.** *Eurithia suspecta* (male), **77.** *Pseudopachystylum gonioides* (male), **78.** *Eriothrix argyreatus* (male), **79.** *Ramonda prunaria* (male), **80.** *Wagneria gagatea* (male), **81.** *Wagneria alpina* (male). Scale: 0.5 mm.



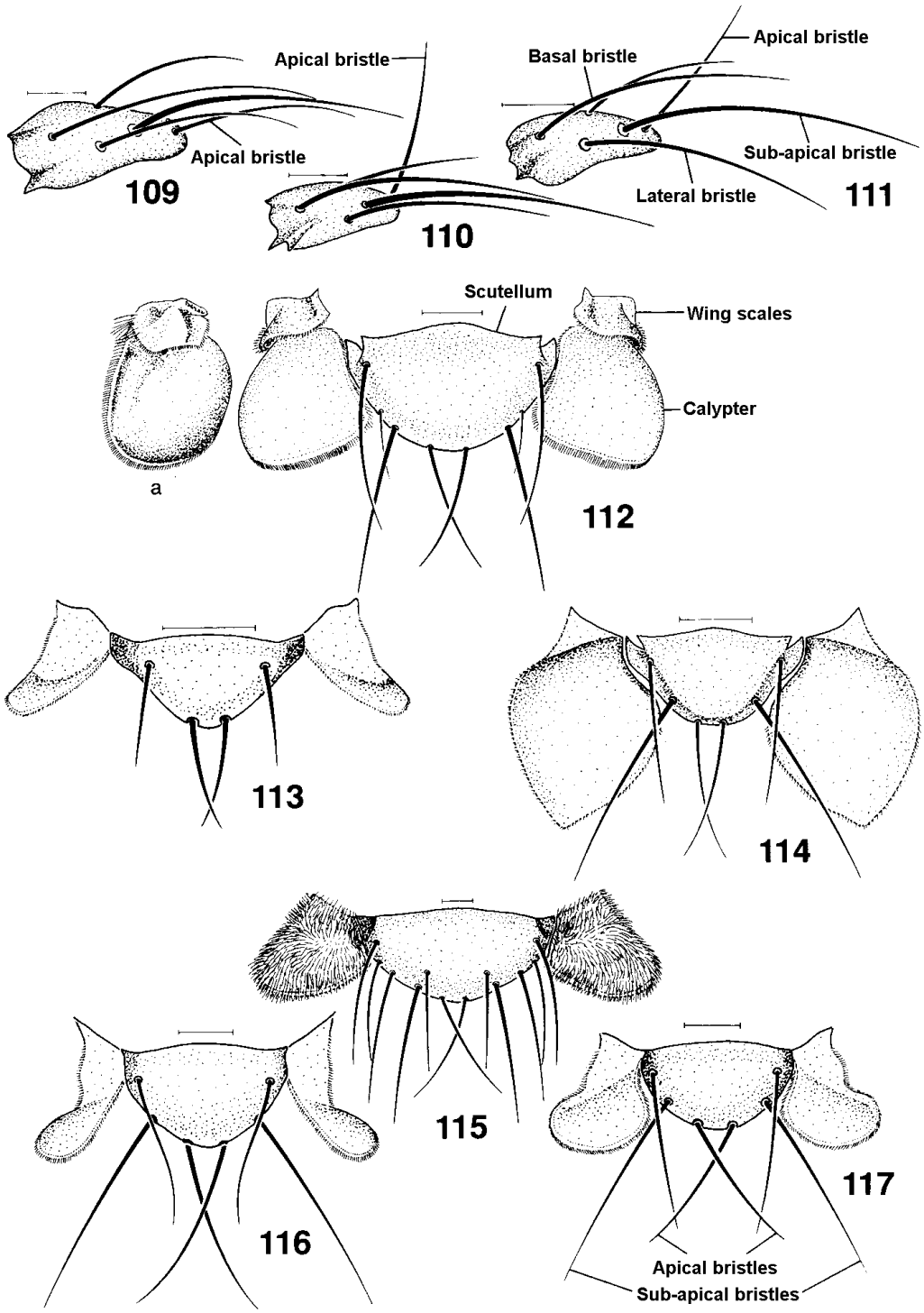
figs.82 - 89. Dorsal part of the Thorax, lateral view (shown without hairs). **82.** *Exorista larvarum* (male), **83.** *Siphona maculata* (male), **84.** *Siphona flavifrons* (female), **85.** *Siphona geniculata* (female), **86.** *Tachina praeceps* (male), **87.** *Ectophasia crassipennis* (male), **88.** *Labigastera forcipata* (male), **89.** *Cylindromyia xylotina* (male). Scale: 0.5 mm.



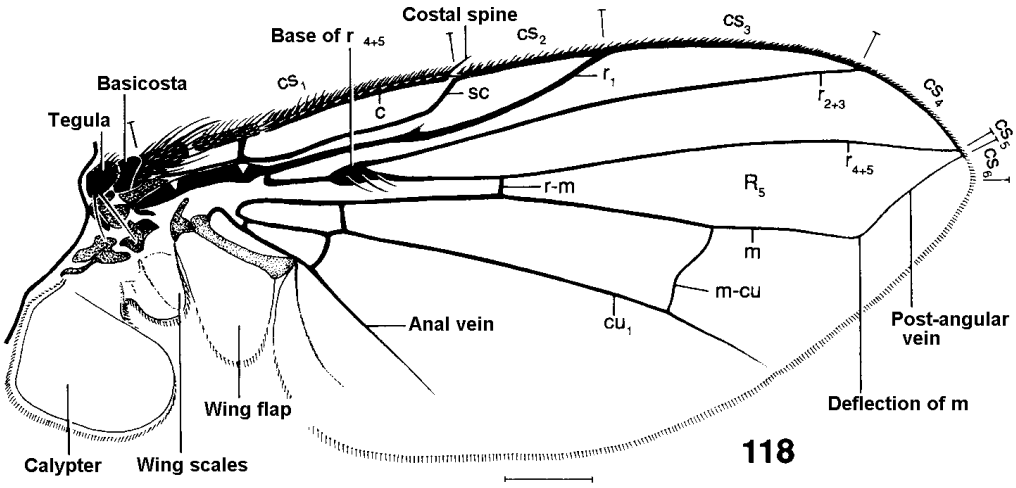
figs.90 - 91. Front-left part of the Thorax, lateral view. **90.** *Meigenia mutabilis* (female), **91.** *Peribaea tibialis* (female). **fig.92.** Front-left part of the Thorax, dorsal view, of *Meigenia mutabilis* (male) (shown without hairs). **figs.93 - 94.** Scutellum and post-scutellum, lateral view. **93.** *Litophasia hyalipennis* (male), **94.** *Cinochira atra* (male). **figs.95 - 99.** Sternopleuron. **95.** *Siphona flavifrons* (female), **96.** *Actia lamia* (female), **97.** *Winthemia quadripustulata* (male), **98.** *Drino inconspicua* (female), **99.** *Cylindromyia pusilla* (male). Scale: 0.5 mm.



figs.100 - 108. Scutellum, dorsal view (shown without hairs). **100.** *Meigenia dorsalis* (male), **101.** *Gymnosoma rotundatum* (male), **102.** *Besseria melanura* (female), **103.** *Ceromya bicolor* (female), **104.** *Oswaldia muscaria* (female), **105.** *Gaedia connexa* (male), **106.** *Anthomyiopsis nigrisquamata* (female), **107.** *Masistylum arcuatum* (male), **108.** *Synactia parvula* (female). Scale: 0.5 mm.



figs.109 - 111. Scutellum, lateral view (shown without hairs). **109.** *Pales processioneae* (male), **110.** Phryxe vulgaris (female), **111.** *Phebellia nigripalpis* (female). **figs.112 - 117.** Scutellum and Calyptrae, dorsal view (Scutellum shown without hairs). **112.** *Paratryphera barbatula* (male) (a = left Calyptra and Wing scales, lateral view), **113.** *Catharosia pygmaea* (male), **114.** *Leucostoma anthracinum* (male), **115.** *Nemoraea pellucida* (male), **116.** *Macquartia grisea* (female), **117.** *Macquartia tenebricosa* (female). Scale: 0.5 mm.



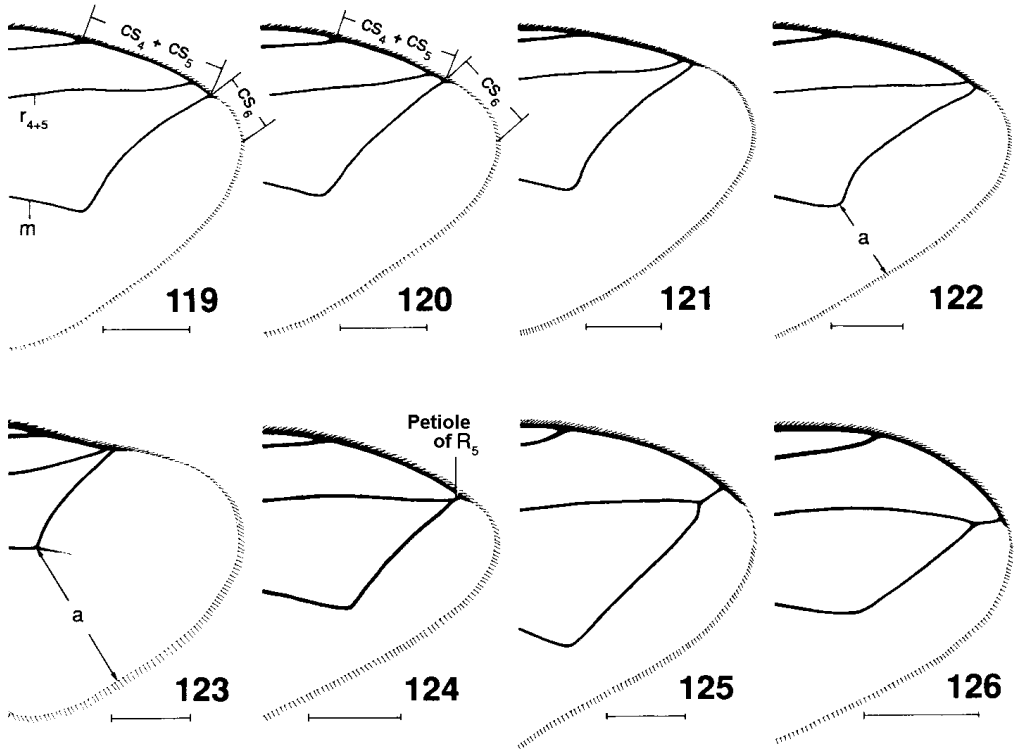
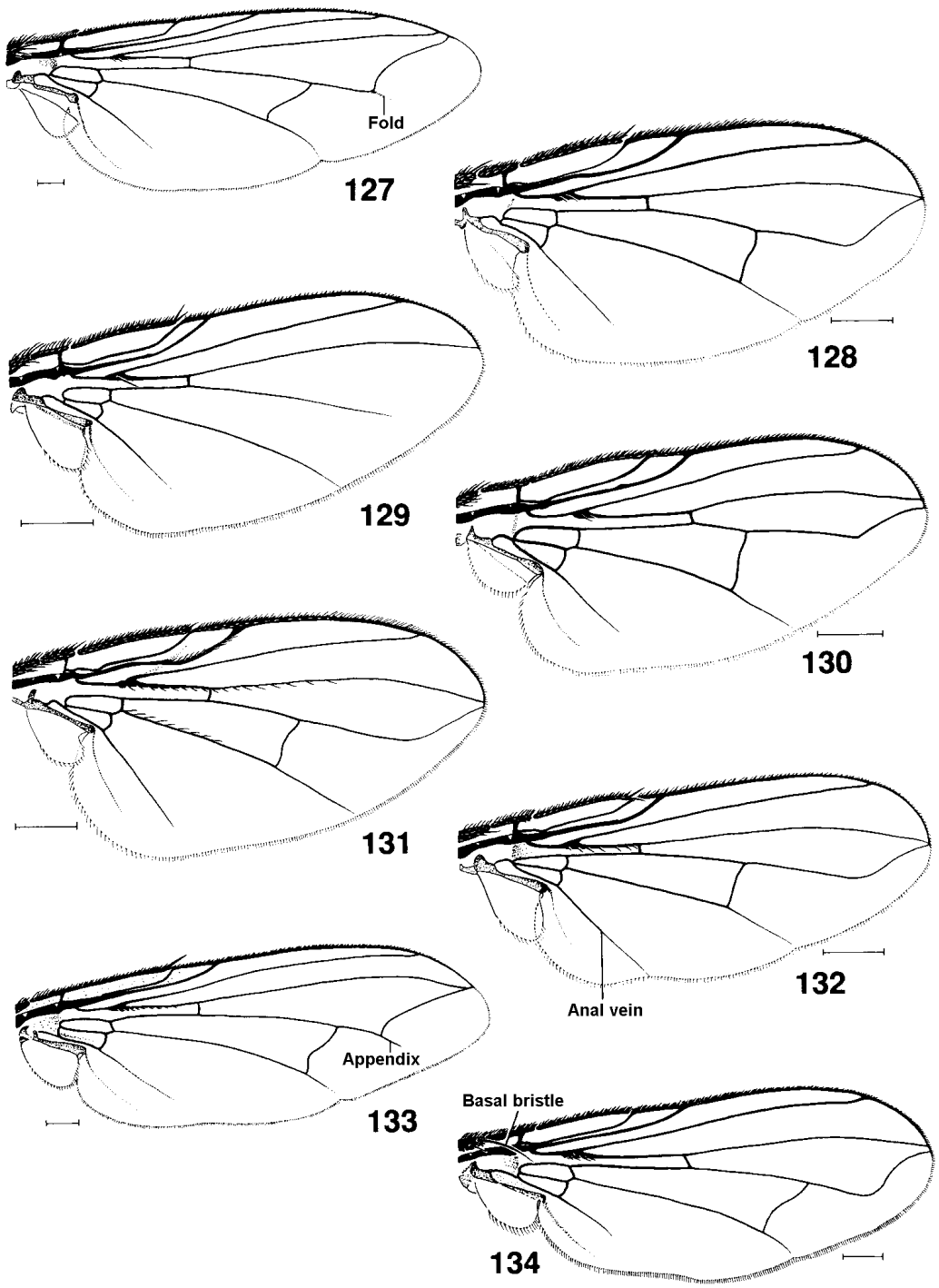
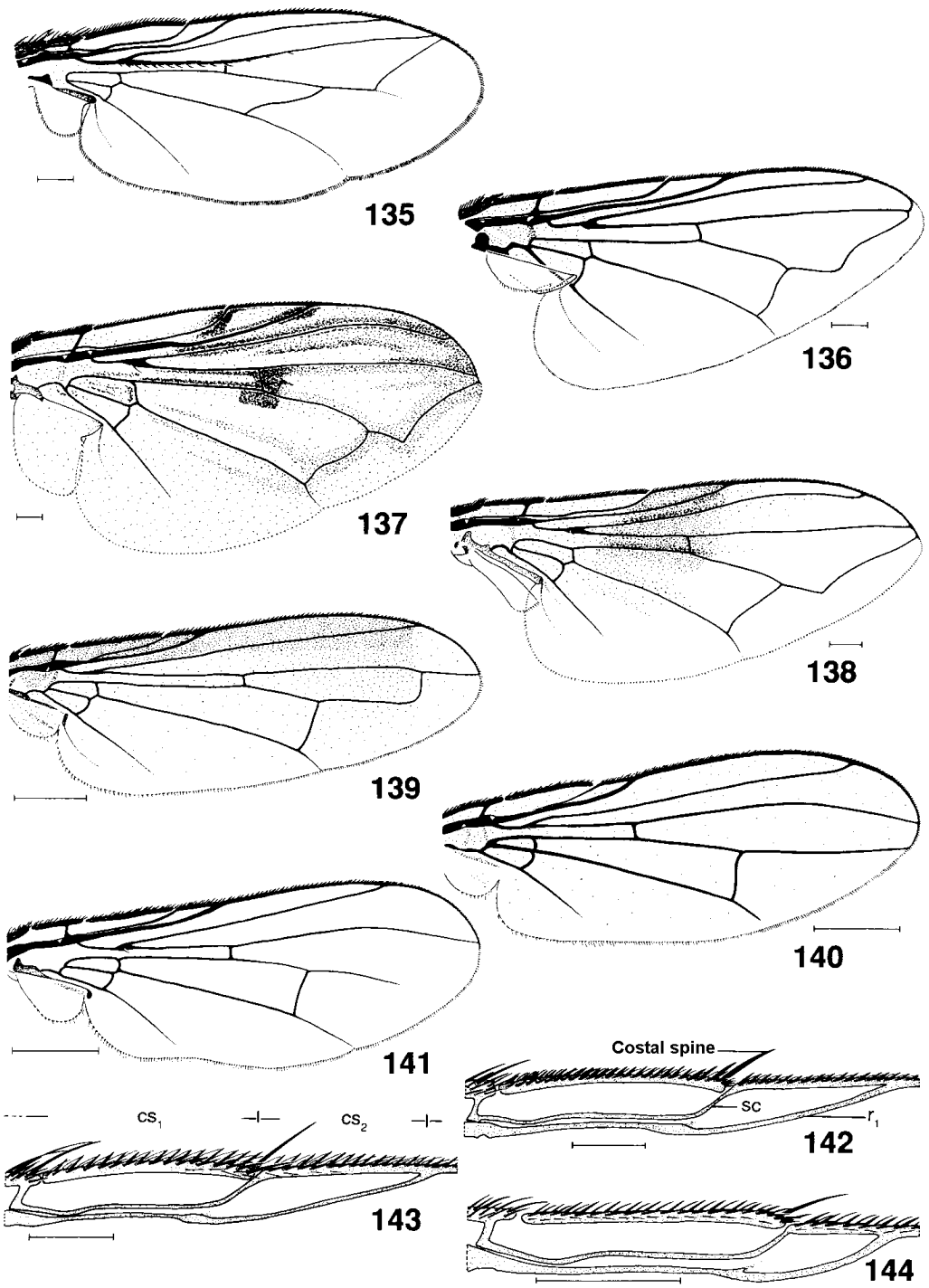


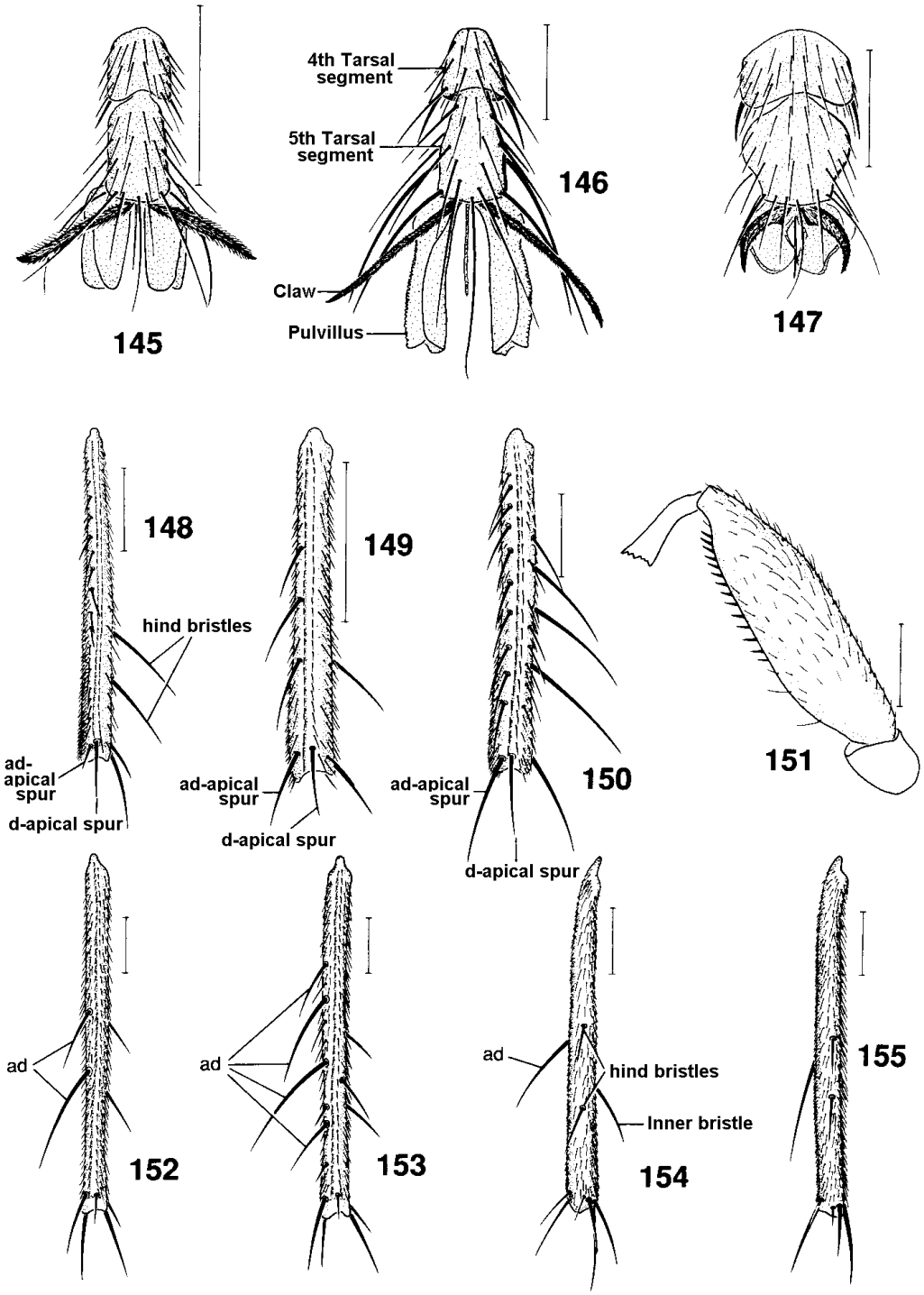
fig.118. Right wing of *Eurysthaea scutellaris* (male). **figs.119 - 126.** Top third of right wing. **119.** *Phryxe magnicornis* (male), **120.** *Phryxe vulgaris* (female), **121.** *Platymya fimbriata* (male), **122.** *Eumea linearicornis* (male), **123.** *Athrycia impressa* (male) (a = shortest distance between the deflection and the wing edge), **124.** *Dinera grisescens* (male), **125.** *Gymnosoma rotundatum* (male), **126.** *Gymnosoma nitens* (male). Scale: 0.5 mm.



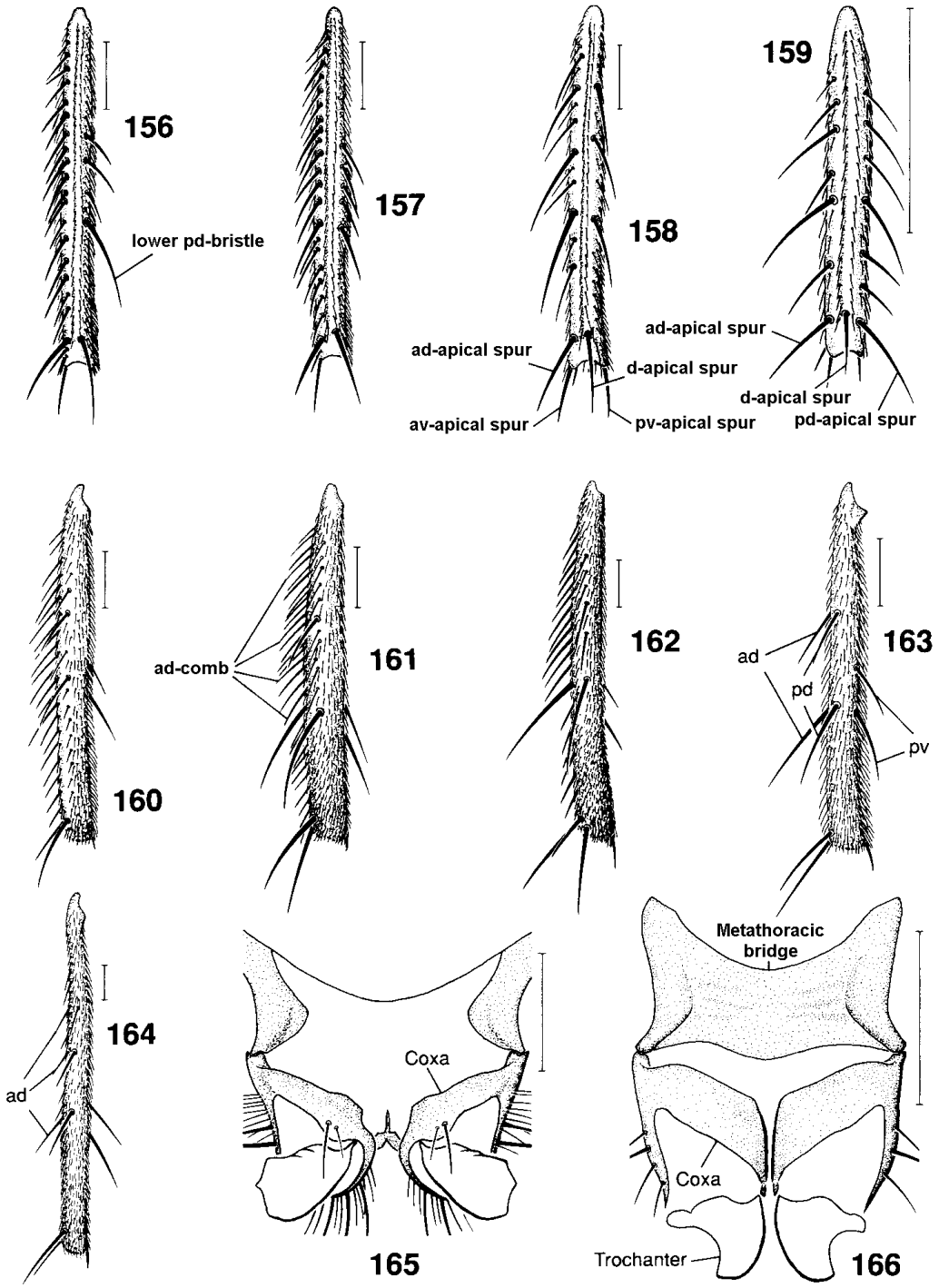
figs.127 - 134. Right wing. **127.** *Phorocera grandis* (male), **128.** *Elodia morio* (female), **129.** *Phytomyptera nigrina* (male), **130.** *Eloceria delecta* (male), **131.** *Actia nudibasis* (male), **132.** *Siphona flavifrons* (male), **133.** *Mintho rufiventris* (female), **134.** *Phyllomya volvulus* (male). Scale: 0.5 mm.



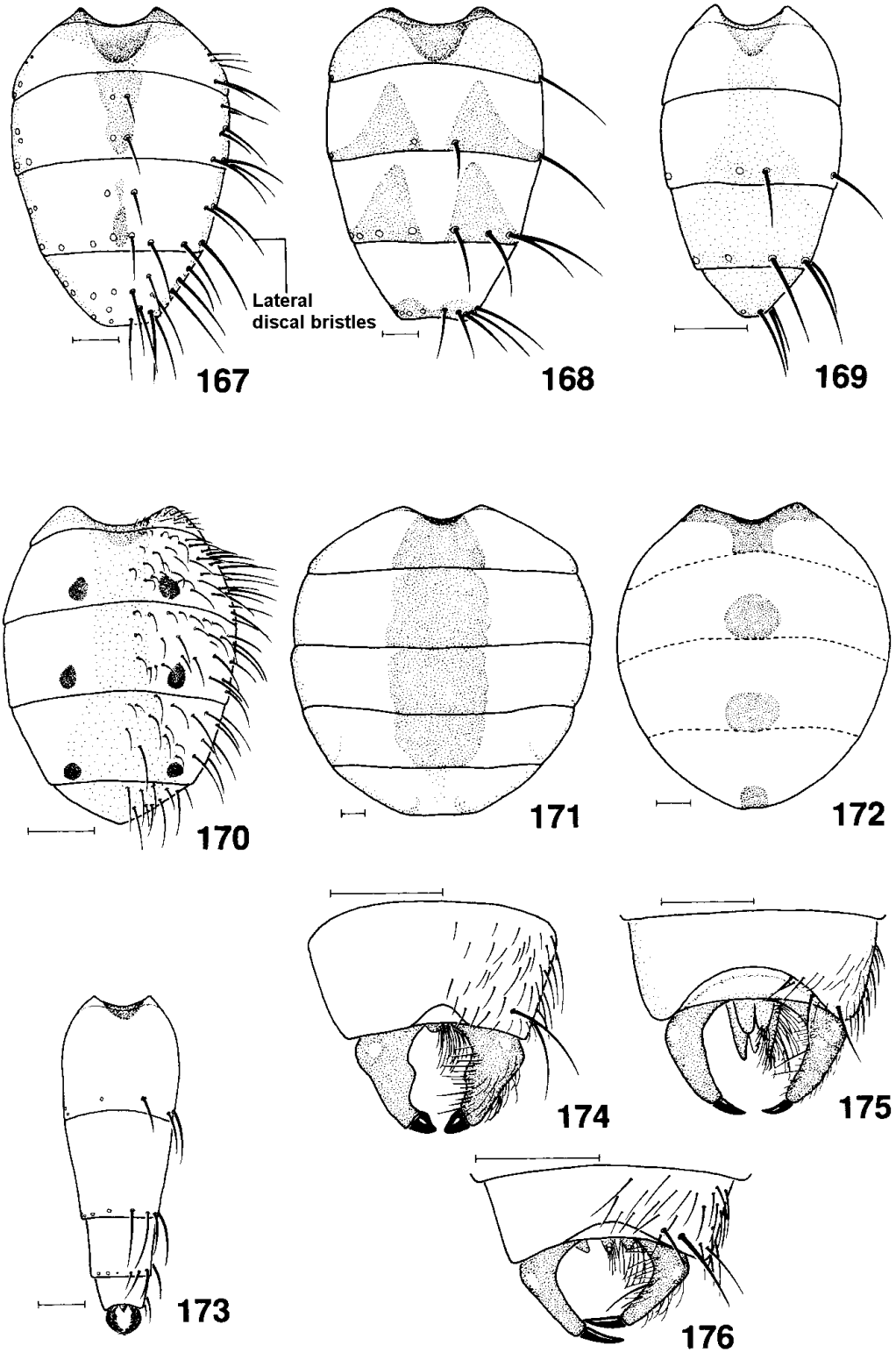
figs.135 - 141. Right wing. **135.** *Athrycia trepida* (female), **136.** *Elomya lateralis* (female), **137.** *Ectophasia crassipennis* (male), **138.** *Ectophasia crassipennis* (female), **139.** *Catharosia pygmaea* (female), **140.** *Cinochira atra* (male), **141.** *Besseria anthophila* (male). **figs.142 - 144.** Right wing, 1st and 2nd costal wing-segments. **142.** *Aphria longirostris* (male), **143.** *Aphria longilingua* (male), **144.** *Ramonda ringdahli* (female). Scale: 0.5 mm.



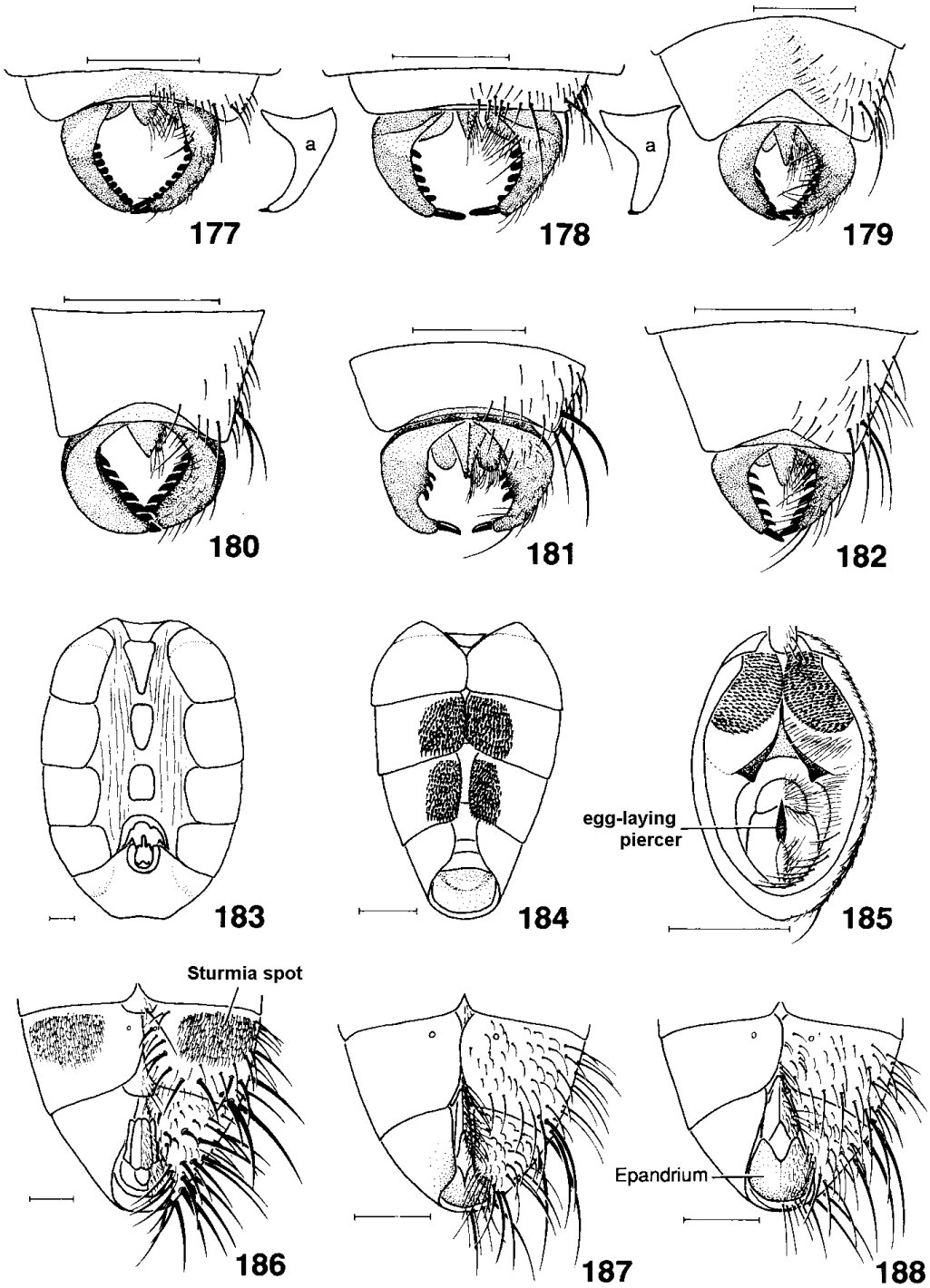
figs.145 - 147. Fore-tarsus, 4th and 5th segment, dorsal view. **145.** *Phryxe erythrostoma* (male), **146.** *Tachina fera* (male), **147.** *Ernestia rudis* (female). **figs.148 - 150.** Left fore-tibia, dorsal view. **148.** *Senometopia pollinosa* (male), **149.** *Entomophaga nigrohalterata* (female), **150.** *Pelatachina tibialis* (female). **fig.151.** Left femur of *Gymnosoma clavatum* (female). **figs.152 - 153.** Left mid-tibia, dorsal view. **152.** *Thelaira nigripes* (male), **153.** *Thelaira solivaga* (male). **figs.154 - 155.** Left mid-tibia, seen from behind. **154.** *Carcelia bombylans* (male), **155.** *Senometopia separata* (male). Scale: 0.5 mm.



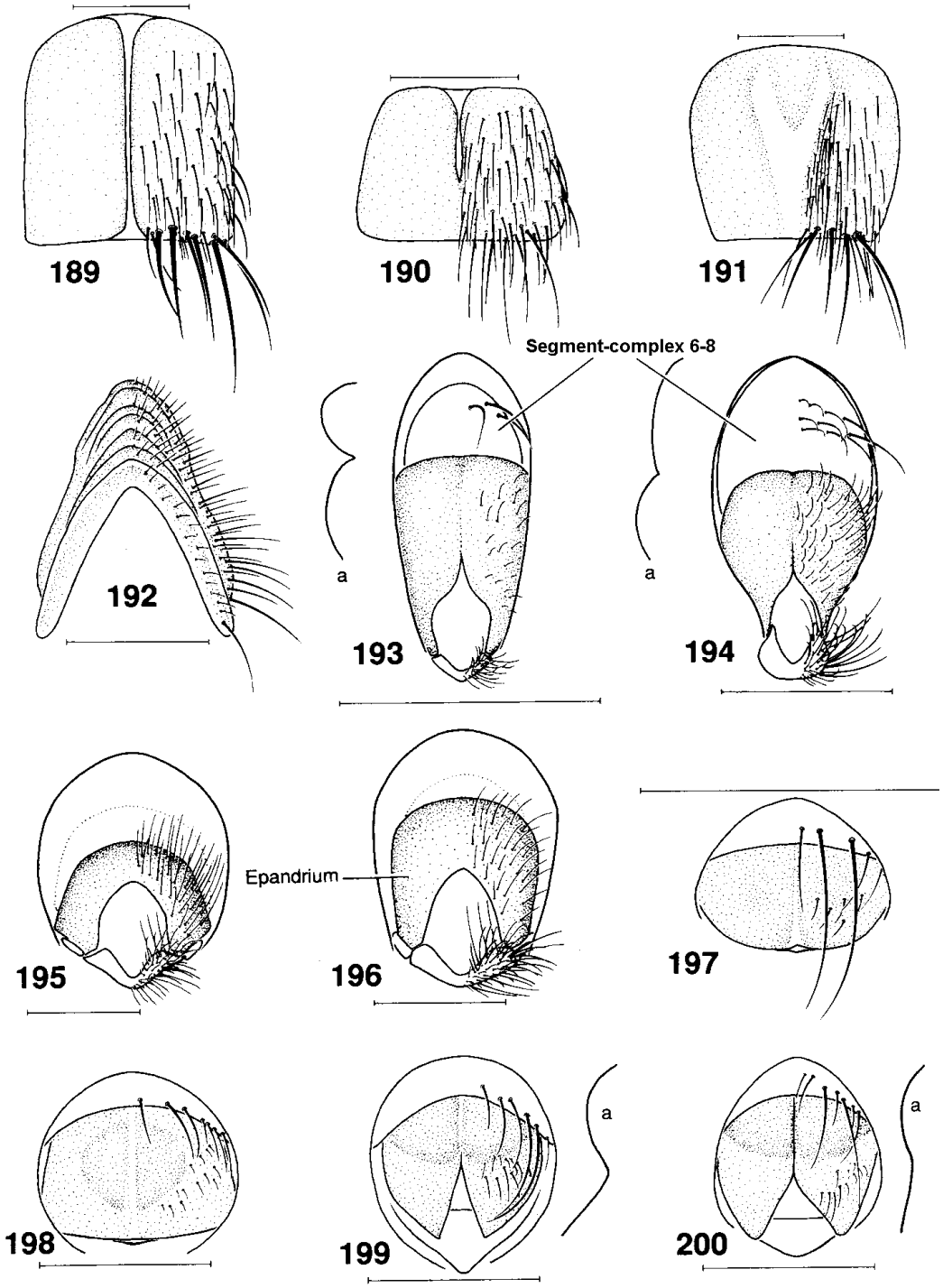
figs.156 - 159. Left hind tibia, dorsal view (from this angle the pv-Apical spur is usually hidden by the 1st tarsal segment!). **156.** *Winthemia quadripustulata* (female), **157.** *Winthemia cruentata* (female), **158.** *Linnaemya picta* (male), **159.** *Phytomyptera vaccinii* (male). **figs.160 - 164.** Left hind tibia, viewed from behind. **160.** *Billaea triangulifera* (male), **161.** *Phebellia villica* (male), **162.** *Gonia distinguenda* (female), **163.** *Cylindromyia auriceps* (male), **164.** *Dinera ferina* (male). **figs.165 - 166.** Metathorax, hind coxa and trochanters seen from behind (trochanter shown without hairs). **165.** *Carcelia bombylans* (male), **166.** *Phania funesta* (male). Scale: 0.5 mm.



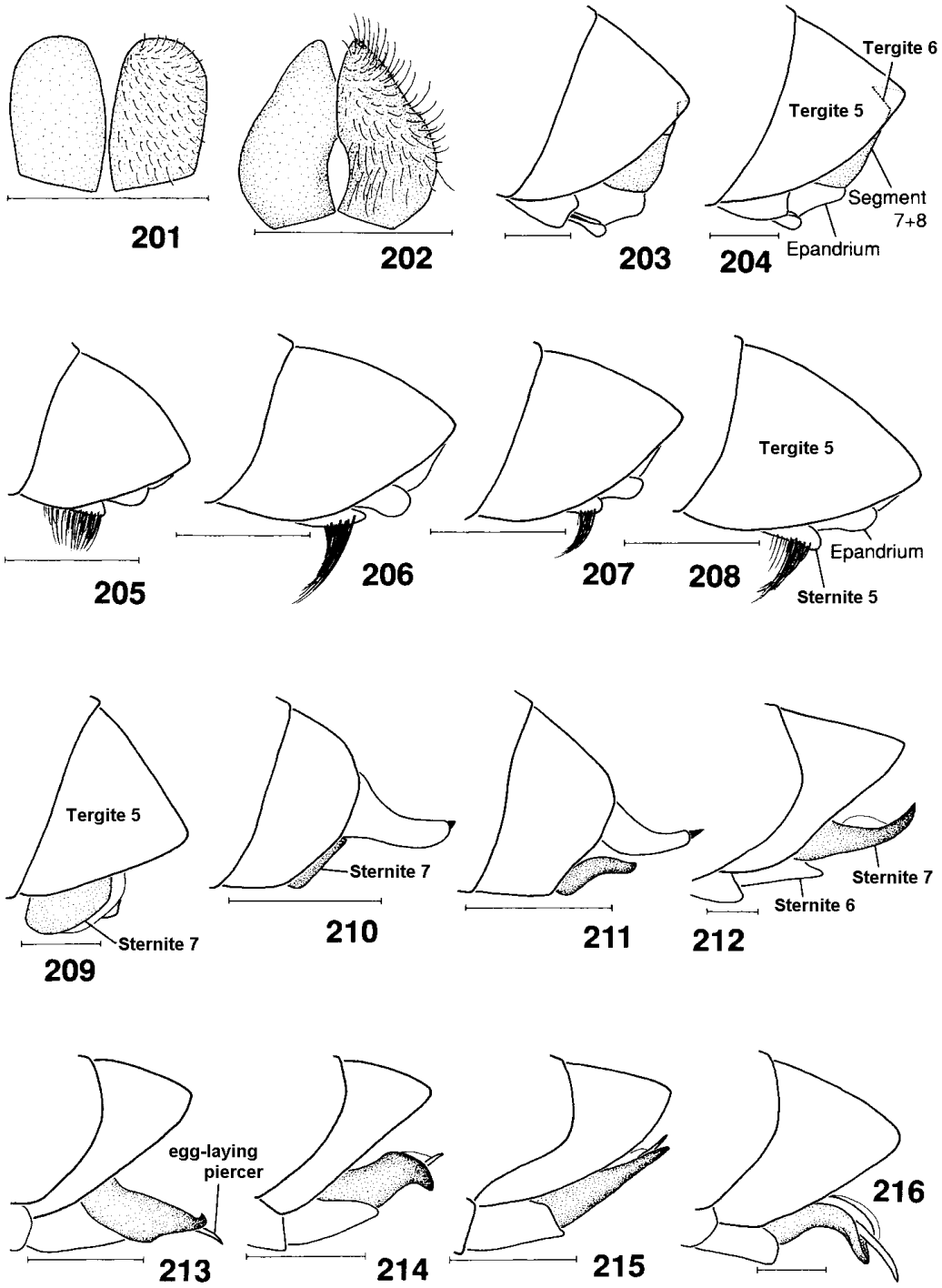
figs.167 - 173. Abdomen, dorsal view (only hairs shown in fig. 170). **167.** *Hyalurgus lucidus* (male), **168.** *Billaea triangulifera* (male), **169.** *Siphona maculata* (male), **170.** *Pandelleia otiorrhynchi* (male), **171.** *Ectophasia crassipennis* (male), **172.** *Gymnosoma rotundatum* (male), **173.** *Leucostoma anthracinum* (female). **figs.174 - 176.** Tergite 5 and abdominal pincer, dorsal view. **174.** *Labigastera pauciseta* (female), **175.** *Labigastera forcipata* (female), **176.** *Labigastera nitidula* (female). Scale: 0.5 mm.



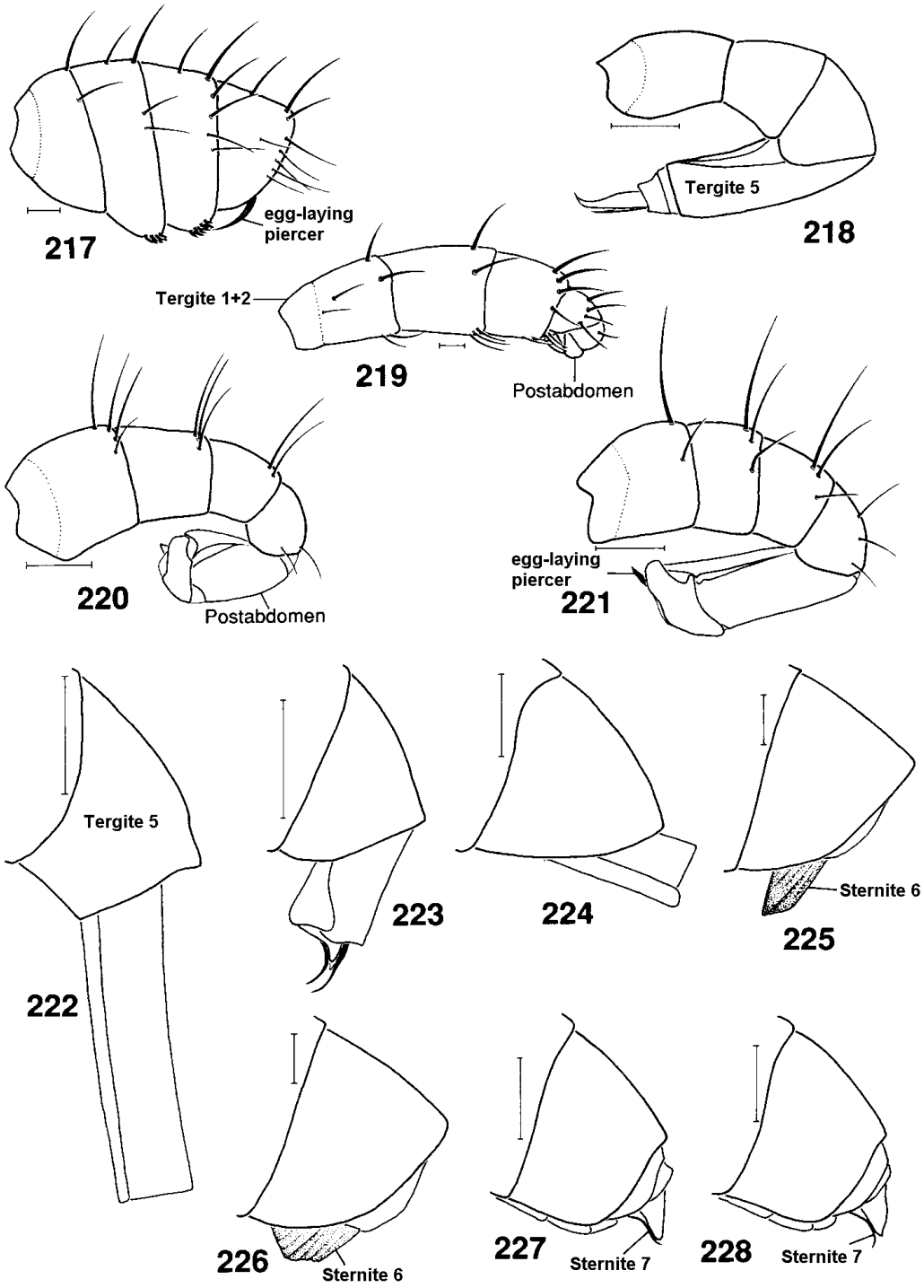
figs.177 - 182. Tergite 5 and abdominal pincer, dorsal view (a = right pincer arm in lateral view). **177.** *Dionaea flavisquamis* (female), **178.** *Dionaea aurifrons* (female), **179.** *Leucostoma meridianum* (female), **180.** *Leucostoma tetraptera* (female), **181.** *Leucostoma turonicum* (female), **182.** *Leucostoma simplex* (female). **figs.183 - 184.** Abdomen, ventral view (shown without hairs and bristles). **183.** *Ectophasia oblonga* (male), **184.** *Medina multispina* (female). **fig.185.** End segments of the abdomen, ventral view, of *Catharosia pygmaea* (female). **figs.186 - 188.** Tergites 4 and 5, ventral view. **186.** *Lydella grisescens* (male), **187.** *Leucostoma tetraptera* (male), **188.** *Leucostoma crassum* (male). Scale: 0.5 mm.



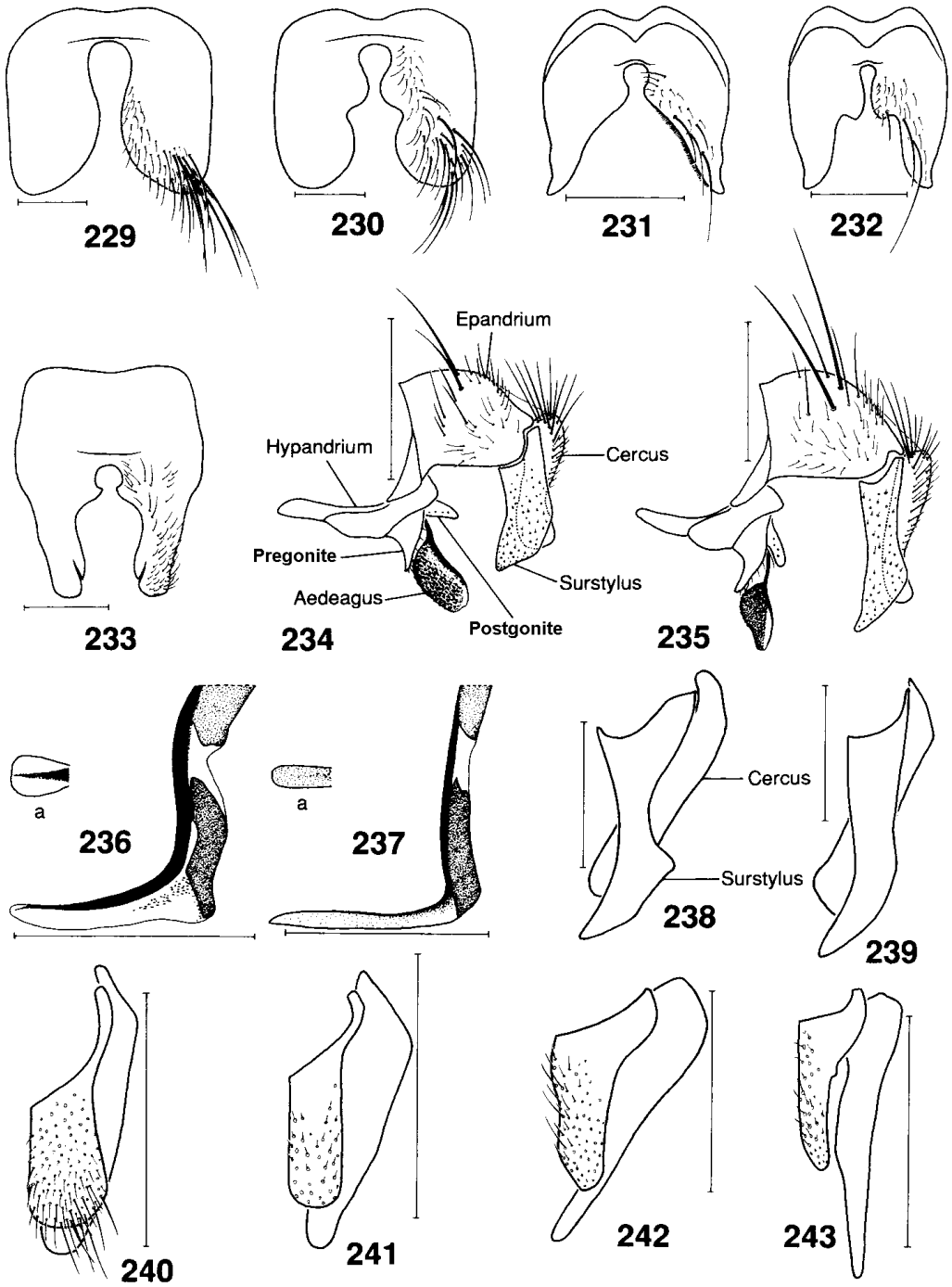
figs.189 - 192. Sternite 6, ventral view. **189.** *Eurithia consobrina* (female), **190.** *Eurithia connivens* (female), **191.** *Eurithia vivida* (female), **192.** *Phorocera assimilis* (female). **figs.193 - 196.** Epandrium, caudal view in the hollow of Tergite 5 (a = outline of segment complex 6-8 and Epandrium in lateral view). **193.** *Leucostoma anthracinum* (male), **194.** *Leucostoma crassum* (male), **195.** *Carcelia dubia* (male), **196.** *Carcelia lucorum* (male). **figs.197 - 200.** Tergite 7, rear view of the hollow of Tergite 5 (a = outline of Tergite 7 in lateral view). **197.** *Medina luctuosa* (female), **198.** *Medina multispina* (female), **199.** *Medina melania* (female), **200.** *Medina separata* (female). Scale: 0.5 mm.



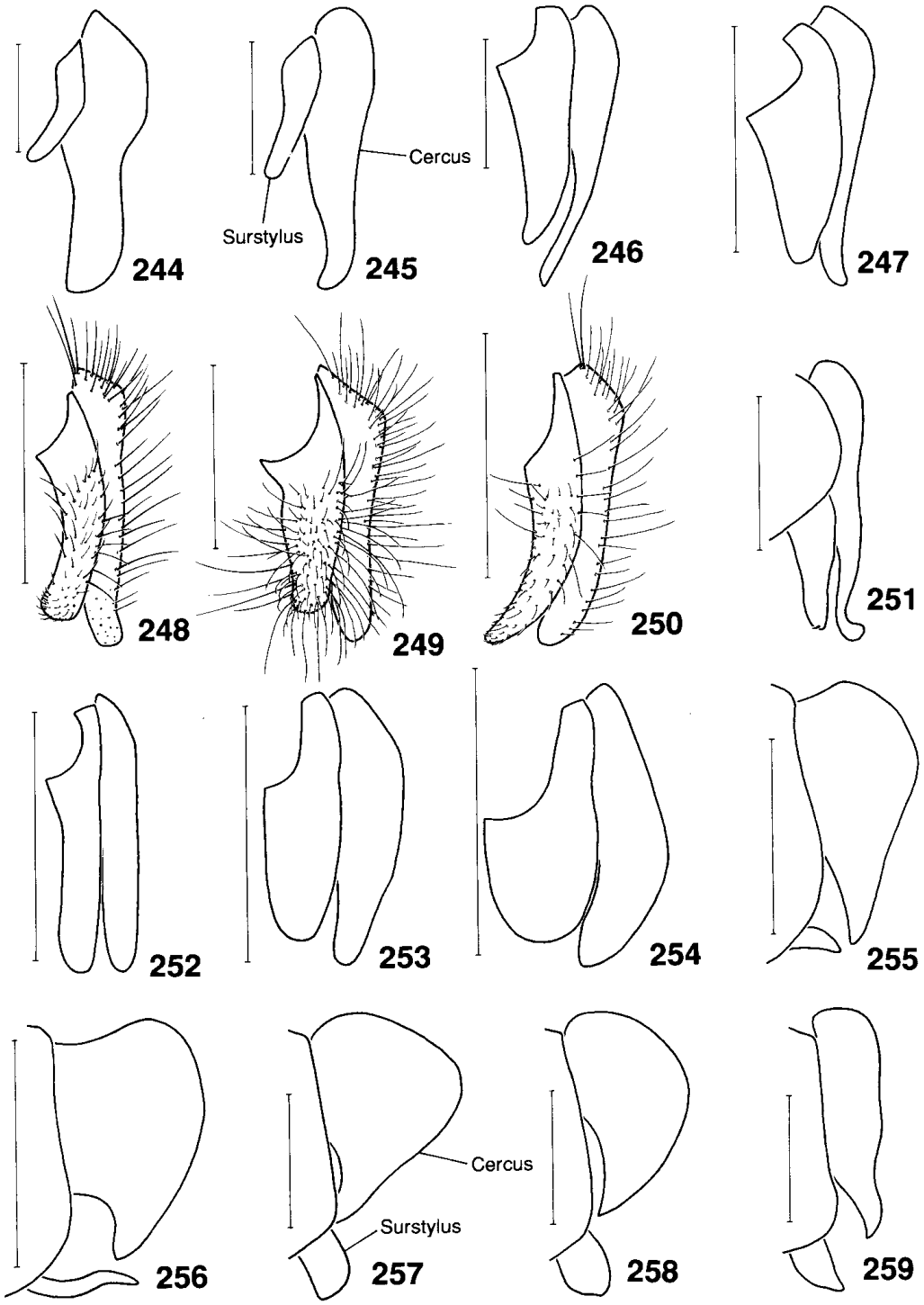
figs.201 - 202. Cerci. **201.** *Gymnosoma clavatum* (female), **202.** *Gymnosoma rotundatum* (female). **figs.203 - 216.** Abdominal segment 5 and post-abdomen, lateral view (only diagnostically important hairs shown). **203.** *Bithia immaculata* (male), **204.** *Bithia modesta* (male), **205.** *Medina luctuosa* (male), **206.** *Medina melania* (male), **207.** *Medina separata* (male), **208.** *Medina multispina* (male), **209.** *Picconia incurva* (female), **210.** *Leucostoma crassum* (female), **211.** *Leucostoma simplex* (female), **212.** *Phasia aurigera* (female), **213.** *Phasia pandellei* (female), **214.** *Phasia pusilla* (female), **215.** *Phasia obesa* (female), **216.** *Phasia aurulans* (female). Scale: 0.5 mm.



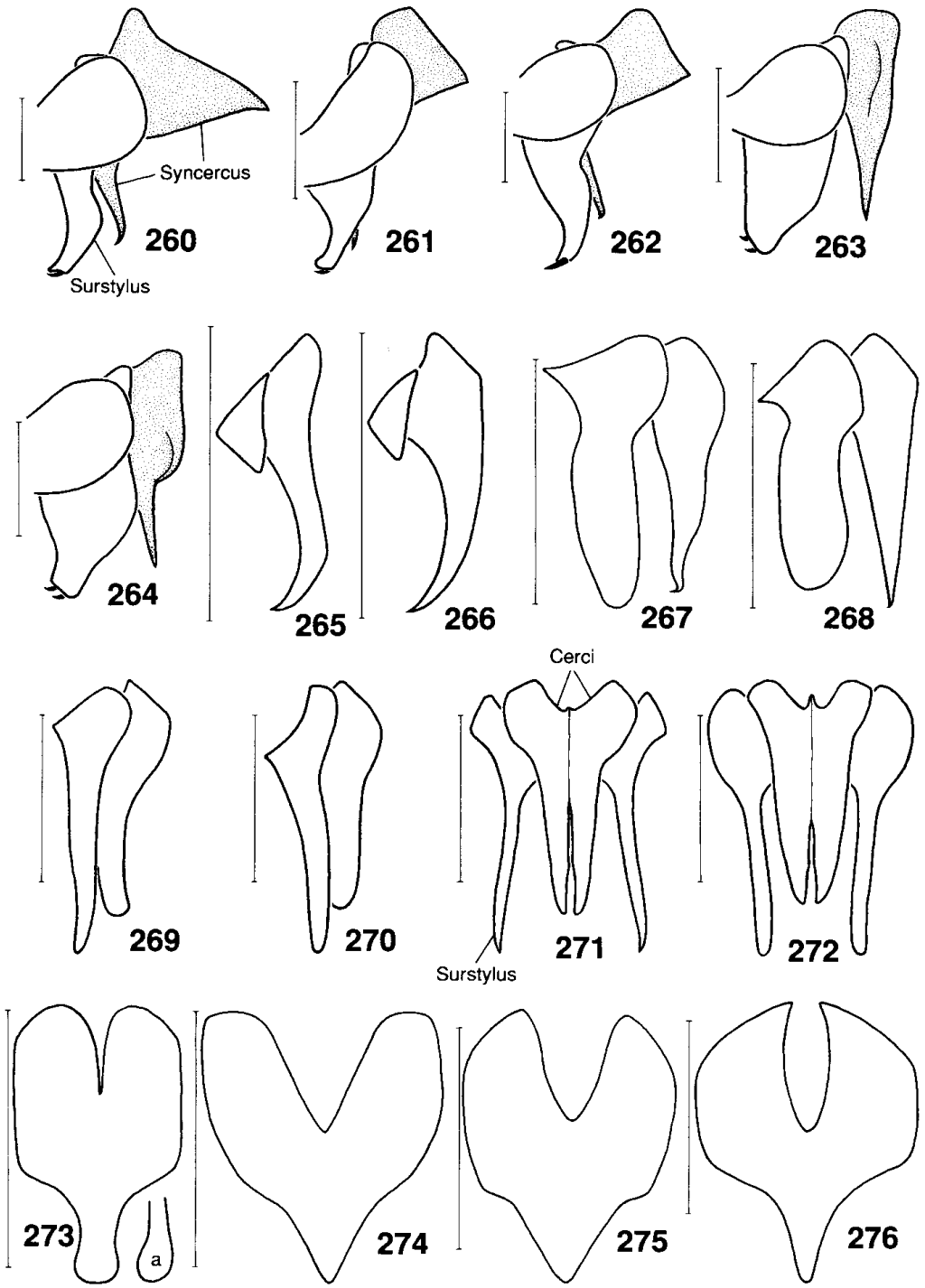
figs.217 - 221. Abdomen, lateral view (no bristles shown). **217.** *Compsilura concinnata* (female), **218.** *Freraea gagatea* (female), **219.** *Cylindromyia brevicornis* (male), **220.** *Phania incrassata* (female), **221.** *Phania funesta* (female). **figs.222 - 228.** Abdominal segment 5 and post-abdomen, lateral view (shown without bristles or hairs). **222.** *Pandelleia otiorrhynchi* (female), **223.** *Microsoma exiguum* (female), **224.** *Rondania dimidiata* (female), **225.** *Phorocera grandis* (female), **226.** *Phorocera assimilis* (female), **227.** *Ectophasia oblonga* (female), **228.** *Ectophasia crassipennis* (female). Scale: 0.5 mm.



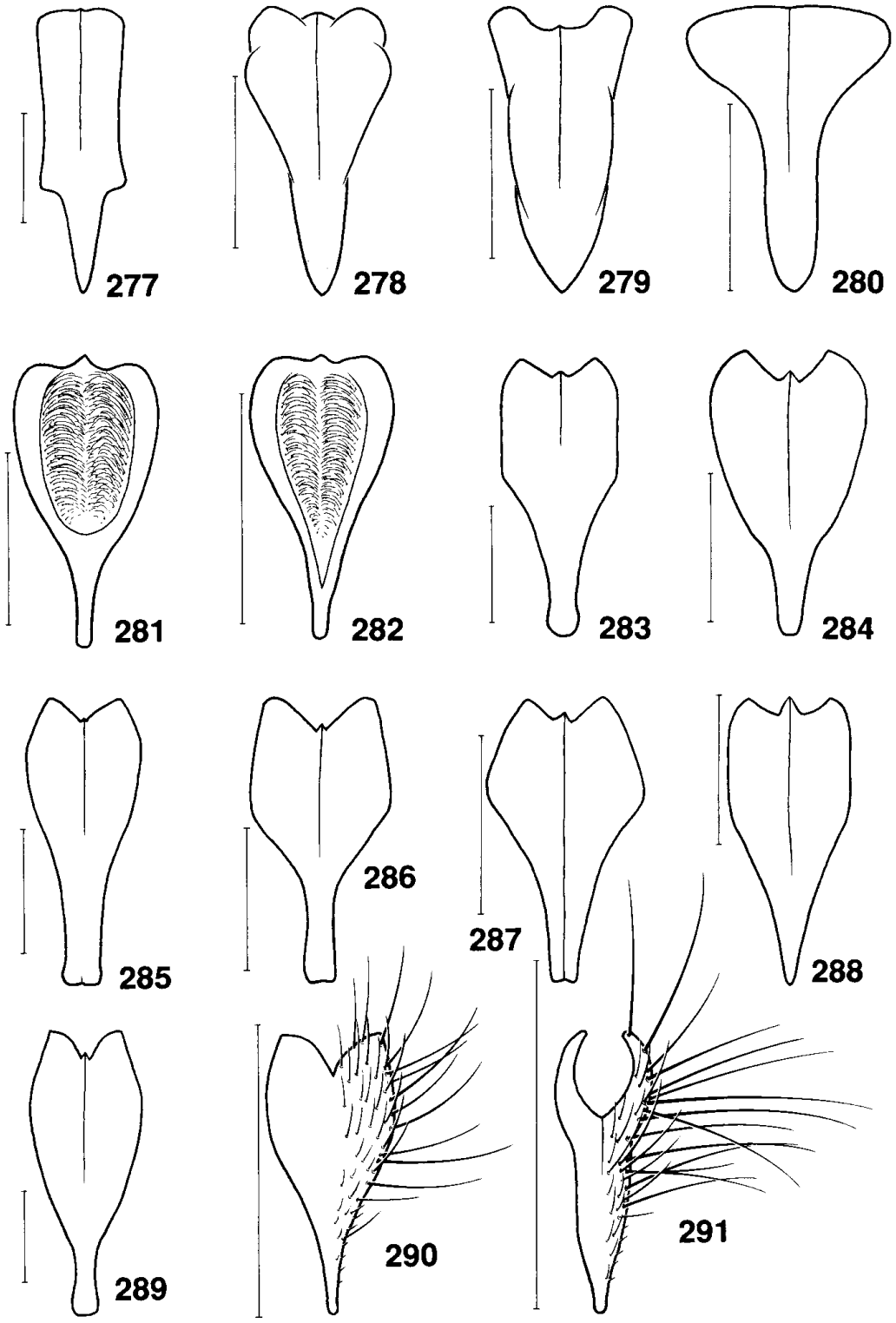
figs.229 - 233. (male) Sternite 5, ventral view. **229.** *Onychogonia suggesta*, **230.** *Onychogonia cervini*, **231.** *Exorista rustica*, **232.** *Exorista mimula*, **233.** *Gymnocheta viridis*. **figs.234 - 235.** (male) Hypopygium, lateral view. **234.** *Zenillia dolosa*, **235.** *Zenillia libatrix*. **figs.236 - 237.** (male) Aedeagus (distal 4/5), lateral view (a = distal end, dorsal view). **236.** *Exorista rustica*, **237.** *Exorista tubulosa*. **figs.238 - 243.** (male) Cercus and Surstylus, lateral view (only diagnostically important hairs shown). **238.** *Erycilla ferruginea*, **239.** *Erycilla rufipes*, **240.** *Senometopia pilosa*, **241.** *Senometopia excisa*, **242.** *Senometopia lena*, **243.** *Senometopia pollinosa*. Scale: 0.5 mm.



figs.244 - 259. (male) Cercus and Surstylus, lateral view (hairs only shown in **figs.248 - 250**). **244.** *Onychogonia suggesta*, **245.** *Onychogonia cervini*, **246.** *Phebellia glaucoides*, **247.** *Phebellia glauca*, **248.** *Meigenia mutabilis*, **249.** *Meigenia dorsalis*, **250.** *Meigenia uncinata*, **251.** *Linnaemya picta*, **252.** *Phryxe magnicornis*, **253.** *Phryxe vulgaris*, **254.** *Phryxe hearclei*, **255.** *Nowickia strobeli*, **256.** *Nowickia rondanii*, **257.** *Nowickia atripalpis*, **258.** *Nowickia reducta*, **259.** *Nowickia ferox*. Scale: 0.5 mm.



figs.260 - 270. (male) Cercus and Surstylus, lateral view (shown without hairs). **260.** *Eurithia consobrina*, **261.** *Eurithia connivens*, **262.** *Eurithia vivida*, **263.** *Eurithia incongruens*, **264.** *Eurithia gemina*, **265.** *Leucostoma turonicum*, **266.** *Leucostoma tetraptera*, **267.** *Bithia demotica*, **268.** *Bithia modesta*, **269.** *Pales pavida*, **270.** *Pales processioneae*. **figs.271 - 272.** (male) Cerci and Surstyli, dorsal view (shown without hairs). **271.** *Pales pavida*, **272.** *Pales processioneae*. **figs.273 - 276.** (male) Syncercus, dorsal view (shown without hairs). **273.** *Gymnosoma clavatum* (a = appendix in lateral view), **274.** *Gymnosoma desertorum*, **275.** *Gymnosoma dolycoridis*, **276.** *Gymnosoma rotundatum*. Scale: 0.5 mm.



figs.277 - 291. (male) Syncercus, dorsal view (only diagnostically important hairs shown). **277.** *Eurithia fucosa*, **278.** *Eurithia caesia*, **279.** *Eurithia indigens*, **280.** *Eurithia anthophila*, **281.** *Exorista rustica*, **282.** *Exorista cuneata*, **283.** *Linnaemya rossica*, **284.** *Linnaemya haemorrhoidalis*, **285.** *Linnaemya fissiglobula*, **286.** *Linnaemya zachvatkini*, **287.** *Linnaemya olsufjevi*, **288.** *Linnaemya media*, **289.** *Linnaemya perinealis*, **290.** *Leucostoma crassum*, **291.** *Leucostoma tetraptera*. Scale: 0.5 mm.

11. Alphabetical index of genera & species