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A Revision of Western Palearctic Species of the Genus *Ischnosoma* Stephens (Coleoptera, Staphylinidae: Tachyporinae)

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Abstract: A revision of western Palearctic species of the genus *Ischnosoma* Stephens (Coleoptera, Staphylinidae: Tachyporinae) is presented. 18 species in two species groups were recognized, the following six species are described as new: *I. campbelli*, *I. corsicum*, *I. caucasicum*, *I. loebli*, *I. schuelkei* and *I. turcicum*. New combinations are proposed for nine names. *Mycetoporus longicornis* Palm, 1980 is junior synonym of *Ischnosoma biplagiatum* (Fairmaire, 1860). Lectotypes are designated for *Mycetoporus myops* Epp., *M. doderoi* Roubal, *M. thoracicus* Epp., *M. major* Luze, *M. bergrothi* Hellén, *M. longicornis* Mäkl., *M. biplagiatus* Fairm., *M. ludwigi* Reitt., *M. pallidulus* Mann., *M. testaceus* Kr. and *Tachinus splendidus* (Grav.).

INTRODUCTION

The genus *Ischnosoma* Stephens, 1829, believed by many authors in the past to be a subgenus of the genus *Mycetoporus* Mannerheim, 1831, belongs in fact to the subfamily Tachyporinae. Presently, almost 60 species from all zoogeographical regions are known. However, there are many unidentified species in all regions because the genus has been studied only scarcely. In this paper, the species restricted to the western Palearctic region are revised. Twelve species had been previously known from this region, another six species are newly described here.

HISTORICAL REVIEW

Species of the western Palearctic region were revised in the following revisions: Mäklin (1847), Erichson (1839b), Pandellé (1869), Rey (1882) and Luze (1901). Other revisions strictly focussed on a selected region: Great Britain in Fowler (1888), Central

Europe in Ganglbauer (1895) and Lohse (1964), Northern Europe in Hellén (1925), Germany in Reitter (1909), India in Cameron (1932), and North and Central America in Campbell (1991). *Ischnosoma* species were frequently classified as *Mycetoporus* species. Only Thomson (1859, 1861), J. Sahlberg (1876) and Rey (1882) considered *Ischnosoma* to be a different genus. Campbell showed in detail the distinctions of both genera and discussed the nomenclature and questions concerning the validity and use of both names and type species of the two genera (see Campbell 1991, 1992 and ICZN 1993 for details).

DIAGNOSTIC CHARACTERS

Except for body shape, proportion of head/pronotum width, and proportion of pronotum/elytra at suture length, the main habitus character is chaetotaxy. Ocular seta of head; anterior and posterior setae of pronotum; lateral, discal and sutural setae of elytra; and setae of tergite 3 are all important characters. Males of the genus *Ischnosoma* have characteristic modifications of the 7th and 8th sternite that make identification easy. Nevertheless, all those structures were rarely used for determination prior to Campbell (1991). The shape of sclerites, setae modification (shape, location), and their formation into characteristic patches (see Systematics for details) are of importance. Other important characters are: shapes and modifications of inner structures of aedeagus. These structures are species specific, although sometimes not clearly visible. In the *I. pictum* group these characters are more important from a lateral view; most clearly visible on the extended inner structure (Figs 20-25). The shape of the aedeagus as well as paramera is, in the *I. pictum* group, quite uniform. In the *I. spelaeum* group the shape of the aedeagus-apex and paramera, and its chaetotaxy are good diagnostic characters, if observed from a lateral view.

MATERIAL AND METHODS

Over 1700 adults of the genus *Ischnosoma* of the western Palearctic region were studied. Larvae and pupae were not observed. The western Palearctic region includes Europe to the Ural, the Canary Islands, North Africa, and Asia including Israel and the Caucasus. Studied material was loaned from the following collections:

Deutsches Entomologisches Institut, Eberswalde (DEIE) – L. Zerche; Department of Zoology University of Lund (DZUL) – R. Danielsson; Field Museum of Natural History, Chicago (FMCH) – A. Newton Jr.; Finnish Museum of Natural History, Helsinki (FMNHH) – J. Muona; Hungarian Natural History Museum, Budapest (HNHMB) – Gy. Szél; Muséum d'histoire naturelle, Genéve (MHNG) – I. Löbl; Muséum national d'histoire naturelle, Paris (MNHNP) – N. Berti; Museum für Naturkunde der Humboldt-Universität Berlin (MNHUB) – M. Uhlig; Národní museum, Praha (NMP) – J. Jelínek; Naturhistorisches Museum Wien (NMW) – H. Schillhammer; Slovenské národné múzeum, Bratislava (SNMB) – I. Okáli; Tiroler Landesmuseum Ferdinandeum, Innsbruck (TLFI) – M. Kahlen; Collection V. Assing – Hannover (CVA); Collection J. Boháč – České

Budějovice (CJB); Collection P. Hlaváč – Košice (CPH); Collection M. Kocian – Praha (CMK); Collection M. Schülke – Berlin (CMS);Collection S. Snäll – Tumba (CSS); Collection P. Wunderle – Mönchengladbach (CPW).

Preparations of male genitalia were made as follows: abdominal segments 7-9 were taken away including the genital capsulum, and macerated in 15 % solution of KOH for 3-4 hours. The process was terminated with several drops of acetic acid and the genitalia were placed on a slide in a drop of glycerol, covered by a cover slip supported by other cover slips on the sides. Terminalia were observed at 100 and 200 × magnification (Meopta) and drawn using a drawing tube (Zeiss) at 100 × for sternite, and 200 × for genitalia. The organs were put into a drop of water-soluble medium placed on a label of a beetle. All holotypes and lectotypes underwent this process; and were fitted to the Canada Balsam preparations on the celluloid plates. Habitus and measurements were done at 50 and 100 × magnification (Wild stereomicroscope). The method used for measurements is displayed in Fig. 1. Width of head, pronotum, and elytra, length of pronotum and elytra at suture, as well as forebody length (including head, pronotum and elytra), and total body length were measured. Mean value is followed by the number of measurements. In the list of material studied the data are arranged as follows: Country: locality, name of collector, collection, number of specimens. Single localities are separated by semicolon, in alphabetical order within a country. Unknown, or illegible data are omitted. For the two most common species (*I. splendidum* and *I. longicorne*) only the countries are mentioned, with collection in parentheses, where this material is deposited.

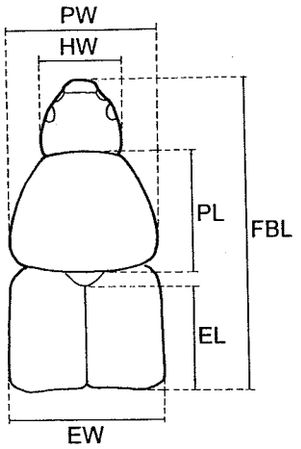

Fig. 1. Method used for measurements: PW – pronotum width, HW – head width, EW – elytra width, PL – pronotum length, EL – elytra length, FBL – forebody length.

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SYSTEMATICS

Ischnosoma Stephens, 1829

Ischnosoma Stephens, 1829: 22; Thomson, 1859: 47; Thomson, 1861: 165; J. Sahlberg, 1876: 244; Rey, 1882: 110; Campbell, 1991: 74. Type species: *Tachinus splendidus* Gravenhorst (subsequent designation by Thomson, 1859).

Mycetoporus Mannerheim subg. *Ischnosoma*: Fowler, 1888: 212; Ganglbauer, 1895: 367; Everts, 1898: 264; Luze, 1901: 663; Reitter, 1909: 99; Hellén, 1925: 45; Portevin, 1929: 328; Lohse, 1964: 223.

Leichotes Gistel, 1834: 9. Type species: *Tachinus splendidus* Gravenhorst (subsequent-designation by Blackwelder, 1952).

Myteroxis des Gozis, 1886: 14. Type species: *Tachinus splendidus* Gravenhorst (by original designation).

Ischnosomata Strand, 1935: 293. New name for *Ischnosoma* Stephens, nec Spix and Agassiz, 1829.

Description: Body rufous, testaceous to rufobrunneous; head, elytra, base of tergites and middle segments of antenna sometimes brunneous to piceous. Body surface, in particular elytra and abdomen, sometimes metallic iridescent (*I. bergrothi*, *I. monilicorne*, *I. corsicum*).

Head: width 0.37 mm (*I. turcicum*) – 0.67 mm (*I. bergrothi*), wider than long, 0.57-0.61 × narrower than pronotum. Eyes distinctly shorter (e.g. *I. winkleri*) to longer than temples (e.g. *I. schuelkei*). Ocular puncture and its seta developed; in the *I. pictum* group seta short and thin, in the *I. spelaeum* group long and stout. Distance between ocular puncture and eye margin shorter to distinctly longer than puncture diameter. Head surface smooth, rarely with transverse microsculpture (*I. splendidum*, *I. bergrothi*, *I. monilicorne*). Antenna segments 1-7 longer than wide in the *I. pictum* group, whereas in the *I. spelaeum* group antenna segments 5-7 often as long as wide. Segments 8-10 slightly transverse to a little longer than wide. Segment 11 longer than wide.

Pronotum: width 0.6 mm (*I. winkleri*) – 1.16 mm (*I. bergrothi*); length: 0.51 mm (*I. turcicum*) – 1.02 mm (*I. bergrothi*). Surface slightly transversely microsculptured, sometimes the microsculpture is not perspicuous (*I. biplagiatum*, *I. longicorne*, *I. ludwigi*), or missing (*I. turcicum*). Anterior margin with two pairs of punctures (inner and outer anterior puncture); posterior margin with two pairs of punctures (inner and outer posterior punctures); and lateral margin with four pairs of punctures. Discal punctures developed only in *I. corsicum*. Frontal margin with a fine bead in the *I. pictum* group, whereas in the *I. spelaeum* group without bead. Abdominal margin without bead.

Elytra: length at suture 0.41 mm (*I. winkleri*) – 1.09 mm (*I. corsicum*); 0.8 (e.g. *I. spelaeum*) to 1.2 (*I. biplagiatum*) times longer than pronotum, altogether 0.63 mm (*I. winkleri*) – 1.27 mm (*I. bergrothi*) wide. Wings are missing in the *I. spelaeum* group and in *I. monilicorne*; in the *I. pictum* group they are fully developed to brachypterous. Scutellum with transverse seam. Elytra with lateral row of 7-16 setae; discal row of 3-14 setae; and sutural row of 4-14 setae. Apical margin with several punctures. In the *I. pictum* group a developed seam suture along suture, while reduced in the *I. spelaeum*

group, except in *I. doderoi* where it is feebly perspicuous. Elytra in the *I. spelaeum* group oftenly strongly concreted.

Abdomen distinctly tapering to the end to almost parallel. Tergite 3 with a smooth to sparsely punctuate area in the middle or evenly punctuate all over surface (*I. spelaeum* group, *I. monilicorne*, *I. ludwigi*, *I. bergrothi*); tergite 7 with or without white border at posterior margin.

Male: Chaetotaxy and shape of sternite 7 and 8 diversely modified. Setae are modified into various stoutness, thinness, elongation, shortening, or are flat, terminally rounded/or pointed palisade setae, and arranged in *I. pictum* group into "beard-like" patches. There are two groups of modified setae (Fig. 2), present in all species:

1. Medial setae – setae located in the medial area of male sternite 7 and 8. In some species not modified (*I. myops*, *I. doderoi*), whereas in others (*I. winkleri*, *I. spealeum*, *I. pictum* group – only sternite 7) there is a tendency towards dense arrangement of these setae near the apical margin, or simultaneous stoutening and shortening (*I. major*, *I. schuelkei*), or only stoutening of several setae (*I. schuelkei*, *I. turcicum*, *I. caucasicum*). In *I. campbelli* these setae form palisade rows of closely-fitting setae, and in the *I. pictum* group the setae are divided into two symmetrical areas of several rows of "beard-like" setae in the apical part of sternite 8.

2. Interior setae – some pairs of stout dark bordering medial setae on the sides of male sternite 8. In *I. myops* and *I. doderoi* they are only slightly stouter than other setae. In all other species they are distinctly darker and stouter. The location of interior setae I1 and I2 is important in the *I. pictum* group (see Figs 2, 77-96).

On the lateral margin of the 7th and 8th male sternite are some thick lateral setae; 2 of these setae – L1 and L2 – are distinct in most species.

Apical margin of sternite 7 and 8 mostly moderately, or intensely concave in the middle, only in *I. major* is sternite 7 convex and medially elongate.

Aedeagus: elongate, with apex sclerotised. Inner structure in the *I. pictum* group consists of two symmetrical sclerites; in the *I. spelaeum* group it is more complicated. Parameres closely fitted, apexes often crossed. Apex always sharp and pointed. Dorsal row of setae in the *I. pictum* group formed of 4-8 setae, where the two apical ones are the stoutest. In the Spealeum group the dorsal rows consist of 7-18 almost identically long setae, where the apical seta is often thinner.

Female: Sclerites of segments 7-10 with unmodified chaetotaxy and shape. Spermatheca membranous (see Campbell, 1991). Proximal gonocoxite in the *I. pictum* group

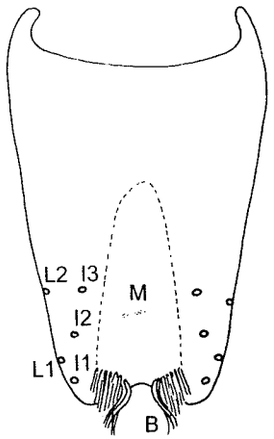


Fig. 2. Scheme of important modified setae of 8th male sternite:
M – medial setae area, I1, I2, I3 – interior setae, L1, L2 – thick lateral setae, B – "beard-like" setae patches

without perspicuous setae (Figs 103-108), in the *I. spelaeum* group with one to two long setae (Figs 97-102).

A detailed generic diagnosis is given in Campbell (1991).

Concept of species groups

Campbell (1991) divided the North American species into four groups of species:

1. *I. pictum* group: Characterised by long elytra (at least 1.2 × longer than pronotum); short ocular seta (shorter than eye); and by a complex of symmetrical areas of modified setae of male sternite 8. Eight western Palearctic species belong to this group. In three species – *I. bergrothi*, *I. ludgwigi*, and *I. monilicorne* – elytra are shorter than pronotum. Also the white border of tergite 7 is more often absent than in North American species; in the three mentioned species it is always absent.

2. *I. coxale* group. This group is characterized by long elytra, absence of ocular seta as well as absence of symmetrical patches of modified setae of sternite 8. None of the western Palearctic species are included in this group.

3. *I. suteri* group. Characterized by short elytra, winglessness, absence of border of tergite 7, long ocular seta and medial areas of sternite 5-7.

4. *I. hospitale* group. Like the previous group it is characterized by short elytra, winglessness, absence of border of tergite 7. In contrast, it has a short or obsolete ocular seta, and medial areas of the modified setae of sternite 5-7 are absent. Nine western Palearctic species are partially identical with Suteri and Hospitale groups, however they cannot be put with certainty into any one of them. It seems that there is a continuous transition between groups, especially in the modifications of sternites 7 and 8. There are species with unmodified chaetotaxy of sternites 7 and 8 (*I. myops*, *I. doderoi*), species with medial areas of dense setae (*I. winkleri*, *I. spelaeum*), species with stout setae of sternites 7 and 8 (*I. turcicum*, *I. schuelkei*, *I. major*), and species with diversely modified setae as in the *I. pictum* group. That is why, however unambiguous the affinitivy of the species pairs (*I. myops – I. doderoi*, *I. winkleri – I. spelaeum*, *I. caucasicum – I. campbelli*) are, I classify all these species into the *I. spelaeum* group. After further study of the fauna from other regions, a new concept of species groups might be proposed according to evolutionary character analysis.

Basic differences between both species groups are showed in the table below:

	I. spelaeum group	*I. pictum* group
Colour	uniformly rufotestaceous to rufobrunneous, not iridescent	head, elytra and base of tergites often dark, metallic iridescent
Ocular seta	as long and stout as setae of pronotum	much shorter and thinner than setae of pronotum
Antenna segment 9	transverse, except I. myops	transverse only in *I. monilicorne*
Distance of inner posterior punctures from margin of pronotum	1.1-4 × puncture diameter	0.3-1.5 × puncture diameter
Border in anterior margin of pronotum	absent	present
elytra long /pronotum long	0.8-0.88	0.88-1.2
Wings	apterous	pterygopolymorphism
Elytra at suture	usually concreted	non-concreted
Grooves along elytral suture	mostly absent	present
Segment 5 of hind tarsus	longer, or as long as segment 3 (except in *I. caucasicum*)	shorter than segment 3; slightly longer than segment 4
Smooth area of tergite 3	absent	present or absent
White border of tergite 7	absent	present or absent
Shape of paramera	more variable	more uniform
Paramera	ventrally not closely fitted to each other	ventrally closely fitted to each other
Apical seta of paramera	as stout as, or thinner than others	the stoutest of all
Dorsal setae of paramera	7-18	4-8
Shape of inner structure	more variable	more uniform
Patches of "beard-like" setae of male sternite 8	absent	present
Setae of proximal gonocoxite	1-2; long	absent

List of western Palearctic species of the genus *Ischnosoma*

Ischnosoma Stephens, 1829

I. spelaeum group

1. *I. myops* (Eppelsheim, 1879)
2. *I. doderoi* (Roubal, 1911)
3. *I. winkleri* (Bernhauer, 1915)
4. *I. spelaeum* (Scriba, 1870)
5. *I. thoracicum* (Eppelsheim, 1879)
6. *I. turcicum* **sp. n.**
7. *I. schuelkei* **sp. n.**
8. *I. caucasicum* **sp. n.**
9. *I. campbelli* **sp. n.**
10. *I. major* (Luze, 1901)

I. pictum group

11. *I. splendidum* (Gravenhorst, 1806)
12. *I. monilicorne* (Wollaston, 1864)
13. *I. bergrothi* (Hellén, 1925)
14. *I. longicorne* (Mäklin, 1847)
15. *I. corsicum* **sp. n.**
16. *I. ludwigi* (Reitter, 1909)
17. *I. biplagiatum* (Fairmaire, 1860)
18. *I. loebli* **sp. n.**

Key to identification of western Palearctic species of the genus Ischnosoma Stephens

1 Pronotum frontally with acute but perspicuous bead. Ocular seta much shorter and thinner than setae of pronotum (Figs 3-10). Eighth male sternite with symmetrical patches of modified "beard-like" setae on both sides ..... ***I. pictum* group** 2

– Pronotum frontally without bead. Ocular seta almost as long and stout as setae of pronotum (Figs 11-18). Eighth male sternite often medially with patches of dense setae, without symmetrical "beard-like" setae ..... ***I. spelaeum* group** 9

2 Tergite 3 medially with smooth sparsely punctate area. Elytra at suture longer than pronotum, occasionally as long as pronotum. Tergite 7 mostly with white border on apical margin 3

– Tergite 3 densely punctate all over the surface. Elytra at suture shorter than pronotum, rarely as long as pronotum. Tergite 7 without white border 7

3 Head dorsally and frontally with microsculpture (× 100). In discal row of elytra three to seven punctures. Seventh male sternite apically deeply concave (Fig. 71), male sternite 8 with large patches of "beard-like" setae, forming six to seven rows (Fig. 72); sternite medially with patch of dense erect setae .. ***I. splendidum*** (Gravenhorst)

– Head without microsculpture. In discal row of elytra seven and more punctures. Seventh male sternite apically shallowly concave. Eighth male sternite with smaller patches of symmetrical ŕbeard-likeŕ setae forming no more than four rows; sternite medially with patch of dense but contiguous setae 4

4 Along apical margin of male sternite 7 more than five pairs of long stout setae (Figs 60-61). Second seta (l2) (Fig. 2) of interior row of 8th male sternite not exceeding frontal margin of "beard-like" setae patches (Figs 77-86) 5

– Along apical margin of 7th male sternite 5 pairs of long stout setae (Figs 65, 68). Second seta (l2) of interior row of 8th male sternite always exceeding frontal margin of "beard-like" setae patches (Figs 87-94) 6

5 Body lighter in colour, elytra and base of first abdominal tergites rufotestaceous to brunnotestaceous. Pronotum without discal punctures. Patches of "beard-like" setae of 8th male sternite larger on average (Fig. 56). Sclerite of inner structure of aedeagus from the lateral aspect apically with distinctly deflexed apex (Fig. 57) ..... ***I. longicorne*** (Mäklin)

– Elytra piceous, base of first abdominal tergites brunneous. Pronotum with one pair of discal punctures. Patches of "beard-like" setae of 8th male sternite smaller (Fig. 58). Sclerite of inner structure of aedeagus from the lateral aspect apically with frontally inflexed apex (Fig. 59). Corsica ..... ***I. corsicum*** sp. n.

6 In discal row of elytra on the average less punctures. Patches of "beard-like" setae of 8th male sternite smaller, forming two short rows (Fig. 66). Sclerites of inner structure in the second half wider, generally less deflexed from the lateral aspect (Fig. 67). South-western Mediterranean ..... ***I. biplagiatum*** (Fairmaire)

– In discal row of elytra on the average more punctures. Patches of "beard-like" setae of 8th male sternite larger, forming two long rows (Fig. 69). Sclerites of inner structure

in the second half narrower, generally more deflexed from the lateral aspect (Fig. 70). Israel, Cyprus ..... ***I. loebli*** sp. n.

7 Eyes small, shorter than temples (Fig. 14). Distance between ocular puncture and eye margin at least 1.5 × greater than puncture diameter. LaGomera, Tenerifa ..... ***I. monilicorne*** (Wollaston)

– Eyes distinctly longer than temples. Distance between ocular puncture and eye margin smaller, equal or slightly greater than diameter of puncture 8

8 Smaller species, 4.3-4.61 mm long. Head without microsculpture. Elytra and abdomen only feebly metallic iridescent. Eighth male sternite without smooth round area between patches of "beard-like" setae (Fig. 54). Bosnia, Herzegovina ..... ***I. ludwigi*** (Reitter)

– Larger species, 4.77-6.05 mm long. Head with perspicuous microsculpture. Elytra and abdomen distinctly metallic blue iridescent. Eighth male sternite with smooth round area between patches of "beard-like" setae (Fig. 63). North-eastern Europe, Siberia ..... ***I. bergrothi*** (Hellén)

9 Eyes much shorter than temples, no more than 25 ommatidia 10

– Eyes longer or slightly shorter than temples, more than 30 ommatidia 13

10 Third tergite without basal border (Fig. 4). Northern Spain. ..... ***I. spelaeum*** (Scriba)

– Tergite 3 with basal border (Figs 5, 10) 11

11 Head wider; 0.7 × narrower than pronotum (Fig. 9). Eyes very small, no more than 15 ommatidia. Crimea ..... ***I. winkleri*** (Bernhauer)

– Head narrower, at least 0.6 × narrower than pronotum (Figs 5, 10). Eyes larger, more than 15 ommatidia 12

12 Pronotum wider, 1.25 × wider than long. Inner posterior punctures of pronotum separated from margin by distance no more than 1.5 × puncture diameter. Male sternite 8 apically slightly concave, in the last quarter medially without setae (Fig. 27). Caucasus ..... ***I. myops*** (Eppelsheim)

– Pronotum narrower, 1.15 × wider than long. Inner posterior punctures of pronotum separated from margin by distance greater than 1.5 ö of puncture diameter. Male sternite 8 apically distinctly concave, in the last quarter medially with several setae (Fig. 30). Caucasus ..... ***I. doderoi*** (Roubal)

13 Distance of inner anterior and inner posterior punctures from pronotum margin shorter than 1.5 × puncture diameter. Male sternite 8 medially before posterior margin with about 10 lengthwise formed short and stout setae (Fig. 39). Turkey ..... ***I. turcicum*** sp. n.

– Distance of inner anterior and inner posterior punctures from pronotum margin greater than 1.5 × puncture diameter. Male sternite 8 formed otherwise. Caucasus .. 14

14 Colour paler, rufobrunneous. Male sternite 8 with medial patch of short and stout setae in posterior part (Fig. 42) ..... ***I. schuelkei*** sp. n.

– Coloured dark, rufous to rufoubrunneuous. Male sternite 8 formed otherwise 15

15 Male sternite 7 medially convex at posterior margin (Fig. 50) ..... ***I. major*** (Luze)

– Male sternite 7 medially slightly concave at posterior margin 16

16 Male sternite 8 without obvious modifications of medial setae, these setae are more dense only in the middle of the sternite (Fig. 110) ..... ***I. thoracicum*** (Eppelsheim)

– Male sternite 8 with obvious modifications of medial setae (Figs 45, 48) 17

17 Male sternite 7 before apical margin with patch of several stout and short medial setae (Fig. 44). Male sternite 8 with patch of medial setae divided into basal sparse and apical dense part (Fig. 45) ..... ***I. caucasicum*** sp. n.

– Male sternite 7 before apical margin with short, but not stout medial setae (Fig. 47). Male sternite 8 with patch of dense medial setae in the middle; two rows of palisade setae in apical part; and two pairs of short rows of palisade setae on each side of apical concave margin of sternite (Fig. 48) ..... ***I. campbelli*** sp. n.

Biology and distribution

There is a lack of information on the biology of western Palearctic species of *Ischnosoma*. Present data mostly refer only to two Central European species: *I. longicorne* and *I. splendidum* (see descriptions below for details). Other species are rarely present in collections. Larvae and pupae are not known. Adults are usually collected by sifting of leaf litter.

The genus *Ischnosoma* is distributed all over the western Palearctic region. However, the ranges of species differ in size. *I. splendidum* shares the largest area, excluding North Africa and the Canary Islands, where the closely related *I. monilicorne* is represented instead. Also distributed over large areas are *I. longicorne*, *I. biplagiatum* and *I. bergrothi*. All other species areas are limited, in particular the apterous species of the *I. spelaeum* group. Whereas species of the *I. pictum* group occur in the whole region studied, species of the *I. spelaeum* group occur discontinuously (Map 1.). Only one species of this group occurs in the western part of the region (Spain), all others species

occur in areas of the Black Sea. Because of strict endemism of these species, other new species are likely.

I. spelaeum group

1. *Ischnosoma myops* (Eppelsheim, 1879) **comb. n.**

Figs 10, 25, 26-28, 99.

Mycetoporus myops Eppelsheim, 1879: 464 (type locality: Caucasus, Suram); Luze, 1901: 674.

Body (Fig. 10) brunneous. Antenna and palpi lighter.

Head 0.4-0.44 mm wide (mean 0.424 mm, n = 11); 1.2 × wider than long; 0.57 × narrower than pronotum. Eyes small, shorter than temples. Distance between ocular puncture and eye margin equal to 1.3-1.5 × puncture diameter. Surface smooth; without microsculpture. Antenna segments 6-10 as long as wide.

Pronotum 0.67-0.79 mm wide (mean 0.734 mm, n = 11); 0.55-0.62 mm long (mean 0.584 mm, n = 11). Surface smooth; without microsculpture. Inner posterior punctures separated from margin by distance 3 ×; outer anterior punctures separated by distance 2 ×; inner posterior punctures separated by distance 1.1 ×; and outer posterior punctures separated by distance 2 × puncture diameter.

Elytra at suture 0.46-0.52 mm wide (mean 0.495 mm, n = 11); 0.84 × shorter than pronotum; altogether 0.71-0.84 mm wide (mean 0.775 mm, n = 11). Surface acutely microsculptured; with transverse discontinued striates. Lateral row with seven to nine punctures; discal row with six to eight punctures; and sutural row with six to eight punctures. Sutural row quite disarranged.

Abdomen slightly tapering from segment 4 toward end. Tergite 3 with basal border. Surface with acute microsculpture. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 39 : 24 : 14.5 : 10.5 : 8 : 12.

Forebody length 1.43-1.56 mm; total body length 3.02-4.3 mm.

Male: Sternite 7 (Fig. 26) at posterior margin slightly concave; without modified medial setae. Along posterior margin three pairs of long setae. Sternite 8 (Fig. 27) without modified medial setae; on apical quarter medially without setae. Three pairs of thin interior setae similar to others. Aedeagus (Figs 25, 28) slim, apex rounded. Paramera slightly deflexed; with seven dorsal setae.

Female: Proximal and distal gonocoxite Fig. 99.

Types: Lectotype designation: Lectotype, female, hereby designated, with labels as follows: "Kaukas Leder Suram/Mycetoporus myops Epp./c. Eppelsh. Steind. d./Typus

(red label)/ Lectotype female, Mycetoporus myops Eppelsheim, M. Kocian des. 1995/ Ischnosoma myops Epp., M. Kocian det. 1995". Lectotype with complete body structures; deposited in the collection of NMW.

Paralectotypes, two females, with labels as follows: "Kaukas, Leder, Suram/110/c. Eppelsh. Steind. d. /myops/Typus (red label)/Paralectotypus female, Mycetoporus myops Eppelsheim, M. Kocian des. 1995/Ischnosoma myops (Epp.), M. Kocian det. 1995". Paralectotypes are also in the collection of NMW.

Material studied: 43 specimens.

Caucasus area: Armenisches Gebirge, Leder et Reitter lgt (DEIE, 1, NMW, 5); Batumi, Rous lgt (CJB, 5); Caucasus (NMP, 1); Caucasus, Leder et Reitter lgt (NMP, 1); Helenendorf, Reitter lgt (NMP, 2, DEIE, 1, NMW, 4, HNHMB, 2); Meskisches Gebirge, Leder et Reitter lgt (NMP, 1, DEIE, 3, NMW, 9); Suram, Leder lgt (NMW, 3) (see Types). **Turkey:** Artvin – Borcka, Schönmann et Schillhammer lgt (NMW, 5).

Distribution: Western Caucasus, Armenia and north-eastern Turkey.

Remarks: *I. myops* and *I. doderoi* are closely related species with unmodified chaetotaxy of male sternites 7 and 8. *I. myops* in contrast to *I. doderoi* with wider pronotum, shorter distance between posterior puncture and margin, more densely punctate male sternite 7, different chaetotaxy of male sternite 8, less curved paramera in basal part, and different inner structure of aedeagus.

Specimens collected by Rous and Schönmann et Schillhammer were found in June.

2. *Ischnosoma doderoi* (Roubal, 1911) **comb. n.**

Figs 5, 29-31.

Mycetoporus doderoi Roubal, 1911: 11 (type locality: Caucasus, Ačišchu mountain, near Krasnaja Poljana).

Body (Fig. 5) uniformly rufotestaceous.

Head 0.41 mm wide; approximately 1.15 × wider than long; 0.58 × narrower than pronotum. Eyes small, shorter than temples. Distance between ocular puncture and eye margin slightly longer than puncture diameter. Antenna segments 6-7 as long as wide; segments 8-10 slightly transverse.

Pronotum 0.71 mm wide; 0.61 mm long. Inner anterior punctures separated from margin by distance 2.5 ×; outer anterior punctures separated by distance 1.5 ×; inner posterior punctures separated by distance 3 ×; and outer posterior punctures separated by distance 2.1 × diameter of puncture.

Elytra at suture 0.5 mm long; 0.81 × shorter than pronotum; altogether 1.46 mm wide. Lateral row with eight punctures; discal row with seven punctures; and sutural row with seven punctures.

Abdomen slightly tapering from tergite 5 toward end. Tergite 3 basally with border. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 27.13 : 8.5 : 5.5 : 4 : 8.

Forebody length 1.6 mm; total body length 4.25 mm.

Male: Sternite 7 (Fig. 29) at posterior margin medially slightly concave; very sparsely pubescent; at posterior margin with three pairs of moderate stout setae. Sternite 8 (Fig. 30) sparsely pubescent; medially with four pairs of interior dark setae. Aedeagus (Fig. 31) quite stout, apex slim, rounded. Paramera with seven to eight dorsal setae; basally distinctly curved in the distal half, but straight in the proximal half.

Types: Lectotype designation: Lectotype, male, hereby designated with labels as follows: "Caucasus occ. Krasnaja Poljana Roubal lgt 7. 1910/Doderoi Roub. Typus (red label)/ Lectotype male, Mycetoporus doderoi Roubal, M. Kocian des. 1993/ Ischnosoma doderoi (Roubal) M. Kocian det. 1993". Lectotype is in the collection of SNMB.

Paralectotype, male, same labels as in lectotype, deposited in the collection of NMW.

Material studied: 2 specimens – see Types.

Distribution: Western Caucasus – Russia, Krasnaja Poljana.

Remarks: *I. doderoi* is closely related to *I. myops*. See key and Remarks above.

3. *Ischnosoma winkleri* (Bernhauer, 1915) **comb. n.**

Figs 9, 35-37, 101.

Mycetoporus winkleri Bernhauer, 1915: 286 (type locality: Krim, Jaila Gebirge); Gusarov, 1993: 66.

Body (Fig. 9) uniformly rufotestaceous. Legs, antenna and palpi rufobrunneous.

Head 0.42-0.47 mm wide (mean 0.445 mm, n = 7); approximately 1.2 × wider than long; 0.69 × narrower than pronotum. Eyes small (about 12-15 ommatidia); much shorter than temples. Distance between eye margin and ocular puncture 3 × bigger than diameter of puncture. Surface smooth without microsculpture. Antenna segments 6-7 as long as wide; segments 8-9 moderately transverse; segment 10 as long as wide.

Pronotum 0.6-0.77 mm wide (mean 0.64 mm, n = 7); 0.51-0.57 mm long (mean 0.541 mm, n = 7); without border frontally. Surface smooth; with almost non-perspicuous microsculpture. Inner anterior punctures separated from margin by distance 1.5 ×; outer anterior punctures separated by distance equal to; inner posterior punctures separated by distance 1.9 ×; and outer posterior punctures separated by distance 1.2 × puncture diameter.

Elytra at suture 0.41-0.46 mm long (mean 0.433 mm, n = 7); 0.8 × shorter than pronotum; altogether 0.63-0.74 mm wide (mean 0.685 mm, n = 7). Surface with hardly

perspicuous acute microsculpture. Lateral row with seven to eight punctures; discal row with seven to nine punctures; and sutural row with six to eight punctures.

Abdomen slightly tapering from segment 5 toward end. Tergite 3 with basal border. Surface smooth; basaly acutely microsculptured. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 35 : 20 : 12.5 : 9 : 7.5 : 10.5. Forebody length 1.43-1.56 mm; total body length 3.3-4.61 mm.

Male: Sternite 7 (Fig. 35) at posterior margin medially moderately concave; with area of dense thin medial setae. Four pairs of long setae located near posterior margin. Sternite 8 (Fig. 36) in posterior third with area of dense thin medial setae. Along it three pairs of very stout dark interior setae. Aedeagus (Fig. 37) with rounded apex. Paramera with seven to eight dorsal setae, in the distal half more curved.

Female? Proximal and distal gonocoxite Fig. 101.

Types: Lectotype, male, designated by Gusarov (1993) with labels as follows: "Iaila-Gebirge Krim, Winkler/Winkleri Bernh. Typus/Lectotypus male, Mycetoporus winkleri Bernhauer V. Gusarov des. 1991 (red label)/Ischnosoma winkleri (Bernh.) M. Kocian det. 1995". Lectotype and one paralectotype with the same labels are in the collection of FMCH.

Material studied: 19 specimens.

Distribution: Crimea: Iaila Gebirge, Winkler lgt (CMS, 1 (syntypus), FMCH, 2 (see Types), NMP, 1 (syntypus), NMW, 2 (syntypes)), Moczarski lgt (NMW, 9, SNMB, 1); Jaila, Boháč lgt (CJB, 3).

Remarks: *I. winkleri* is related to *I. spelaeum* known from Spain. It has similar chaetotaxy of male sternites 7 and 8, aedeagus, and small eyes. It differs in shape of male sternite 8, absence of basal border of tergite 3 in *I. spelaeum*, head width , shape of paramera, and inner structure of aedeagus.

Specimens collected by Boháč were found in November.

4. *Ischnosoma spelaeum* (Scriba, 1870) **comb. n.**

Figs 4, 24, 32-34, 98.

Mycetoporus spelaeus Scriba, 1870: 80 (type locality: Hispania, Santas Albas, Asturische Gebirge); Luze, 1901: 675.

Body (Fig. 4) rufotestaceous. Legs, antenna and palpi brownish-yellow.

Head 0.42-0.44 mm wide (mean 0.431 mm, n = 4); about 1.1 × wider than long; 0.57 × narrower than pronotum. Eyes small (about 25 ommatidia); shorter than temples. Distance between ocular puncture and eye margin equal to diameter of puncture. Surface

smooth; without microsculpture. Antenna segment 6 longer than wide; segments 7-8 as long as wide; segment 9 slightly transverse; segment 10 as long as wide.

Pronotum 0.72-0.77 mm wide (mean 0.748 mm, n = 4); 0.61-0.63 long (mean 0.62 mm, n = 4); frontally without border. Surface acutely and sparsely microsculptured. Inner anterior punctures separated from margin by distance 2.5 ×; outer interior punctures separated by distance 1.1 ×; inner posterior punctures separated by distance 3 ×; and outer posterior punctures separated by distance 2.1 × diameter of puncture.

Elytra at suture 0.47-0.52 mm long (mean 0.498 mm, n = 4); 0.8 × shorter than pronotum; altogether 0.77-0.82 wide (mean 0.792 mm, n = 4). Surface with sparse microsculpture. Lateral row with eight punctures; discal row with 8-10 punctures; and sutural row with six to nine punctures.

Abdomen slightly tapering from segment 5 toward end. Tergite 3 without basal border. Surface smooth, microsculptured on base of tergites. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 38 : 23 : 15 : 10 : 8 : 12.

Forebody length 1.49-1.68 mm; total body length 3.5-3.82 mm.

Male: Sternite 7 (Fig. 32) at posterior margin medially slightly concave; with area of dense thin medial setae. Sternite 8 (Fig. 33) with patch of dense thin medial setae, bordered by three pairs of stout dark interior setae. Aedeagus (Figs 24, 34) slim; apex rounded. Paramera with seven to eight dorsal setae, evenly curved.

Female: Proximal and distal gonocoxite Fig. 98.

Types: Holotype identification: Holotype, male, with labels as follows: "Albas 19.7./ Grotte I./F./Holotypus (red label)/Heyd. 277/522/spealeus Scr. det. Luze/L./coll. L. v. Heyden DEI Eberswalde". Holotype is lacking left antenna segments from 10 on, and is deposited in the collection of DEI Eberswalde.

Material studied: 6 specimens

Distribution: Northern Spain: Albas (DEIE, 1) (see Types); Asturia (NMW, 1); Caboalles, Paganetti lgt (DEIE, 1, NMW, 1); Ponferrada, Paganetti lgt (NMW, 1); Santander – Monte Saja, Franz lgt (NMW, 1).

Remarks: *I. spealeum* is related to *I. winkleri*. Differences see in key and in Remarks to *I. winkleri*.

5. *Ischnosoma thoracicum* (Eppelsheim, 1879) **comb. n.**

Figs 109-112.

Mycetoporus thoracicus Eppelsheim, 1879: 463 (Type locality: Caucasus, Helenendorf); Luze, 1901: 673.

Body (Fig. 111) uniformly rufotestaceous. Antenna brownish-yellow.

Head 0.54 mm wide; approximately 1.1 × wider than long; 0.6 × narrower than pronotum. Eyes big, longer than temples. Distance betwen ocular puncture and eye margin is shorter than puncture diameter. Surface smooth, without microsculpture. Antenna segments 6-8 and 10 as long as wide, segment 9 slightly transverse.

Pronotum 0.9 mm wide, 0.76 mm long. Surface smooth with fine microsculpture, thinly and finely punctured. Inner anterior punctures separated from margin by distance 2 ×; outer anterior punctures separated by distance 1.1 ×; inner posterior punctures separated by distance 3.5 ×; and outer posterior punctures separated by distance 2.1 × of puncture diameter.

Elytra at suture 0.66 mm long; 0.87 × shorter than pronotum; altogether 0.94 mm wide. Surface with non-perspicuous microsculpture, very irregulary, thinly and coarsely punctured. Lateral row with eight to nine punctures; discal row with eiht punctures; and sutural row with eight punctures. Abdomen tapering from segment 6 toward end. Tergite 3 with basal border. Surface smooth without microsculpture. Ratio of length of hind tibia to segment 1-5 of hind tarsus as follows: 42 : 28 : 18 : 14 : 10 : 14.

Forebody length 1.92 mm; total body length approx. 4.2 mm.

Male: Sternite 7 (Fig. 109) at posterior margin medially slightly concave; with area of dense thin medial setae. Sternite 8 (Fig. 110) medially with little patch of more dense setae. Aedeagus (Fig. 112) slim, paramera with 16 dorsal setae, evenly curved.

Types: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "Kaukas Leder/ Helenendorf/ coll. Reitter/ Mycetoporus thoracicus Typ. Epph./ Holotypus 1879 Mycetoporus thoracicus Eppelsheim (it is not the original Eppelsheim label)/ Lectotype male, Mycetoporus thoracicus Eppelsheim, M .Kocian des. 1996/ Ischnosoma thoracicum (Eppelsheim), M. Kocian det. 1996". Lectotype is deposited in HNHMB collection; and is lacking right antenna from segment 3 on. The other four specimens from the syntype series are females; they belong to *I. caucasicum* n. sp.

Material studied: 1 specimen (lectotypus).

Distribution: Western Caucasus.

Remarks: All specimens in collections determined as *I. thoracicum* belong to the species *I. caucasicum*. Only one specimen from the syntype series, sole male with the original Eppelsheim label, belongs to this species. Therefore, I designate this specimen as lectotype.

Chaetotaxy of 7th and 8th male sternite is a transition between previous species and species with perspicuous modifications of the chaetotaxy.

6. *Ischnosoma turcicum* sp. n.

Figs 6, 38-40.

Body (Fig. 6) uniformly reddish-brown to dark rufobrunneous; abdomen darker. Legs, antenna and palpi rufobrunneous.

Head 0.37-0.42 mm wide; approximately 1.1 × longer than wide; 0.61 × narrower than pronotum. Eyes large (more than 40 ommatidia); shorter than temples. Distance between ocular puncture and eye margin equal to one seventh of diameter of puncture. Surface smooth, without microsculpture.

Pronotum 0.62-0.69 mm wide; 0.51-0.57 mm long; frontally without border. Surface smooth without microsculpture. Inner anterior punctures separated from margin by distance equal to 1.1 ×; outer anterior punctures separated by distance equal to; inner posterior punctures separated by distance 1.1 ×; and outer posterior punctures separated by distance 0.3 × diameter of puncture.

Elytra at suture 0.41-0.46 mm long; 0.8 × shorter than pronotum; altogether 0.67-0.77 mm wide. Surface shiny; with acute microsculpture. Lateral row with seven punctures; discal row with five to six punctures; and sutural row with five punctures.

Abdomen slightly tapering from segment 4 toward end. Tergite 3 with thin basal border. Surface smooth; basally microsculptured. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 38 : 25 : 13.5 : 10 : 8.5 : 11.

Forebody length 1.4-1.56 mm; total body length 3.18-3.82 mm.

Male: Sternite 7 (Fig. 38) at posterior margin medially slightly concave; with area of dense thin medial setae; at posterior margin with three pairs of long setae. Sternite 8 (Fig. 39) medially in apical third with 10 short stout setae, forming two lengthwise rows. Aedeagus (Fig. 40) quite slim; apex short; with a small tooth from lateral aspect. Paramera medially curved, with seven dorsal setae.

Holotype: Male, with labels as follows: "Turquie Ordu Env. Tekkiraz 18.5.67 500m. Cl Besuchet/Holotypus male, Ischnosoma turcicum, M. Kocian des. 1995". Holotype is in the collection of MHNG.

Paratype: Male, with labels as follows: "Türkei – 1989 leg. Schönmann et Schillhammer/ Prov. Samsun Karadag Pass ne Hafsa 27.5./ Paratypus male, Ischnosoma turcicum, M. Kocian des. 1995". Paratype is in NMW collection. It is an immature specimen.

Derivatio nominis: The specific name is derived from the name of the type locality area.

Distribution: Northern Turkey – Ordu, Samsun.

Remarks: Cheatotaxis of male sternite 8 is conspicuous, distinct from other species.

7. *Ischnosoma schuelkei* sp. n.

Figs 8, 41-43, 102.

Body (Fig. 8) uniformly lightly rufobrunneous; head and abdomen slightly darker.

Head 0.52-0.57 mm wide; approximately 1.3 × wider than long; 0.61 × narrower than pronotum. Eyes large; longer than temples. Distance between ocular puncture and eye margin is equal to 1/7 of puncture diameter. Surface smooth, without microsculpture. Antenna segments 6-7 longer than wide; segments 8-9 slightly transverse; segment 10 as long as wide.

Pronotum 0.86-0.97 mm wide; 0.74-0.8 mm long. Surface acutely microsculptured. Inner anterior punctures separated from margin by distance 3 ×; outer anterior punctures separated by distance 1.4 ×; inner posterior punctures separated by distance 4 ×; and outer posterior punctures separated by distance 3 × puncture diameter.

Elytra at suture 0.65-0.75 mm long; 0.88 × narrower than pronotum; altogether 0.9-1.05 mm wide. Surface acutely microsculptured. Lateral row with seven to nine punctures; discal row with seven punctures; and sutural row with seven punctures.

Abdomen slightly tapering from segment 6 toward end. Tergite 3 with narrow and acute basal border. Surface smooth, with acute microsculpture. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 51 : 31 : 17 : 14 : 9 : 14.

Forebody length 1.88-2.0 mm; total body length 3.98-4.77 mm.

Male: Sternite 7 (Fig. 41) in posterior part medially concave; with patch of 13 short stout medial setae, bordered by four pairs of long setae. Sternite 8 (Fig. 42) medially posteriorly with patch of short basally stout medial setae; and with three pairs of interior long setae. Aedeagus (Fig. 43) quite slim; apex rounded. Paramera in the second part strongly curved, with 18 dorsal setae.

Female: Proximal and distal gonocoxite Fig. 102.

Holotype: Male, with labels as follows: "Caucasus Soči env. – Achun R. Rous lgt 1970/Holotypus male, Ischnosoma schuelkei, M. Kocian des. 1995". Holotype is in private collection of J. Boháč.

Allotype, female, with labels as follows: "Caucasus Soči surroundings, 6.1967 R. Rous leg./Mycetoporus dubius Epp., J. Boháč det./Allotypus female, Ischnosoma schuelkei, M. Kocian 1995". Allotype is in Boháč collection as well.

Derivatio nominis: Dedicated to Dipl. Ing. Michael Schülke from Berlin, a specialist on the subfamily Tachyporinae.

Distribution: Southern Russia – Soči

Remarks: Formation of male sternite 7 is similar to *I. thoracicum*. Male sternite 8 with patch of stout sparse pointed medial setae. In these characters, as well as in the shape of paramera, is distinct from other species. It has the largest eyes of all species.

8. *Ischnosoma caucasicum* sp. n.

Figs 7, 44-46, 97.

Body (Fig. 7) uniformly rufotestaceous. Legs, antenna and palpi rufobrunneous.

Head 0.5-0.55 mm wide (mean 0.523 mm, n = 7); 1.3 × wider than long; 0.57 × narrower than pronotum. Eyes large (about 40 ommatidia); flat, approximately as long as temples. Ocular puncture large. Distance between ocular puncture and eye margin as long as, or slightly shorter than puncture diameter. Surface smooth, without microsculpture. Antenna segments 6-7 longer than wide; segment 8 as long as wide; segment 9 slightly transverse; and segment 10 as long as wide.

Pronotum 0.87-0.96 mm wide (mean 0.91 mm, n = 7); 0.72-0.79 mm long (mean 0.756 mm, n = 7); frontally with perspicuous border. Surface smooth to acute microsculptured. Inner anterior punctures separated from margin by distance 2.5 ×; outer anterior punctures separated by distance 1.8 ×; inner posterior punctures separated by distance 3.5 ×; and outer posterior punctures separated by distance 2.2 × diameter of puncture.

Elytra at suture 0.59-0.65 long (mean 0.624 mm, n = 7); 0.82 × shorter than pronotum; altogether 0.9-1.0 mm wide (mean 0.963 mm, n = 7). Surface smooth to acute, not noticeably microsculptured. Lateral row with 8-10 punctures; discal row with seven to nine punctures; and sutural row with seven to nine punctures.

Abdomen tapering from segment 5 toward end. Tergite 3 with basal border. Surface smooth, inconspicuous microsculptured. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 54 : 32 : 21 : 17 : 11 : 15.5. Forebody length 1.75-1.97 mm; total body length 4.61-5.57 mm.

Male: Sternite 7 (Fig. 44) at posterior margin medially slightly concave; with patch of about 20 short and stout medial setae. Sternite 8 (Fig. 45) medially with patch of very dense thin medial setae; divided into anterior sparse and posterior dense parts. Along this patch there are 5 stout interior setae on both sides. Aedeagus (Fig. 46) stout; apex beakly frontally, from lateral aspect. Paramera straight in the first half; curved in the second half; with 15-18 dorsal setae.

Female: Proximal and distal gonocoxite Fig. 97.

Holotype: Male, with labels as follows: "Caucas. occ., Circassien, Leder, Reitter/thoracicus Epp. det. Luze/Typus (red label)/Holotypus male, Ischnosoma caucasicum, M. Kocian des. 1995". Holotype is deposited in collection of NMW.

Paratypes: 41

Caucasus area: Circassien, Leder et Reitter lgt (NMP, 1, DEIE, 3, NMW, 13, MNHUB, 3, HNHMB, 1); Helenendorf, Leder et Reitter lgt (HNHMB, 4); Swanetien, Leder et Reitter lgt (DEIE, 3, HNHMB, 1); Caucasus, Leder et Reitter lgt (NMW, 1, DEIE, 1, NMP, 3, HNHMB, 1); Krasnaja Poljana, Roubal lgt (SNMB, 1); Krasnaja Poljana, Rous lgt (CMS, 1, CJB, 3). **Spain:** Spanien, Scheerpeltz collection (NMW, 1) (mistakenly labelled).

Derivatio nominis: The specific name is derivated from the type locality area.

Distribution: Western Caucasus.

Remarks: Male sternite 7 is similar in cheatotaxy to *I. schuelkei*. Sternite 8 with distinctly dense medial setae, unmistakable with other species. Shape of sternites 7 and 8 is similar to *I. campbelli*. They are also similar in habitus structure.

The specimen collected by Rous was found in June.

9. *Ischnosoma campbelli* sp. n.

Figs 3, 47-49.

Body (Fig. 3) uniformly rufotestaceous. Legs, antenna and palpi rufobrunneous.

Head 0.52 mm wide; 1.3 × wider than long; 0.57 × narrower than pronotum. Eyes quite large (about 37 ommatidia); approximately as long as temples. Distance between ocular puncture and eye margin equal to slightly longer than puncture diameter. Surface smooth, without microsculpture. Antenna segments 6-7 longer than wide; segment 8 as long as wide; segment 9 slightly transverse; and segment 10 as long as wide.

Pronotum 0.9 mm wide; and 0.75 mm long. Surface with sparse microsculpture. Inner anterior punctures separated from margin by distance 3 ×; outer anterior punctures separated by distance 2 ×; inner posterior punctures separated by distance times; and outer posterior punctures separated by distance 2.8 × puncture diameter.

Elytra at suture 0.61 mm long; 0.81 × shorter than pronotum; altogether 0.94 mm wide. Surface with dense microsculpture. Lateral row with nine punctures; discal row with 12 punctures; and sutural row with seven to nine punctures. Discal row quite disarranged.

Abdomen slightly tapering from segment 5 toward end. Tergite 3 with basal border. Surface smooth to acutely microsculptured. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 50 : 31 : 19 : 9 : 15.

Forebody length 1.97 mm; total body length 4.45 mm.

Male: Sternite 7 (Fig. 47) at posterior margin medially slightly concave; posterior medial setae short, unmodified; along posterior margin with four pairs of long setae. Sternite 8 (Fig. 48) medially with two rows of palisade setae; along concave margins with other two rows; in the middle with area of dense thin medial setae. Four pairs of interior stout setae. Aedeagus (Fig. 49) stout; apex widely pointed; frontally with beak. Paramera basally stout; curved in the second half; with 15 dorsal setae.

Holotype: Male, with labels as follows: "USSR – Abchazia Msara pr. Gumista, 12.6.81 carpinetum/ M. dubius Epp. J. Boháč det./ Holotypus male, Ischnosoma campbelli, M. Kocian des. 1995". Holotype is in private collection of J. Boháč.

Derivatio nominis: Dedicated to Dr. J. M. Campbell from Ottawa, specialist in the family Staphylinidae.

Distribution: Western Caucasus.

Remarks: According to similar formation of male sternites 7 and 8 and habitus *I. campbelli* is related to *I. caucasicum*. Rows of dense palisade setae of male sternite 8 differentiate it from other species. Formation of male sternite 8, as well as the close relation to *I. caucasicum* show a transition of origin of patches of modified setae in the *I. pictum* group.

10. *Ischnosoma major* (Luze, 1901) comb. n.

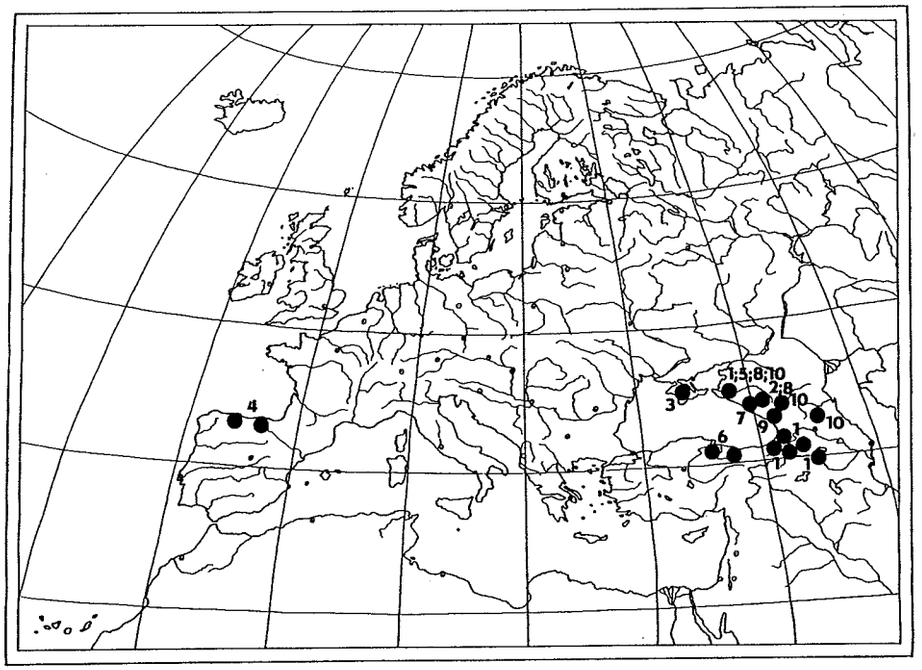
Figs 19, 50-52, 100.

Mycetoporus major Luze, 1901: 673 (type locality: Caucasus, Helenendorf).

Body (Fig. 19) uniformly rufotestaceous; head and abdomen darker. Antenna and palpi yellow.

Head 0.42 mm wide; approximately 1.2 × wider than long; 0.59 × narrower than pronotum. Eyes large (about 30-40 ommatidia); as long as temples. Distance between ocular puncture and eye margin slightly shorter than puncture diameter. Surface smooth, without microsculpture. Antenna segments 6-8 as long as wide; segment 9 slightly transverse; segment 10 as wide as long.

Pronotum 0.71 mm wide; 0.6 mm long. Surface acutely perspicuously microsculptured. Inner anterior punctures separated from margin by distance 2.3 ×; outer anterior punctures separated by distance equal to; inner posterior punctures separated by distance 2.5 ×; and outer posterior punctures separated by distance 2 × puncture diameter.



Map 1. Distribution of species of the *I. spelaeum* group: 1: *I. myops*; 2: *I. doderoi*; 3: *I. winkleri*; 4: *I. spelaeum*; 5: *I. thoracicum*; 6: *I. turcicum*; 7: *I. schuelkei*; 8: *I. caucasicum*; 9: *I. campbelli*; 10: *I. major*.

Elytra at suture 0.48 mm long; 0.8 × shorter than pronotum; altogether 0.77 mm wide. Surface with acute microsculpture. Lateral row with seven to eight punctures; discal row with five punctures; sutural row with eight punctures.

Abdomen distinctly tapering from segment 4 toward end. Surface without microsculpture. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 44 : 25 : 18 : 14 : 9.5 : 13.5.

Forebody length 1.53 mm; total body length 3.6 mm.

Male: Sternite 7 (Fig. 50) at posterior margin medially convex; with patch of short stout setae; along margin with three pairs of long setae. Sternite 8 (Fig. 51) sparsely pubescent; medially with three pairs of dark stout setae. Aedeagus (Fig. 52) slim; apex elongate into rounded point. Paramera with seven dorsal setae; slim; in the middle strongly curved.

Female: Proximal and distal gonocoxite Fig. 100.

Types: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "Kaukas, Leder, Helenendorf/ major m. det. Luze/ Typus (red label)/ Lectotypus male, Mycetoporus major Luze, M. Kocian des. 1994/ Ischnosoma major (Luze), M. Kocian det. 1994". Lectotype is complete and deposited in the collection of NMW.

Paralectotypes: Two females with the same labels as lectotype, in NMW collection.

Material studied: 5 specimens

Distribution: **Western Caucasus:** Helenendorf, Leder lgt (NMW, 3) (see Types); Kasbek, Leder lgt (NMW, 1); Teberda, Zolotarew lgt (SNMB, 1).

Remarks: Posterior convex margin of male sternite 7 is different from the formation in other species. Also shape of aedeagus and paramera are species specific.

I. pictum group

11. *Ischnosoma splendidum* (Gravenhorst, 1806)

Figs 13, 20, 71-73, 108.

Tachinus splendidus Gravenhorst, 1806: 24 (type locality: Brunsvigae, Germany).

Tachyporus splendidus: Gyllenhal, 1810: 249; C.R. Sahlberg, 1834: 295; Zetterstedt, 1828: 60; Zetterstedt, 1838: 55.

Ischnosoma splendidum: Stephens, 1829: 22; Stephens, 1832: 170; Thomson, 1859: 281; Thomson, 1861: 165; Rey, 1882: 113; J. Sahlberg, 1876: 202; Campbell, 1991: 88.

Mycetoporus splendidus: Mannerheim, 1831: 63; Boisduval et Lacordaire, 1835: 505; Erichson, 1839 a: 416; Erichson, 1839 b: 287; Heer, 1839: 296; Mäklin, 1847: 14; Fairmaire et Laboulbéne, 1854: 496; Jacquelin du Val, 1857: 28; Redtenbacher, 1857: 178; Thomson, 1861: 165; Fauvel, 1875: 562; Redtenbacher, 1874: 194; Fowler, 1888: 218; Ganglbauer, 1895: 368; Luze, 1901: 672; Reitter, 1909: 99; Blatchley, 1910: 456; Rambousek, 1911: 3; Everts, 1922: 111; Hellén, 1925: 37; Portevin, 1929: 328; Cameron, 1932: 329; Lohse, 1964: 230; Horion, 1967: 29; Tóth, 1993: 21.

Bolitobius splendidus: Pandellé, 1869: 340.

Myteroxis splendidus: Gozis, 1886: 14.

Mycetoporus pallidulus Mannerheim, 1831: 63 (type locality: Villnäs, Finland).

Mycetoporus testaceus Kraatz, 1859: 64 (type locality: India or.).

Bolitobius piciceps Stephens, 1832: 176. ?

Bolitobius ruficollis Stephens, 1832: 176. ?

Ischnosoma tenuis Stephens, 1832: 169. ?

Megacronus elegans Matthews, 1838: 197. ?

Mycetoporus subruber Heer, 1841: 586. ?

Body (Fig. 13) rufotestaceuous; elytra rufobrunneous; head and anterior part of tergites piceous. Legs, antenna, palpi and anterior part of head brownish-yellow; antenna segments 3-6 darker.

Head 0.44 mm – 0.51 mm wide (mean 0.478 mm, n = 20); moderately wider than long; 0.58 × narrower than pronotum. Eyes large, longer than temples. Distance between ocular puncture and eye margin equal to puncture diameter. Surface with more or less perspicuous microsculpture. Antenna segments 6-8 longer than wide, segments 9-10 as long as wide.

Pronotum 0.77-0.89 mm wide (mean 0.82 mm, n = 20), 0.68-0.78 mm long (mean 0.773 mm, n = 20). Surface maximum faintly microsculptured. Inner anterior punctures separated from margin by distance 1.7 ×; outer anterior punctures separated by distance 1.1 ×; inner posterior punctures separated by distance equal to; and outer posterior punctures punctures separated by distance 1.3 × puncture diameter.

Elytra at suture 0.71-0.91 mm long (mean 0.806, n = 19); 1.1 × longer than pronotum; altogether 0.85-0.99 mm wide (mean 0.94 mm, n = 16). Surface smooth with scarcely perspicuous microsculpture. Lateral row with 7-10 punctures; discal row with three to seven punctures; and sutural row with four to eight punctures. Wings fully developed, or brachypterous.

Abdomen tapering toward end. Tergite 3 medially with smooth sparsely punctate area. Tergite 7 at posterior margin with white border. Surface perspicuously acutely microsculptured. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 40 : 27 : 19 : 16.5 : 11 : 13.

Forebody length 1.84-2.23 mm; total body length 3.82-4.93 mm.

Male: Sternite 7 (Fig. 71) at posterior margin distinctly concave; bordered by area of long thin dense setae, and by round of stout dark setae. In posterior corners two pairs of very stout long setae. Sternite 8 (Fig. 72) distinctly concave at the posterior margin. Symmetrical patches of modified "beard-like" setae forming six to seven rows located in posterior part. Patch of very dense medial thin erected setae in the middle of sternite, with six pairs of interior stout setae. Aedeagus (Figs 20, 73) slender, with long broadly pointed apex. Paramera with six to eight dorsal setae.

Female: Proximal and distal gonocoxite Fig. 108.

Types: ***Tachinus splendidus***: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "5776/Typus (red label)/splendidus Gr./Zool. Mus Berlin/Ischnosoma splendidum Grav., Det. J. M.Campbell/Lectotypus male, Tachinus splendidus Gravenhorst, M. Kocian des. 1995/Ischnosoma splendidum (Grav.), M. Ko-

cian det. 1995". Paralectotypes: 3 females with labels as follows: "Typus (red label)/I-Nr.5776/Zool.Mus Berlin" and one male with labels as follows: "Typus (red label)/I-Nr.5776/Var./Zool. Mus. Berlin". All paralectotypes with my identification labels. Lectotype and paralectotypes are deposited in collection of MNHUB.

Mycetoporus pallidulus: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "(small reddish-brown paper triangle)/ Villnäs/ Mannerh./ Mus. Zool. H. fors Spec. typ. No. 303 Mycetoporus pallidulus Mann./ Lectotype male, Mycetoporus pallidulus Mannerheim, M. Kocian des. 1995/ Ischnosoma splendidum (Grav.), M. Kocian det. 1995". Lectotype is lacking left antenna segments from 10 on; and is in the collection of FMNHH. Paralectotypes: two females, spec. typ. No. 301, 302, in the same collection.

Mycetoporus testaceus: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "Ost Indien/41/Syntypus (red label)/Mycetopor. testaceus Kr./coll. Kraatz/coll. DEI Eberswalde/Lectotypus male, Mycetoporus testaceus Kraatz, M. Kocian des. 1995/Ischnosoma splendidum (Grav.). M. Kocian det. 1995". Lectotype is deposited in collection of DEIE.

Mycetoporus piciceps, M. ruficollis, M. tenuis, M. elegans: see Remarks.

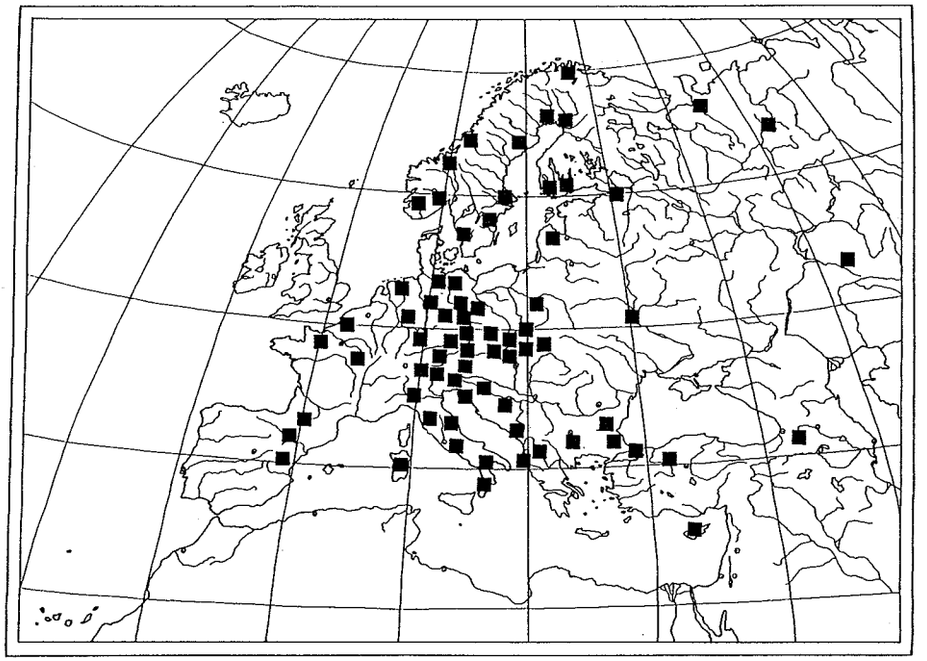
Mycetoporus subruber: Types have probably been lost since they are not deposited in Heer's collection in Zürich either – see Remarks.

Material studied: 865 specimens.

Distribution: (Map 2) *I. splendidum* is widely distributed in Europe, Great Britain, palearctic Asia, India and North America.

Spain (MHNG), Sardinia (MNHUB), France (HNHMB, MHNG, MNHUB, NMW, CMS), Italy (MNHUB, NMP, NMW, CMS, CPH, CPW, CVA,), Switzerland (NMW), Austria (FMCH, MHNG, MNHUB, NMW, TLFI), Germany (MHNG, MNHUB, NMW, CVA), Denmark (NMW), Sweden (DZUL, NMW, CMS, CSS), Norway (NMW, MNHUB), Finland (FMNHH, MNHUB, NMW, CMS), Latvia (MNHUB), Poland (NMP, NMW), Czech Republic (MNHUB, NMP, NMW, CMK), Slovakia (MNHUB, NMP, NMW, CMK, CPH), Hungary (NMW), Croatia (NMP, NMW), Bosnia (NMP, NMW), Albania (NMW), Bulgaria (DEIE, MNHUB, NMP, NMW), Turkey (MHNG, MNHUB), Cyprus (DZUL), Russia (MNHUB, NMP, CJB), Ukraine (CMS), Caucasus area (NMP).

Remarks: There is a lot of confusion within the synonyms of *I. splendidum*. In Coleopterorum Catalogus (Bernhauer & Schubert, 1916) the following names are given as *M. splendidus* synonyms: *Mycetoporus americanus* Horn, *M. inquisitus* Casey, *M. pallidulus* Mann. (mistakenly written as "pallidus"), *M. testaceus* Kr., *M. elegans* Matth., *Bolitobius piciceps* Steph., *B. ruficollis* Steph., *Ischnosoma tenuis* Steph. and *Mycetoporus subruber* Heer. *M. americanus* Horn was only misidentified *M. americanus* Er. (Campbell, 1991). *M. americanus* Er. and *M. inquisitus* were considered as different species by Campbell (1991) who studied the



Map 2. Distribution of *I. splendidum*.

types. Types of *M. pallidulus* (synonymized with *M. splendidus* by e.g. Rey 1882, Ganglbauer 1895, Luze 1901) and *M. testaceus* (synonymy of *M. splendidus* by Cameron 1932) were studied in this work and found conspecific with *I. splendidum* (see types). Rey (1882) recognized *M. elegans, I. tenuis, B. ruficollis* and *M. subruber* as synonyms of *M. splendidus*. *M. piciceps* was mentioned first within synonyms in Bernhauer & Schubert (1919) under the name "picipes". *I. tenuis* was not described as a new species in Stephens (1932), he only combined *Staphylinus tenuis* Fabricius with another generic name, so it is more likely to be a misidentification. As for *B. piciceps, B. ruficollis* and *M. elegans*, it is important to study type material, an option I did not have. Types of *M. subruber* are probably lost. All the synonyms are displayed here with a question mark.

Characters of male terminalia are only slightly variable, in contrast to those of *I. longicorne*. Formation of male sternites 7 and 8 demonstrate a close relation to *I. monilicorne*, the endemic species of Atlantic Islands. *I. splendidum* can be reliably distinguished from other species by formation of male sternites 7 and 8, and by the inner structure of aedeagus. However, this species might be misidentified as *I. longicorne* that is sharing the most of the region. But it is on the average smaller and darker in colour (especially 3rd tergite) than *I. longicorne*, differs in microsculpture and shape of head, which is frontally more tapering; eyes are narrower from dorsal aspect.

I. splendidum lives in various biotopes. Material for this study was collected in the same habitats as material in North America – see Campbell (1991). Adults have been taken by sifting

or in pitfall traps, in the following habitats: damp moss, *Sphagnum*, leaf litter in deciduous or mixed forest (*Quercus, Fagus, Betula*), wet reed litter on lake or river edges, swamps, wet piles of weeds, under the bark of dry *Quercus* stumps, dry meadows and hillsides and in nest of *Formica rufa* (in winter).

Adults have been collected throughout the year, most specimens were collected from March to October.

12. *Ischnosoma monilicorne* (Wollaston, 1864) **comb. n.**

Figs 14, 74-76, 107.

Mycetoporus monilicornis Wollaston, 1864: 559 (Type locality: Teneriffa); Wollaston, 1865: 559; Palm, 1975: 243.

Mycetoporus monilicornis ab. *obscuripennis* Wollaston, 1864: 560.

Body (Fig. 14) rufotestaceous; base of 4th to 6th tergites brown. Legs, antenna and palpi rufobrunneous. Elytra and abdomen metallic green.

Head 0.45 mm wide; approximately 1.1 × wider than long; 0.59 × narrower than pronotum. Eyes small, shorter than temples. Ocular puncture separated from eye margin by distance 1.5 × diameter of puncture. Surface sparsely microsculptured. Antenna segments 6-8 longer than wide; 9th segment slightly transverse; 10th segment as long as wide.

Pronotum 0.76 mm wide; 0.66 mm long. Surface distinctly microsculptured. Inner anterior punctures separated from margin by distance 1.2 ×; outer anterior punctures separated by distance 0.5 ×; inner posterior punctures separated by distance 1.1 ×; and outer posterior punctures separated by distance 2.3 × diameter of puncture.

Elytra at suture 0.59 mm long; 0.8 × shorter than pronotum; altogether 0.85 mm wide. Surface with distinct microsculpture. Lateral row with 8-9 punctures; discal row with 5-6 punctures; and sutural row with 6 punctures. Wingless.

Abdomen moderately tapering toward end. Tergite 3 uniformly evenly punctate. Tergite 7 without white border at posterior margin. Surface with acute microsculpture. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 43 : 28 : 19 : 16 : 11 : 12.5.

Forebody length 1.81 mm; total body length 3.82 mm.

Male: Sternite 7 (Fig. 74) at posterior margin deeply concave; bordered by patches of dense, very thin setae. Along patch about eight long setae; two pairs of very stout dark dense setae located in posterior corners of sternite. Sternite 8 (Fig. 75) in posterior part with symmetrical areas of modified setae, forming seven rows. Patch of dense thin setae in the middle of sternite, in posterior corners with approx. 12 pairs of stout dark setae. Aedeagus (Fig. 76) slender, paramera with five dorsal setae.

Female: Proximal and distal gonocoxite Fig. 107.

Types: This species was identified on the basis of a work of Palm (1975). He studied Wollaston types from British Museum London. I had no opportunity to study these types.

Material studied: 5 specimens

Distribution: (Map 3) **Canary Islands:** Teneriffe: Teno – Monte de Los Silos, Törnvall lgt (DZUL, 1); La Gomera: Apartacaminos – Raso de la Bruma, Törnvall lgt (DZUL, 1); El Cedro – Montana Quemada, Törnvall lgt (DZUL, 1), Wunderle lgt (CVA, 1); La Laguna Alta, Wunderle lgt (CVA, 1).

Remarks: *I. monilicorne* is undoubtedly closely related to *I. splendidum*, according to similar formation of male sternites 7 and 8. But it differs as follows: eyes smaller, wings missing, smooth area of tergite 3 absent, white border of 7 tergite absent, and different inner structure of aedeagus.

Specimens collected by Törnvall were found in December and January, specimens collected by Wunderle in October and November.

13. *Ischnosoma bergrothi* (Hellén, 1925)

Figs 12, 62-64.

Mycetoporus elegans Mäklin, 1846: 176 (type locality: Finland, Urpala) (nec Matthews, 1838: 197); Mäklin, 1847: 12; Ganglbauer, 1895: 369; Luze, 1901: 670.

Ischnosoma elegans: J. Sahlberg, 1876: 202.

Mycetoporus bergrothi Hellén, 1925: 449 (nom. nov.); Lohse, 1964: 230.

Head and elytra piceous; pronotum and apical margin of elytra rufotestaceous to rufobrunneous; abdomen rufobrunneous; base of tergites 5-8 brunneous to piceous. Legs, antenna and palpi rufotestaceous, middle segments of antenna darker. Elytra and abdomen noticeably blue iridescent. Body shape see Fig. 12.

Head 0.57-0.67 mm wide (mean 0.628 mm, n = 8); almost as long as wide; 0.57 × narrower than pronotum. Eyes large, longer than temples. Ocular puncture separated from eye margin by distance 0.8 × diameter of puncture. Surface with perspicuous microsculpture. Antenna segments 6 and 7 longer than wide; segments 8-10 as long as wide.

Pronotum 1.0-1.16 mm wide (mean 1.095 mm, n = 8); 0.87-1.02 mm long (mean 0.975, n = 8). Surface acutely microsculptured. Inner anterior punctures separated from margin by distance 1.8 ×; outer anterior punctures separated by distance 1.1 ×; inner posterior punctures separated by distance 1.5 ×; and outer posterior punctures separated by distance 2 × diameter of puncture.

Elytra at suture 0.81-1.04 mm long (mean 0.951 mm, n = 8); 0.98 × shorter than pronotum; altogether 1.06-1.27 mm wide (mean 1.174 mm, n = 8). Lateral row with six to nine punctures; discal row with three to five punctures; and sutural row with five to six punctures. Wings missing.

Abdomen slightly tapering toward end; tergite 3 uniformly evenly punctate. Tergite 7 without white border. Surface perspicuously densely microsculptured. Ratio of hind tibia length tosegments 1-5 of hind tarsus as follows: 61.5 : 40 : 26 : 21 : 14.5 : 18.

Forebody length 2.45-2.7 mm; total body length 4.77-6.06 mm.

Male: Sternite 7 (Fig. 62) at posterior margin widely concave. Sternite 8 (Fig. 63) posteriorly medially with smooth area, bordered anteriorly by patch of stout and short setae; on sides by symmetrical patches of modified setae, forming two rows. Three pairs of interior setae. Aedeagus (Fig. 64) robust; apex dentately elongate. Paramera with five dorsal setae.

Types: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "(small reddish-brown paper triangle)/ Urpala/Coll. Mäkl./Spec. typ./Mus. Zool. H:fors Spec. typ. No 321 Mycetoporus elegans Mäkl./ Lectotype male, Mycetoporus elegans Mäkl., M. Kocian des. 1995./ Ischnosoma bergrothi (Hellén), M. Kocian det. 1995". Lectotype is lacking left antenna segments from 10 on; right hind tarsus segments from 3 on; and left hind tarsus segments from 2 on. There is a hole in the right elytra, made by pin. Specimen is immature, deposited in the collection of FMNHH.

Paralectotype, female with labels as follows: "Urpala/ Coll. Mäkl./ Spec. typ./ M. elegans Mkl. / Mus. zool. H:fors Spec. typ. No 320 Mycetoporus elegans Mäkl./ Paralectotype female, Mycetoporus elegans Mäklin, M. Kocian des. 1995/ Ischnosoma bergrothi (Hellén), M. Kocian det. 1995". Paralectotype is in the collection of FMNHH.

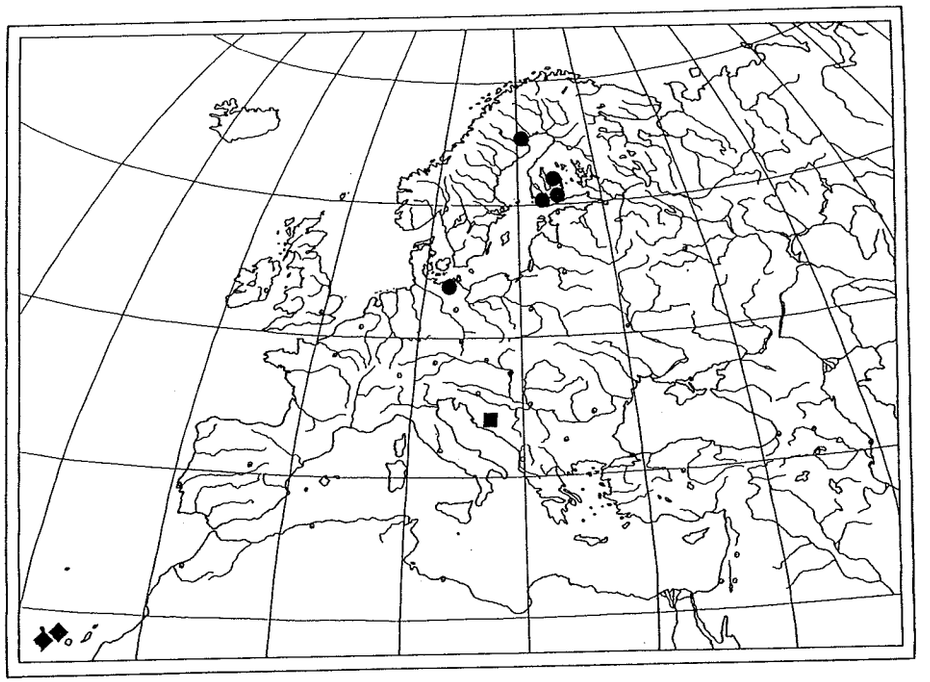
Material studied: 33 specimens.

Germany: Mecklenburg – Göldenitzer Moor, Rabeler lgt (MNHUB, 1). **Finland:** Fennia (MNHUB, 1, NMP, 2); Fennia med., Sahlberg lgt (NMW, 1); Hamer Svir, Brancsik lgt (NMW, 1); Helsingfors, Sahlberg lgt (MNHUB, 1, NMW, 6); Karislojo, Sahlberg lgt (DEIE, 1); Korpilahti, Sahlberg lgt (NMP, 1, SNMB, 1); Kraatz lgt (DEIE, 3); Svir, Sahlberg lgt (NMW 2); Urpala, (FMNHH, 2) (see Types). **Sweden:** Norbotten – Pitea – Högsböle, Kahlen lgt (TLFI, 2). **Russia:** Quellgebiet des Irkut, Reitter lgt (NMP, 2, NMW, 5); Siberia (NMP, 1).

Distribution: (Map 3) *I. bergrothi* is widely distributed in the north-eastern part of Europe and in Siberia to Pacific coast.

Remarks: *I. bergrothi* is a conspicuous species, impossible to mistake for any other one. Formation of the 8th male sternite is of great importance.

Specimens collected by Kahlen were found in July.



Map 3. Distribution of *I. bergrothi* (circles), *I. ludwigi* (squares) and *I. monilicorne* (rhombi).

14. *Ischnosoma longicorne* (Mäklin, 1847)

Figs 15, 21, 56-57, 60, 77-85, 104.

Mycetoporus longicornis Mäklin, 1847: 12 (type locality: Sweden, Nyland); Kraatz, 1857: 467; Fowler, 1888: 218; Ganglbauer, 1895: 368; Luze, 1901: 671; Reitter, 1909: 99; Everts,1922: 111; Hellén, 1925: 45; Lohse, 1964: 230; Tóth, 1993: 21.

Ischnosoma longicorne: Thomson, 1861: 166; J. Sahlberg, 1876: 202; Rey, 1882: 116.

Bolitobius longicornis: Pandellé, 1869: 340.

Mycetoporus biplagiatus: Pandellé, 1869: 340; Ganglbauer, 1895: 368; Luze, 1901: 671; Reitter, 1909: 99; Everts, 1922: 111. Misidentification of *biplagiatus* Fairm.

Mycetoporus splendidus: Fauvel, 1875: 562. Portevin, 1929: 328. Misidentification of *splendidus* Grav.

Ischnosoma splendidum: Rey, 1882: 114.

Coloured variably. Body (Fig. 15) rufotestaceous to rufobrunneous; head, elytra (except shoulders and apical margin) and tergite 7 basally often brown. Legs, antenna and palpi rufobrunneous to brownish-yellow; antenna segments 3-9 darker.

Head 0.47-0. 59 mm wide (mean 0.533 mm, n = 20); 1.3 × wider than long; 0.57 × narrower than pronotum. Ocular puncture separated from eye margin by distance 0.75 × puncture diameter. Surface smooth without microsculpture. Antenna segments 6-8 longer than wide; segments 9 and 10 as long as wide.

Pronotum 0.81-1.04 mm wide (mean 0.923 mm, n = 20); 0.74-0.91 mm long (mean 0.817 mm, n = 20). Surface smooth; occasionally with faint microsculpture. Inner anterior punctures separated from margin by distance 2.2 ×; outer anterior punctures separated by distance 1.3 ×; and both inner and outer posterior punctures separated by distance 0.5 × diameter of puncture.

Elytra at suture 0.79-0.97 mm wide (mean 0.892 mm, n = 20). Surface acutely and densely microsculptured. Lateral row with 10-14 punctures; discal row with 7-11 punctures; and sutural row with 5-12 punctures. Wings fully developed, or brachypterous.

Abdomen from segment 4 tapering toward end. Tergite 3 medially with wider or narrower sparsely punctate area. Tergite 7 with or without white border. Surface with acute microsculpture, more obvious at base of tergites. Ratio of length of hind tibia to segments 1-5 of hind tarsus as follows: 53 : 36 : 24 : 21 : 14 : 14.

Forebody length 1.97-2.61 mm; total body length 4.46-6.05 mm.

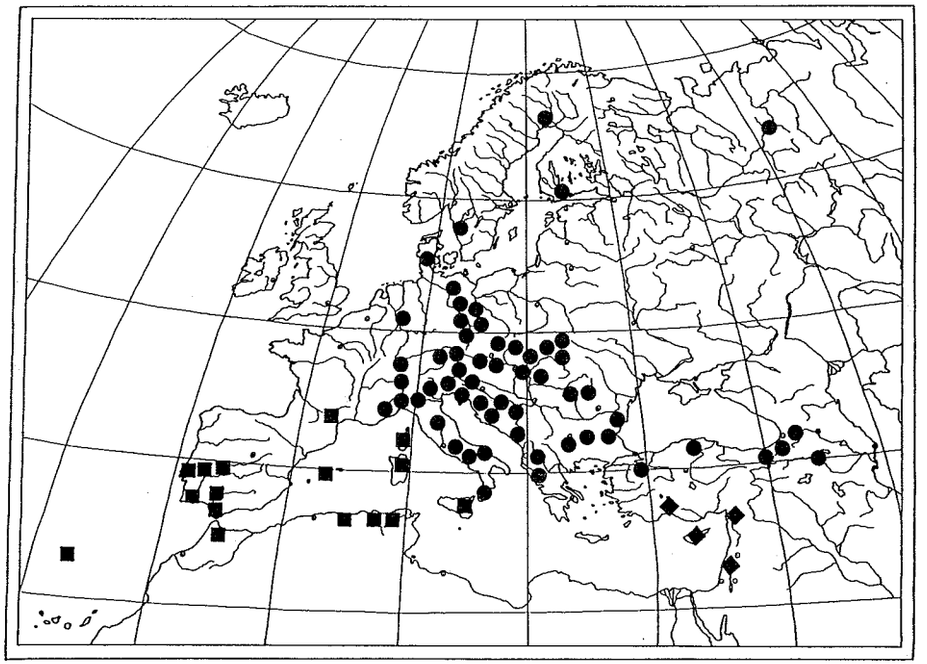
Male: Sternite 7 (Fig. 60) at posterior margin slightly concave; medially bordered by area of dense thin long setae, on sides with seven pairs of long stout setae. Sternite 8 (Figs 56, 77-85) in apical part with symmetrical patches of modified setae, forming three to four rows; medially with oval patch of dense thin setae. Five to seven pairs of interior stout setae. Aedeagus (Figs 21, 57) slim; with distinctly elongate apex. Inner structure of aedeagus apically elongate and deflexed into beak. Paramera with five to six dorsal setae.

Female: Proximal and distal gonocoxite Fig. 104.

Types: Lectotype designation: Lectotype, male, hereby designated, with labels as follow: "(small paper square)/ Nyland/ Coll. Mäkl./ Spec. typ/ Mus. Zool. H: fors Spec. typ No. 318 Mycetop. longicornis Mäkl./ Lectotype male, Mycetoporus longicornis Mäklin, M. Kocian des. 1995/ Ischnosoma longicorne (Mäkl.), M. Kocian det. 1995". Lectotype is lacking left antenna segments from 7 on; and is deposited in the collection of FMNHH.

Paralectotypes: four (one male, three females), from the same locality as lectotype, labeled as Spec. typ. No. 315, 316, 317, 319; deposited in the FMNHH collection.

Material studied: 507 specimens.



Map 4. Distribution of *I. longicorne* (circles), *I. biplagiatum* (squares) and *I. loebli* (rhombi).

Distribution: (Map 4) *I. longicorne* is widely distributed in central and northern Europe to Caucasus. Italy (DEIE, MHNG, MNHUB, TLFI, NMW, NMP, CMS, CVA) Switzerland (NMW) Austria (NMW, TLFI, CVA) Germany (MNHUB) Denmark (NMW) Sweden (DZUL, FMNHH, NMW) Norway (TLFI), Russia (MNHUB) Finland (NMW) Czech Republic (HNHMB, MNHUB, NMP, NMW, CMK) Slovakia (MNHUB, NMP, NMW, CPH) Hungary (MNHUB, NMP, NMW, TLFI) Slovenia (NMP, NMW, TLFI) Croatia (MHNG, MNHUB, NMP, NMW,) Serbia and Montenegro (NMP, NMW, CMS) Bosnia (DEIE, MNHUB, NMP, NMW, TLFI, CVA) , Macedonia (NMW) Romania (NMP, NMW) Bulgaria (DEIE, NMP, NMW, CMS) Greece (MHNG) Turkey (MHNG) Ukraine (NMP) Caucasus area (MNHUB, NMP, SNMB, CMS).

Remarks: *I. longicorne* exhibits great variability. Reliable distinction from *I. corsicum*, *I. biplagiatum* and *I. loebli* is possible only according to formation of male sternites 7 and 8; and inner structure of aedeagus. Chaetotaxy of 7 and 8 male sternites is similar to *I. corsicum* and *I. ludwigi*. It differs from *I. ludwigi* in shape of inner structure of aedeagus (Figs 21-22) and in sparsely punctate medial part of tergite 3 in particular. From *I. corsicum* it can be distinguish by shape of inner structure of aedeagus. Distinctions from *I. splendidum* see above. The variability of male sternite 8 is shown in Figs 77-96, in comparison with the previous species. It is concluded that the area of patches of modified setae of male sternite 8 is larger in individuals occurring in the South than in the North. *I. biplagiatum*, even though isolated on an island, is in contrast to *I. longicorne* not so variable in formation of male sternite 8. Single populations differ also in

shape of patches of modified setae, colour, presence of white border of tergite 7, and in extent of the smooth area of tergite 3. In species from southern Italy (Calabria), the white border of tergite 7 is often lacking; and sparsely punctate area of tergite 3 is smaller. Moreover the individuals are brachypterous and patches of modified setae of sternite 8 are larger on average. Individuals from the Balkan are lighter in colour as a rule, similar to *I. ludwigi*. Specimens from the Alps and northern Europe have on average shorter patches of modified setae of sternite 8 compared to its length. Pterygopolymorphism is an interesting character. Most individuals are macropteruous, nevertheless, brachypteruous individuals might be found as well in the whole region. Between simple populations I did not find any difference in shape of the inner structure of aedeagus, whereas in others characters gradual changes might be found.

Adults were collected mostly by sifting in following habitats: leaf litter in deciduous forest, moss, *Sphagnum*, rotten woods, nests of *Talpa*, dry meadows. Specimens have been taken throughout the year, with most from March to September.

15. *Ischnosoma corsicum* sp. n.

Figs 11, 58-59, 61.

Head brown; frontally lighter; pronotum rufotestaceous; elytra brunneous lighter anteriorly and at apical margin; abdomen brown with lighter posterior margins of tergites. Legs, antenna and palpi rufotestaceous; antenna segments 2-7 brown. Body shape Fig. 11.

Head 0.6 mm wide; 1.3 × wider than long; 0.57 × narrower than pronotum. Eyes large, much longer than temples. Distance between ocular puncture and eye margin 0.5 diameter of puncture. Surface smooth, without microsculpture. Antenna segments 6-8 longer than wide; segment 9 as long as wide; and segment 10 longer than wide.

Pronotum 1.05 mm wide; 0.91 mm long. Surface smooth with acute, hardly visible microsculpture. Inner anterior punctures separated from margin by distance 2.1 ×; outer anterior punctures separated by distance equal to; inner posterior punctures separated by distance 1.1 ×; and outer posterior punctures separated by distance 1.1 × puncture diameter. Only one pair of discal punctures equal to ocular puncture, but without developed setae.

Elytra at suture 1.09 mm long; 1.19 × longer than pronotum; altogether 1.21 mm wide. Surface with distinctly dense acute microsculpture. Lateral row with 11-12 punctures; discal row with six to seven punctures; and sutural row with seven to eight punctures. Wings fully developed.

Abdomen moderately tapering toward end. Tergite 3 medially with smooth sparsely punctate area. Tergite 7 without light border. Surface with acute microsculpture. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 61 : 43 : 28 : 25 : 17 : 18.5.

Forebody length 2.54 mm; total body length 5.9 mm.

Male: Sternite 7 (Fig. 61) similar in most characters to I. longicorne. Patches of modified setae of male sternite 8 (Figs 58, 86) smaller than in *I. longicorne*, according to sternite length, forming three rows. Six pairs of interior setae. Aedeagus (Fig. 59) similar to *I. longicorne*; sclerites of inner structure posteriorly with straight tip.

Holotype: Male, labelled as follows: "Corsica 1905, Aleria coll. Leonhard/ coll. DEI Eberswalde/ Holotype male, Ischnosoma corsicum, M. Kocian des. 1995". Holotype is deposited in DEIE collection.

Derivatio nominis: The specific name is derived from the name of the type locality area.

Distribution: Corsica.

Remarks: *I. corsicum* is closely related to *I. longicorne*, according to chaetotaxy of male sternites 7 and 8. But it is generally larger, darker, with smaller patches of modified setae of sternite 8. It also differs in the formation of discal punctures of pronotum, and in inner structure of aedeagus.

16. *Ischnosoma ludwigi* (Reitter, 1909) comb. n.

Figs 18, 22, 53-55, 95-96, 103.

Mycetoporus ludwigi Reitter, 1909: 99 (type locality: Bosnia, Ivan); Tóth, 1993: 22.

Body (Fig. 18) uniformly rufobrunneous; base of tergites darker.

Head 0.49-0.51 mm wide (mean 0.498 mm, n = 5); 1.15 × wider than long; 0.6 × narrower than pronotum. Eyes large; longer than temples. Distance between ocular puncture and eye margin longer than diameter of puncture. Surface smooth without microsculpture. Antenna segments 6-8 longer than wide; segments 9-10 as long as wide.

Pronotum 0.8-0.87 mm wide (mean 0.827 mm, n = 5); 0.69-0.77 mm long (mean 0.726 mm, n = 5). Surface with acute sparse microsculpture. Inner anterior punctures separated from margin by distance 1.5 ×; outer anterior punctures separated by distance 1.2 ×; inner posterior punctures separated by distance 0.3 ×; and outer posterior equal to puncture diameter.

Elytra at suture 0.67-0.71 mm long (mean 0.687 mm, n = 5); 0.94 × shorter than pronotum; altogether 0.91-1.02 wide (mean 0.952 mm, n = 5). Surface smooth, or with acute microsculpture. Lateral row with 11-13 punctures; discal row with 7-10 punctures; and sutural row with 7-10 punctures. Wings missing.

Abdomen tapering toward end. Tergite 3 evenly uniformly punctate. Tergite 7 without light border. Surface smooth, or with scarcely perspicuous microsculpture. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 44 : 27 : 19 : 16 : 11 : 12.5. Forebody length 2.03-2.23 mm; total body length 4.61-4.77 mm.

Male: Sternite 7 (Fig. 53) at posterior margin slightly concave; rounded by several rows of dense thin setae; with six to seven pairs of long setae on sides. Sternite 8 (Figs 54, 95-96) posteriorly with symmetrical patches of modified setae, forming five rows; with oval patch of dense thin setae in the middle. Five pairs of interior stout setae. Aedeagus (Figs 22, 55) with long apex, dentately terminated. Sclerites of inner structure of aedeagus posteriorly moderately deflexed, roundly pointed. Paramera with six dorsal setae.

Female: Proximal and distal gonocoxite Fig. 103.

Types: Lectotype designation: Lectotype, male, hereby designated, with labels as follows: "(small yellow paper square)/Ivan. Bosn./ coll. Reitter/ Ludwigi m. Rttr. 1907/ Holotypus 1909 Mycetoporus ludwigi Reitter (it is not an original Reitter label)/Lectotype male, Mycetoporus ludwigi Reitter, M. Kocian des. 1996/ Ischnosoma ludwigi (Reitt.), M. Kocian det. 1996". Lectotype is lacking right antenna segments from 9 on; and is deposited in collection of HNHMB.

Material studied: 21 specimens.

Distribution: (Map 3) *I. ludwigi* is an endemic species in Bosnia, Hercegovina and Croatia where it occurs together with the related and widely distributed *I. longicorne*. One specimen with the locality "Austria" is probably mistakenly labelled.

Bosnia: Bosnia, Leder et Reitter lgt (NMP, 1, HNHMB...); Bjelašnica Planina (NMW, 2), Leonhard lgt (DEIE, 2), Wunderle lgt (CMS, 1); Ivan (HNHMB, 1) (see Types); Ivan, Fleisher lgt (NMP, 2); Maklen – Pass, Leonhard lgt (DEIE, 4, NMW, 1); Mostar, Matzenauer lgt (SNMB, 1); Prozor (NMW, 1); Vlasic Planina, Wunderle lgt (CVA, 1). **Croatia:** Knin (NMW, 1). **Austria:** Paganetti lgt (MNHUB, 1) (mistakenly labelled?).

Remarks: *I. ludwigi* is similar to *I. longicorne* in habitus and chaetotaxy of male sternites 7 and 8. But it differs in shape of the inner aedeagus structure, and tergite 3 is uniformly evenly punctate. In contrast to the widely distributed *I. longicorne*, *I. ludwigi* occurs in a small region sympatric with *I. longicorne*.

17. *Ischnosoma biplagiatum* (Fairmaire, 1860) comb. n.

Figs 16, 23, 65-67, 90-94, 105.

Mycetoporus biplagiatus Fairmaire, 1860: 153 (type locality: Algeria, Bône).

Mycetoporus pseudolongicornis Palm, 1980: 395 (type locality: Madeira, Terreiro da Luta) **syn. n.**

Head brown with lighter mouth parts; pronotum rufotestaceous; elytra rufobrunneous to piceous; shoulders and apical margin mostly lighter, rufotestaceous. Abdomen brown with rufotestaceous posterior margins of tergites. Dark colour is variable. Body shape Fig. 16.

Head 0.47-0.55 mm wide; 1.2 × wider than long; 0.58 × narrower than pronotum. Eyes big, longer than temples. Distance between ocular puncture and eye margin equal to 1/3 diameter of puncture. Surface smooth, posteriorly occasionally slightly microsculptured.

Antenna segments 6-8 longer than wide; segments 9-10 as long as wide.

Pronotum 0.8-0.96 wide (mean 0.889 mm, n = 11); 0.72-0.87 mm long (mean 0.802 mm, n = 11). Surface smooth, without microsculpture. Inner anterior punctures separated from margin by distance 1.8 ×; outer anterior puncture separated by distance 1.2 ×; inner posterior and outer posterior punctures equal to diameter of puncture.

Elytra at suture 0.91-1.02 long (mean 0.968 mm, n = 11); 1.2 × longer than pronotum; altogether 1.04-1.16 mm wide (mean 1.084 mm, n = 9). Surface smooth with acute microsculpture. Lateral row with 11-14 punctures; discal row with 7-11 punctures; and sutural row with 8-12 punctures. Wings fully developed.

Abdomen evenly tapering toward end. Tergite 3 medially with smooth sparsely punctate area. Tergite 7 with white border at posterior margin. Surface smooth with acute microsculpture. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 57 : 36 : 24 : 20 : 13 : 15.

Forebody length 2.23-2.54 mm; total body length 4.77-5.57 mm.

Male: Sternite 7 (Fig. 65) at posterior margin medially slightly concave; with dense thin setae. 5 pairs of stout long setae are located along posterior margin and in corners. Sternite 8 (Figs 66, 90-94) at posterior margin with symmetrical patches of modified setae forming two rows. Four pairs of interior setae. Second interior seta located always higher than borders of symmetrical patches. Aedeagus (Figs 23, 67) with elongate dentately formed apex. Sclerites of inner structure long, with parallel margins, apically moderately curved. Paramera with five dorsal setae.

Female: Proximal and distal gonocoxite Fig. 105.

Types: ***Mycetoporus biplagiatus***: Lectotype designation: Lectotype, female, hereby designated, with labels as follows: "(small yellow paper square)/ Bône/ Muséum Paris coll. Abeille de Perrin/ Type (red label)/ Lectotypus female, Mycetoporus biplagiatus Fairmaire, M. Kocian des. 1995/Ischnosoma biplagiatum (Fairm.), M. Kocian det. 1995". Lectotype is deposited in the collection of NMHNP; it lacks left antenna segments from 3 on, right antenna segments from 11 on, left front tarsus segments from 3 on, and right hind tarsus segments from 3 on.

Mycetoporus pseudolongicornis: Holotype identification: Holotype, male, labelled as follows: "Madeira, Terr. Luta, 9. 2. 1966, Palm/Holotype (red label)/Mycetoporus pseudolongicornis Palm, det Thure Palm/Zool. Mus. Lund Sweden, Type No 1190:/-9

Staphylinidae/Ischnosoma biplagiatum (Fairm.), M.Kocian det, 1995". Paratypes: eight – all from Madeira – see Palm, 1980. Holotype and paratypes are deposited in collection of DZUL. Holotype and paratypes are conspecific with *M. biplagiatus*.

Material studied: 97 specimens.

Distribution: (Map 4) *I. biplagiatum* is a widely distributed species in the south-western Mediterranean: **Madeira:** Rabacal, Assing lgt (CVA, 4). **Morocco:** Urika, Quedenfeldt lgt (MNHUB, 1). **Algeria:** Bône (MNHNP, 2) (see Types); Kabylie – Bou Berak (NMW, 3). **Tunisia:** Ain Draham, Bodemeyer lgt (NMP, 2), Jureček lgt (NMP, 1). **Spain:** Algeciras – Sierra de Luna, Assing lgt (CVA, 2); Alpujarra – Capileira, Wunderle lgt (CPW, 1); Andalusia – Sierra de Bermeja – Jubrique, Assing lgt (CVA, 3), Wunderle lgt (CPW, 1); Andalusia – Algeciras – Sierra de Fates, Assing lgt (CVA, 1), Wunderle lgt (CPW, 4); Caceres – Arroyo de Jumadiei, Wrase lgt (CMS, 1); Cadiz – San Roque, Wrase lgt (CMS, 3); Cadiz – Jirnena de la Frontera, Wrase lgt (CMS, 4); Cadiz – Sierra de Luna, Comellini et Besuchet lgt (MHNG, 8), Wunderle lgt (CPW, 2); Sevilla – Alcala del Rio, Comellini lgt (MHNG, 2). **Portugal:** Bras – Algarve, Wunderle lgt (CVA, 2, CPW, 1); Faro – Bordeira – Aljezur, Senglet lgt (CMS, 1); Lisboa – Loures, Senglet lgt (CMS, 1); Lisboa – Serra do Sintra, Wunderle lgt (CPW, 1); Lusitania – Évora, Schatzmayr lgt (NMW 1); Portalegre – Salvador, Besuchet lgt (MHNG, 1). **France:** Tanneron, Wunderle lgt (CPW, 2). **Corsica:** Aleria, Leonhard lgt (DEIE, 1); Bastia – Stagno di Biguglia, Sette lgt (CMS, 2); Corte – Autokescher, Assing lgt (CVA, 1); Corte – Castaniccia – Erbajolo, Assing lgt (CVA, 1); Etang de Biguglia, Wunderle lgt (CPW, 2); Foret de l'Ospedale, Löbl lgt (MHNG, 4). **Sardinia:** (NMP, 1, DEIE, 1); Aritzo – Mte Genargentu, Krüger lgt (NMW, 6); Gadoni – Ohiten, Curtl lgt (MHNG, 1); Lago di Baratz, Wunderle lgt (CPW, 3); Lago di Coghinas, Wunderle lgt (CPW, 1); Mti Sette Fratelli, Krüger lgt (NMW, 1); Porto Ferro, Wunderle lgt (CPW, 2); Posada – San Teodoro, Kleeberg lgt (CMS, 2); Sorgono (NMW, 1). **Mallorca:** Albufera, Breit lgt (NMW, 1); Font de sa Cala, Comellini lgt (MHNG, 1); Gorch Blan, Comellini et Besuchet lgt (MHNG, 2); Playa de Canamel, Besuchet lgt (MHNG, 1). San Morell, Comellini lgt (MHNG, 1). **Sicily:** Alfio – Etna side, Adorno lgt (CMS, 3); Figuzza, Leonhard lgt (DEIE, 1); Lago, Lentini lgt (NMW, 1); Messina, Leonhard lgt (DEIE, 1).

Remarks: *I. biplagiatum* and *I. loebli* are similar species, similar in chaetotaxy of male sternites 7 and 8. By these characters they are easily distinguished from *I. longicorne*. In contrast to *I. longicorne* their wings in particular are fully developed; elytra is longer; discal row of elytra contains more punctures; base of tergites 3-6 is dark; pronotum is on average narrower; male sternites 7 and 8 are sparsely punctate; male sternite 7 has along apical margin less of stout long setae; patches of modified setae of male sternite 8 are smaller; seta I2 of interior row of 8th male sternite always exceeds frontal margin of "beard-like" setae patches and aedeagus has slimmer apex. Terminalia are less variable than in *I. longicorne*. Compared to *I. loebli*, *I. biplagiatum* has smaller patches of modified setae of male sternite 8; and a different shape of the inner structure of aedeagus. In habitus these two species are very similar. *I. loebli* has on average more punctures in discal row of elytra; and tergite 3 medially with narrower or indistinctly (in posterior part) sparsely punctate area. I have not found any continuous transition characters in the formation of male sternite 8 and the inner structure of aedeagus.

Specimens have been collected from March to August.

18. *Ischnosoma loebli* sp. n.

Figs 17, 68-70, 87-89, 106.

Colour same as in *I. biplagiatum*. Body shape Fig. 17.

Head 0.5-0.56 mm wide (mean 0.534 mm, n = 13); 1.25 × wider than long; 0.57 × narrower than pronotum. Distance between ocular puncture and eye margin equal to 2/3 diameter of puncture. Surface smooth without microsculpture. Antenna segments 6-9 longer than wide; segment 10 as long as wide.

Pronotum 0.82-1.0 mm wide (mean 0.934 mm, n = 13); 0.72-0.86 mm long (mean 0.807 mm, n = 13). Surface smooth; without microsculpture. Inner anterior punctures separated from margin by distance 1.4 ×; outer anterior punctures separated by distance 1.2 ×; inner posterior punctures separated by distance 0.8 ×; and outer posterior punctures separated by distance 0.9 × diameter of puncture.

Elytra at suture 0.81-1.0 mm long (mean 0.931 mm, n = 13); 1.15 × longer than pronotum; altogether 0.97-1.25 mm wide (mean 1.152 mm, n = 11). Surface without, or with acute microsculpture. Lateral row with 11-16 punctures; discal row with 10-14 punctures; and sutural row with 9-14 punctures. Wings fully developed, or brachypterous (Cyprus).

Abdomen distinctly tapering toward end. Tergite 3 medially with more sparsely punctate area. Tergite 7 with white border. Surface shiny; with microsculpture perspicuous on base of tergites only. Ratio of hind tibia length to segments 1-5 of hind tarsus as follows: 44 : 30 : 20 : 17 : 11.5 : 13.5.

Forebody length 1.91-2.54 mm; total body length 4.46-5.41 mm.

Male: Sternite 7 (Fig. 68) similar to *I. biplagiatum*, sparsely punctate. Patches of modified setae of male sternite 8 (Figs 69, 87-89) larger than in *I. biplagiatum*, forming two rows. Aedeagus (Fig. 70) and paramera similar in most aspects to *I. biplagiatum*; inner structure in apical part narrower and curved.

Female: Proximal and distal gonocoxite Fig. 106.

Holotype: Male, with labels as follows: "Israel Galilee, au dessous Safad 500 m. 30.5.73 Löbl/ Holotype male, Ischnosoma loebli, M. Kocian des. 1996". Holotype is deposited in MHNG collection.

Paratypes: 80

Israel: Waldén lgt (DZUL, 1); Cote – Mt. Carmel, Besuchet et Löbl lgt (MHNG, 5); Eilon – N. Betzet, Besuchet et Löbl lgt (MHNG, 5); Galilee – au dessous Safad, Löbl lgt (MHNG, 5); Hula, Besuchet et Löbl lgt (MHNG, 5); Galilea – Vall. Kisom, Sahlberg

lgt (NMW, 1). **Cyprus:** Akamas, Assing lgt (CVA, 2); Akamas – Neo Chorion, Assing lgt (CVA, 5), Wunderle lgt (CPW, 4); Bath of Aphropdite, Assing lgt (CVA, 3); Limassol, Assing lgt (CVA, 6), Wunderle lgt (CPW, 1); Paphos Forest – Kykkos – Pera Vasa, Assing lgt (CVA, 4), Wunderle lgt (CPW, 5); Platres – Kidasi – Diarizo, Assing lgt (CVA, 4); S Platres – Moniatis, Assing lgt (CVA, 15), Wunderle lgt (CPW, 7). **Turkey:** Antakya – Osmaniye – Zorhun, Besuchet lgt (MNHG, 1); Manavgat – Kolakli, Wunderle lgt (CPW, 1).

Derivatio nominis: Dedicated to Dr. Ivan Löbl from Genève, a coleopterist and collector of the holotype.

Distribution: (Map 4) Material studied originates from Israel, south-western Turkey and Cyprus.

Remarks: *I. loebli* has distribution in the south-eastern Mediterranean area. Very similar species *I. biplagiatum* is distributed in the south-western Mediterranean area (see key and Remarks on *I. biplagiatum* for details).

Adults have been collected in January and April.

REFERENCES

Bernhauer M., 1915: Beiträge zur Kenntnis der paläarktischen Staphyliniden-Fauna. *Münch. Kol. Zeit. 4: 262-270.*

Bernhauer M. & K. Schubert, 1916: Coleopterorum catalogus, pars 67, Staphylinidae V. Berlin. pp. 409-498.

Blatchley W. S., 1910: An illustrated descriptive catalogue of the Coleoptera or beetles (exclusive of the Rhynchophora) known to occur in Indiana. Indianapolis. IA.

Boisduval J. B. A. & T. Lacordaire, 1835: Faune entomologique des environs de Paris ..., Vol. 3. 696 pp. Paris.

Cameron M., 1932: The fauna of British India, including Ceylon and Burma. Staphylinidae. Vol. 3. 443 pp. London.

Campbell J. M., 1991: A revision of the genera Mycetoporus Mannerheim and Ischnosoma Stephens (Coleoptera: Staphylinidae: Tachyporinae) of North and Central America. *Mem. ent. Soc. Can.* 156: 1-169.

Campbell J. M., 1992: Case 2733. *Mycetoporus* Mannerheim, 1831 (Insecta, Coleoptera): proposed designation of Tachinus punctus Gravenhorst, 1806 as the type species; proposed conservation of Ischnosoma Stephens, 1829; and proposed precedence of Mycetoporus over Ischnosoma. *Bull. Zool. Nom.* 49: 35-40.

Eppelsheim E., 1879: In Leder H.: Beitrag zur kaukasischen Käfer-Fauna. *Verh. zool.-bot. Ges. Wien* 29: 451-488.

Erichson W. F., 1839a: Die Käfer der Mark Brandenburg. I. 740 pp. Berlin.

Erichson W. F., 1839b: Genera et species Staphylinorum, insectorum coleopterorum familiae. 954 pp. Berlin.

Everts J. E., 1898: Coleoptera Neerlandica. Vol. 1. 676 pp. sGravenhage.

Everts J. E., 1922: Coleoptera Neerlandica, de Schildvleugelige Insecten van Nederland en het Aangrenzend Gebied. Vol. III. 668 pp. sGravenhage.

Fairmaire L., 1860: Coléoptères de Barbarie. *Ann. Soc. Ent. Fr.* (3) 8: 145-176.

Fairmaire L. & A. Laboulbène, 1854: Faune entomologique française ou description des insectes qui se trouvent en France. Coléoptéres. Vol. 1. 665 pp. Paris.

Fauvel A., 1875: Faune Gallo Rhénane ou Species des Insectes ..., Vol. 3, Coléoptères 2. 738 pp. Caen.

Fowler W. W., 1888: The Coleoptera of the British Islands, II. Staphylinidae. 444 pp. London.

Ganglbauer L., 1895: Die Käfer von Mitteleuropa, II. Staphylinoidea 1. 880 pp. Wien.

Gistel J., 1834: Die Insecten-Doubletten aus der Sammlung des Herrn Grafes Rudolph von Jenison Walworth zu Regensburg, welche sowohl im Kaul als im Tausche abgegeben werden, No. 1, Käfer. 36 pp. München.

Gozis M. des, 1886: Recherche de l'espèce typique de quelques anciens genres: Rectifications synonymiques et notes diverses. 36 pp. Montlucon.

Gravenhorst J. L. C., 1806: Monographia coleopterorum micropterorum. 236 pp. Gottingae.

Gusarov V., 1993: New and little-known Palearctic Staphylinidae (Coleoptera). 5th communication. *Zoosyst. Rossica* 1: 65-74.

Gyllenhal L., 1810: Insecta Suecica, Vol. 1, pars 2, Classis 1: Coleoptera sive Eleuterata. 660 pp. Scaris.

Heer O., 1841: Fauna Coleopterorum Helvetica. Pars 1. 652 pp. Turici.

Hellén W., 1925: Die nordeuropäischen Arten der Gattung Mycetoporus Mann. (Col.). *Notul. ent.* 5: 33-47.

Horion A., 1967: Faunistik der mitteleuropäischen Käfer. Band XI: Staphylinidae. 3. Teil: Habrocerinae bis Aleocharinae. 419 pp. Überlingen-Bodensee.

ICZN, 1993: Opinion 1726. Mycetoporus Mannerheim, 1831 (Insecta, Coleoptera): Tachinus punctus Gravenhorst, 1806 designated as the type species; Ischnosoma Stephens, 1829 conserved; and Mycetoporus given precedence over Ischnosoma. *Bull. Zool. Nom.* 50: 171-173.

Jacquelin du Val P. N. C., 1856: Genera des Coléoptéres d'Europe ... Vol. 2. 95 pp. Paris.

Kraatz G., 1857: Naturgeschichte der Insecten Deutschlands. Abt. 1, Coleoptera, Vol. 2, Staphylinidae. 1080 pp. Berlin.

Kraatz G., 1859: Die Staphyliniden-Fauna von Ostindien, insbesondere der Insel Ceylan. *Archiv Naturgesch.* 25: 1-193.

Lohse G. A., 1964: In Freude H., Harde K.W., Lohse G.A. (eds.): Die Käfer Mitteleuropas. Vol. 4, Staphylinidae, part 1. 264 pp. Krefeld.

Luze G., 1901: Bolitobini. Revision der paläarktischen Arten der Staphyliniden-Gattungen Bryocharis Boisd. et Lac., Bolitobius Mannh., Bryoporus Kraatz und Mycetoporus Mannh. *Verh. zool.-bot. Ges. Wien* 51: 662-746.

Mäklin F. G., 1846: Coleoptera Myrmecophila Fennica. *Bull. Soc. Imp. Natur. Mosc.* XIX.: 157-187.

Mäklin F. G., 1847: Ad Cognitonem specierum Fennicarum generis Mycetopori Symbolae ... Helsingforsiae. 16 pp. Helsingfors.

Mannerheim C. G., 1831: Précis d'un nouvel arrangement de la famille des Brachélytres de l'order des insectes Coléoptères. *Mem. Acad. Sci. St. Petersbourg* 1: 415-501.

Matthews A., 1838: Notice of some new genera and species of Brachelytra. *Ent. Magazine, London* 5: 188-198.

Palm T., 1975: Zur Kenntnis der Käferfauna der Kanarischen Inseln. 9-10. *Ent. scand.* 6: 240-246.

Palm T., 1980: The beetle fauna of Madeira 2. The genus Mycetoporus Mannh. (Coleoptera, Staphylinidae). *Ent. scand.* 11: 393-398.

Pandellé M. L., 1869: Etude monographique sur les Staphylins Européens de la Tribu des Tachyporini Erichson. *Annls. Soc. ent. Fr.* 9: 261-366.

Portevin G., 1929: Histoire naturelle des Coléoptères de France. I. Adephaga, Polyphaga: Staphylinoidea. 649 pp. Paris.

Rambousek F. J., 1911: Čeští zástupci rodu Mycetoporus Mannh. (Coleopt. Staphylinidae). 41. *Ann. Report of the Natural Sciences Club in Prague:* 1-9.

Redtenbacher L., 1857: Fauna Austriaca: Die Käfer, nach der analytischen Methode bearbeitet, 1017 pp. Wien.

Redtenbacher L., 1874: Fauna Austriaca: Die Käfer, nach der analytischen Methode bearbeitet, 571 pp. Wien.

Reitter E., 1909: Fauna Germanica. Die Käfer des Deutschen Reiches, II. 392 pp. Stuttgart.

Rey C., 1882: Tribu des brévipennes. Treizième famille Habroceriens. Quatuorzième famille Tachyporiens. *Annls. Soc. linn. Lyon*, ser. 2, 28: 135-308.

Roubal J., 1911: Koleopterologické výsledky mé cesty na Kavkaz v červenci r. 1910. *Acta Soc. Ent. Boh.* 8: 1-18. (In Czech.)

Sahlberg C. R., 1834: Insecta Fennica, dissertationibus academicis 1817-34 editis. 19 pp. Helsingforsiae.

Sahlberg J., 1876: Enumeratio Coleopterorum Brachelytrorum Fenniae, I: Staphylinidae, Societas pro Fauna et Flora Fennica. 247 pp. Helsingfors.

Scriba E., 1870: in Heyden L. v.: Entomologische Reise nach dem südlichen Spanien (der Sierra Guadarrama und Sierra Morena, Portugal und den Cantabrischen Gebirgen). 212 pp. Berlin.

Stephens J. F., 1829: The nomenclature of British Insects. 68 pp. London.

Stephens J. F., 1832: Illustrations of British entomology. Mandibulata, Vol. 1. 240 pp. London.

Strand E., 1935: Revision von Gattungsnamen palaearktischer Coleoptera. *Folia zool. hydrobiol.* 7: 282-299.

Thomson C. G., 1859: Skandinaviens Coleoptera ... Vol. 1 290 pp. Lund.

Thomson C. G., 1861: Skandinaviens Coleoptera ... Vol. 3 278 pp. Lund.

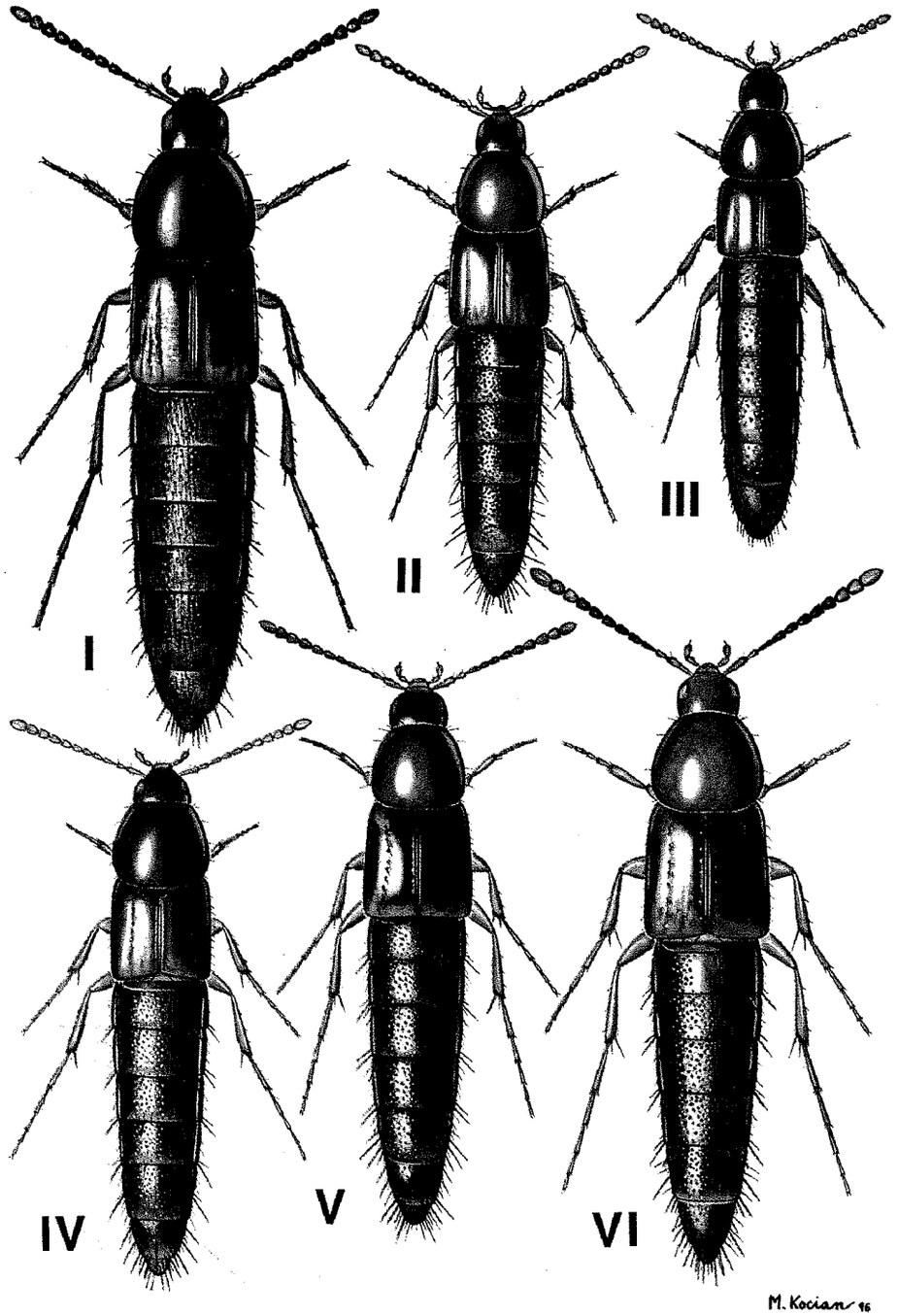
Tóth L., 1993: Fauna Hungariae. Coleoptera 2, Staphylinidae 8. Akadémiai Kiadó. 68 pp. Budapest.

Wollaston T. V., 1864: Catalogue of the Coleopterous Insects of the Canaries in the Collection of the British Museum. 1-8. 648 pp. London.

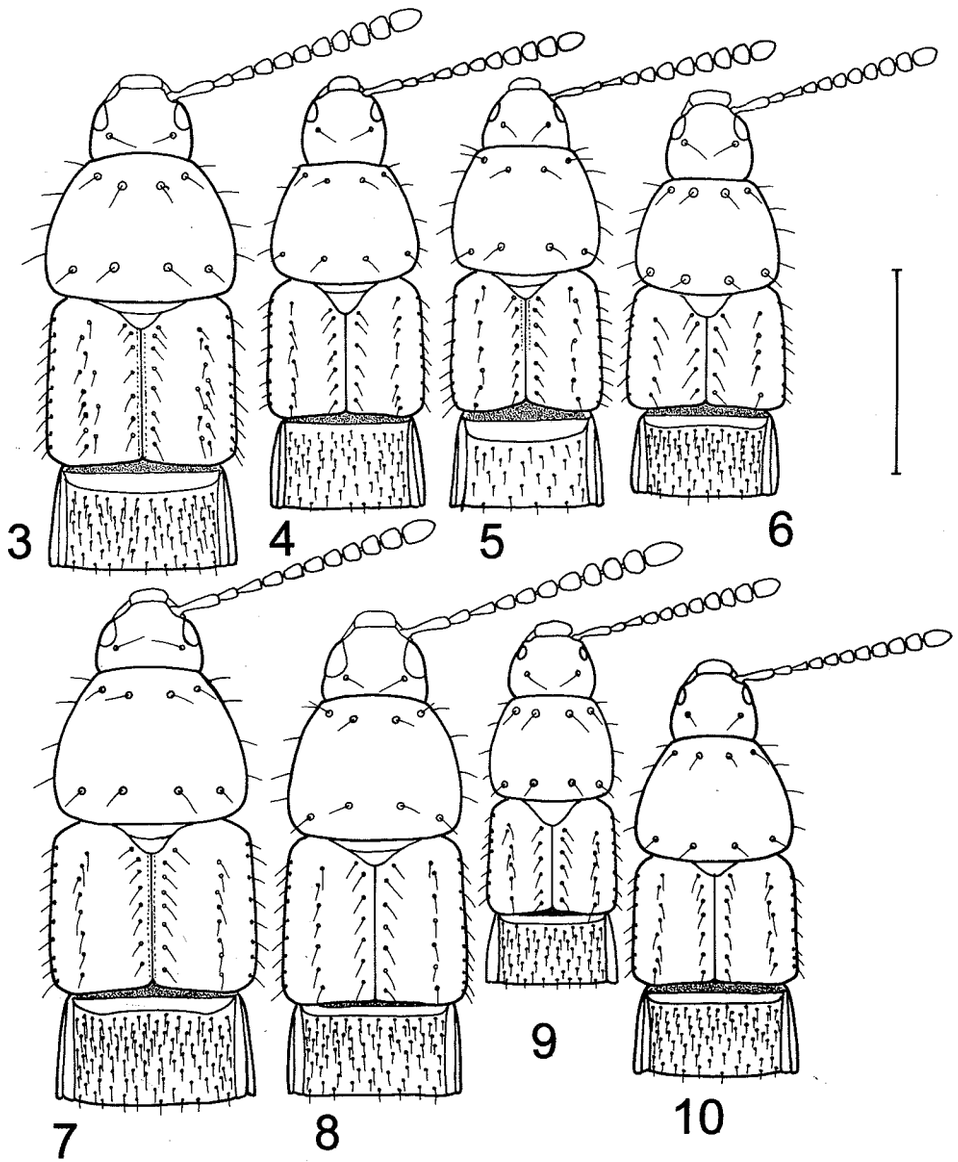
Wollaston T. V., 1865: Coleoptera Atlantidum, being an enumeration of the Coleopterous Insects of the Madeiras, Salvages and Canaries. 526 pp + Appendix 140 pp. London.

Zetterstedt J. W., 1828: Fauna Insectorum Lapponica (Coleoptera, Orthoptera, Hemiptera). 563 pp. Hammone.

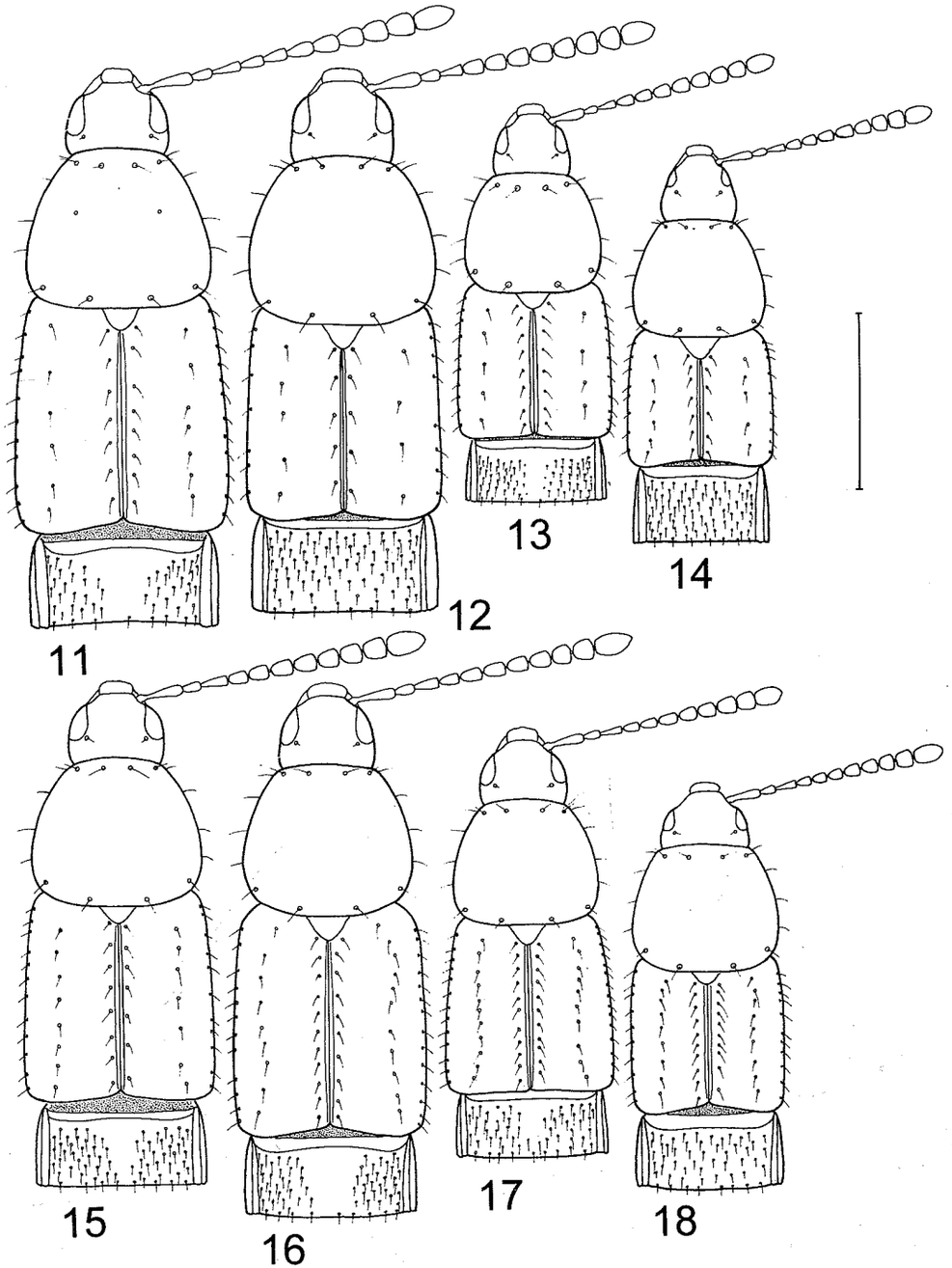
Zetterstedt J. W., 1838: Insecta Lapponica descripta. I. 2140 pp. Lipsiae.



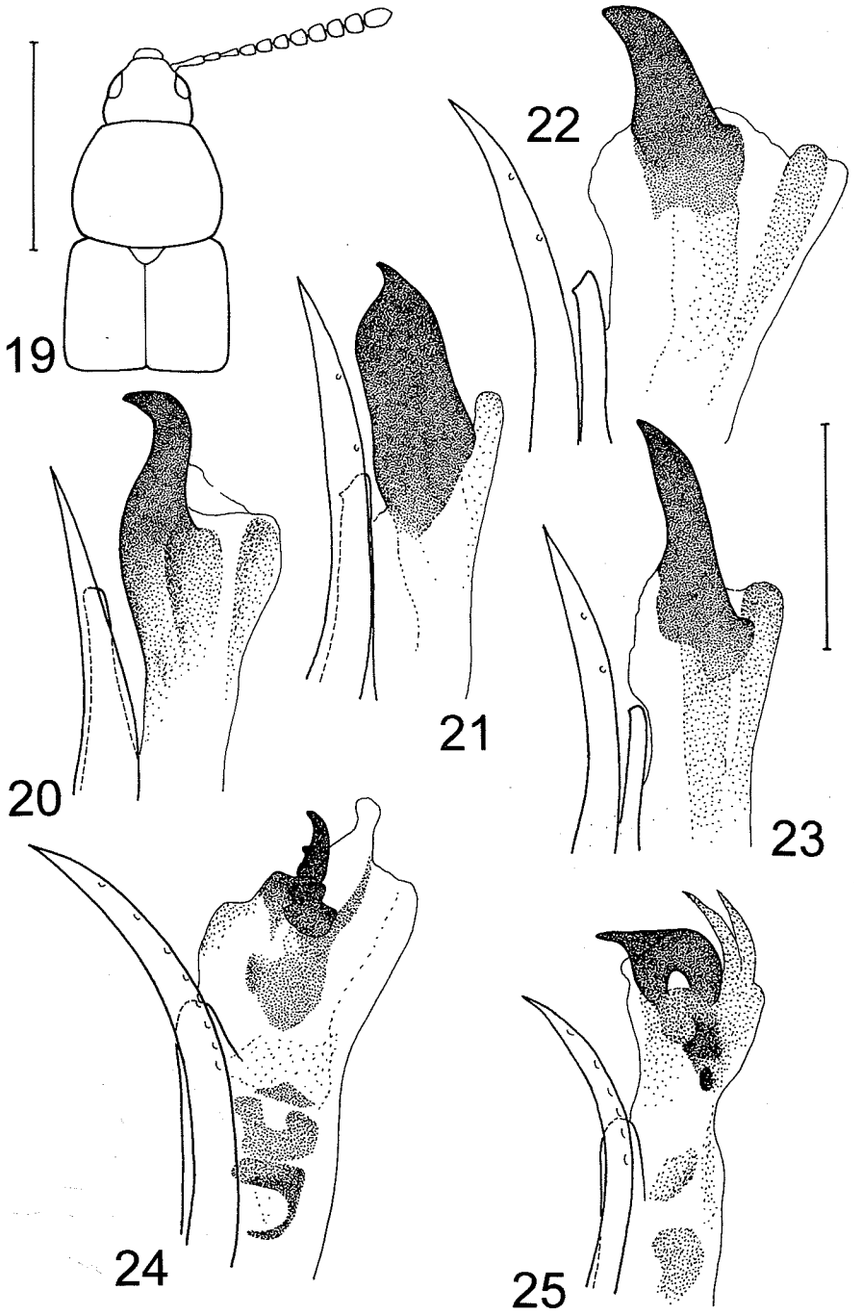
I. – *I. bergrothi*, II. – *I. splendidum*, III. – *I. spelaeum*, IV. – *I. ludwigi*, V. – *I. loebli*, VI. – *I. longicorne*.



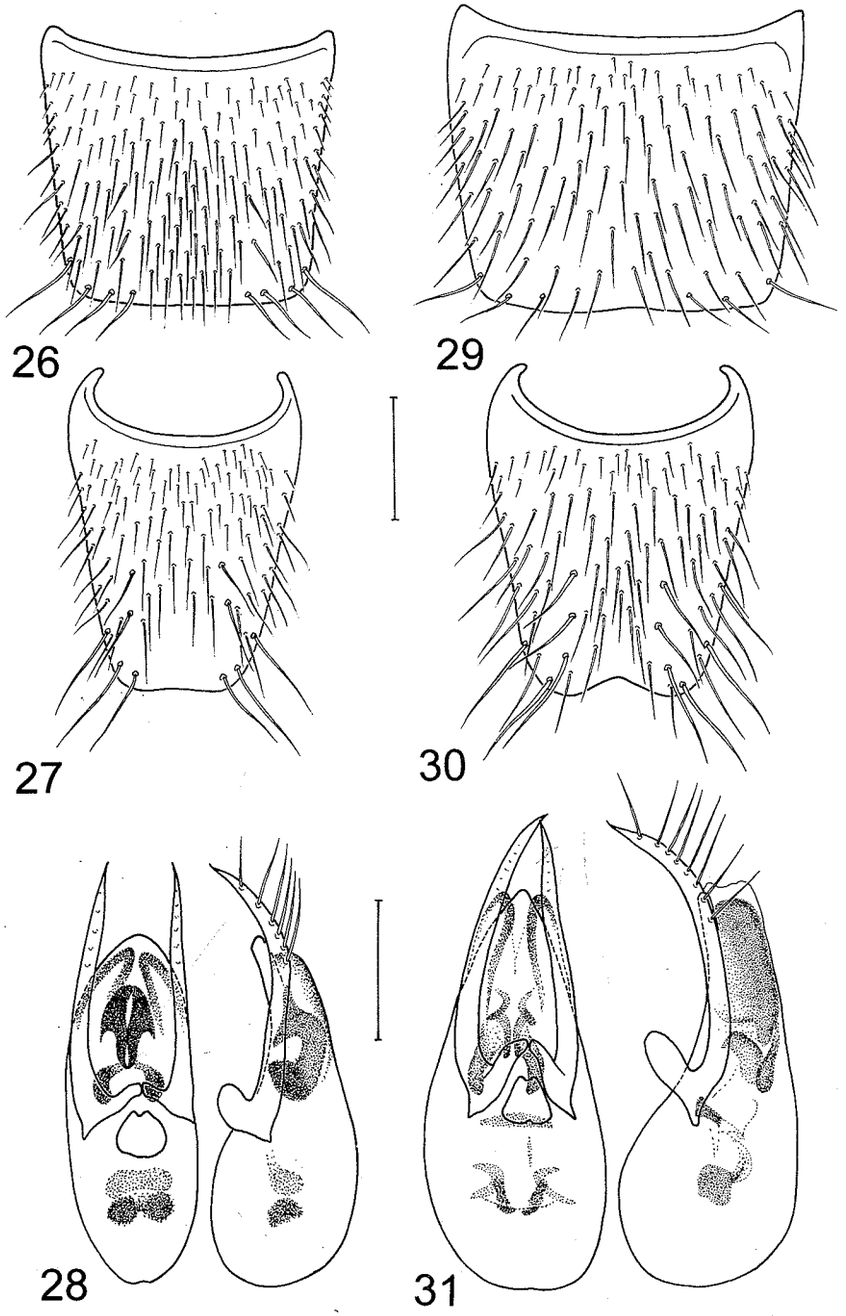
Figs 3-10. Head, pronotum, elytra and 3rd tergite: 3 – *Ischnosoma campbelli*, 4 – *I. spelaeum*, 5 – *I. doderoi*, 6 – *I. turcicum*, 7 – *I. caucasicum*, 8 – *I. schuelkei*, 9 – *I. winkleri*, 10 – *I. myops*. Scale: 1 mm.



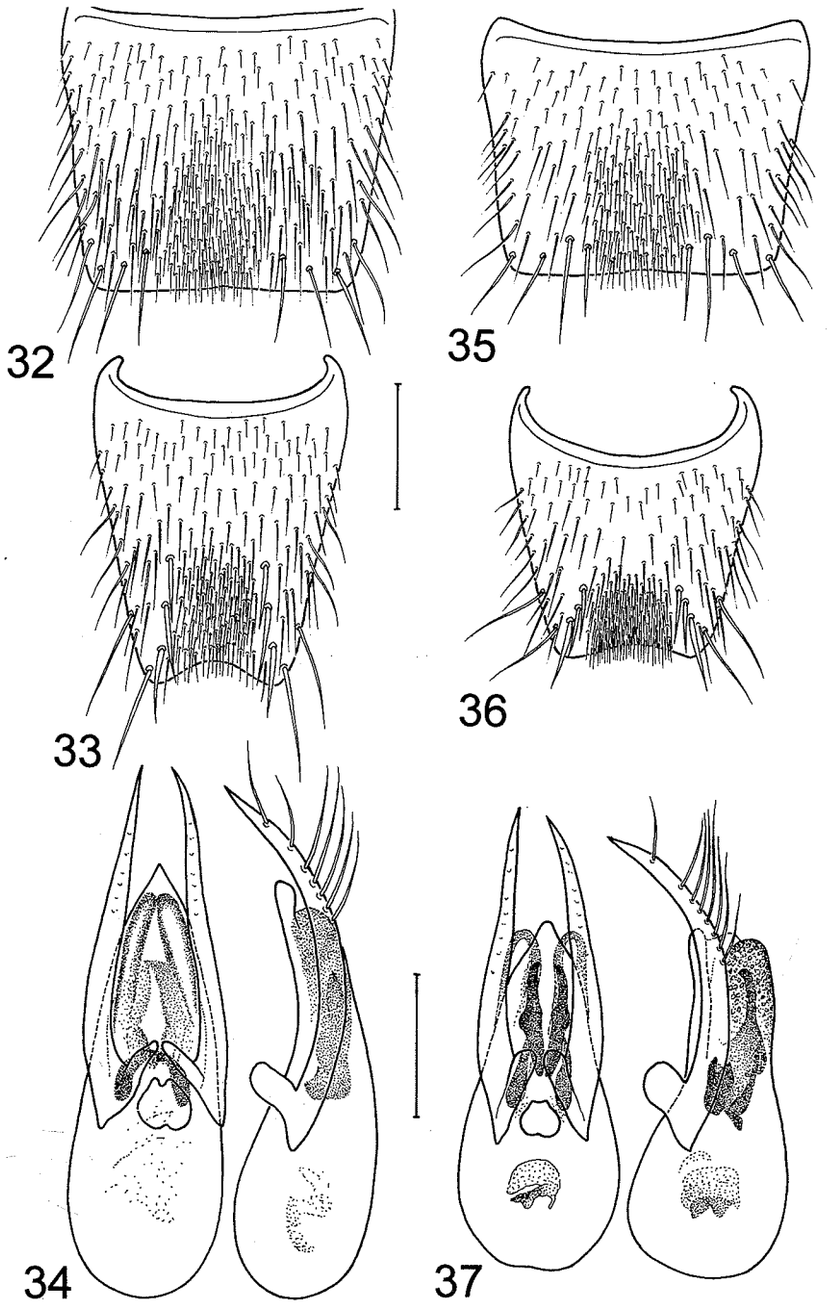
Figs 11-18. Head, pronotum, elytra and 3rd tergite: 11 – *I. corsicum*, 12 – *I. bergrothi*, 13 – *I. splendidum*, 14 – *I. monilicorne*, 15 – *I. longicorne*, 16 – *I. biplagiatum*, 17 – *I. loebli*, 18 – *I. ludwigi*. Scale: 1 mm.



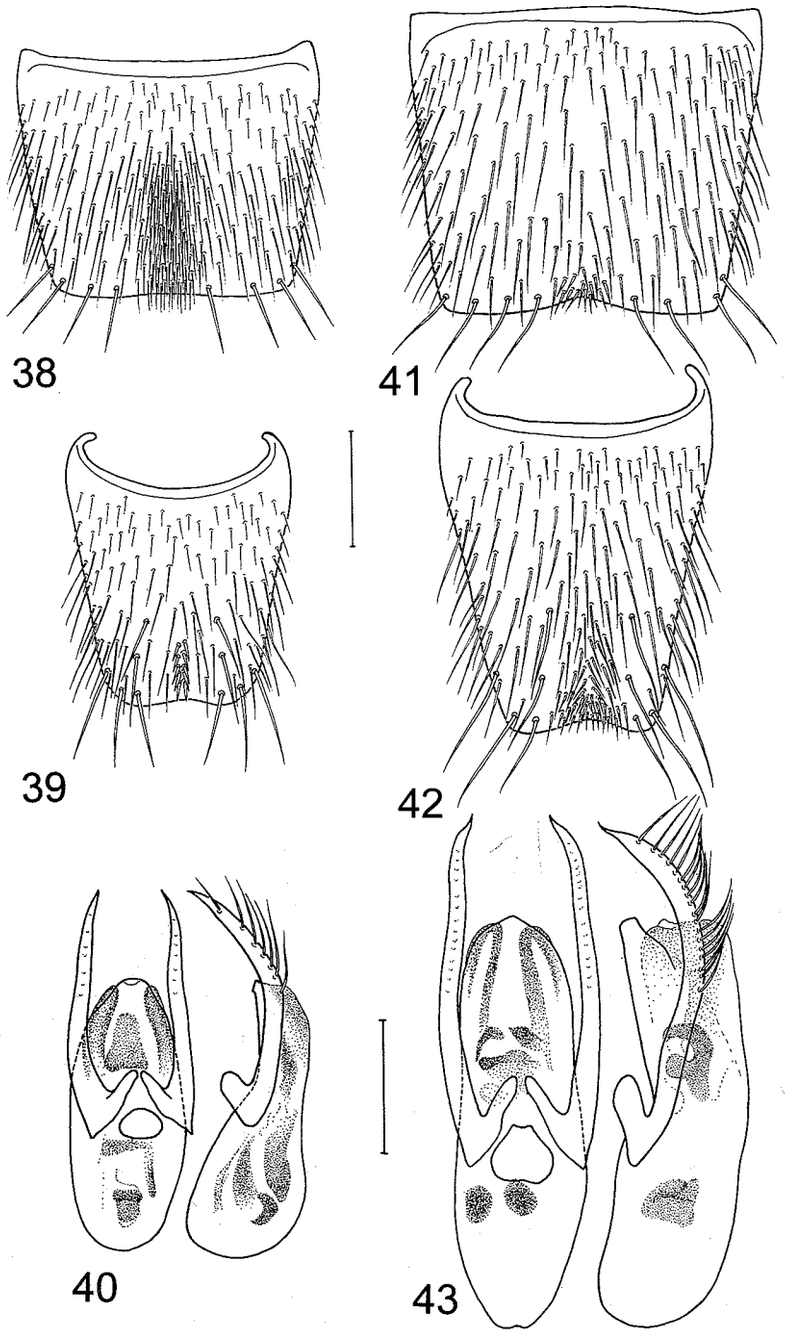
Figs 19-25. 19 – head, pronotum and elytra of *I. major*. Scale: 1 mm. 20-25 – lateral view of the extended inner structure of aedeagus, 20 – *I. splendidum* (Russia, Archangelsk), 21 – *I. longicorne* (Bosnia, Dervent), 22 – *I. ludwigi* (Bosnia, Bjelašnica), 23 – *I. biplagiatum* (Sicily), 24 – *I. spelaeum*, 25 – *I. myops*. Scale: 0.2 mm.



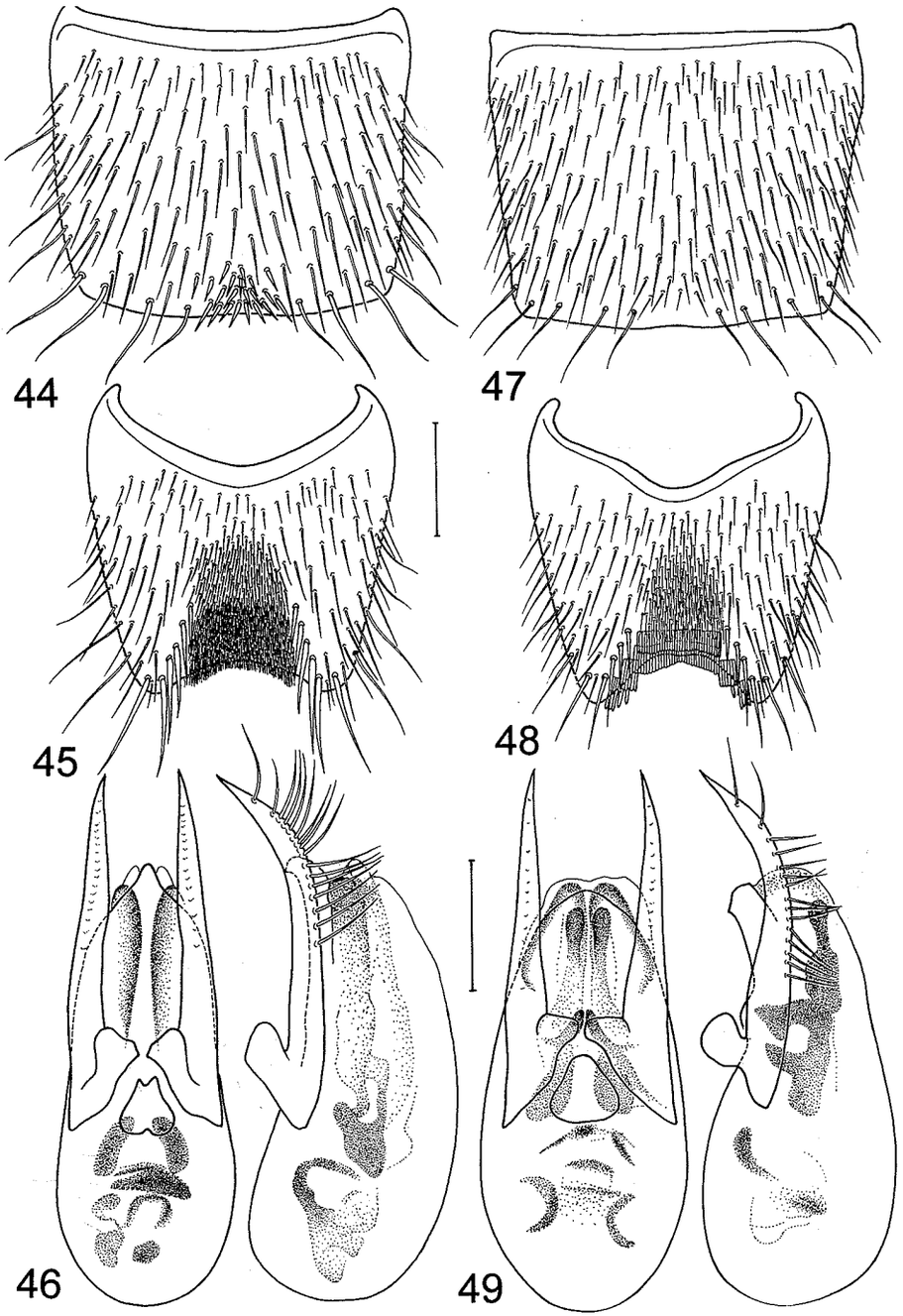
Figs 26-31. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 26-28 – *I. myops*, 29-31 – *I. doderoi*.



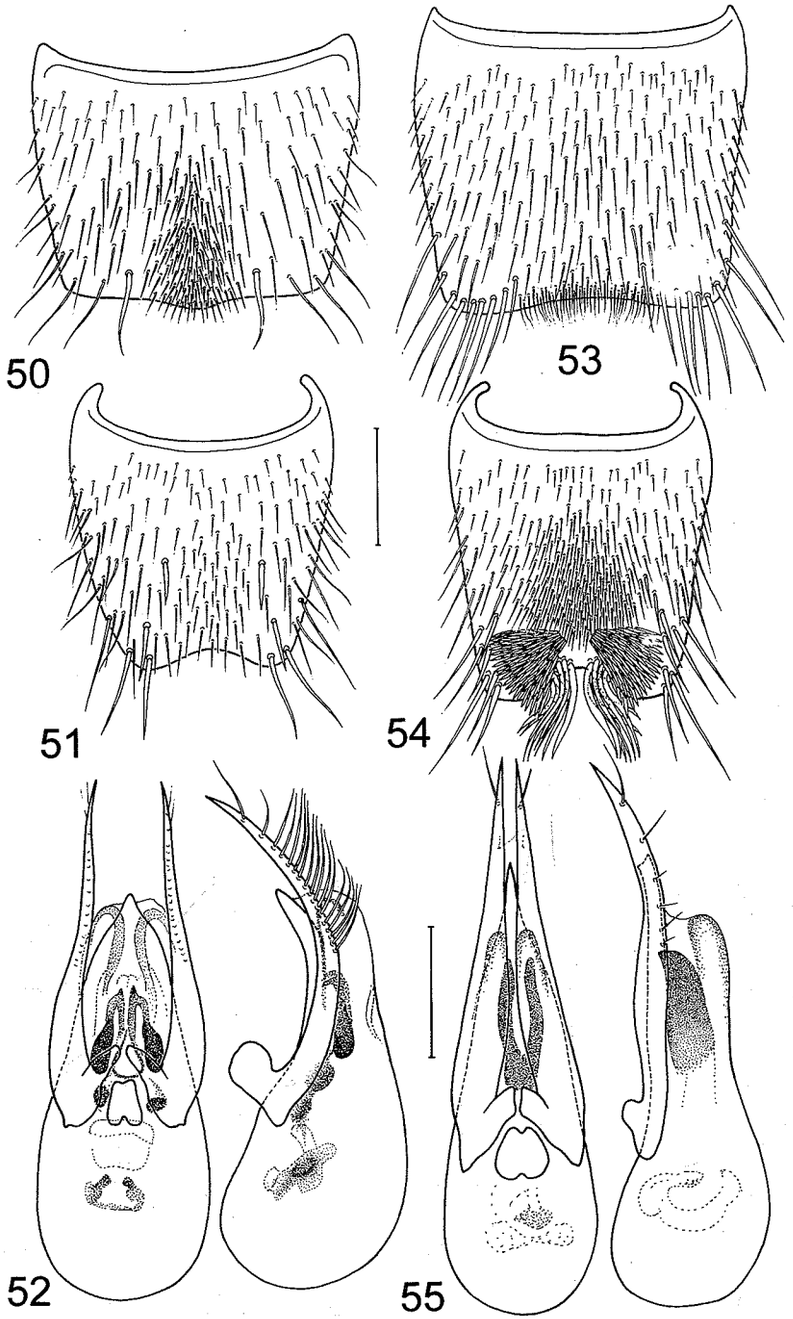
Figs 32-37. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 32-34 – *I. spelaeum*, 35-37 – *I. winkleri*.



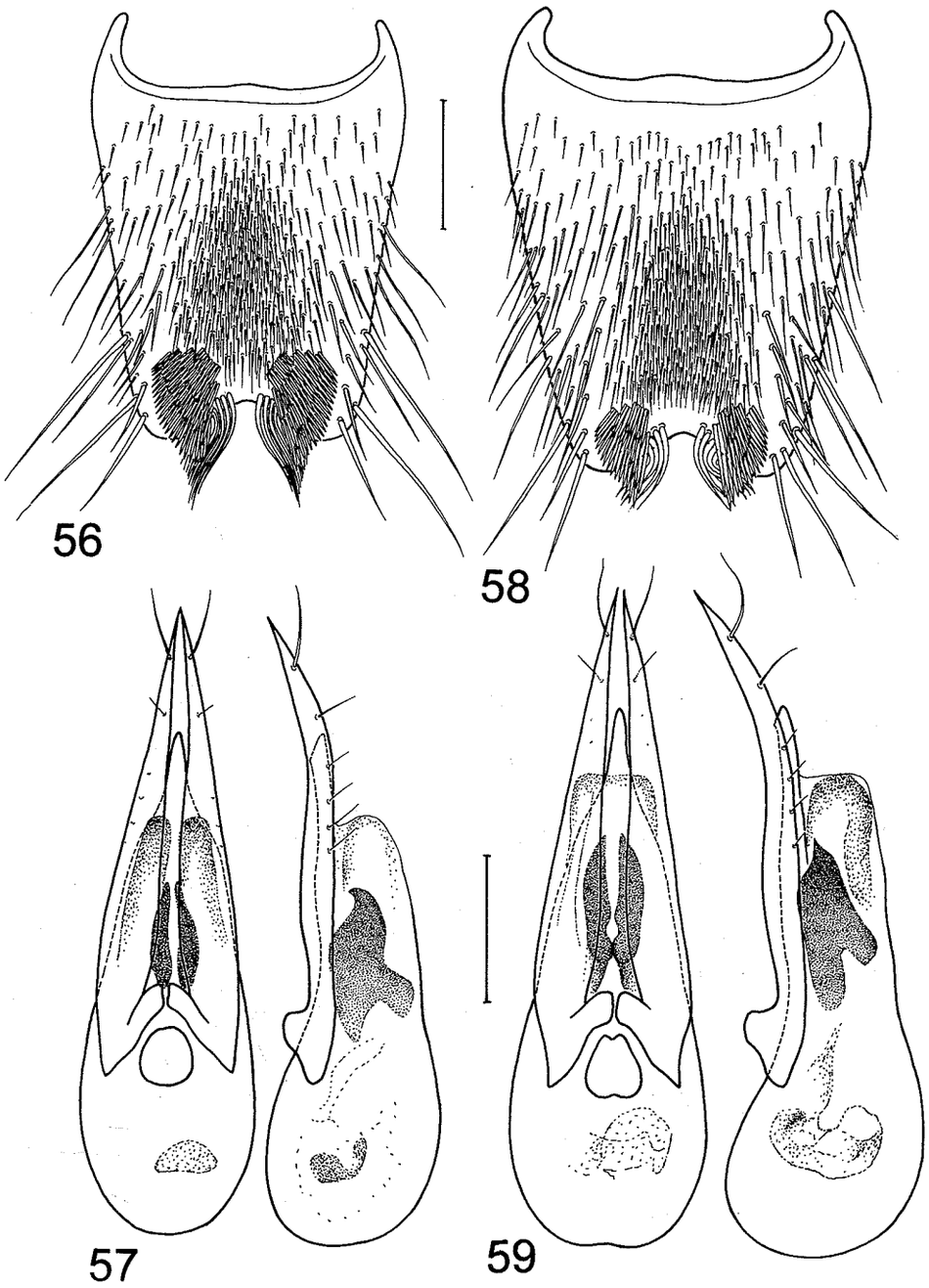
Figs 38-43. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 38-40 – *I. turcicum*, 41-43 – *I. schuelkei*.



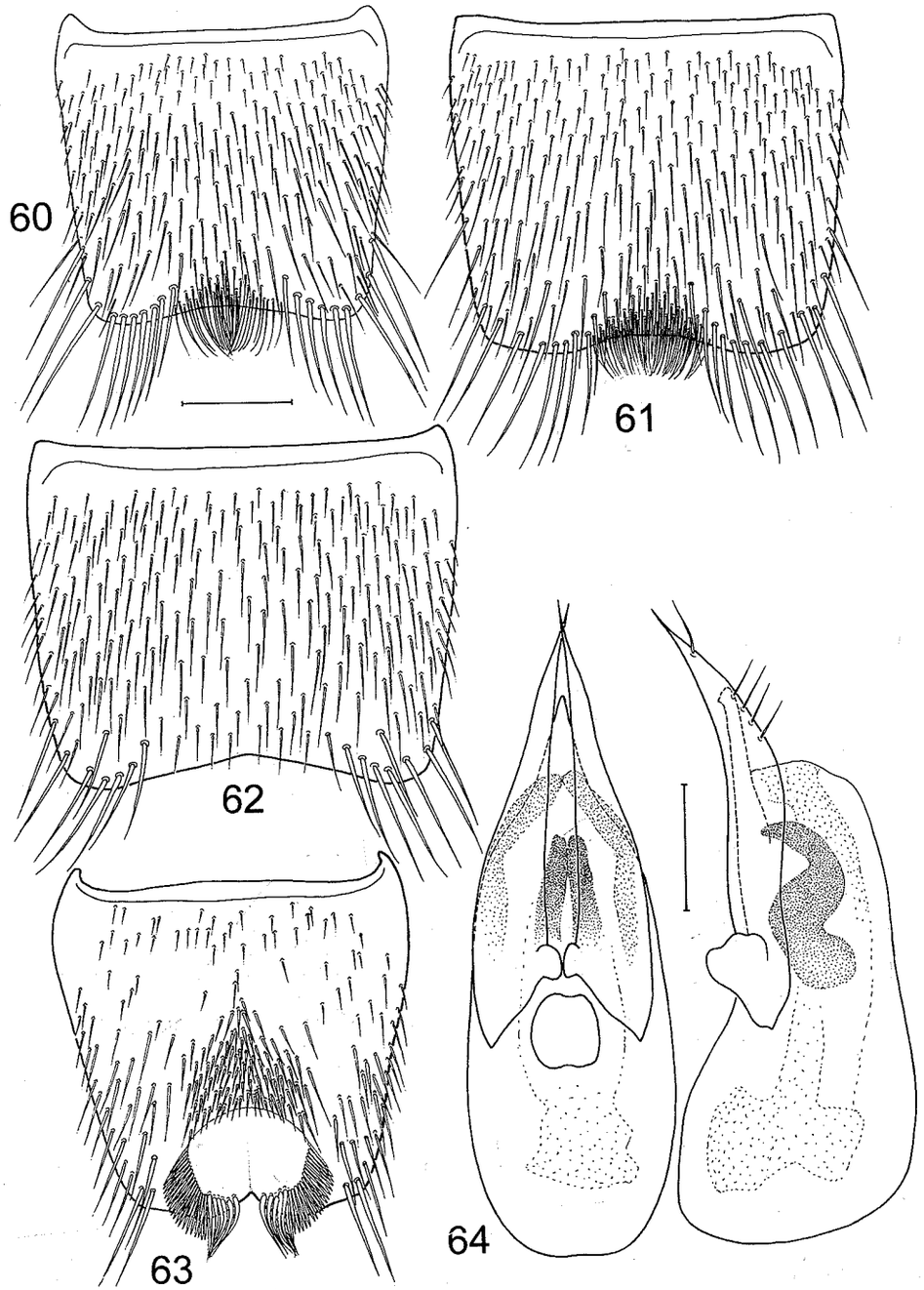
Figs 44-49. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 44-46 – *I. caucasicum*, 47-49 – *I. campbelli*.



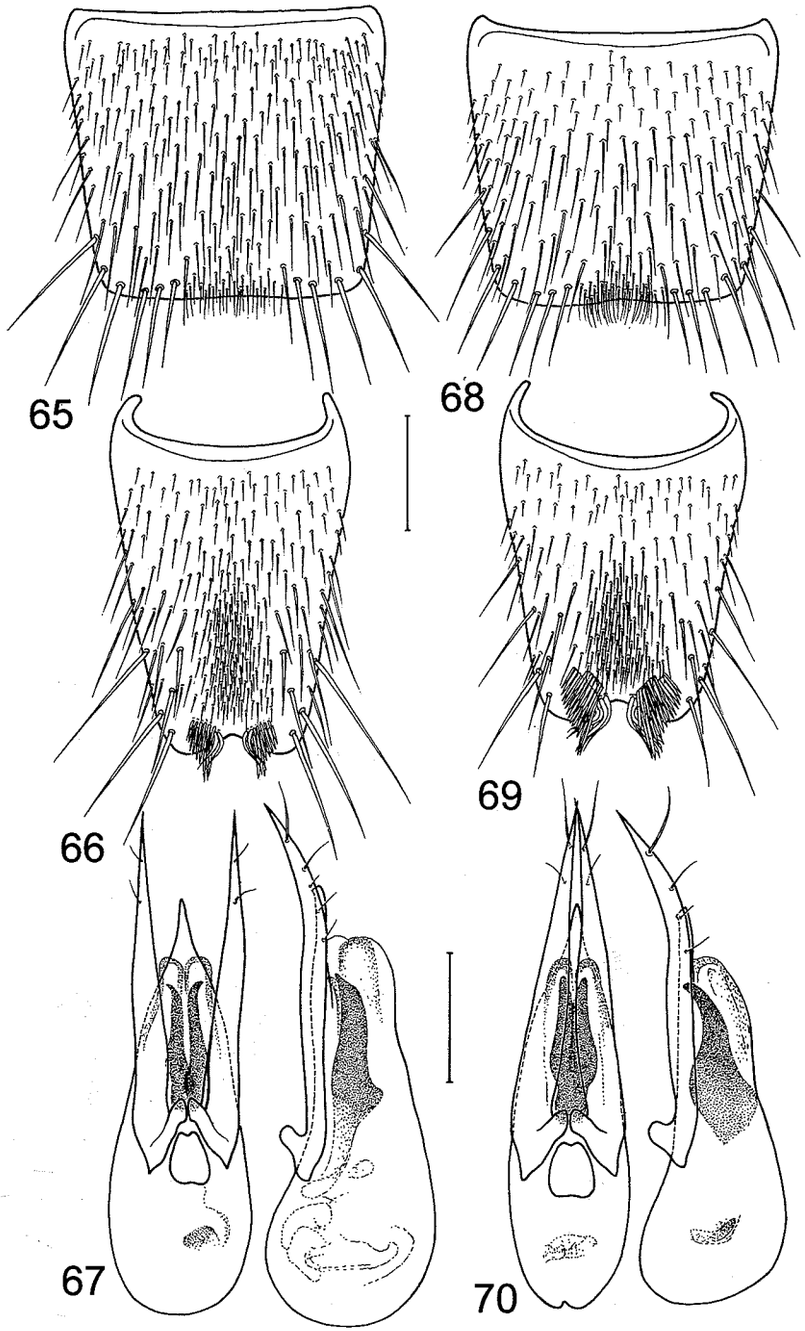
Figs 50-55. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 50-52 – *I. major*, 53-55 – *I. ludwigi*.



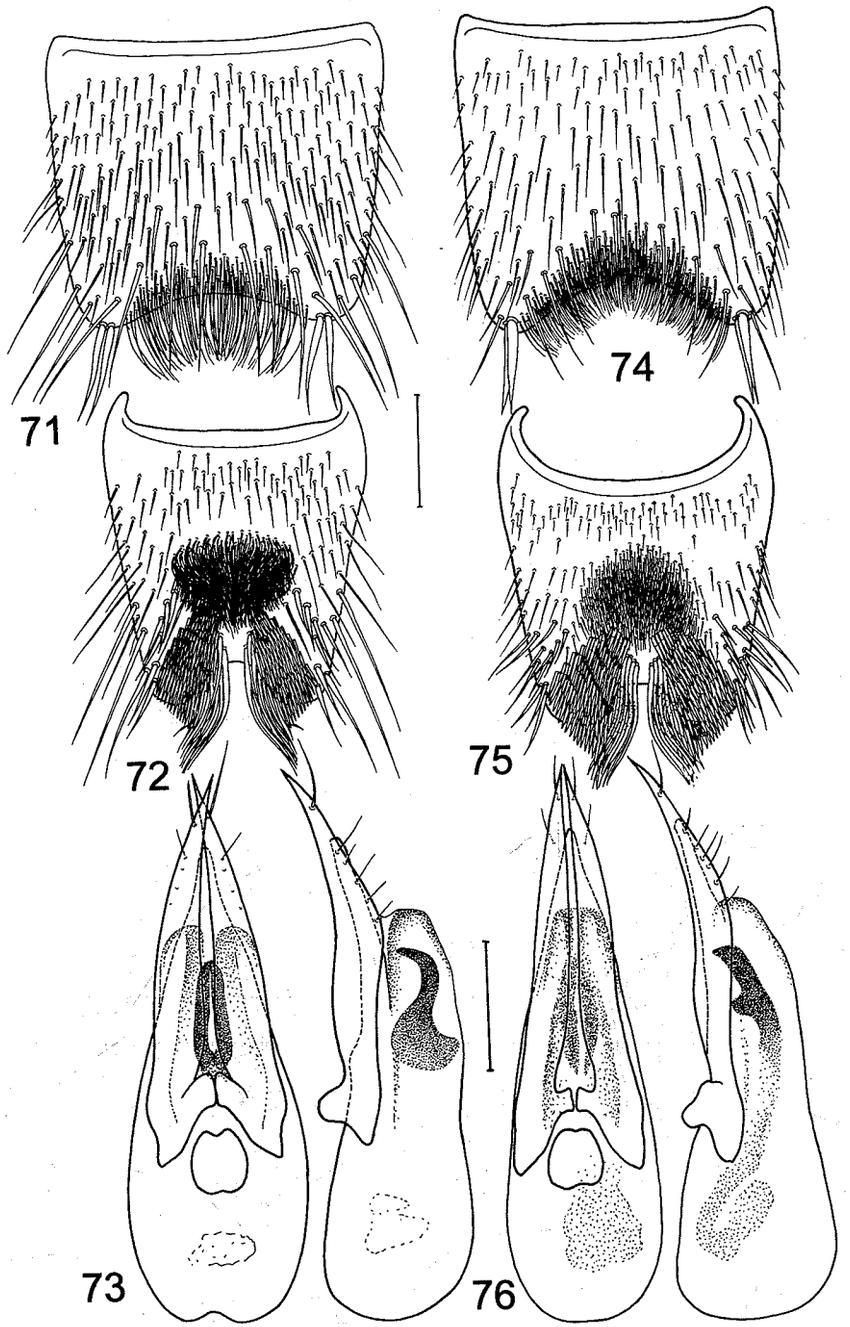
Figs 56-59. 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 56-57 – *I. longicorne*, 58-59 – *I. corsicum*.



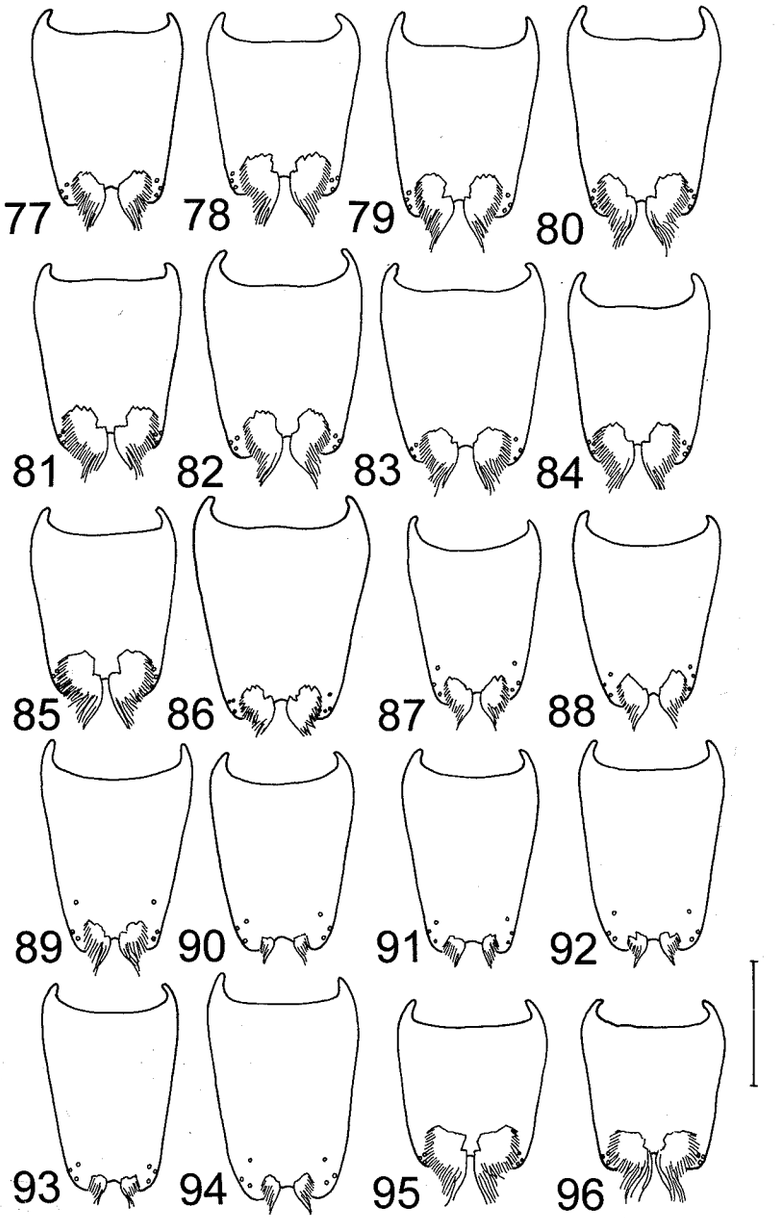
Figs 60-64. 60 – 7th male sternite of *M. longicorne*, 61 – 7th male sternite of *I. corsicum*, 62-64 – 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view of *I. bergrothi*.



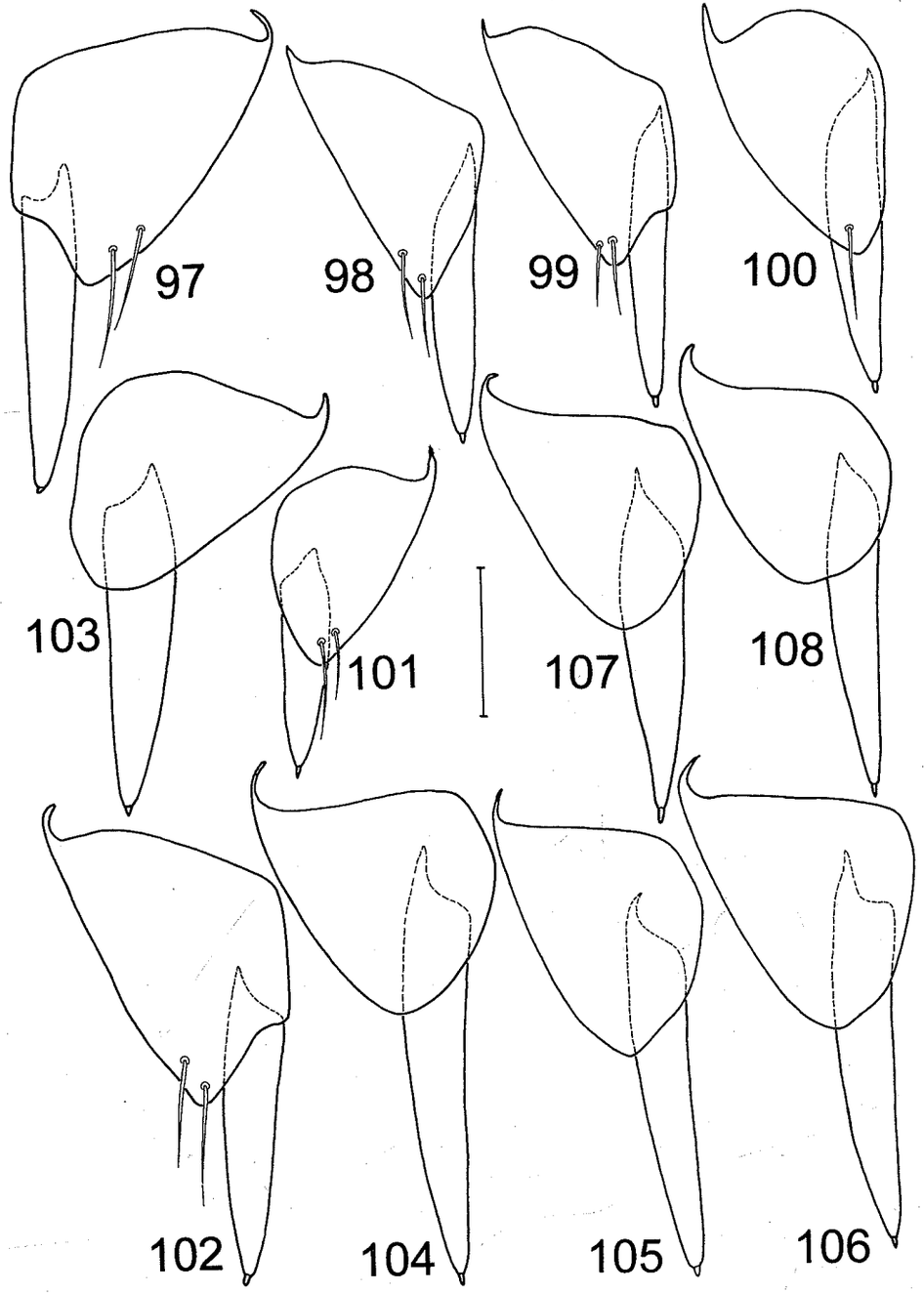
Figs 65-70. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 65-67 – *I. biplagiatum*, 68-70 – *I. loebli*.



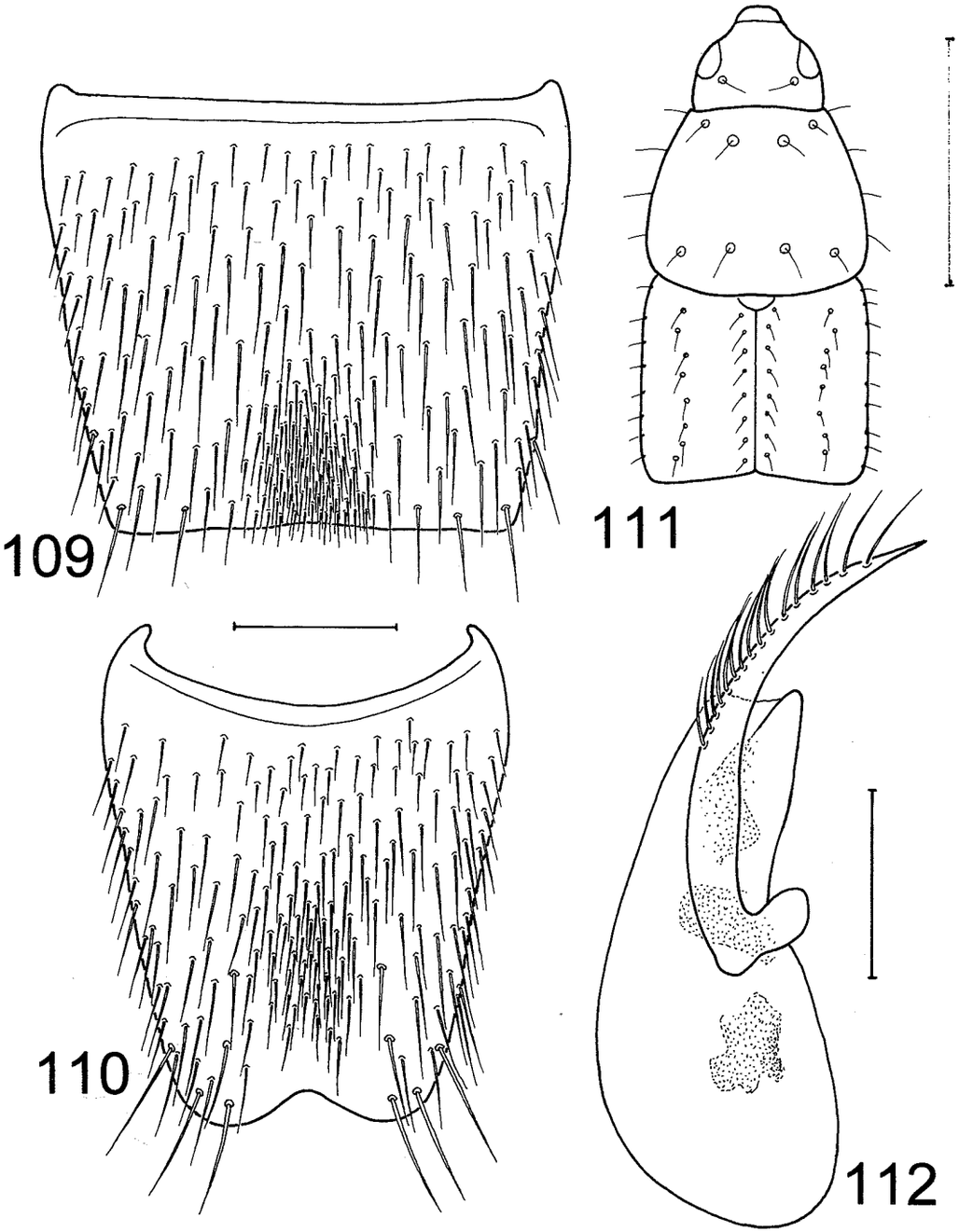
Figs 71-76. 7th and 8th male sternite (scale: 0.25 mm) and aedeagus (scale: 0.2 mm) in ventral (left) and lateral view: 71-73 – *I. splendidum*, 74-76 – *I. monilicorne*.



Figs 77-96. 8th male sternite with location of I1, I2, L1 setae and "beard-like" setae patches: 77-85 – *I. longicorne*: 77 – Sweden (lectotype) 78 – Bohemia, Praha, 79 – Austria, Karawanken, 80 – Bosnia, Prozor, 81 – Bulgaria, 82 – Greece, Epire, 83 – Caucasus, Teberda, 84 – Italy, Mte Pagano, 85 – Italy, Aspromonte. 86 – *I. corsicum*. 87-89 – *I. loebli*: 87 – Israel, Eilon, 88 – Israel, a.d. Safad, 89 – Cyprus, Akam as. 90-94 – *I. biplagiatum*: 90 – Madeira, 91 – Sardinia, 92 – Tunisia, 93 – Spain, 94 – Sicily. 95-96 – *I. ludwigi*. Scale: 0.5 mm.



Figs 97-108. Proximal and distal gonocoxite: 97 – *I. caucasicum*, 98 – *I. spelaeum*, 99 – *I. myops*, 100 – *I. major*, 101 – *I. winkleri*, 102 – *I. schuelkei*, 103 – *I. ludwigi*, 104 – *I. longicorne*, 105 – *I. biplagiatum*, 106 – *I. loebli*, 107 – *I. monilicorne*, 108 – *I. splendidum*. Scale: 0.2 mm.



Figs 109-112. *I. thoracicum*: 109 – 7th male sternite (scale: 0.25 mm); 110 – 8th male sternite; 111 – head, pronotum and elytra (scale: 1 mm); 112 – aedeagus, lateral view (scale: 0.2 mm).