

ART. XXXVIII.—*Essay on the Classification of Parasitic Hymenoptera, &c.* By A. H. HALIDAY, ESQ. M. A.

(Continued from p. 276.)

FAM.—CHALCIDES.

Trib. 2<sup>da</sup>.—SPALANGIÆ.

*Tarsi pentameri. Palpi maxillares bi-articulati. Caput nutans longius quam latius. Antennæ prope os insertæ.*

GEN. I.—SPALANGIA. Latr.

*Caput ovatum, anticè attenuatum margine bisinuato, fronte depressa. Oculi villosi. Antennæ capitis margini antico insertæ, remotæ, 10-articulatæ,—maris filiformes articulo 3<sup>o</sup>. elongato;—feminæ sensim incrassatæ articulis 3<sup>o</sup>.—9<sup>m</sup>. brevibus, ultimo longiore obtuso. Collare anticè attenuatum. Abdomen ovatum petiolatum.*

Caput fere rostratum, margine antico bisinuato s. trilobo os obtegente. Frons latè depressa, plagâ oblongâ planiusculâ in fundo discretâ: ocelli tres in triangulum positi, postici occipitales: oculi medioeres ovati villosi: antennæ—*feminæ* longitudine thoracis, scapo lineari plusquam trientem antennæ longitudinem attigente, pedicello clavato longiore quam articulo 3<sup>o</sup>. flagelli articulis longitudine decrescentibus et latitudine crescentibus, ultimo præcedentibus 2 simul sumtis longiore, oblongo apice rotundato; (antennæ reverâ 12-articulatæ sunt sed tres apices arctissimè connati unici speciem facilè exhibent)—*maris* thorace longiores, scapo quadrantem longitudinem æquante, pedicello parvo, articulo 3<sup>o</sup>. elongato lineari, sequentibus 6 ovatis aut oblongis pedicelli longitudine, ultimo rursus longiore: mandibulæ oblongo-trigonæ apice emarginatæ: mentum obconicum subcompressum, labium breve obtusum integrum—palpi biarticulati articulo 1<sup>mo</sup>. clavato, 2<sup>do</sup>. ovato: maxilla scapo gracili arcuato, lobo lato subovato—palpi labialibus dimidio longiores articulo 1<sup>mo</sup>. clavato, 2<sup>do</sup>. longiore et graciliore: thorax capite duplo longior et in medio latior, antice constrictus, postice truncatus: collare angustius crateriforme antice attenuatum: mesothoracis scutum anticè globoso prominens collari insertum, lobi humerales discreti globoso prominuli: paraptera lata trigona in medio dorsi conniventia: scutellum planum basi angulatum apice arcuatum, lineâ transversâ profunde punctatâ bipartitum et pari modo a scuto metathoracis discretum: metathorax subquadratus angulis posticis obtusè dentatis: scutello

declivi, undique marginato, cordiformi, longitudinaliter canaliculato: petiolus descendens cylindricus striatus, *mari* longior: abdomen ovatum convexum, thorace fere brevibus et vix angustius, apice obtusum; aculeo brevi valido, parum compresso, desuper exerto: segmenta 2 anteriora longitudine subæqualia, primum basi fossulatum carinulis lateralibus antrorsum productis, 3<sup>um</sup>. maximum, reliqua brevissima linearia: coxæ magnæ compressæ: femora utrinque attenuata: tarsi tibiis breviores, articulis intermediis minutissimis, metatarsis antico dilatato, posterioribus elongatis: alæ anticæ nervo subcostali<sup>a</sup> dimidiato (*sc.* humerali a margine parum remoto et ulnari longitudine subequalibus) cubito brevissimo perparum dilatato, radio mox abrupto vix illo longiore: posticæ nervo subcostali tenui ultra medium costæ abrupto.

This genus has a slight resemblance in habit to *Megaspilus* as the following to *Microps*.

Sp. 1. Sp. hirta. *Capite thoraceque fere totis punctato reticulatis confertim villosis.* ♀ (Long. corp. .14; alarum .2).

Caput obscure æneum antice magis attenuatum quam in sequente, totum confertim crassè punctatum et villosum, plagâ intermediâ frontis tantum lævissimâ glabrâ: antennæ nigræ quam in illâ longiores et minus incrassatæ, articulo 3<sup>io</sup>. parum brevior quam 2<sup>io</sup>: thorax obscurè æneus: collare, mesothoracis scutum et humeri confertim punctati, scuti tantum margine antico levigato: paraptera et scutellum vagè punctata, hoc apice parcius: metathoracis latera rugoso-punctata, scutellum lævissimum marginibus et canaliculâ mediâ crenatis: squamulæ fusco-ferrugineæ: alæ dilute ferrugineæ nervis fuscis: abdomen et pedes ut in sequente.

Taken in England; I forget the particular spot.

Sp. 2. Sp. nigra. *Capite punctulato (fronte lævissimâ), et thorace anticè suturisque punctato, sparsim pubescentibus.* ♂ ♀ (Long. .1±; alar. .15±.)

Spalangia nigra. *Latr., Spin., Dalm., &c.*

Caput et thorax nigra nitida viridî s. æneo micantia: caput vage punctulatum pubescens, fronte latè depressâ lævissimâ glabrâ:

<sup>a</sup> As the variations of the subcostal nervure afford some useful divisional characters, I have employed the following terms to distinguish its parts:—

1. The interior portion distinct from the rib I call Humeral.
2. The costal portion before the fork . . . . . Ulnar.
3. The costal portion beyond it . . . . . Radial.
4. The descending branch of the fork . . . . . Cubital.

antennæ nigræ ♀ articulo 2<sup>do</sup>. fere duplo longiore quam 3<sup>io</sup>.: collare, scuti mesothoracici apex et metathoracis latera vage punctata pubescentia, reliqua fere lævia suturis punctatis s. crenatis: abdomen nigrum nitidissimum chalybeo micans, apice pubescens: pedes nigri nitidi, tarsis flavo-ferrugineis apice fuscis: alæ hyalinæ s. lutescentes nervis fusco-ferrugineis.

Tolerably abundant throughout both islands, in pastures and marshes.<sup>b</sup> Varies much in size, more frequently falling short of the dimensions given, (especially the males), the smaller individuals are also blacker and smoother.

## GEN. II.—LÆSTHIA. *Haliday.*

*Caput oblongo quadratum, margine orali utrinque et fronte anticè mucronatis. Oculi minuti glabri. Antennæ infra mediàm faciem insertæ remotæ, — feminæ 9-articulatæ clavatæ, — maris 10-articulatæ ante apicem incrassatæ. Collare anticè attenuatum. Alæ fere nullæ. Abdomen subsessile ovatum depressum.*

Caput magnum anticè haud attenuatum, ore prominulo, margine supra mandibulas utrinque mucronato: frons leviter depressa carinulâ media elevatâ, inter antennis mucronatâ: ocelli 3 in triangulum positi, postici occipitales minutissimi, in ♀ inconspicui: antennæ — *feminæ* longitudine thoracis, scapo trientem longitudinem adequante, pedicello clavato longiore quam articulo 3<sup>io</sup>. sequentibus subglobosis sensim crassioribus ultimo longè maximo ovato-acuminato; — *maris* paulo longiores pedicello minore, flagello sensim incrassato, articulis 9<sup>mo</sup>. 10<sup>mo</sup>. rursus angustioribus arcetè connatis, 10<sup>mo</sup>. longiore apice attenuato: mandibulæ breves subquadratæ apice inæqualiter denticulatæ: labrum et maxillæ fere quales *Spalangicæ*: palpi labiales biarticulati, articulo 1<sup>mo</sup>. clavato, 2<sup>do</sup>. utrinque attenuato—maxillares longiores conformes: thorax oblongus capite longior et angustior: collare crateriforme antice attenuatum: mesothorax quadratus, scuto transverso humeris minutissimis, scutello transverso subquadrato, parapteris minutissimis valde remotis: alæ scutello haud longiores decumbentes coriaceæ: metathorax brevis constrictus: abdomen thorace longius et latius, (præsertim in ♀,) ovatum subdepressum, aculeo exerto brevi subconico parum compresso: pedes quam in *Spalangia* breviores (haud saltatorii?); coxæ et femora

<sup>b</sup> "In excrementis humanis."—*Spinola.*

lata compressa : tarsi tibiis vix breviores articulis 1<sup>mo</sup>.—4<sup>um</sup>. longitudine decrecentibus, metatarso antico haud dilatato.

The wings being reduced to rudiments, the parts of the thorax connected with these organs are very minute in this genus. It is nearly allied to *Spalangia*, and with it may be considered as forming a typical group,<sup>c</sup> from which *Pirene* recedes by its peculiar trophi and compressed aculeus.

Sp. 1. *L. vespertina*. *Luteo testacea dorso æneo micans oculis et antennis apice fuscis*. ♀ ♂ (Long. ♀ .1.)

*Spalangia vespertina*.—*Curt. G.*

Vertex atque mesothoracis et abdominis dorsum obscuriora et æneomicantia : pedes pallidiores.

On midsummer evenings I have twice taken females of this singular little insect, wandering over the leaves of a book which I was reading. Another time I found one lurking among the florets of *Taraxacum*, as if for shelter from the mid-day sun. The only male I have met with was drowned in a basin of water.

### GEN. III. PIRENE.—*Haliday*.

*Caput ovatum, ore prominulo, fronte canaliculatâ. Oculi magni. Antennæ versus os insertæ, breves, 10-articulatæ, clava magna ovata 3-annulata. Collare transversum. Abdomen sessile compressum.*

Ocelli tres, in triangulum positi, postici occipitales minuti : oculi magni ovati pubescentes : frontis canalicula profunda in verticem fere elongata, antrorsum bifurca : antennæ capite longiores, scapo elongato lineari aut dilatato, pedicello crasso clavato, articulis flagelli inferioribus brevissimis, ultimis 3 clavam latam ovatam constituentibus : labrum membranaceum, transversum rotundatum, subtiliter ciliatum : mandibulæ oblongæ apice latæ acutè 4-dentatæ : mentum obconicum, labium elongato-conicum tenue—palpi minutissimi punctiformes, fere obsoleti : maxilla lata compressa, lobo trigono attenuato, dorso incrassato indistinctè

<sup>c</sup> Though I have not seen the genus *Theocolax* (Westwood), I have little doubt that it is to be referred to this tribe, and very near the present. The club of the antennæ, in that 3-jointed, is here solid ; but from analogy and a comparison of the male it must be considered to represent three joints, which might perhaps be separated by maceration. The face in that genus is described as unarmed ; in this there are three sharp points.

articulato—: palpi lobo longiores articulo secundo longiore et graciliore :<sup>d</sup> thorax latitudine capitis et fere duplo longior, ovatus subdepressus: collare transversum: mesothoracis paraptera remota minuta humeris arcuè annexa: scutellum ovatum basi truncatum, lineolâ transversâ (ordinariâ) subtilissimâ bipartitum, cum scuto metathoracis continuum: metathorax brevis declivis scuto lineari arcuato, scutello lævi: abdomen subsessile compressum, thorace angustius;—*maris* dorso elevatum carinatum, apice truncatum;—*feminae* dorso nonnihil deplanatum aculeo compresso exerto: pedes quam in *Spalangia* breviores: tarsi tibiis parum breviores articulis a 1<sup>mo</sup>. in 4<sup>m</sup>. longitudine decrescentibus, metatarso antico haud dilatato: alæ anticæ apice valde rotundatæ, cubito brevissimo, radio ad ejus basin statim evanescente: posticæ angustiores quam in *Spalangia*.

This genus has less of the peculiar habit of its tribe than the others. On a cursory view it might be referred to the *Eulophi*, with which it agrees tolerably well in the wings and thorax; but a closer examination will shew its near accordance with *Spalangia*. A few of the *Pteromalii* approach it by a compressed abdomen and the low insertion of the antennæ; such is *Macroglenes* (Westwood), and still more an unpublished subgenus in my cabinet. The males of *P. varicornis* so much resemble certain *Eulophi* with similar antennæ, (Genus *Ceranisus*, Walker) that they might, without examination, be confounded in one group.

Sp. 1. *P. varicornis*. *Antennarum articulis* 3<sup>o</sup>.—7<sup>m</sup>. *brevissimis latitudine sensim crescentibus, maris scapo dilatato; feminae aculeo brevi.* (Long. corp. et aculei .08; alar. .12).

*Pirene varicornis.* *Curtis G.*

Nigra nitida: capite thoraceque viridi- abdomine chalybeo-micantibus: mandibulæ ferruginæ: antennæ feminae scapo lineari, clavâ magnâ ovatâ abruptâ;—*maris* scapo dilatato ovato, articulis flagelli inferioribus crassioribus et clavâ oblongâ minore quam in illa: abdomen *feminae* lanceolatum, capite cum thorace longius, aculeo fere quadrantem longitudinem abdominis æquante: genua et tarsi fusco-pallidi, hi apice obscuriores, (tibiæ anticæ nonnuncquam totæ posteriores basi et apice pallidæ,) alæ obscure hyalinæ, angustiores quam in reliquis, ulnâ longiore, cubiti apice vix dilatato.

<sup>d</sup> Sp. examined—*P. varicornis*.

The female is commonly to be found on the flowering panicles of *Anthoxanthum*; the male is very rare.

Sp. 2. *P. chalybea*. *Antennarum articulis* 3<sup>o</sup>.—6<sup>m</sup>. *sensim crescentibus* .7<sup>mo</sup>. *abrupte majore*; *feminæ aculeo brevi*. (Long. corp. et acul. .08; alar. .13.)

*Pirene chalybea*. *Curtis, G.*

Præcedenti concolor, fronte ænea: statura hujus vero crassior: antennæ nonnihil longiores, scapo in utroque sexu lineari, articulis 3<sup>o</sup>.—6<sup>m</sup>. transversis, in ♀ brevioribus, sensim crescentibus, 7<sup>mo</sup>. illis majore sed 8<sup>um</sup> haud adequante: abdomen *maris* ut in præcedente; — *feminæ* brevius, oblongum dorso magis deplanatum, aculeo crasso vix sextantem abdominis longitudinem attingente: pedes paulo crassiores: alæ candido-hyalinæ, cubiti apice in punctum dilatato.

Not uncommon upon the boughs of larch trees and the flowers of *Senecio Jacobea*, late in the summer.

Sp. 3. *P. eximia*. *Antennarum articulis* 3<sup>o</sup>.—6<sup>m</sup>. *sensim crescentibus*, 7<sup>mo</sup>. *abrupte majore aculeo elongato*. ♀ (Long. corp. et acul. .1; alar. .12.)

*Feminæ* præcedenti simillima: antennæ nonnihil longiores: abdomen etiam longius, aculeo graciliore ejus dimidiam longitudinem superante.

Sp. 4. *P. graminea*. *Antennarum articulis* 3<sup>o</sup>.—6<sup>m</sup>. *minutissimis*, 7<sup>mo</sup>. *maximo*; *aculeo brevissimo* *Femina*. (Long. .06; alar. .1.)

Præcedentibus minor brevior, nigra nitida chalybeo micans, tarsis fusco-pallidis: pedes quam in illis graciliores: antennæ breviores articulo 7<sup>mo</sup>. vix minore quam 8<sup>vo</sup>: abdomen *feminæ* vix thoracis longitudine, ovatum compressum, aculeo brevissimo: alæ hyalinæ nervis tenuissimis, cubiti apice dilatato.

On grass in summer; but rare.

*Trib. 3<sup>tia</sup>.—EULOPHI.*

*Tarsi tetrameri. Palpi biarticulati subconici.*

Or the genus *Entedon* of Dalman, excluding *Aphelinus*; but his generic character is too exclusive, as the aculeus is exerted in several, and the number of joints in the antennæ varies up to eleven.

Subgen.—*OMPHALE*. *Haliday*.

*Antennæ 7-articulatæ, flagello — maris elongato lineari, verticillato-piloso, articulis æqualibus; — feminae filiformi articulis apicis longitudine decrescentibus ultimo minuto acuminato. Alæ anticæ cubito brevissimo radio statim abrupto. Abdomen subsessile maris oblongum; — feminae acuminatum rimâ ventrali in basin fere elongatâ, aculei apice exerto.*

Vertex linearis, frons latè impressa: antennæ *feminae* scapo lineari, pedicello clavato, breviorè quam articulo 3°. reliquis longitudine decrescentibus discretis ultimo minuto acuminato; — *maris* scapo dilatato, pedicello brevissimo, flagello elongato lineari compresso, articulis singulis apice attenuatis: trophi fere quales subgeneri *Eulopho* sc. mandibula lata trigona apice tridens: mentum subcompressum, labium plicatum apice attenuatum incisum: palpi articulis subequalibus, 2<sup>do</sup>. apice attenuato: maxilla lata compressa, lobo attenuato-trigono intus membranaceo dorso firmiore indistinctè articulado: palpi labialibus conformes parum longiores: thorax ovatus: collare brevissimum: mesothoracis paraptera remota minuta humeris arctè annexa, scutellum rotundatum leniter convexum, lineolâ transversâ subtilissimâ vel obsoletâ: metathorax brevis declivis: abdomen thorace angustius subsessile segmenti primi puncto petiolari membranaceo incisum; — *maris* lineare obtusum thorace parum longius; — *feminae* dimidio-triplo longius, lanceolatum dorso deplanatum, ventre carinatum, usque sub segmentum dorsale 2<sup>um</sup>. rimâ ventrali fissum: aculeus longus apice et valvulis breviter exertis: alæ anticæ ulnâ elongatâ, radio ultra basin cubiti brevissimi vix producto: posticæ ulnâ tenui duplicatâ: pedes graciles.

From *Eucercus* (*Walker*), which it somewhat resembles, it may be distinguished by the antennæ, being but 7-jointed, not clavate in the female, with the joints after the pedicel of equal length in the male; by the less convex scutel without longitudinal lines, the shorter aculeus and the cubital nervure shorter and nearer the tip of the wing.

Sp. 1. *O. salicis*. *Viridi-aurea alis candido-hyalinis, antenarum scapo basi flavo, pedibus luteo fuscoque variis*  
♂ ♀ : abdomine medio atro purpureo ♂ : aut fasciis atro

<sup>e</sup> Sp. examined—*O. salicis*.

*purpureis segmento ultimo longissimo* ♀. (Long. ♂ . .8; ♀ . .12; alar. .17.)

Omphale salicis.—*Curt. G.*

Abdomen feminae thorace triplo longius segmento ultimo trientem longitudinem occupante; punctum petiolare pallidum: pedes quam in reliquis longiores valde graciles; coxæ virides, trochanteres, apex femorum, tibiæ et tarsi lutei, illæ medio hi apice obscuriores: alarum nervi dilutè fusi.

This brilliant species is found on willows (*S. Helix* et *vitellina*); the females are fond of basking in umbelliferous flowers in strong sunshine. Among the remaining species none of the females have the last segment so conspicuously elongated as the present, which I regard as the type.

*Trib. 4<sup>a</sup>. — ?*

*Tarsi trimeri. — — ?*

GEN. I.—*CALLEPTILES. Haliday.*

*Antennæ flagello lato compresso piloso haud distinctè clavato.*

*Alæ anticæ latissimæ setulis microscopicis seriatim ordinatis, nervo subcostali brevi lato sigmoideo. — — ?*

Caput transversum, vertice lineari; oculis parvis rotundis distantibus: ocellis 3 in triangulum: fronte latâ impressâ: antennæ infra mediam faciem insertæ, longitudine thoracis, scapo oblongo, pedicello clavato, anello unico<sup>f</sup> minutissimo, flagello scapo paulo longiore, lato compresso pilosissimo articulis contiguus parum distinctis (7?), ultimis tribus arctius connatis: thorax breviter ovatus, convexus, collari brevissimo; mesothoracis humeris discretis, parapteris remotis subovatis, scutello brevi rotundato convexo; metathoracis scuto discreto lunato, scutello leviter canaliculato: abdomen longitudine thoracis, sessile obtusè-trigonum dorso deplanatum: pedes breviusculi, tarsis trimeris articulis subequalibus: alæ anticæ extrorsum latissimæ apice rotundatæ; nervus subcostalis dilatatus bisinuatus sinu antico costam modo contingens, dehinc in discum inflexus, apice bifurcus, vix trientem alæ longitudinem accedens; lineola setigera exinde fere trans alam ducta aream baseos glabram cingit; setulæ reliquæ alarum dispositæ sunt in lineas ex hac areâ radiatim excurrentes in marginem

<sup>f</sup> The joints of the antennæ following the pedicel are sometimes abruptly smaller than the rest, and commonly overlooked in the computation of the joints. It is to such that I apply the distinctive epithet *annelli*.



exteriorem subtiliter ciliatum : alæ posticæ lineares angustissimæ ciliatæ, nervo subcostali brevissimo tenui.

Sp. 1. *C. latipennis*. *Nitide fuscus alis hyalinis antennis ore pedibus abdominisque basi lutescentibus* ♂. (Long. .025; alar. .07.)

*Microma latipennis* . . . *Curt. G.*

[*Trichogramma evanescens*. *Westwood. Lond. & Edinb. Phil. Mag. Third Series. Vol. II. No. XII. p. 444?—ED.*]

Caput subtus et antennæ obscure lutescentes; abdomen antice pedesque pallidiores; vertex et thorax fusca nitida; oculi rubri: alæ hyalinæ radice obscuriores, nervo subcostali fusco.

Bred from subcutaneous larvæ in the leaves of *Aquilegia*: J. Curtis, to whom I owe the species.

The trimerous tarsi, and peculiar wings, so decidedly separate this insect from the preceding tribes, that I could not satisfy myself of its affinity to any one of them; and have therefore preferred the confession of ignorance, implied in the leaving it as an insulated species. Where there is such marked disparity of typical characters, I am inclined to distrust slighter resemblances, or I might have supposed a relation to the *Eulophi*. The trophi would probably determine the point, but I have not attempted their investigation, as Mr. Curtis possesses only one complete specimen besides the one he most liberally gave to me.

*Trib. 5<sup>ta</sup>.—MYMARES.\**

*Caput transversum areolatum. Antennæ supra mediam faciem insertæ, graciles elongatæ fractæ, feminis capitatæ. Os epalpatum. Alæ angustæ ciliatæ, nervo subcostali brevissimo, cubitali nullo.*

Areolarum capitis hæc est circumscriptio : vertex anticè et utrinque lineolis elevatis terminatur lateralibus posticè inflexis aut cum margine præciso occipitis coeuntibus : frons pari modo secernitur

\* Or the genus *Mymar*, E. B.; the genera here distinguished being disposed under it as subgenera. For an arrangement founded on other details, see Mr. Walker's divisions given in E. B. I suppose Genus 189 (unnamed) of Stephens's Catalogue also to be equivalent to my tribe, and his *Platygaster ovulorum* not to be the species for which I have cited *Ichn. ovulorum*, L.—otherwise that indication is determined by its representative, *Ichn. punctum* (*Shaw*) to the subgenus *Anaphes*.

a regione oculorum, lineolâ aliâ insuper sub antennis arcuatim ductâ. Quo vero crassius caput est et vertex planior eo magis emicat hæc structura: nonnullis quorum caput brevissimum est (e.g. *Anagro*) vertex antrorsum declivis fere in lineâ speciem contractus et antennæ inferiùs insertæ videntur: antennarum radícula sæpe exserta tenuis, capitulum *feminarum* plerunque exannulatum, rarius biarticulatum (*Eustocho*): mandibulæ trigonæ apice denticulis 3: maxillæ unâ cum labio ovato-circumscriptæ: palpi desunt:<sup>h</sup> thoracis forma variat: mesothoracis lobi humerales discreti; paraptera minuta valde remota; scutellum subtiliter transversè bipartitum, plerisque cum scuto metathoracis continuum: alæ valde angustæ lineares vel anticæ obovatae nunquam trigonæ: nervus subcostalis tenuis quadrantem alæ longitudinem vix attingit sæpius adhuc multo brevior, radio et cubito nullis, ulnâ lineari brevi, vel etiam in punctum contracta: alarum margo plerisque pulchrè ciliatus s. plumatus: abdomen sæpius ad instar *Cynipedium* tereti-compressum, segmentorum dorsalium marginibus inflexis ventrem obtegentibus: venter carinatus arcuatim ascendens: aculeus gracilis crimæ ventrali repositus: pedes elongati graciles saltatorii, tarsis pentameris aut tetrameris.

This tribe comprises the very atoms of the order Hymenoptera. Their hues are mostly black or yellowish, unadorned by metallic splendour: the plumed and iridescent wings of many are beautiful objects for the microscope. The males, by their very long and slender antennæ, (sometimes more than twice the length of the body,) resemble *Ichneumons* in miniature. The females oviposit in the eggs of other insects, from which the tiny parasite emerges only in the perfect state, a single butterfly's-egg often nourishing the transformation of many individuals. The species occur from the earliest spring upon the herbage of groves and meadows, walking and leaping; most copiously on warm still days of autumn, when a host of *Lepidoptera*, &c. are engaged in laying the latest brood of eggs to be hatched the following spring. With regard to their position in the system, both Stephens and Curtis refer them to the *Proctotrupidæ*; and such high authority makes me very diffident in proposing for them a position nearer to the *Chal-*

<sup>h</sup> Species examined,—*Ooctonus insignis*, *O. vulgatus*, *O. litoralis*, *Polynema oculorum*. In a living specimen of *Polynema oculorum*, I have seen at the back of the maxilla, in the ordinary place of the palpus, a minute shapeless tubercle, which becomes contracted, and disappears in dried specimens.

*cides*:<sup>1</sup> to which I have been determined principally by an examination of the parts of the thorax,<sup>k</sup> and the position of the petiole, which however presents a marked peculiarity.<sup>1</sup>

GEN. I.—OCTONUS. *Haliday.*

*Antennæ maris* 13-articulatæ, *feminæ* 11-articulatæ *capitulo exannulato. Tarsi pentameri.*

A. *Abdomine petiolato.*

His statura *Polynemæ* fere, sed brevior abdomine magis rotundato, pedibus brevioribus, alis breviter ciliatis, ulnâ brevi lineari: quoad reliqua, caput thorax abdomen alæque satis conveniunt: antennæ *feminæ* scapo elongato utrinque attenuato, pedicello lato compresso, articulis flagelli longitudine subæqualibus aut intermediis longioribus, exterioribus sensim incrassatis; undecimus major ovatus s. oblongus;—*maris* articulis flagelli linearibus subequalibus.

<sup>1</sup> I do not mean to venture an opinion, that the aggregate group is co-ordinate with those which rank as families in the rest of this order. Till the contents of the *Pupivora* are more fully investigated, the value of its sections must remain exposed to doubt. When the natural groups shall have been recognized and examined in detail, we may hope that some systematist of comprehensive mind and adequate knowledge will assign them respectively to their proper grade, perhaps a higher than is yet conceded to them. The *Chalcides* and *Oxyuri* seem each to embrace more than one equivalent to such families as the *Ichneumones*, *Chrysidæ*, and *Gallicolæ*. As to the *Fænida*, the chain is so interrupted from the small number of genera, that it might be rash to divide it. The family besides is, in its present form, far too convenient a receptacle for all stray articles to be lightly resigned. I am obliged to enrich it further at the expense of the *Ichneumones* with two genera—*Stephanus* and *Plancus*—which *Pelecimus* and *Fænus* seem respectively to reclaim; of the latter I am more doubtful; for the other I have the authority of Jurine and Spinola.

<sup>k</sup> Important as the structure of the aculeus is to the functions of these Hymenoptera, its variations are to be admitted with great caution into the characters of the higher groups, the more obvious differences often depending less on the typical composition than on its greater or less development in length. Parallel variations seem to be often reproduced in distinct families. Perhaps there is no one character which has been more generally fixed on to distinguish the *Gallicolæ* than the spiral aculeus, but in *Anacharis nitidula*, *Dalm.* there is nothing to claim such an epithet *κατ' ἐξοχήν*; the aculeus is simply subulate, shorter than the last ventral segment in which it is contained, and it would demand a sharp sight to single out any palpable difference in its form from the same organ of *Cinetus gracilis*.

<sup>1</sup> It may be added, that there are certain resemblances between species of this tribe and the genus *Evania*, but so partial that I have not ventured to entertain any conjecture as to their significance or tendency.

Sp. 1. *O. insignis*. *Niger alis obscure hyalinis, antennis basi pedibus et petiolo flavis ♂ ♀; capitulo antennarum elliptico ♀.* (Long. .06; alar. .15.)

*Polynemæ ovulorum* valde similis: antennæ feminae articulis a 3<sup>uo</sup>. in 10<sup>m</sup>. longitudine subequalibus, exterioribus sensim paulo crassioribus, 11<sup>mo</sup>. magno fere oblongo.

Taken near London.

Sp. 2. *O. vulgatus*. *Niger alis obscure hyalinis, antennis basi pedibus et petiolo flavis ♂ ♀; capitulo antennarum ovato ♀.* (Long. .04; alar. .1.)

Præcedenti similis at longè minor præsertim brevior; antennæ breviores basi obscuriùs flavescentes, ♀ flagello extus sensim incrassato, articulo 11<sup>mo</sup>. longe maximo ovato.

Very abundant on grass near trees.

Sp. 3. *O. hemipterus*. *Niger alis abbreviatis antennis basi pedibus et petiolo flavis capitulo antennarum ovato ♀.* (Long. .04.)

Præcedentis statura et magnitudo: antennæ paulo breviores et apice crassiores: alæ vix longitudine thoracis.

In the same places with the last, but rare.

#### B. *Abdomine subsessili.*

Discrepant hi ab *Oöctonis* sectionis 1<sup>mo</sup>. capite oblatiore, vertice fere lineari; collari brevior; abdomine haud petiolato, infrà præsertim basi valde compresso: antennis *maris* brevioribus crassiusculis, *feminae* capitulo angustiore.

Sp. 4. *O. litoralis*. *Piceo niger alis ceruleo-hyalinis, antennis basi et abdomine antice sulphureis pedibus concoloribus plus minus infuscatis ♂ ♀.* (Long. .04; alar. .11.)

Antennarum scapus et pedicellus lutescentes: abdomen posticè nigricans: pedes anticè sulphurei femorum basi fuscâ, postici vel concolores, vel fuscî geniculis tantum luteis; etiam prothorax *maris* nonnunquam subtus lutescit.

Common on the sea-coast near Holywood.

Sp. 5. *O. pictus*. *Sulphureus alis subhyalinis, antennarum flagello capite thoracis maculis anoque nigricantibus ♀.* (Long. .033; alar. .09.)

Statura fere præcedentis: antennæ breviores crassiusculæ: collare, margo anticus scuti, punctum humerale utrinque et paraptera

fusca; scutellum fuscum lateribus flavum: metathorax cum postpectore nigro-fuscus: femora medio, tarsi apice obscuriores.

Taken near London.

GEN. II.—LITUS. *Haliday.*

*Antennæ* feminae 9-articulatae capitulo exannulato. *Tarsi pentameri.*

Characteres fusiores petendi sub singulis speciebus.

Sp. 1. *L. cynipseus.* *Niger capite thoraceque opacis, alis fuscis longè ciliatis, pedibus ferrugineis* ♀. (Long. .02; alar. .08.)

Caput et thorax granulato-opaca: frons lata truncata: vertex planus: occiput excavatum: antennæ *feminae* radiculâ brevissima, scapo longiusculo arcuato utrinque attenuato, pedicello lato compresso, articulis flagelli 6 minutis, 3<sup>to</sup>. brevioribus, exterioribus sensim incrassatis subglobosis, ultimo 3 præcedentibus simul sumtis longiore, ovato-acuminato: thorax brevis gibbus: collari brevissimo arcuato; metathorace truncato: abdomen breve sessile metathoraci adpressum, tereti-compressum, ventre carinatum, aculei apice subexerto, (forma fere ut in genere *Cynipede*): alæ lineares anticæ paulo latiores undique longe ciliatæ: pedes approximati solito crassiores, tibiis anticis clavatis.

Not uncommon on grass near trees.

Sp. 2. *L. dimidiatus.* *Piceus ano concolore, alis lutescenti-hyalinis, antennis basi abdomine pedibusque luteis.* ♀. (Long. .04; alar. .08.)

*Mymar dimidiatus.* *Curt. G.—E. B.*

Huic omnia fere ut in *Oöctonis* sectionis B. modo antennæ 9-articulatae et alæ angustiores sunt: caput oblatum vertice fere lineari, piceum ore lutescente: antennæ luteæ apice fuscescentes, articulis flagelli oblongis extris latitudine crescentibus, ultimo oblongo ovato vix duplo majore quam præcedente: thorax piceus scutello rufescente: abdomen subsessile compressum, luteum apice fuscum: pedes graciles lutei: alæ anticæ fere lineares breviter ciliatæ posticæ angustiores longius ciliatæ.

This and the preceding may be considered as the probable types of distinct genera, which I have thought it premature to separate without having examined a greater number of species.

GEN. III.—ANAPHES. *Haliday.*

*Antennæ maris 12-articulatæ, feminae 9-articulatæ capitulo exannulato. Tarsi tetrameri. Abdomen subsessile ovoideum.*

Caput oblatum vertice fere lineari: frons subimpressa: antennæ *feminae* scapo compresso utrinque attenuato, pedecello lato compresso, articulo 3<sup>to</sup>. brevissimo, reliquis subæqualibus latitudine crescentibus, ultimo magno oblongo;—*maris* flagello filiformi articulis subequalibus: thorax breviter ovatus convexus collari brevissimo, scutello ovato, metathorace rotundato: abdomen breve ovoideum subsessile aculeo vix exerto; alæ anticæ latiores, posticæ lineares longius ciliatæ.

Sp. 1. *A. fuscipennis. Niger alis fuscis, antennis basi et pedibus pallidè piceis.* ♂ ♀ (Long. .025; alar. .06.)

Perpusillus; antennæ crassiusculæ præsertim *maris*: alæ tenuiter ciliatæ.

The species of this genus are numerous; mostly black, with pitchy or rust-coloured legs, and obscure or hyaline wings: *Ichneumon Punctum*, Shaw (Linn. Trans. IV. Pl. 18, fig. 1.), is to be referred to it. In this species the wings are fringed with longer hairs than ordinary.

GEN. IV.—ANAGRUS. *Haliday.*

*Antennæ maris 13-articulatæ, feminae 9-articulatæ capitulo exannulato. Tarsi tetrameri. Abdomen sessile conico-acuminatum.*

Caput valde oblatum vertice lineari, fronte depressâ: antennæ *feminae* articulo 3<sup>to</sup>. brevissimo, sequentibus subequalibus ultimo majore oblongo;—*maris* compressæ crassiusculæ articulis flagelli interioribus paulo brevioribus: thorax oblongus depressus, collari parvo attenuato, scutello brevi semiorbiculato; metathorace fere disjuncto, subitò depresso et dorso excavato: abdomen sessile metathoracis dorso incumbens, conicum elongatum, dorso deplanatum aut canaliculatum, ventre compressum carinatum, aculeo breviter exerto: pedes graciles: alæ lineares plumato-ciliatæ, anticæ apice nonnihil dilatatæ rotundatæ: cilia haud ex ipso margine oriuntur sed interiùs unde margo alæ pulcherrimè duplicatus s. striatus extat: nervus subcostalis tenuissimus.

Sp. 1. *A. atomus*. *Pallido fuscoque variis alis hyalinis*. ♀  
(Long. .02; alar. .05.)

*Ichneumon atomus*. *Linn.*

Caput, antennarum apex, prothorax et anus sæpius subfusca: alæ limpidæ pulcherrimè ciliatæ.

Upon grass under trees, in autumn; common.

Sp. 2. *A. incarnatus*. *Ruber oculis nigris scutello pallido alis lutescenti hyalinis*. ♀ (Long. .03; alar. .07.)

Huic thorax minus elongatus quam præcedenti; alæ plumatæ quidem sed brevius: antennæ basi et pedes dilutiores, aculeus fuscus.

Not rare in similar places with the last.

Sp. 3. *A. ustulatus*. *Fuscus antennis thoracis disco pedibusque ferrugineis, alis hyalinis*. ♂ (Long. .03; alar. .08.)

Præcedentibus brevior, colore obscuriore; alæ ut in *A. atomo*.

There appear to be other species of this genus with similar mingled shades of pale and dusky.

#### GEN. V.—POLYNEMA. *Haliday.*

*Antennæ* maris 13-articulatæ, feminæ 9-articulatæ *capitulo exannulato, utriusque scapo dilatato sinuato parum elongato. Tarsi tetrameri. Abdomen petiolatum.*

Caput crassiusculum subrotundatum, vertex latè planiusculus: frons subtruncata: antennarum scapus capite vix longior dilatatus sinuatus, pedicellus latus compressus, flagellum *maris* lineare articulis exterioribus longitudine decrescentibus; — *feminæ* articulo 3<sup>uo</sup>. brevior quam 4<sup>to</sup>. exterioribus sensim brevioribus et crassioribus, ultimo magno ovato: thorax ovatus convexus lævis collarî conspicuo, scutello ovato, metathorace rotundato: abdomen petiolatum semicordatum aut fere lanceolatum ascendens, *feminæ* apice deplanatum aculeo brevi vel elongato: petiolus ut etiam sequentibus filiformis descendens: pedes longi graciles: alæ anticæ angustè obovatæ ciliatæ, nervo subcostali brevissimo clavato (*sc. ulnâ* fere in punctum contractâ); posticæ lineares longius ciliatæ.

Sp. 1. *P. ovulorum*. *Piceo niger alis obscurè hyalinis, antennis basi pedibus et petiolo flavis*. ♂ ♀ (Long. .07; alar. .16, vel minor.)

- Ichneumon ovulorum*. *L. S. N.*—*Fna. S.*—*Schra. F. B. &c.*  
*Cryptus ovulorum*. . *Fabr. S. P.*  
*Mymar ovulorum* . *Curt. G.*—*E. B.*  
*Platygaster ovulorum*. *Steph. Cat.?* vix.

Antennæ *feminae* articulo 3<sup>to</sup>. longitudine 2<sup>di</sup>.: alæ hyalinæ, fusco-pilosæ et margine longiùs ciliatæ: aculeus subexertus: petiolus coxis posticis longior.—Variat collari utrinque rufescente.

Abundant in summer, destroying the eggs of *Pontia Brassicæ*, &c. Linné and Schrank have each described two species under this.

- Sp. 2. *P. pusillus*. *Nigro-piceus alis obscure hyalinis, antennis basi pedibus et petiolo flavis, antennarum articulo 3<sup>to</sup>. brevissima* ♀ (Long. .04; alar. .08.)

Præcedenti similis at minor et brevior antennis pedibus et petiolo multo brevioribus: alæ minores angustiores parciùs pubescentes et ciliatæ.

- Sp. 3. *P. fuscipes*. *Ater alis hyalinis, antennarum pedicello pedibus et petiolo ferrugineis.* ♂ ♀ (Long. .05+; alar. .14.)

Specie primâ robustior, petiolo et pedibus brevioribus; antennæ *feminae* fere conformes, *maris* crassiores: femora basi, tarsi apice obscuriores; pedes posteriores sæpe fere toti fusci: alæ hyalinæ subtilissimè pubescentes, margine longius ciliatæ.

In similar situations less frequent.

- Sp. 4. *P. atratus*. *Ater alis hyalinis, antennarum pedicello petiolo et pedibus ferrugineis, abdomine subgloboso* ♀ (Long. .045; alar. .1.)

Præcedenti simillimus, antennis et pedibus brevioribus, alis angustioribus parèè ciliatis; abdomine brevi subrotundato.

- Sp. 5. *P. euchariformis*. *Ater alis hyalinis, pedibus piceis, antennarum pedicello et tarsis pallidis, aculeo elongato,* ♀ (Long. .06; alar. .1.)

Abdomen valde angustum dorso lanceolatum, aculeo parum longius: alæ tenuiter ciliatæ: petiolus fusco-ferrugineus: tarsi apice fusci: antennarum articuli 2<sup>dus</sup>. et 3<sup>us</sup>. longitudine pares ut in præcedentibus.

Not rare in similar situations.



GEN. VI.—MYMAR. *Haliday.*

*Antennæ* maris 13-articulatæ; feminae 9-articulatæ capitulo exannulato, scapo utriusque elongato lineari. *Tarsi* tetrameri. *Abdomen* petiolatum.

Caput oblato-globosum, vertice latè planiusculo subquadrato, fronte producta obliquè truncata: antennæ elongatæ, feminae scapo longissimo lineari, pedicello lato compresso, articulis 3°. 5°. 6°. 7°. et 8°. brevibus, his sensim crassioribus, 4°. lineari vix breviorè quam scapo, ultimo magno elliptico: maris adhuc multo longiores scapo lineari arcuato, flagelli articulis exterioribus parum brevioribus: thorax fere ut in *Polynemâ*, collari adhuc majore: abdomen petiolatum semicordatum ascendens aculeo brevi: pedes gracillimi eximiè elongati: alæ anticæ valde elongatæ capillares, apice summo explanatæ, margine longius plumato ciliatæ, lineolâ disci setigerâ longitudinali unicâ: posticæ brevissimæ setacæ nudæ.

Sp. 1. M. pulchellus. *Ochreus antennis apice oculisque fuscis, alis hyalinis apice nigris.* ♂ ♀ (Long. .06; alar. .12.)

Mymar pulchellus. *Curtis, E. B.* 411.

Presented to me by Mr. Walker.

GEN. VII.—EUSTOCHUS. *Haliday.*

*Antennæ* feminae 10-articulatæ capitulo bi-articulato. *Tarsi* tetrameri. *Abdomen* petiolatum.

Caput transversum, occiput truncatum; vertex latus planus undique definitus transverso quadratus angulis anticis mucronatis; frons truncata: antennæ margini summo frontis insertæ, scapo longiusculo fusiformi, pedicello clavato, articulis sequentibus linearibus, 3°. 4°. subequalibus, 6°. 7°. 8°. brevioribus incrassatis, 9°. et 10°. capitulum magnum lenticulari-ovatum efformantibus: thorax breviter ovatus valde convexus, collari inconspicuo; mesothoracis scutello et metathoracis scuto continuis, per dorsum longitudinaliter elevatis, lateribus præcis: abdomen petiolatum ascendens semicordatum teres apice acuminatum, aculeo elongato ascendente: alæ anticæ obovatæ longiùs ciliatæ, ulnâ quam in reliquis generibus magis elongatâ; posticæ lineares ciliatæ: (*plura videas sub specie unicâ.*)

Sp. 1. E. atripennis. *Niger capite thoraceque opacis, alis fuliginosis, antennis basi pedibus et petiolo ferrugineis.* ♀ (Long. corp et acul. .07; alar. .11.)

*Mymar atripennis.* Curtis, E. B.

Caput thorax et coxæ posticæ granulatae: abdomen lævissimum nitidum: aculeus abdomine longior: alæ pilosæ lineolâ ambiente crassiusculâ: lunula seu fascia ferruginea internè hylalino limbata sita est transversè prope basin alarum anticarum fere sub medio ulnæ, lineola tenuis subimpressa (s. nervus spurius) ibidem orta usque in marginem exteriorem pone apicem alæ excurrit, leni flexu a costâ discedens.

In autumn, among trees, but very rare.

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ADD.—Of the other genera indicated in this family, *Crantor* is *Choreia*, Westwood; I had considered *Encyrtus ineptus*, Dalman, as the type; *Choreia nigro-ænea*, Westw., seems to approach the genuine *Encyrti*; some of which have little more than rudiments of wings. The identity of *Agonioneurus*, Westwood, with *Aphelinus*, has been already pointed out, (antea page 306). I have deferred giving the characters of the genus *Cea*, (Curt. G. 587,) with the hope of having the opinion of a more competent judge than myself upon its affinities.

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ART. XXXIX.—*Observations on Ignis Fatuus.* By GEORGE WAILES, Esq.

I THINK the surmises of the writer in the Westminster Review, that this natural phenomenon is to be attributed to some luminous insect, are, so far as Britain and northern climes are concerned, without foundation. That any large insect, possessing the property of luminousness, should have hitherto escaped the pursuit of not only the Entomologists of this island, but our numerous and indefatigable brethren on the continent, is, to say the least, very improbable. Our only British *Annulosa* which have the power of hanging out their lights are the glow-worm (*Lampyrus noctiluca*, Linn.), and *Scolopendra electrica*, De Geer. Although Mr. Dilwynn, in his valuable Memoranda relating to Coleopterous insects found in the neighbourhood of Swansea, states, "Nor have I here observed the *small* light in the males," of the glow-worm,