

HYMENOPTERA.



NEW BRITISH SPECIES, CORRECTIONS OF NOMENCLATURE,
ETC.

(*Cynipidæ*, *Ichneumonidæ*, *Braconidæ*, and *Oxyura*.)



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BEING requested, at rather short notice, to contribute to the "Annual," for the first time, any fresh information I may possess on the non-aculeate Hymenoptera, I have limited the subject to the above four families, to the exclusion of the *Tenthredinidæ* and *Chalcididæ*. Even after this deduction about four-sixths of the order remain, comprising several thousands of insects more or less obscure and unfamiliar, a mass of material with which no one single-handed should attempt to deal. Nor should I presume to do so, if it did not appear that otherwise they would remain unnoticed, and that the little I can effect is probably better than nothing. If I could have examined, for the purposes of this paper, the stores of unnamed specimens in my own boxes, the results would have been more satisfactory. But the occupation of compiling catalogues has for some time obliged me to attend more to printed books than to the book of Nature; and has also required a diffusion of labour upon several subjects, instead of the concentration favourable to progress. Hence

it happens that the number of new British species I am able to report is not perhaps what might be expected, and certainly far from satisfying my own wishes. Other disadvantages are inseparable from an attempt like the present. It is not easy to conform to the method adopted by other contributors to the "Annual," who treat of more popular subjects. For instance, no copious records of daily observations, suggestions, descriptions and rectifications can be referred to; no "Annual" of 1872 can be assumed as a starting-point, with information on the best authority posted up to that date; and no large circle of readers look forward with interest to a summary of progress to which their own labours have mainly contributed. Having just alluded to these things, in order that they may appear in their true light, as extenuating circumstances, I shall proceed to some remarks upon the above four groups seriatim, and afterwards give a list of new British species.

CYNIPIDÆ.—The connection of one tribe of these insects with galls, and the curiosity kept up by the annual appearance of those bodies, conspicuous and not to be ignored, seem to be reasons why the *Cynipidæ* have partially escaped that extinction in which the study of some other *Hymenoptera* has long been plunged. To find the last, and indeed the only, attempt ever made to enumerate the British species, we must go back to the second edition of Curtis's "Guide," published in 1837. And by comparing the state of knowledge then with our present facilities, we shall easily observe a certain progress, which however applies only to the gall-making genera. The number of names given by Curtis, *lib. cit.*, is 56, from which 18 are to be subtracted as being MSS., or referring to insects of other families,—leaving 38. The descriptions of most of these are enigmatical, so that

unless taken in conjunction with some gall, or other collateral evidence, their identification must have been more than doubtful,—to say nothing of the substitution of *Synergi* for gall-makers, a mistake inevitable until the habits of the former were ascertained. From such insufficient data it was only possible to arrive at a small portion of the truth. This was the nascent state of Cynipideous knowledge in this country. We are now, in 37 years, so far advanced as to have a much increased number of good descriptions, many of which appeared in England, in the Gardener's Chronicle, &c., and more on the Continent,—a considerable body of detached notes on galls and the economy of their inhabitants,—and last, not least, a generic system begun by Hartig and now corrected and amplified by Förster, at least equal to anything that can be found in other departments of Hymenopterous science. At the ordinary rate of progress it would be sanguine to expect the adoption of this system in England very soon ;—but it will probably at some time make its way, and we, or our posterity, shall then have the *Cynipidæ* exhibited in an intelligible form, likely to attract fresh workers from the ranks of entomologists.

I am glad to see the recognition of this system commenced by Mr. A. Müller in a paper on galls in the "Annual," 1872, and that he has increased the British list by some new discoveries, as well as pointed out some errors in nomenclature. I was in hopes of finding in his paper a reference to Giraud's description of *Cynips Kollari*, which name Mr. Müller says I have sunk in favour of *lignicola*, Hart. It is true that I have always called the insect *lignicola*, Hart., for the reason that Hartig (Germ. Zeit. iv. 403) describes a different species as *C. Kollarii*. I have frequently heard our insect (*lignicola*) called *C. Kollari*, Gir., but have not succeeded in finding Giraud's description. And if I had succeeded, the

case would not be altered; for the earliest of Giraud's writings (1845) is of later date than Hartig's descriptions in *Germ. Zeit.* (1840—1843).

In addition to the rectifications of nomenclature pointed out by Mr. Müller, I can add the following:—

HOLOLEXIS NERVOSA.—*Cynips nervosa*, Curt., B. E. pl. cccxx; *Rhodites nervosus*, E. M. M. iv. 173.

I have taken several of this insect, especially in Devonshire, and have no hesitation in referring it to Förster's *Hololexis*, *Verh. z.-b. Ges.* 1869, p. 333. Curtis's figure, from which conclusions can be drawn almost as well as from the insect itself, seems unnoticed on the Continent, and the species is not described by Hartig, Giraud, Schenck, or Förster.

AMERISTUS POLITUS.—*Neuroterus politus*, Hart., *Germ. Zeit.* ii. 193; E. M. M. iv. 125.

DRYOTERAS TERMINALE.—*Cynips terminalis*, Fab.; *Teras terminalis*, Hart., *Germ. Zeit.* iii. 193.

It has been pointed out more than once that *Teras* is pre-occupied in *Lepidoptera*; moreover, both *Teras* and *Dryoteras* are of the neuter gender. *Spathegaster* ought to be spelt *Spathogaster*.

LIPOSTHENES GLECHOMATIS.—*Aulax glechomæ*, Hart., *Germ. Zeit.*, iii. 342.

XESTOPHANES POTENTILLÆ.—*Cynips potentillæ*, Vill.; *C. brevicornis*, Curt., B. E. 320; *Aulax splendens*, Hart., *Germ. Zeit.* ii. 196.

The short descriptions of species given by Curtis are at least as good as those of others, and ought not to be ignored. I had three or four of this easily recognized insect,

which I named from Curtis before I had seen the other descriptions.

At this point my notes in the E. M. M. vol. iv. terminated, for the same reason which has in all probability deterred others from proceeding. The descriptions of the genus *Synergus* (with which we are next confronted) are not sufficient for the determination of species, small and numerous, of uniform black or pitchy hues, seldom relieved with a little red, and offering but slight differences of sculpture. The empirical mode of guessing at them from the galls which they inhabit, though practised successfully in the case of the Linnæan descriptions of *Cynips*, fails in this genus, since the same *Synergus* may or may not be found in different galls. The only identification which I can regard with certainty is that of *S. incrassatus*, Hart., of which I have ♂ ♀, given to me by a correspondent. Mr. Parfitt once sent me specimens which, from the structure of the antennæ, appeared to be *C. thauma*[to]cera, Dalm., An. p. 96, = ? *C. crassicornis*, Curt., B. E. 320, n. 22, = ? *Synergus Klugii*, Hart., Germ. Zeit. ii. 199. Perhaps also *S. nervosus*, Hart., ii. 197, *erythroneurus*, Hart., ii. 198, *vulgaris*, Hart., l. c., and *socialis*, (Koll.) Hart., 413, are British. A species with rugulose thorax and rufous face common in oak-apples might be *facialis*, Hart., ii. 199, iii. 346, = *Diplolepis gallæ urnæformis*, Fonsc., Ann. Sci. Nat. 1832, only the face of the ♀ is not black, as it should be, according to Hartig. A large species from the galls of *C. lignicola* seems not to be mentioned. Curtis, in Morton's Cycl. of Agric. s. v. *Cynips*, describes a species as *C. quercus inferus*, "larger than *C. fulviceps* [Curt., = *Allotria*]: bred from Aphides, and at the same time causing globular red excrescences upon oak-leaves,"—in which remark we seem to have a confusion

between an *Allotria* and a *Cynips* or *Synergus*, which I am not able to explain. The name *quercus gemmæ* has been restored by Prof. Schenck (Nass. Naturw. Jahrb., Hft. xvii. and xviii. p. 180) and Mr. Müller (Annual, 1872, p. 5), who coincide in thinking that the Linnæan insect is not a *Synergus*, but the real upheaver of the gall, = *C. fecundatrix*, Hart., Germ. Zeit. ii. 189. It appears difficult to believe that the two following diagnoses can refer to the same insect:

LIN.—Grisea seu testacea,
oculi fusci; antennæ sub-
fusca, longitudine cor-
poris.

HART.—Fusco-nigra; geni-
culis, maculis 2-basalibus
lateralibus abdominis ano-
que rufis.

In any case the only safe course is to retain *C. fecundatrix*, Hart. A monograph of the genus *Synergus*, written from a new point of view, and independent of the doubts which at present surround it, is much to be desired.

The *Allotriides*, *Eucælides*, *Megapelmides*, *Onychiides*, and *Figitides*, being (after *Synergus*) the rest of the "After Gall-Wespen" of Hartig, have been too little studied at any time, and of late years wholly ignored in England; for which reason I was induced some time ago to endeavour to look them up, by collecting species and procuring their literature. The results of that inquiry, imperfect and interrupted as it was, now enable me nearly to treble the number of indigenous species reported in Curtis's Guide (1837)—from which date to the present I cannot find that any mention of these insects has been made among us, except in Westwood's Introduction, vol. ii.

The species of *Allotria* are parasitic upon *Aphides*, in the same manner as the Braconids of the genus *Aphidius*, and of fourteen species which I possess, the greater part was obtained by sweeping nettles. Notwithstanding their small

size, each being neatly adapted to fill up the inside of the swollen cuticle of its victim, they present more tangible characters than many of the larger *Cynipidæ*. The other groups, so far as is known, are parasites of *Diptera*, and the difficulty of discriminating them is not great, owing to the variations of structure offered by their antennæ, abdomen, and wings.

I have taken *Psilodora maculata*, Hart., upon cow-dung, where it was probably in search of the larvæ of *Scatophaga*. It tallies exactly with the description of Mr. Newman's *Figites syrphi*, Ent. Mag. ii. 515, reared from *Syrphus ribesii*, L. Two minute species with imperfect wings, allied to *Clidotoma*, occur amongst decaying sea-weed on the coasts, where *Cælopa* and other littoral *Diptera* abound. One of these is noticed by Mr. Walker, Ent. Mag. ii. 117, as occurring at Torquay, and I found it at Milford Haven; the males I believe are able to fly, and frequent flowers, but the specimens I formerly had are destroyed. The other is described by Thomson, and I found it at Polperro in Cornwall. The singular little *Glauraspidia*, their inland analogue, is found rarely under rotten vegetable matter in woods. The species of *Ægilips* are often to be seen on windows and in gardens, being attached to *Muscidæ*. *Diceraea*, Först., is found gregariously, but not often, on nettles. An undescribed species of *Onychia*, Hal. (indicated as *biusta* in Westw. Int. ii. Synops. p. 56), is British, and I believe I have one in bad condition; it belongs to Förster's *Homalaspis*. *Cynips ediogaster*, Panz., is given as British (Curt., Guide, p. 126), but it was not in Curtis's collection, and is nowhere reported to my knowledge as taken in England. It is common near Ajaccio, on umbelliferous flowers, and is also described as Swedish, with some other fine species, which might probably be discovered in this country, if there were any explorers.

It may be useful here to exhibit most of the literature of the *parasitic* Cynipidæ, marking with a * the monographs:—

- Panzer, F. G. lxxxvii. 16 (*Cynips ediogaster*).
 Latreille, H. N. xiii. 210 (*Figites*).
 Dalman, Anal. Ent. 95 (*Anacharis*).
 Westwood, Loud. Mag. 1833, p. 494 (*Allotria, Eucoila, Anacharis, Kleidotoma, Figites*);
 „ „ 1835, p. 178 (*Eucoila rapæ*);
 and Int. vol. ii. p. 132.
 Bouché, Naturg. 1834 (*Psilogaster anthomyiarum*).
 Walker, Ent. Mag. ii. 117 (*Figites maritimus*); 518
 spp. of *Anacharis*; iii. 159 (Generic characters).
 Newman, Ent. Mag. ii. 515 (*Figites syrphi*).
 *Hartig, Germ. Zeit. ii. 199, etc.; iii. 350, etc.
 Zetterstedt, Ins. Lapp. (*Cynips, Figites*).
 Dahlbom, Onychia och Callaspidia, Dissert. Lund, 1842.
 „ Skand. Hym.-Fauna, Lund, 1846 (*Figites, Eucoila*).
 *Giraud, Verh. z.-b. Ges. 1860, pp. 123—176 (Énumér.
 d. Figitides de l'Autriche).
 *Reinhard, Berl. ent. Zeit. 1860, pp. 204—245 (Die
 Figitiden des mittleren Europa).
 Förster, Verh. pr. Rheinl. 1855, p. 256 (*Eucoila*, spp).
 Ruthe, Stett. Zeit. 1859, p. 310 (*Eucoila simulatrix*).
 *Thomson, Öfversigt, 1861, pp. 395—420 (Försök till
 uppställning och beskrifning af Sveriges Figiter).
 *Förster, Verh. z.-b. Ges. 1869, p. 329; pp. 338—370
 (Genera).
 Mayr, Verh. z.-b. Ges. 1872, p. 669 (*Synergus, Sapho-
 lytus, Ceroptres*).

ICHNEUMONIDÆ.—This and the two succeeding families having lately appeared in the Catalogue published by the

Entomological Society, I can only make a few additions from my store of unnamed specimens, or from those sent by correspondents. And here I may perhaps be allowed to express my gratitude for many boxes of Ichneumons which from time to time have been forwarded to me for inspection, and the contents of which have contributed to enrich the pages of the Catalogue. Owing to the embarrassment of these riches I have been unable to get through the work up to the present time, some boxes containing an involved problem, if not an insoluble difficulty, in almost every insect. I beg to assure those who may think their contributions forgotten that this is not the case, and that their safe return is only an affair of time.

Progress in Ichneumonology requires a large staff of workers, and a division of labour. The subject in these latter days has become a "little mixed." Gravenhorst's work was the foundation upon which a superstructure of intricate corrections and annotations was erected by Wesmael—and these were constantly undergoing changes and improvements during their author's lifetime. His purpose of rearranging the whole was unfortunately never fulfilled. So that these commentaries, as we have them, require for their right use a degree of patience and an expenditure of time that few can command. Holmgren's "*Ichneumonologia Suecica*" has simplified the subject as far as the Swedish species of *Ichneumon* are concerned, and his work is of primary importance to any one examining British species. The same simplification of the genera immediately connected with *Ichneumon* is not yet effected. The *Cryptides* are somewhat less advanced than the *Ichneumonides*. The most important improvements are Taschenberg's revision of the Gravenhorstian types, and Förster's Monograph of *Pezomachus*. But here much remains to be done in the way of generic division. The three great genera

Cryptus, *Phygadeuon* and *Hemiteles* are extremely ill-defined. Male insects, whose females are unknown, may often be referred to *Cryptus* or *Phygadeuon* indifferently. And *Hemiteles* is a receptacle for all species, however otherwise dissimilar, which have an imperfect areolet, a character prevailing extensively also in *Phygadeuon*. I have seen some MSS. genera of Förster intended to remedy these defects, but they were unfortunately names only, without characters, which could only be conjectured from the types assigned to each. The *Ophionides*, *Tryphonides* and *Pimplides*, thanks to the Swedish monographs, are much better elucidated. If some of the genera, as notably among the *Tryphonides*, rest upon very minute characters, it is because this is inevitable throughout the *Ichneumonidæ*. Unobserved British species, described by Holmgren, turn up at every fresh examination; and indeed there seems no reason why any members of the Scandinavian Fauna should be strangers to Great Britain, or at least to the Highlands, which are the exact counterpart, if they are not a continuation, of the Norrska Fiellen.

Mr. Scott has kindly lent me a box containing nearly 300 parasites (*Ichneumonidæ*, *Braconidæ*, and *Chalcididæ*), with a list of the *Lepidoptera*, &c. from which they were bred. Many small species are indeterminable from age or other causes, and of them and the *Chalcididæ* I can give no account. But of the rest I shall here give a list, with additions furnished by other correspondents, including a number bred by Mr. D'Orville of Alphington, Mr. Fletcher of Worcester, the Rev. J. Hellins of Exeter, and others.

ICHNEUMONIDÆ.

Ichneumon	quæstorius, L.	bred from	Nonagria	geminipuncta, Hatch.
"	deliratorius, L.	" "	Dicranura	vinula, L.
"	luctatorius, L.	" "	Dicranura	bicuspis, Bork.

Ichneumon fabricator, F.	bred from	Notodonta dromedarius, L.
" gasterator, Ste.	" "	Depressaria heraclicella, Geer.
Amblyteles Proteus, Chr.	" "	Chærocampa Elpenor, L.
" castigator, F.	" "	Gortyna flavago, W. V.
" palliatorius, Gr.	" "	{ Smerinthus ocellatus, L.
		{ Acherontia Atropos, L.
" armatorius, Först.	" "	{ Saturnia carpini, Bork.
		{ Agrotis segetum, Ste.
		{ Vanessa Atalanta, L.
Eurylabus dirus, Wesm.	" "	Eriogaster lanestris, L.
" torvus, Wesm.	" "	Lithosia rubricollis, L.
Trogus lutorius, F. ..	" "	Smerinthus populi, L.
Cryptus rufiventris, Gr.	" "	Cemiostoma lotella, Staint.
		Bombyx quercus, L.
" migrator, F. ..	" "	{ Cimbex lucorum, L.
		{ Macroglossa stellatarum, L.
		{ Dicranura vinula, L.
" assertorius, Gr.	" "	Depressaria nervosella, Haw.
" obscurus, Gr. ..	" "	{ Dianthæcia capsicola, W. V.
		{ Tenthredo instabilis, Kl.
		{ Tæniocampa cruda, W. V.
" tricolor, Gr. ..	" "	Simyra venosa, Bork.
Hemiteles fulvipes, Gr. ..	" "	Apanteles glomeratus, L.
Reared by myself. Hyperparasitic. The cocoons of <i>A. glomeratus</i> were taken from the larva of <i>P. brassicæ</i> , L.; from every one of them was produced a ♀ <i>Hemiteles</i> . This <i>Hemiteles</i> has also been reared from spiders' eggs, like <i>H. rufocinctus</i> , Gr.		
Hemiteles oxyphimus, Gr.	" "	Cymatophora ocularis, L.
* " furcatus, Tasch.	" "	Laverna decorella, Ste.
" areator, Panz.	" "	{ Coleophora therinella, Staint.
		{ " anatipennella, Hüb.
Aptesis nigricincta, Gr.	" "	{ Gelechia albipalpella, H. Sch.
Phygadeuon quadrispinus, Gr.	" "	{ Hibernia defoliaria, L.
		{ Eristalis (sp. ?)
Ophion luteus, L. ..	" "	{ Dianthæcia capsicola, W. V.
		{ " cucubali, W. V.
" ventricosus, Gr.	" "	Bombyx quercus, L.
Anomalon cerinops, Gr.	" "	Agrotis ripæ, Hübn.
" ruficorne, Gr.	" "	{ Demas coryli, L.
		{ Odonestis potatoria, L.
" clandestinum, Gr.	" "	{ Notodonta dromedarius, L.
		{ Eupithecia albipunctaria, Haw.
Paniscus testaceus, Gr. ..	" "	Smerinthus populi, L.
Campoplex mixtus, Gr.	" "	Pygæra bucephala, L.
" ebeninus, Gr.	" "	Goniapteryx rhamni, L.
* " nitidulator, } Holmgr.	" "	Eupithecia venosaria, F.

* <i>Limneria erucator</i> , Zett.	bred from	<i>Penthina gentianana</i> , Hübn.
„ <i>ruficincta</i> , Gr.	„ „	<i>Heliothis peltigera</i> , W. V.
* <i>Mesochorus pectoralis</i> , Ratz.	„ „	{ <i>Pterophorus tephrodactylus</i> , Hübn.
<i>Banchus moniliatus</i> , Gr.	„ „	<i>Anarta myrtilli</i> , L.
* <i>Polyblastus hilaris</i> , Holmgr.	„ „	<i>Eupithecia succenturiaria</i> , L.
Probably hyperparasitic; for the <i>Tryphonidae</i> are mostly parasites of <i>Hymenoptera</i> .		
<i>Exochus curvator</i> , Gr. . .	„ „	<i>Eupithecia assimilaria</i> , Dbld.
* „ <i>alpinus</i> , Zett. . .	„ „	<i>Tinea parasitella</i> , Hübn.
<i>Bassus insignis</i> , Gr., ♂ ♀, of which the ♂ is un- described . . .	„ „	<i>Depressaria angelicella</i> , Hübn.
<i>Pimpla instigator</i> , Panz.	„ „	{ <i>Ptilodontis palpina</i> , L. <i>Cymatophora ocularis</i> , L. <i>Liparis salicis</i> , L. <i>Pontia brassicae</i> , L. <i>Smerinthus tiliæ</i> , L. <i>Arctia menthastri</i> , W. V.
„ <i>examinator</i> , F. . .	„ „	{ <i>Cymatophora ocularis</i> , L. <i>Noctua plecta</i> , L.
„ <i>turionellæ</i> , L. . .	„ „	<i>Tenthredo instabilis</i> , Kl.
* „ <i>ovivora</i> , Boh. . .	„ „	<i>Cymatophora flavicornis</i> , L.
„ <i>brevicornis</i> , Gr.	„ „	<i>Leucophasia sinapis</i> , L.
<i>Glypta ceratites</i> , Gr. . .	„ „	<i>Penthina gentianana</i> , Hübn.
„ <i>incisa</i> , Gr., ♂ ♀	„ „	<i>Retinia turionana</i> , L.
„ <i>flavilineata</i> , Gr.	„ „	<i>Minoa euphorbiaria</i> , W. V.
* <i>Lissonota polyzonias</i> , Först.	„ „	<i>Notodonta Chaonia</i> , W. V.
„ <i>hortorum</i> , Gr.	„ „	<i>Ephestia artemisiella</i> , Ste.
* <i>Meniscus pimptator</i> , Zett.	„ „	<i>Sesia culiciformis</i> , L.

BRACONIDÆ.

<i>Rhogas circumscriptus</i> , Nees	„ „	<i>Agrotis agathina</i> , Dup.
„ <i>bicolor</i> , Spin. . .	„ „	{ <i>Pterophorus tephrodactylus</i> , Hübn.
<i>Colastes braconius</i> , Hal.	„ „	<i>Lithocolletis lautella</i> , Zell.
<i>Ascogaster varipes</i> , Wesm.	„ „	<i>Penthina gentianana</i> , Hübn.
<i>Apanteles lacteus</i> , Nees	„ „	<i>Lithocolletis vacciniella</i> , Scott.
„ <i>rubripes</i> , Hal.	„ „	<i>Geometra papilionaria</i> , L.
„ <i>lateralis</i> , Hal.	„ „	<i>Eupithecia assimilaria</i> , Dbld.
„ <i>lacteipennis</i> , Hal.	„ „	<i>Penthina gentianana</i> , Hübn.
„ <i>candidatus</i> , Hal.	„ „	{ <i>Gracilaria syringella</i> , F., and <i>Abraxas grossulariata</i> , L.
„ <i>placidus</i> , Hal.	„ „	<i>Pœcilocampa populi</i> , L.
<i>Microplitis alvearia</i> , F. . .	„ „	<i>Boarmia rhomboidaria</i> , W. V.
„ <i>dorsalis</i> , Spin.	„ „	{ <i>Tæniocampa miniosa</i> , W. V. <i>Eupithecia subfulvaria</i> , Haw.

<i>Microplitis spectabilis</i> , Hal.	bred from	<i>Dianthœcia capsicola</i> , W. V.
" <i>ingrata</i> , Hal., ♂ ♀ "	" "	<i>Smerinthus ocellatus</i> , L.
<i>Orgilus obscurator</i> , Nees	" "	<i>Coleophora discordella</i> , Zell.
<i>Perilitus obfuscatus</i> , Nees	" "	<i>Orchesia micans</i> , Panz.
<i>Eubadizon pectoralis</i> , Nees	" "	<i>Depressaria nervosella</i> , Haw.
<i>Pygostolus sticticus</i> ..	" "	{ <i>Depressaria angelicella</i> , Hübn.
		{ <i>Ptilodontis palpina</i> , L.
<i>Macrocentrus linearis</i> , Nees, } ♂ ♀, of which the ♂ is } undescribed }	" "	<i>Phycis roborella</i> , W. V.
<i>Macrocentrus marginator</i> , Nees, ..	" "	{ <i>Depressaria angelicella</i> , Hübn.
		{ <i>Sesia culiciformis</i> , L.
" <i>thoracicus</i> , Nees, ..	" "	" <i>tipuliformis</i> , L.
<i>Diospilus nigricornis</i> , Wesm. "	" "	<i>Depressaria applanella</i> , F.
<i>Opius irregularis</i> , Wesm. "	" "	<i>Ceuthorhynchus sulcicollis</i> , Gyl.
		<i>Agromyza primulæ</i> , Desv.
Reared by Mr. Inchbald from larva of a minute black fly which mines the leaves of the primrose. This, I believe, is the second time that the economy of the extensive genus <i>Opius</i> has been observed. In both cases the object of their attack was Dipterous.		
<i>Alysia manducator</i> , Panz. " "	" "	{ "From the contracted larva-skin of a species of Muscidæ found beneath the dead body of a green woodpecker," by Mr. Fletcher.

The species marked * in the above list have already been published as new to Britain. Comparing the results with those collected by Ratzeburg and Rondani, I see many new facts which make the whole worth recording, although for the purpose of generalization much more extensive tables are desirable. One obvious remark is that several common species (e. g., *P. instigator*) are polyphagous, not even confining their attacks to the same order of insects. The *Ophionides*, according to Mr. Fletcher's remarks upon species reared by him, make themselves strong oval cocoons, a practice extending also to the small species of *Limneria*, &c. *Pimpla*, on the other hand, undergoes its transformations without any other covering than the skin of the victim. A parasite which I found in January in a pupa of *P. brassicæ*

— a naked maggot within the dry shell—lived in that state without food till the spring, when it changed to a pupa, and afterwards emerged as *Pimpla instigator*—although I twice opened its case to see the contents, and afterwards repaired it with a piece of paper. The contents of Mr. Scott's box are particularly interesting, and not yet exhausted, though the condition of the small specimens is bad. Among them are two specimens of *Pezomachus*, ♂ ♀, bred together, and I believe undescribed. They are both testaceous, with some darker bands, and apterous. The great difficulty of obtaining real pairs of these insects renders me anxious to describe the above, if by any possibility they can be cleaned. According to Förster, the males are invariably apterous like the females. But his opinion does not agree with facts observed by Ratzeburg, Smith, and others. Apterous males are rare, but I have taken altogether some dozen to hundreds of females. Of one species (*Hemimachus avidus*, Cat. p. 47) I took several males on the shores of a reedy pond in Leicestershire, and one of these was winged. Of course I set this down as a distinct species at the time, but am now confirmed in the opposite opinion. And in a wood near Milford Haven, frequented by me, a small pale *Pezomachus* occurred in numbers, together with a winged form which I was led to regard as its male, though certainly without any positive proof. Some of these males were fully winged; in others the wings were more or less shortened, but never entirely wanting. They correspond to the females in all the usual particulars. They are too small for any described *Hemiteles*. The apterous female is also undescribed. It may be that the males of *Pezomachus* are much commoner than is supposed, that they are only occasionally apterous, and, when so, are of paler colours, which, in conjunction with a weaker thoracic structure, prevents them from being iden-

tified with their winged relatives. Apterous and winged forms are well known to co-exist in other orders of insects, as the *Delphacidæ*, &c. And among the *Ichneumonidæ* of higher grade than *Pezomachus* a tendency of some individuals to the apterous state has been noticed. A species of *Ichneumon* (*latrator*, F.) frequently shows this peculiarity. And Mr. Desvignes described as *Cryptus brevipennis* a large specimen of that genus which I sent him, and which I am now certain is only the common *migrator*, F. (Cat. p. 41). The observations which tend to throw light upon a question of this kind are so few and far between that it is unlikely the *Pezomachus*-difficulty will ever be cleared up. The Lepidopterists meet with the sexes of that genus occasionally by breeding, but probably few of them are preserved. And unless they receive the best attention in the way of setting, they are useless as specimens. Any small winged Hymenopteron, if left to itself, is sure to dry with the wings doubled up, or concealing the characters of the abdomen, &c., in some way that renders its identification or description impossible. Much has been said against carding specimens intended for examination, but the objections apply less to parasitic *Hymenoptera* than to most other kinds of insects. The parts of the mouth are only of secondary value, and the leading characters are nearly always taken from the upper surface. Without knowing what others may be able to do, I can say for myself that I rarely succeed in naming small obscure specimens unless neatly displayed upon cards. As to running pins through the thorax or scutellum, obliterating the most characteristic parts of the body, it is generally throwing away all chance of identification. When a small insect of this kind is carded, the legs should be stretched sufficiently to allow a side glance at the coxæ, which are often important, and if the head is prevented from resting,

forehead downwards, on the card, so that the face can be seen, the maximum of convenience will be attained.

In the Catalogue of *Ichneumonidæ*, published last year, I wish to point out that the word *Enicospilus* (p. 50) accidentally escaped correction. It should of course be *Henicospilus*. And in reply to Mr. Dunning's inquiry (E. M. M. 1873, p. 222) why *I. periscelis* is left unchanged, while *caloscelis* is changed to *caloscelus*, I should explain that the former, being a Greek substantive, "an anklet," is invariable; but the latter is an adjective, and must agree with the generic name. I was not fortunate enough to think of any probable origin for the word *Ophion*; and, being also aware of the Fabrician practice of inventing words without meaning, I paid no special attention to this. Mr. Dunning, however, has found out an explanation which may be regarded as settling the matter; and specific names under *Ophion* should be masculine. The words *leptogaster* and *appendigaster* on p. 132 I left, because I saw no reasonable mode of changing them. And the same remark applies to *Anomalon xanthopus*. I endeavoured on a former occasion to show that such words as *xanthopus*, treated as substantives, have a somewhat silly nicknamish sort of sound in scientific writing, about on a par with "daddy-long-legs" in English. Still they are defensible, and have been defended, which is more than could be said of my emendation, if I had written *xanthopum*. On p. 65, *Homalopi* is correct. If Mr. Dunning had continued his researches, he would have found *Prosopi*, &c., and would at once have seen that these words refer to the *face*, and not the *foot*. On p. 121, *hæmorrhous* is also correct, and not—*rrhæus*. And, lastly, I must confess that words like *Ruddii* seem to me unworthy of the powder and shot of criticism that may be spent upon them. In the middle ages, and since, men have latinized

their names according to fancy, without regard to the principles to which Mr. Dunning refers. Groot called himself *Grotius*, and Rumph *Rumphius*, while Buchanan and Pocock became *Buchananus* and *Pocockius*.

The subject of the Ichneumonidæ will conclude with a description of one of the largest novelties with which I am acquainted. After comparison with every species of *Metopius* of Gravenhorst, Wesmael, Förster, and Holmgren, I am obliged to conclude this one to be new; and it has been some years in my collection unnamed.

METOPIUS PELTATOR, n. sp.

M. niger, scuti frontalis lateribus, lineis 2 humeralibus, scutello postice, abdominis cingulis 5, tibiis tarsisque, flavis; scutelli angulis obtusiusculis; alis subfulvo-hyalinis, antice apicem versùs saturate fuscis; areolâ quadrangulari. ♀ Long. 8 lin.

The only British species with infuscated wings is *dissectorius*, Panz., which has no yellow bands on the first 3 segments, the abdomen cœrulescent, &c.

Head, with the antennæ and palpi, black, the facial shield only being narrowly bordered with yellow at the sides and top. Thorax black, with a short yellow line before the wings; hinder edge of the scutellum yellow, depressed and sinuated, the angles prominent, flattened and obtuse. Abdomen black, not cœrulescent, rugose, opaque, the rugosity slightly diminishing posteriorly, so that the two last segments are somewhat shining, the last being merely punctured; all the segments except the first have the hind margin narrowly glabrous. Segment 1 with a yellow basal band as broad as one-fourth of its length, 2—5 with a yellow apical band, that of the 4th being narrower, and

of the 5th merely linear ; segment 2 with the hinder angles produced, dentiform and yellow. Coxæ and femora black, the latter yellow at the base and apex ; the rest of the legs yellow, the hind tarsi darker, fuscous. Wings fulvescent, the costa rather darker, the radial cell and the 3rd cubital occupied with a much darker indeterminate brown spot ; tegulæ black ; radius and stigma fulvous. First segment longer than the second, with a bifid elevation at the base, which is black, in the middle of the yellow fascia ; the apices of this tubercle are glabrous. Segments 2—5 with a faint longitudinal carina. Areolet with 4 angles, trapeziform, the outer nerve curved. Apex of the terebra just visible.

Found in a wood of young oaks near Milford Haven, in May, settling on blossoms of the whitethorn. It approaches nearest to *fuscipennis*, Wesm.

I shall reserve such few remarks as may occur respecting the Braconidæ, so lately catalogued, to the list of new British species at the end of this paper.

OXYURA.—In order to draw up the list of these insects now in the press, I was obliged to trust to my own efforts to fill certain gaps, where little or nothing has been recorded by English writers. It is probable, therefore, that, so far as regards the number of indigenous species, these are the weakest portions of the work. The *Bethylides*, *Ceraphronides*, *Diapriides* and *Belytides* are the groups to which this remark applies. The first group is small, but the difficulty of procuring specimens of any species except the common one is considerable. The *Ceraphronides* have been untouched, except in one or two brief notices, and the only course to pursue was to collect and name the specimens

after Boheman and Thomson, a task much more easily planned than carried out. For the *Diapriides* and *Belytides* we have some indications in Haliday's generic revision and in Curtis's British Entomology, but very few specific descriptions; and these constitute the whole English literature of those tribes. I had, however, the advantage of Mr. Haliday's advice and of Mr. Walker's collection in aid of my endeavours. As the general subject would be much too long, I must confine myself to these more neglected families.

An inquiry into the *Bethylus*-group (excluding *Epyris*), by the aid of Curtis, Förster, and the Entomological Magazine, shows that there is evidence, more or less obscure, of the existence of four species in England; and to these I shall be able here to add a description of a new one taken by myself in Hertfordshire.

1. *Bethylus cenopterus*, Curt., B. E. dccxx, n. 1. "Wings somewhat nerveless." This may be either *B. cenopterus*, Latr., = *Tiphia cenoptera*, Panz., or *Ateleopterus Færsteri*, Kirchn., or a new species. The only thing certain is that Curtis has taken in England one of the forms without a stigma.

2. *B. formicarius* Curt., *lib. cit.* n. 5 (*nec* Panz.) is a second indication of one of these forms, with the "stigma obsolete." Not *formicarius*, Panz., which has a stigma, and seems, according to Audouin's "Pyræle de la Vigne," &c., to be a *Perisemus*.

3. *Perisemus triareolatus*, Först., = *Episemus variabilis*, Thoms., = *B. fuscicornis*, Walk., Ent. Mag. (*nec* Latr., Spin., and Nees), = *B. punctatus*, *fuscicornis*, and *fulvicornis*, Curt., B. E. l. c. This is the common species of Sweden and England, and the only one, till last summer, which I have ever met with. *Perisemus cephalotes*, Först., sent me

by a correspondent, seems to be nothing but a large-headed variety.

4. *Goniozus claripennis*, Först. (?=*G. distigmus*, Thoms.) A Bethyloid insect of this genus is in Mr. Dale's collection, as I was informed by the late Mr. Haliday, who sent me a drawing of its wing. The insect I have not seen, and Mr. Haliday was not absolutely sure that it was not *G. fuscipennis*, Först.; but the wing is certainly that of a *Goniozus*.

PERISEMUS HYALINUS, n. sp.

P. niger, nitidus, antennis medio, tibiis anticis, tarsisque omnibus, testaceis; capite et thorace alutaceis, vage punctulatis, subopacis; metathorace suprâ AREOLÂ TRIANGULARI; alis CLARE HYALINIS, stigmatibus et radio fuscis, nervo basali angulato, extus ramifero; abdomine lævis-simo. ♀ Long. $1\frac{1}{3}$ lin.

Equal in size to the smaller individuals of *triareolatus*, which it much resembles, but differs from (1) in having hyaline wings and (2) in the structure of the metathorax. This is bisected by a carina originating at the base of the petiole, and forked at three-fourths of its length, so as to enclose a smooth triangular space which rises slightly to meet the scutellum and is emarginated to receive its apex, the two appearing almost soldered together. The common species is without this structure, having merely a glabrous line from the scutellum to about the middle of the metathorax. The upper half of the metathorax is aciculated and obscure in both species, except in the glabrous spaces above indicated. There is one more described species, *Episemus* (read *Perisemus*) *nitidus*, Thoms., Öfv. 1861, p. 452, but this is characterized as "capite non alutaceo," &c.

Taken near St. Albans, June, 1873.

The genera likely to be found in England may be at once discriminated as follows, but it appears that all except the first are uncommon :—

- i. Antennæ 12-jointed, ♂ ♀ PERISEMUS.
- ii. Antennæ 13-jointed, ♂ ♀
 - † Wings with a stigma GONIOZUS.
 - †† Wings without a stigma.
 - * Wings with a ramus marginalis BETHYLUS.
 - ** Wings without a ramus marginalis ATELEOPTERUS.

I have taken, in the Ile de Camargue, near Arles, the sexes of Förster's *Isobrachium dichotomum*, Verh. pr. Rheinl. 1851, p. 13, pl. i. f, 6, = (*H*)*omalus nigricornis*. Nees, Mon. ii. 392, ♂, = (*H*)*omalus fuscicornis*, Nees, l. c. ♀. This is the insect with which our *Perisemus* was formerly confounded, but it is much larger, and the ♂ has 13-jointed antennæ, &c. The possession of these specimens was a great help towards identifying the English form. To the genus *Isobrachium* belong *Scleroderma mutilloides*, Costa, and *Epyris pulchellus*, Lucas.

The following new species belongs to the *Ceraphronides*, and if the genera were less minutely defined, it should be placed under *Ceraphron*, *sensu str.* But, as this cannot be done without disregarding some leading characters of that genus, I am obliged to form a new one.

TRIOGMUS, n. g.

Antennæ ♂ 11-articulatæ. *Mesothorax lineis* 3 longitudinalibus impressus. *Metathorax brevissimus*, spinâ sub scutello, spinulisque 2 lateralibus armatus. *Alarum stigma lineare*, subnullum; *radius elongatus, curvatus*. *Abdomen sessile, segmento 2do maximo, petiolum abscon-*

dente, basi 3-carinato, carinis distantibus, interstitiis lævibus; gastrocælis conspicuis. Cætera ut in Ceraphrone, sensu Færsteriano.

TRIOGMUS FURCIFER, n. sp.

T. nigro-piceus, nitidus; antennarum scapo, collo suprâ, abdomine basi, gastrocælis linearibus pellucidis, pedibusque cum coxis, rufo-testaceis; femoribus suprâ fuscolineatis; alis abdomine longioribus, fulvescentibus, costâ (fere ad apicem alæ productâ) radioque pallidis, concoloribus.

♂ Long. $\frac{2}{3}$; alar. exp. $1\frac{1}{2}$ lin.

Facies of *Ceraphron*, but with three distinct longitudinal sutures on the mesothorax. Head and thorax with thin pale pubescence, very minutely punctulate, hardly shining. Antennæ as long as the body, filiform, fuscous, the scape testaceous. Metathorax perpendicular, the hinder angles spiniform, and a long stout spine immediately beneath the scutellum. Scutellum large, subtriangular, obtuse, laterally depressed. First segment of the abdomen concealed; 2nd segment constricted near the base, from thence to the base cylindrical, the basal margin elevated; three longitudinal carinæ, distant from each other, and, slightly diverging hindwards, extend from the base to one-fourth of the abdomen, their interstices glabrous. The gastrocæli are visible, forming on each side an oblong pale red spot. Base of the abdomen broadly red; the rest shining, and somewhat pitchy black. The costa prolonged to near the tip of the wing, and not ceasing (as in *Ceraphron*) at its junction with the radius. Legs testaceous; hind coxæ subinfuscated; all the femora with a dark spot or line above.

Taken in North Devon.

Apterous individuals occur among the *Ceraphronides*, causing a difficulty of the same kind as *Pezomachus*, but less in degree, owing to the smaller number of species. *Lagnodes pallidus*, Boh., ♀ (= *Microps rubi*, Hal., MS.) is invariably apterous, and the ♂ therefore unobserved in England, though Förster seems to have been acquainted with the sexes of his species. Several *Megaspili* are liable to be more or less apterous. *M. rufipes*, Nees, exhibits wings of various development; and both sexes of *M. halteratus*, Boh., and *cursitans*, Nees, are common in a wingless state. Observations upon this group might be made without great difficulty, and would probably throw some light upon *Pezomachus*.

Of *Idiotypa rufiventris*, Thoms. (*Diapriides*), I have taken both sexes in Devonshire; the ♀ only is described by Thomson. Haliday was acquainted with both sexes of his undescribed *Mionopria maritima*, which is doubtless the same insect.

♂ *Antennæ corpore paulo longiores, nigrae; articulis 1—2—3 testaceis; articulo 4o subincrassato, quam tertius longiore; 5—13 subæqualibus. Caput latius quam ♀; abdomen angustius, nigrum. Statura paulo minor. Cætera ut in ♀.*

I described *Spilomicrus hemipterus* ♀ (E. M. M. iv. 202) from a single example. Since that time nine more have occurred in Hertfordshire, agreeing exactly with the description and confirming the species.

The ♀ of Westwood's *Basalys fumipennis* is undoubtedly *Diapria antennata*, Nees. The identity is queried in my Catalogue, owing to a remark of Förster in the Hym. Stud. But a fresh examination of the insects, agreeing in size and largest of their kind, together with the analogy of the

known males and females of *Loxotropa* (only an artificial section of *Basalys*), convinces me that the query should be erased.

Some time ago I collected materials for a monograph of the British *Belytides*, but circumstances have hitherto prevented its completion. Nees described 13 species under *Belyta* and 2 under *Cinetus*. But, as he seldom mentions the characters upon which Förster's genera are founded, it is not easy to refer the species to their proper places. *B. petiolaris*, Nees, = *Cinetus*; *B. bisulca*, Nees, = *Oxylabis*; *B. bicolor* and *rufopetiolata*, Nees, = *Xenotoma*; *B. brevis*, *obscura*, and *abdominalis*, Nees, = *Zygota* (?); *B. anomala*, Nees, = *Ismarus*. *B. sanguinolenta*, Nees, = *Belyta*, Först., and is the only one of the Neesian species which can now be referred to that genus. *C. picipes* and *Jurinei*, Nees, = *Oxylabis*, and according to Haliday are the same as *C. armatus*, Curt.

Thomson's paper (Öfv. 1858, pp. 155—180), the only other authority for the *Belytides*, makes no reference to Förster's system, published two years before, and of the 31 spp. described, only 6 belong to *Belyta* (*sensu str.*). All of these I have identified in this country. *Belyta*, Först., excludes all species that have not the longitudinal carina of the metathorax bifurcate near the apex, enclosing a triangular space. *Belyta*, Thoms., on the other hand, includes *Psilomma*, Först., = *Opazon*, Hal., and *Zygota*, *Aclista*, and *Pantoclis*, Först. Under *Cinetus* and *Acoretus*, Thoms., are arranged the rest of Förster's genera, except *Synacra*, which, following Mr. Haliday's advice *in litt.*, I have referred in the Catalogue to the *Diapriides*. *Lyteba*, Thoms., = *Oxylabis*, Först. *Xenotoma*, Först., is richer in species than the other British genera, and most of them are undescribed.

In the following list *new* British species are denoted by numbers prefixed :—

CYNIPIDÆ.

1. SYNERGUS INCRASSATUS, Hart. Germ. Zeit. ii. 199. The identifications of other British species of this genus being extremely doubtful, I think it better to omit them.
2. PEZOPHYCTA BRACHYPTERA. — *Xystus brachypterus*, Hart. Germ. Zeit. ii. 200 ; *Allotria brachyptera*, Gir. Verh. z.-b. Ges. Wien, 1860, p. 131, ♂ ♀ ; Thoms. Öfv. 1861, p. 410.
3. ALLOXYSTA MACROPHADNA. — *Xystus macrophadnus*, Hart. Germ. Zeit. iii. 352 ; *Allotria macrophadna*, Gir. p. 130 ; Thoms. p. 408.
4. ALLOTRIA MINUTA. — *Xystus minutus*, Hart. ii. 200 ; *A. minuta*, Gir. p. 127 ; Thoms. p. 407. *X. heterocerus*, Hart. iii. 351.
5. ALLOTRIA APERTA. — *Xystus apertus*, Hart. iii. 353 ; *A. aperta*, Thoms. p. 410.
6. ALLOTRIA OBSCURATA. — *Xystus obscuratus*, Hart. ii. 200 ; Ruthe, Stett. Zeit. 1859, p. 310.
7. ALLOTRIA LONGICORNIS. — *Xystus longicornis*, Hart. ii. 199.
8. ALLOTRIA CIRCUMSCRIPTA. — *Xystus circumscriptus*, Hart. iii. 351 ; *A. circumscripta*, Gir. p. 127.
9. ALLOTRIA FLAVICORNIS. — *Xystus flavicornis*, Hart. iii. 352 ; *A. flavicornis*, Gir. p. 129.
10. ALLOTRIA DEFECTA. — *Xystus defectus*, Hart. iii. 352 ; *A. defecta*, Gir. p. 130. ? *A. xanthocephala*, Thoms. p. 409.

11. ALLOTRIA TRAPEZOIDEA.—*Xystus trapezoideus*, Hart. iii. 352. ? *A. citripes*, Thoms. p. 410.
12. ALLOTRIA CASTANEA.—*Xystus castaneus*, Hart. iii. 352.
13. ALLOTRIA HALTERATA, Thoms. p. 410. The smallest of the *Cynipidæ*.
ALLOTRIA PEDESTRIS.—*Cynips pedestris*, Curt. B. E. 320, n. 32. *Xystus cursor*, Hart. ii. 200 ; *A. cursor*, Gir. p. 131. If this identity be wrong (which is not likely), then *X. cursor*, Hart., must be reckoned a new British species.
14. MICROSTILBA HETEROGENA.—*Eucoila heterogena*, Gir. p. 137 ; *Cothonaspis heterogena*, Thoms. p. 401.
15. COTHONASPIS GRACILIS.—*Eucoila gracilis*, Dahlb. Sk. Hym. Fn. p. 30 (table), n. 15 ; Thoms. p. 404. Easily confounded with no. 22, *Aglaotoma codrina*, Hart.
16. CLIDOTOMA BREVICORNIS. — *Kleidotoma brevicornis*, Thoms. p. 400.
17. CLIDOTOMA GENICULATA. — *Cothonaspis geniculatus*, Hart. ii. 201 ; *Kleidotoma geniculata*, Thoms. p. 399. This makes the third species of *Clidotoma* noticed in England, while the Swedish species number fourteen.
- NEDINOPTERA SUBAPTERA.—*Figites subapterus*, Walk. Ent. Mag. ii. 117. *Kleidotoma maritima*, Thoms. p. 398.
18. NEDINOPTERA HALOPHILA. — *Kleidotoma halophila*, Thoms. p. 398.

19. GLAURASPIDIA SUBTILIS.—*Eucoila subtilis*, Dahlb. Sk. Hym. Fn. p. 32. *Glauraspidia microptera*, Thoms. p. 401. Found in Swithland Wood, Leicestershire ; also taken by Mr. Walker. Förster separates this insect from *Cothonaspis micropterus*, Hart. ii. 201, with which it was united by Thoms., and forms of the latter the new genus *Apistophyza*.
20. PSILODORA BOIENII.—*Cothonaspis Boienii*, Hart. ii. 200. Taken near Milford Haven. Not common. This and the following are distinguished by having a fuscous blotch upon the wings.
21. PSILODORA MACULATA.—? *Figites syrphi*, Newm. Ent. Mag. ii. 515. *Eucoila crassinervis*, Dahlb. Sk. Hym. Fn. n. 20 (*nec Eucoila crassinerva*, Westw.) *Eucoila Guerini*, Dahlb. Onych. och Callasp. pl. ii. f. 8. *Cothonaspis maculatus*, Hart. ii. 201 ; *Eucoila maculata*, Gir. p. 134 ; Thoms. p. 405. The doubt attaching to the first name, and the sketchy nature of the indications given by Dahlbom, render it advisable to prefer the name *maculata*.
22. AGLAOTOMA CODRINA.—*Cothonaspis codrinus*, Hart. iii. 357 ; Gir. p. 146.
23. TRYBLIOGRAPHA SCUTELLARIS.—*Cothonaspis scutellaris*, Hart. ii. 200 ; *Eucoila scutellaris*, Gir. p. 140. *Figites foveator*, Dahlb. Sk. Hym. Fn. p. 30. I am almost sure that this is Westwood's *Eucoila crassinerva*, the original type of the genus *Eucoila*, notwithstanding Dahlbom's opinion to the contrary. If this be so, the name *Eucæla* should be reserved for it.
24. TRYBLIOGRAPHA DIAPHANA.—*Cothonaspis diaphanus*, Hart. iii. 356.

25. PSICHACRA LONGICORNIS.—*Cothonaspis longicornis*, Hart. ii. 201.
26. EUCÆLA CUBITALIS.—*Cothonaspis cubitalis*, Hart. iii. 356 ; Gir. p. 135.
27. EUCÆLA MANDIBULARIS.—*Figites mandibularis*, Zett. I. L. 410 ; *Eucoila mandibularis*, Thoms. p. 404. ? *Eucoila basalis*, Hart. ii. 201.
28. EUCÆLA TRICHOPSILA.—*Eucoila floralis*, Dahlb. Sk. Hym. Fn. p. 31. *Cothonaspis trichopsilus*, Hart. iii. 356 ; Gir. p. 140.
29. EUCÆLA PARVULA.—*Eucoila parvula*, Thoms. p. 403. Upwards of 50 species have been referred to the genus *Eucæla*, and only a few of these are taken away by Förster's genera. A considerable number of English species therefore remain to be discovered.
30. ÆGILIPS DALMANNI.—Reinh. Berl. ent. Zeit. 1860, p. 220.
31. ÆGILIPS RUGICOLLIS, Reinh. l. c. Seems to be only distinguished by the slight rugosity of the sides of the thorax. Probably only a variety of the preceding.
32. LONCHIDIA MACULIPENNIS.—*Figites maculipennis*, Dahlb. Onych. och Callasp. pl. ii. f. 1 ; *L. maculipennis*, Thoms. p. 413. Both sexes have a small opaque spot in the middle of the wings. Rare. Found at Milford Haven, and also by Mr. Walker.
33. FIGITES NITENS.—*Psilogaster nitens*, Hart. iv. 418 ; Gir. p. 149 ; Reinh. Berl. ent. Zeit. 1860, p. 235.
34. FIGITES CONSOBRINUS, Gir. p. 153 ; Reinh. p. 232 ; Thoms. p. 415.

35. *PYCNOTRICHIA URTICARUM*.—*Figites urticarum*, Dahlb. Sk. Hym. Fn. 16; Thoms. p. 414. *Figites lævigatus*, Reinh. p. 233.
36. *SABOTHRUS CANALICULATUS*.—*Amphithectus canaliculatus*, Hart. ii. 203; Reinh. p. 226. *Cynips tibialis*, Zett. I. L. 409. Common.
37. *DICEREA URTICETI*.—*Figites urticeti*, Dahlb. Onych. och Callasp. (table), p. 3, pl. ii. f. 2; *Melanips urticeti*, Thoms. 417.
38. *MELANIPS LONGITARSUS*.—*Amblynotus longitarsus*, Reinh. p. 224; Thoms. p. 416.
39. *MELANIPS OPACUS*.—*Scytodes opacus*, Hart. ii. 202; *Amblynotus opacus*, Reinh. p. 223.

ICHNEUMONIDÆ.

40. *ICHNEUMON VULNERATORIUS*, Zett. I. L. 364, ♀; Holmgr. Ichn. Suec. i. 118, ♂ ♀. Var. *I. Dahlbomi*, Wesm. Bull. Ac. Brux. 1857, p. 383, ♀. ? Var. *I. hæmatonotus*, Wesm. Mém. couron. Ac. Belg. 1859, p. 89, ♀.

Several specimens were lately sent to me by Mr. Bold, taken on the Cheviot hills.

41. *HEMITELES BIANNULATUS*, Gr. I. E. ii. 846, ♀; Tasch. Zeit. Ges. Nat. 1865, p. 123, ♀. One of the largest species of the genus. A single ♀ taken at St. Albans.

HEMITELES ÆSTIVALIS, Gr. The article on this species (Cat. p. 44, n. 28) should be rectified as follows:—

Hemiteles æstivalis, Gr. I. E. ii. 805, cf. i. Suppl. 712; Ratz. Ichn. d. Forst. i. 152; Tasch. Zeits. Ges. Nat. 1865, p. 129, ♂ ♀. Var. *H. modestus*, Gr.

I. E. ii. 858, ♀. Var. *H. ruficollis*, Gr. I. E. ii. 853, ♀.

The varieties differ only in having more or less of red on the thorax, and I found several of these forms in Hertfordshire : see Tasch. l. c.

42. CAMPOPLEX ANCEPS.—? *Campoplex pugillator*, var. 7, Gr. I. E. iii. 610, ♀. *C. anceps*, Holmgr. Sv. Ak. Handl. 1858, n. 8, p. 35, ♀.

A specimen from Devonshire exactly corresponds with Holmgren's description of *anceps*, the doubt implied in whose name is whether it is a structural variety of *pugillator*. It is probably distinct, differing at least as much as congeneric species are wont to differ.

43. LIMNERIA ALBOVINCTA, Holmgr. Sv. Ak. Handl. 1858, n. 8, p. 56, ♀.

From the Dee-side marshes, Braemar. The antennæ are semi-annulated with white.

LIMNERIA CRASSICORNIS, Gr. (Cat. p. 55). Last summer I took the undescribed ♂, together with several ♀s, on the banks of the canal near Leicester. The description of the ♀ serves equally well for the ♂, *mutatis mutandis*.

I have 161 specimens of *Limneria* still unexamined, from which many novelties may be expected.

44. MESOLIUS NOBILIS, Holmgr. Sv. Ak. Handl. 1855, p. 178. A single specimen from St. Albans.

TRYPHON CALCATOR (Cat. p. 74) is a *Polyblastus*.

TRYPHON SCOTOPTERUS (Cat. p. 75), placed by me alphabetically, like the preceding, as a doubtful member of the genus, and not known to Holmgren, is a

genuine *Tryphon*. It is common in England, but I was nevertheless without specimens until last summer, when I found them at St. Albans.

45. *PIMPLA ANGENS*, Gr. I. E. iii. 162 (part); Ratz. Ichn. d. Forst. iii. 101, ♂; Holmgr. Sv. Ak. Handl. 1860, p. 22, ♂ ♀; Tasch. Zeits. Ges. Nat. 1863, pp. 259 and 265, ♂ ♀.

To this species I refer a ♀ sent from Northumberland by Mr. Bold. The circular spiracles, lobated tarsi, &c., leave no room for doubt.

46. *THERSILOCHUS GEMINUS*, Holmgr. Sv. Ak. Handl. 1858, n. 8, p. 137, ♀. Both sexes from Darenth Wood. The ♂ is undescribed, but differs from the ♀ only sexually.

BRACONIDÆ.

47. *BRACON LARVICIDA*, Wesm. Nouv. Mém. Ac. Brux. 1838, p. 41, ♀. Taken at Barnstaple.
48. *BRACON COLPOPHORUS*, Wesm. *lib. cit.* p. 46, ♀. St. Albans.
49. *BRACON FUSCICOXIS*, Wesm. *lib. cit.* p. 32, ♂ ♀. Leicestershire.
50. *CÆLOIDES MELANOTUS*, Wesm. *lib. cit.* p. 61, ♂ ♀. I have seven specimens of both sexes sent from S. Wales, I believe by Dr. Chapman, who reared them from some wood-boring beetle.
51. *PERILITUS ALBICORNIS*.—*Meteorus albicornis*, Ruthe, Berl. ent. Zeit. 1862, p. 34, ♀ Both sexes are common near St. Albans. The antennæ of the (undescribed) ♂ are entirely black; in other respects it corresponds with the ♀.

52. CALYPTUS ATRICORNIS.—*Brachistes atricornis*, Ratz. Ichn. d. Forst. ii. 28 ; *C. atricornis*, Reinh. Berl. ent. Zeit. 1867, p. 371, ♀.

Two ♀s and one ♂ from Mar Forest, Braemar. They are large for the genus, and differ from *ruficoxis*, Wesm., in the terebra, which is hardly as long as the abdomen. Another large cognate species I am unable to name at present ; the terebra is longer than the body ; only the 1st segment rugose ; and the 2nd cubital cell indicated by two short branches forming the two ends of the outer nerve :—characters which approach *Aspidogonus*. To this last genus certainly belongs *Bracon analis*, Nees (Cat. p. 120), of which I have taken a single specimen. The other species, *diversicornis*, Wesm., which I have not seen, is introduced as British on the authority of Westwood, Int. ii. Synopsis, p. 62.

UTETES TESTACEUS, Wesm. (Cat. p. 123), occurs not unfrequently in June near St. Albans, and is a fine addition to the British list.

CHÆNON ANCEPS, Curt. (Cat. p. 130). The head quarters of this rare insect are the marshes of the Dee, about three miles from Braemar, near the bridge leading to Mar Forest and Ben-Muc-Dhu.

OXYURA.

DRYINUS FORMICARIUS, Latr., figures in the British Catalogue on the authority of its capture by Mr. Baly, near Cobham. My attention was drawn to this fact by Prof. Westwood, who possesses the specimen.

CHELOGYNUS LAPPONICUS, Thoms., is common in England, near St. Albans, &c. Hitherto confounded with *lucidus*, Hal.

53. *MEGASPILUS NORVEGICUS*, Thoms., Öfv. 1858, p. 297, ♀.
I presume that this insect is rightly named ; but the description is rather laconic.
54. *CERAPHRON SCUTELLARIS*, Thoms., Öfv. 1858, p. 303, ♀.
55. *ANEURRHYNCHUS LONGICORNIS*, Thoms., Öfv. 1858, p. 376, ♀.
56. *BELYTA ABRUPTA*, Thoms., Öfv. 1858, p. 168, ♂ ♀.
Common in North Devon and elsewhere.
57. *PANTOCLIS PUBIVENTRIS*.—*Belyta pubiventris*, Thoms., Öfv. 1858, p. 174, ♂. Leicestershire.
58. *PANTOCLIS FOSSULATA*.—*Belyta fossulata*, Thoms., Öfv. 1858, p. 177, ♀. St. Albans.
59. *ACLISTA CLAVISCAPA*.—*Belyta claviscapa*, Thoms. Öfv. 1858, p. 175, ♂ ♀.
60. *CINETUS BREVIPETIOLATUS*, Thoms. Öfv. 1858, p. 160, ♀.

GRANGE, LASTINGHAM, PICKERING,
December, 1873.