

**Western Palaearctic Cryptinae (Hymenoptera: Ichneumonidae) in the National Museums of Scotland, with nomenclatural changes, taxonomic notes, rearing records and special reference to the British check list.
Part 1. Tribe Cryptini**

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Introduction

The National Museums of Scotland (NMS) has a large collection of western Palaearctic Ichneumonoidea which is of interest for three reasons in particular. First, it is exceptionally rich in reared material, particularly (though by no means exclusively) for groups that parasitise Lepidoptera and Araneae. This is the result of a sustained effort over the past 25 years to investigate the biology and host associations of parasitoids through rearing programmes, and through soliciting donations from others of the parasitoids they rear. Second, it is almost entirely of recent origin, with reasonably good standards of preparation and data. Only a small amount of material predates the rearing effort referred to above and the phase of mass collecting (largely through Malaise traps) that began in 1980. The pre-existing material is not without interest, however, as it contains British specimens collected about 100 years ago by Cameron and Morley, mostly with Morley determination labels (or undetermined in the case of some of the Cameron material), and also some material collected at about the same time from SW. Germany (especially Baden-Württemberg). Finally, in recent years several specialists have used parts of the collection for their research, and/or have given substantial time in determining specimens authoritatively. In particular this has included work by K. Horstmann, R. Jussila and J. Sawoniewicz (as well as Schwarz) on parts of the Cryptinae. Geographically the collection is particularly rich in British material (from a wide spread of habitats and localities) but with appreciable inputs from southern France. Other parts of Europe are less well represented, although the taxonomic representation of the collection is considerably extended by those relatively few specimens.

The first author has spent three months in Edinburgh, during which the entire collection of western Palaearctic Cryptinae of around 15,000 mounted specimens has been reviewed and rearranged, and all specimens in the majority of genera have been determined or checked. The present series of papers serves several purposes. First, and most generally, it draws attention to the existence of material of interest for further taxonomic and faunistic research. Second, even though this part of the overall Ichneumonoidea collection in the NMS is not as rich as other groups in reared specimens, rearing records can be given for several

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species and even genera of Cryptinae whose biology was hitherto unknown. Third, it details a substantial number of species not previously recorded from Britain. For each species the entry automatically gives some idea of distribution, both spatial and temporal, and abundance in Britain – information that is lacking for this group of insects, given that Morley's (1907) account is unreliable as well as outdated. Fourth, in using current nomenclature the opportunity is taken to comment on or correct the most recent British check list (Fitton *et al.*,

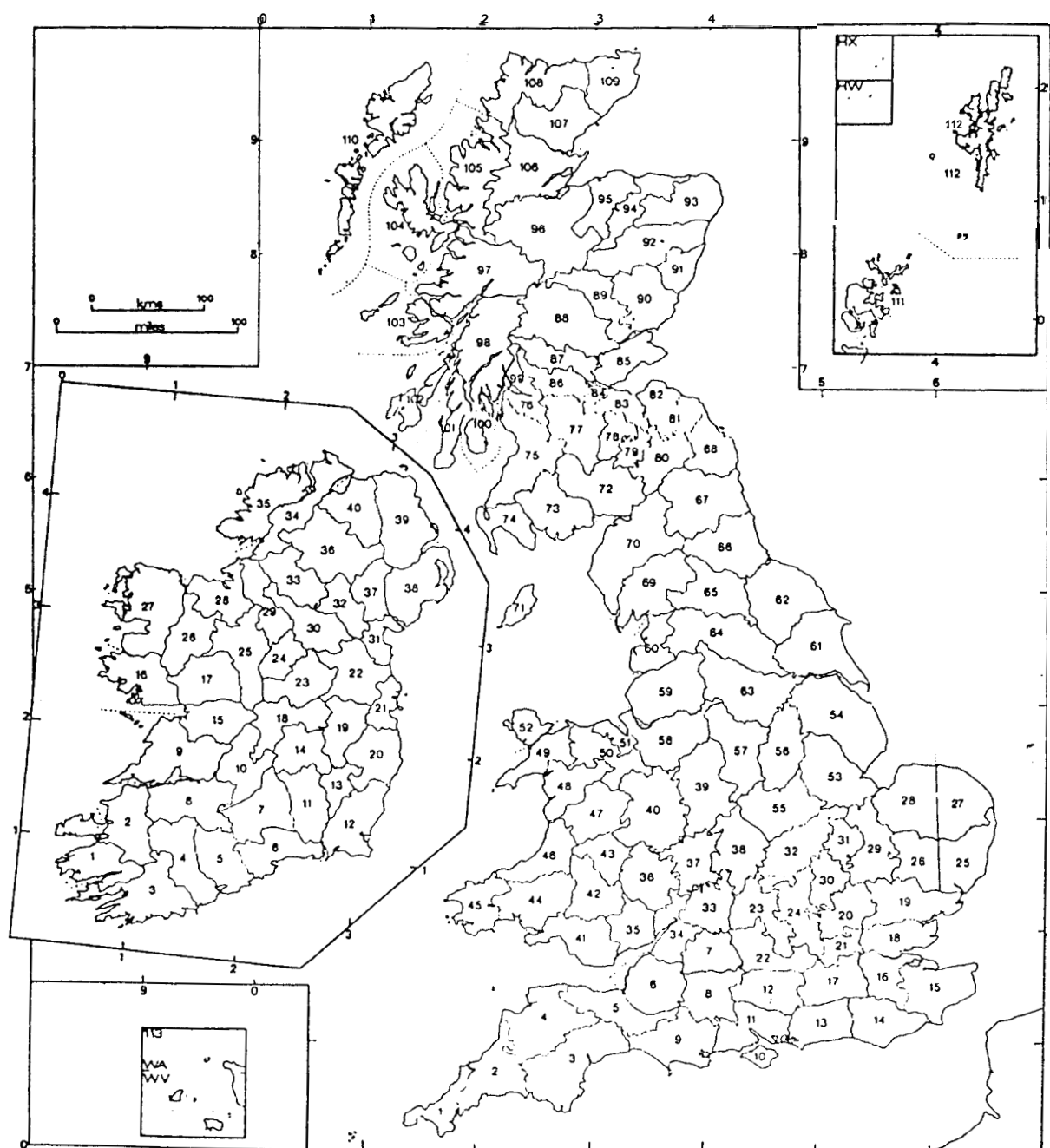


Fig. 1. Vice counties of Great Britain and of Ireland. The Irish series is prefixed 'H' when referred to in the text.

1978). Fifth, a new check list is currently mooted, which may be generated from a database that not only vouches for the inclusion of species but also indicates from which countries in the British Isles the records come (recognising, *inter alia*, the need for regional check lists felt by the independent country nature conservation agencies), and this account will provide voucher detail for that eventuality. Sixth, nomenclatural changes are proposed and taxonomic remarks and comments are made whenever relevant and when there is a basis to refine knowledge.

The presentation of records is in some cases somewhat arbitrarily condensed. Broadly, if we believe a species is rare, if the specimens are reared, or if there are representatives from less than four British localities, the data are given in full. Other specimens of particular interest may be highlighted in the same way. Otherwise only a summary of the NMS holding is given: 'several' refers to 4–10 specimens, 'many' to 11–25, and 'numerous' to more than that. A number in brackets following a host name indicates the number of rearings (i.e. host mortalities in the case of a gregarious parasitoid) from that host taxon. As a minimum, for each cryptine species the specimen data are condensed to give the countries (but Ireland = the whole island) and vice-counties (V.C.) of the British Isles, and elsewhere in Europe the countries and department or some other indication of local area, from which the specimens were collected. The British Isles V.C. numbers referred to in the text correspond to those mapped in Fig. 1. Note that the prefix 'H' (as used in the text) refers to the map of Ireland, not to that of the British mainland. Exact information on V.C. boundaries can be sought via Dandy (1969) and (for Ireland) Praeger (1896).

Several of the specimens of Cryptinae had been determined earlier by Horstmann, Jussila or Sawoniewicz and, when pertinent, this information is given as for example 'teste Horstmann' to indicate a coincidence of view or for example 'det. Horstmann' to indicate a reliance on that person's determination in the present work. Otherwise (and particularly for Cryptini) determinations are attributable to Schwarz.

This first part of our account of the western Palaearctic Cryptinae in the NMS covers about 2250 specimens of relatively large ichneumonids in the tribe Cryptini. Some 90 species are detailed, of which **48** are represented by British specimens, and 12 of these are recorded from Britain for the first time. The order of genera follows Townes (1970).

Check list of British Cryptini

In the revised check list of British Cryptini given below, names of some species that we believe to be valid have been asterisked to indicate that they have been brought forward from the last check list (Fitton *et al.*, 1978), but that we cannot vouch for their right to be included as we have not seen British specimens. However, as we have not examined much material apart from that in NMS, there is no strong reason to suppose that these asterisked species should be excluded. We have seen British specimens of all the other species listed, except for *Listrognathus mengersseni* (see text).

CRYPTINI

MESOSTENINI

AGROTHEREUTINA

APSILOPS Foerster, 1869*DAPANUS* Foerster, 1869*TRICHOCRYPTUS* Thomson, 1873*aquaticus* (Thomson, 1874)*cinctorius* (Fabricius, 1775)*THRYBIUS* Townes *in* Townes, Momoi & Townes, 1965*brevispina* (Thomson, 1896)*praedator* (Rossi, 1792)*leucopygus* (Gravenhorst, 1829)*elegans* (Desvignes, 1856)*AGROTHEREUTES* Foerster, 1850*abbreviatus* (Fabricius, 1794)*abbreviator* (Fabricius, 1793) *misident.**abbreviator* (Fabricius, 1798) *preocc.*f. *brevipennis* (Marshall, 1867)*batavus* Vollenhoven, 1873f. *hopei* (Gravenhorst, 1829)f. *incubitor* (Gravenhorst, 1829)**adustus* (Gravenhorst, 1829)**aterrimus* (Gravenhorst, 1829)*bicingulatus* (Gravenhorst, 1829)*bombycis* (Boudier, 1836)*migrator* *misident.*? *tibialis* (Thomson, 1873)*fumipennis* (Gravenhorst, 1829)*zygaenarum* (Thomson, 1873)**hospes* (Tschek, 1870)*mandator* (Linnaeus, 1758)*mansuetor* (Tschek, 1870)*saturniae* (Boie, 1855)*GAMBRUS* Foerster, 1869*HYGROCRYPTUS* Thomson, 1873**amoenus* (Gravenhorst, 1829)*bipunctatus* (Tschek, 1872)*carnifex* (Gravenhorst, 1829)*incubitor* (Linnaeus, 1758)*ornatus* (Gravenhorst, 1829)*ornatulus* (Thomson, 1873)*superus* Thomson, 1896. *tricolor* (Gravenhorst, 1829)*subcinctus* (Gravenhorst, 1829)

HOPLOCRYPTUS Thomson, 1873

- bellosus* (Curtis, 1837)
signatorius (Fabricius, 1793) preocc.
confector (Gravenhorst, 1829)
dubius (Taschenberg, 1865)
**fugitivus* (Gravenhorst, 1829)
**quadriguttatus* (Gravenhorst, 1829)
rufoniger (Desvignes, 1856)

ARITRANIS Foerster, 1869

- PYCNOCRYPTUS** Thomson, 1873
director (Thunberg, 1822)
peregrinator misident.
nigripes (Gravenhorst, 1829)
occisor (Gravenhorst, 1829)

HIDRYTA Foerster, 1869

- nigricoxa* (Provancher, 1888)
sordida (Tschek, 1870)

IDIOLISPA Foerster, 1869

- analis* (Gravenhorst, 1807)
**?hungarica* (Szépligeti, 1916)
grossa misident. (?)
subalpina (Schmiedeknecht, 1904)

TRYCHOSIS Foerster, 1869

- ?ingrata* (Tschek, 1870)
insularis van Rossem, 1990
legator (Thunberg, 1822)
msocastana misident.
titillator misident.
plebeja (Tschek, 1870)
picta (Thomson, 1873)
tristator (Tschek, 1870)

CRYPTINA**HEDYCRYPTINA****ISCHNINA****ENCLISIS** Townes, 1970

- macilenta* (Gravenhorst, 1829)
antennata (Bridgman, 1881)
ruficeps (Desvignes, 1856)
pulchella Schwarz, 1989
vindex (Tschek, 1870)
striolata (Thomson, 1896)

ISCHNUS Gravenhorst, 1829

- **agitator* (Olivier, 1792)
 - minutorius* (Fabricius, 1804)
- alternator* (Gravenhorst, 1829)
- collaris* (Tschek, 1872)
- migrator* (Fabricius, 1775)
 - inquisitorius* (Müller, 1776)
 - porrectorius* (Fabricius, 1787)
 - assertorius* (Fabricius, 1793)
 - brachyurus* (Gravenhorst, 1829)

CAENOCRYPTUS Thomson, 1873

- rufiventris impunctatus* Schwarz, 1991
- collaris* (Rudow, 1883) preocc.

BUATHRA Cameron, 1903

- laborator* (Thunberg, 1822)
- tarsoleuca* (Schrank, 1781)

CRYPTUS Fabricius, 1804

- ITAMOPLEX** Foerster, 1869
- **apparitorius* (Villers, 1789)
- armator* Fabricius, 1804
 - albatorius* misident.
- dianae* Gravenhorst, 1829
- fibulatus* Gravenhorst, 1829
- **inculcator* (Linnaeus, 1758)
 - sponsor* (Fabricius, 1793)
- **minator* Gravenhorst, 1829
- **moschator* (Fabricius, 1787)
- **spinosus* Gravenhorst, 1829
 - armatorius* (Fabricius, 1787) preocc.
- **spiralis* (Geoffroy in Fourcroy, 1785)
- titubator* (Thunberg, 1822)
 - difficilis* Tschek, 1870
 - infumatus* Thomson, 1873
- **tuberculatus* Gravenhorst, 1829
- viduatorius* Fabricius, 1804

XYLOPHRURUS Foerster, 1869

- lancifer* (Gravenhorst, 1829)
 - dispar* (Thunberg, 1822) preocc.
- tumidus* (Desvignes, 1856)

MERINGOPUS Foerster, 1869

- **attentorius* (Panzer, 1804)
- **cyanator* (Gravenhorst, 1829)
- **titillator* (Linnaeus, 1758)
 - latitarsis* (Thomson, 1873)

MESOSTENINA

MESOSTENUS Gravenhorst, 1829
transfuga Gravenhorst, 1829

GORYPHINA

LISTROGNATHUS Tschek, 1870
ligator (Gravenhorst, 1829)
**mactator* (Thunberg, 1822)
mengersseni Schmiedeknecht, 1905
obnoxius (Gravenhorst, 1829)
subovalis (Thomson, 1873)

ATELEUTINA

ATELEUTE Foerster, 1869
linearis Foerster, 1871

OSPRYNCHOTINA**NEMATOPODIINA**

NEMATOPODIUS Gravenhorst, 1829
debilis (Ratzeburg, 1852)
formosus misident,

ACRORICNUS Ratzeburg, 1852
stylator (Thunberg, 1822)
macrobatus (Gravenhorst, 1829)

SPHECOPHAGINA

SPHECOPHAGA Westwood, 1840
CHYRONOMON Desvignes, 1856
vesparum (Curtis, 1828)
sericea (Thomson, 1888)
thuringiaca Schmiedeknecht, 1914

Material in NMS and taxonomic notes

Apsilops aquaticus (Thomson)

England: 1♂, Norfolk, Martham (V.C. 27), on aquatic plants in dykes, 1.ix.1901 [C. Morley].

Apsilops cinctorius (Fabricius)

Several specimens. **England:** V.C. 5, 6, 27. **Wales:** V.C. 35. Specimens collected from vi-x, all in wetland sites.

Thrybius brevispina (Thomson)

Numerous specimens from only two localities. **England:** Cambridgeshire, Chippenham Fen, TL6569 (V.C. 29), carr at reedbed edge (J. Field); Norfolk, Barton Turf (V.C. 27), *Phragmites/Cladium* fen (M. R. Shaw). Specimens collected from

vi–vii, apparently univoltine. This species is restricted to reed (*Phragmites australis*). In Fitton *et al.* (1978) the species is listed under *Gambrus*.

Thrybius praedator (Rossi) (= *leucopygus* (Gravenhorst))

Many specimens. **England:** V.C. 25, 27, 29. **Wales:** V.C. 46. Specimens collected from vi–ix. All were collected in relatively diverse wetland habitats that included reeds (*Phragmites australis*). The male lectotype of *Cryptus elegans* Desvignes has been examined and we can confirm the synonymy proposed by Sawoniewicz (1988), who had not examined it.

Agrothereutes Foerster

Several of the nominal species listed under this genus by Fitton *et al.* (1978) have been transferred to other genera. In addition to those treated in this paper, these are *amoenus* (Gravenhorst) (= *Gambrus amoenus* (Gravenhorst) – specimens agreeing well with the original description of *amoenus* fit Townes' (1970) concept of the genus *Gambrus*) and *grossus* auctt. nec (Gravenhorst) (= *Idiolispa hungarica* (Szépligeti) (Schwarz, 1988)).

Agrothereutes abbreviatus (Fabricius)

This species is listed by Fitton *et al.* (1978) as *Agrothereutes abbreviator* (Fabricius, 1793), but Horstmann (1992) has shown that the name *Ichneumon abbreviator* Fabricius, 1793 belongs to a different taxon, and that the correct name is *Agrothereutes abbreviatus* (Fabricius, 1794), which has the junior homonym *Ichneumon abbreviator* Fabricius, 1798, as an objective synonym.

Horstmann (1993a) divided this taxon into four forms, each recognisable only in the female sex, some of which apparently have different host ranges and distributions. Here we give data for females of these forms separately, followed by data for all the males collectively. The nominotypical form *abbreviatus* has not been recorded from the British Isles.

Agrothereutes abbreviatus* f. *abbreviatus (Fabricius)

One specimen. **Austria:** Oberosterreich. Collected in viii.

Agrothereutes abbreviatus* f. *brevipennis (Marshall) (= *batavus* Vollenhoven)

Three specimens. **England:** V.C. 15, 17, 59. Collected in vi and viii. One specimen was reared in viii from a cocoon of *Zygaena filipendulae* (Linnaeus) (Zygaenidae) collected in vii of the same year.

Agrothereutes abbreviatus* f. *hopei (Gravenhorst)

Many specimens. **England:** V.C. 17, 23, 27, 28, 29. **Wales:** V.C. 44, 45, 52. Collected from vi–x, usually in fens.

Agrothereutes abbreviatus* f. *incubitor (Gravenhorst)

Two specimens. England: V.C. 28. Collected from v–vi. Wales: V.C. 49. The Welsh specimen was reared from ? *Ancylis mitterbacheriana* ([Denis & Schiffermüller]) (Tortricidae).

A. abbreviatus sensu lato. Numerous male specimens. England: V.C. 7, 22, 28, 29, 31, 58, 59. Wales: V.C. 45, 50, 52. Ireland: V.C. H30. France: Dordogne, Lot-et-Garonne, Hautes-Alpes, Haute-Marne. Netherlands: Noord Holland. Specimens collected from vi–ix (Britain), v–ix (France). One reared from a cocoon of *Phyllonorycter schreberella* (Fabricius) (Gracillariidae) in a leaf mine on *Ulmus* sp. (Netherlands) and one doubtful specimen from a small lepidopterous pupa concealed in *Phragmites* (England).

Agrothereutes aterrimus (Gravenhorst)

Austria: 1 ♂, Salzburg, nr Anif, Salzachau, 16.vi.1984 (*M.Schwarz*).

Agrothereutes bombycis (Boudier) (= *migrator* auctt. nec (Fabricius) = ?*tibialis* (Thomson))

Numerous specimens. England: V.C. 1, 40, 60, and 'Yorks.'. Scotland: V.C. 72, 81, 96, 99, 108. France: Ardèche, Lot-et-Garonne, Dardogne. British specimens collected from vi–viii, probably univoltine. Reared from cocoons of *Lasiocampa quercus* (Linnaeus) (especially subsp. *callunae* Palmer) (Lasiocampidae) (gregarious broods of 209, 288; 20 ♀, 4 ♂; one solitary ♀; and two broods totalling 18 ♀, 8 ♂. In some cases it is clear that not all parasitoids had successfully emerged). Oviposition is into the host cocoon, inside which the parasitoids overwinter.

Horstmann (1968) showed that the name *Ichneumon migrator* Fabricius, 1775, had been misapplied by previous authors and synonymised *migrator* auctt. nec (Fabricius) with *Agrothereutes tibialis* (Thomson). Subsequently (Horstmann, 1985) he synonymised *A. tibialis* with *A. bombycis* (Boudier). The type of *Cryptus bombycis* Boudier is lost and Horstmann's (1985) interpretation is based on the description and on the host (*L. quercus*). The lectotype of *Spilocryptus tibialis* Thomson, which we have examined, differs slightly from specimens of *A. bombycis*, as reared from *L. quercus*, and it is possible that the two nominal taxa represent different species.

Agrothereutes fumipennis (Gravenhorst)

Several reared specimens. England: V.C. 17, 34. Wales: V.C. 52. France: Hautes-Pyrénées. Sweden: Sodermanland, Uppland. Solitary parasitoid of cocoons of Zygaenidae; reared in Britain from *Zygaena filipendulae* (Linnaeus) (6), in France from *Zygaena contaminei* Boisduval (1) and in Sweden from *Zygaena lonicerae* (Scheven) (4). Oviposition is into the host cocoon, and the adults emerged the same year.

Agrothereutes hospes (Tschek)

Several specimens, all except two reared. Italy: Trento. **Germany**: Baden-Württemberg, Nordrhein-Westfalen. France: Lot-et-Garonne. **Gibraltar**. Reared solitarily from cocoons of Zygaenidae: *Zygaena jilipendulae* (Linnaeus) (Italy) (1), *Z.*

trifolii (Esper) (Germany) (1) and *Zygaena* sp. (France, Germany) (2). Another specimen is not labelled as reared but is mounted with a cocoon of *Zygaena carniolica* (Scopoli) (Germany). Oviposition is into the host cocoon, and, in the single case with clear data, emergence was in the same summer.

***Agrothereutes mandator* (Linnaeus)**

Numerous specimens. England: V.C. 20, 23. Scotland: V.C. 82, 83, 87, 96, 101. Reared from cocoons of Cimbicidae: *Trichiosoma ?lucorum* (Linnaeus) (6 broods, 4 identified only as *Trichiosoma* cocoons on *Betula*), *Trichiosoma tibiale* Stephens (1 brood, cocoon on *Crataegus*), and indet. *Trichiosoma* cocoon spun on *Myrica* (1 brood). Broods of 8♀, 13♂; 2♀, 11♂; 5♀, 6♂; 8♀, 4♂; and 3♀, 3♂; but from some of the host cocoons it is probable that emergence was incomplete. Another cocoon produced 4♀, 4♂ and a series of *Gelis areator* (Panzer), presumably as a pseudohyperparasitoid. Oviposition is into the host cocoon, inside which the parasitoids overwinter. The lectotype of *Ichneumon mandator* Linnaeus has been examined.

***Agrothereutes mansuetor* (Tschek)**

This species is here recorded as British for the first time. Scotland: 19, Aberdeenshire, Braemar, Morrone Birkwood NNR (V.C. 92), birch, juniper and aspen wood, 4–29.vii.1983 (*B. D. Batty*).

***Agrothereutes parvulus* (Habermehl)**

Many specimens from one locality. France: Lot-et-Garonne (Bernac). Specimens collected from v–vii.

***Agrothereutes saturniae* (Boie)**

Numerous specimens. England: V.C. 5, 11, 27, 28, 29, 71. Scotland: V.C. 88, 92, 99, 102, 105, 107, 108. France: Lot-et-Garonne. Specimens have been collected from vi–ix. Reared from cocoons of *Saturnia pavonia* (Linnaeus) (Saturniidae) (9 discrete broods: 1♀, 29♂(!); 1♀, 14♂(!); 12♀, 7♂; 8♀; 20♀, 5♂; 30♀, 12♂; 6♀, 3♂; 4♀, 5♂; 2♀; and a further 4 broods of unknown sizes. In some cases it is clear that emergence was incomplete). Oviposition is into the host cocoon, inside which the parasitoids overwinter. This species appears to be largely univoltine but, even in Scotland, occasionally parasitised host cocoons collected in the year of their formation give rise to adult parasitoids in late autumn of the same year, suggesting partial bivoltinism.

***Gambrus bipunctatus* (Tschek) comb. nov.**

This species is here recorded as British for the first time. Numerous specimens. England: V.C. 19, 25, 27, 28. Wales: V.C. 44, 45, 46, 52. Scotland: V.C. 99, 101. Specimens collected from vii–ix(?x), in wet grassland habitats. Reared from cocoons of *Philudoria potatoria* (Linnaeus) (Lasiocampidae) (1 gregarious brood of 23 or 24 specimens, of which 6♀ are present) and *Simyra albovenosa* (Goeze) (Noctuidae) on *Phragmites* (regarious brood of 5♀, 6♂), and from *Scirpus lacustris* stems harbouring *Archanara algae* (Esper) (Noctuidae) (1♀, 1♂ from a gregarious brood of 3 cocoons). The brood from *S. albovenosa* almost certainly overwintered in the host cocoon, while the one from *A. algae* certainly did not overwinter. Thus the species appears to be

at least partly bivoltine. The holotype (♂) of *Cryptus bipunctatus* Tschek has been examined.

Gambrus carnifex (Gravenhorst)

Numerous specimens. England: V.C. 6, 22, 25, 27, 28, 29. Wales: V.C. 35, 45, 46, 48, 49, 52. Scotland: V.C. 83. Specimens collected from v-x. One specimen reared from an unidentified host in a reed stem (*Phragmites*) from the previous year. This species is certainly restricted to reedbeds.

Gambrus incubitor (Linnaeus) (= *omatus* (Gravenhorst, 1829), synonymy confirmed; = *Spilocryptus ornatulus* Thomson, 1893 **syn. nov.**; = *Gambrus inferus* Thomson, 1896, synonymy confirmed; = *Gambrus superus* Thomson, 1896 **syn. nov.**; = *Spilocryptus quadricinctus* Strobl, 1901 **syn. nov.**).

Numerous specimens. England: V.C. 1, 22, 27, 28, 29, 58, 63. Wales: V.C. 41, 45, 52. Scotland: V.C. 99, 101, 103, 104. France: Dordogne. Germany: Nordrhein-Westfalen. Italy: Umbria. Sweden: Sodermanland. Specimens collected from vi-x in open habitats including wet grasslands. It is a solitary parasitoid of cocoons of Zygaenidae: reared from *Zygaena filipendulae* (Linnaeus) (11), *Z. lonicerae* (Scheven) (3) and *Z. trifolii* (Esper) (5). Some specimens emerged in the summer the host cocoons were formed, but others overwintered in the host cocoon. This suggests that the species is at least partly bivoltine.

The syntypes of *G. superus* Thomson are lost and Aubert (1966) designated a neotype. But this designation is invalid (Fitton, 1982). The specimen labelled as neotype by Aubert is probably the hitherto unknown male of *Gambrus conjungens* (Tschek). The ♀ of *G. conjungens* differs from the description of the ♀ of *G. superus* in the colour of the coxae. Therefore the specimen labelled as neotype by Aubert cannot be used to interpret *G. superus* Thomson. Thomson (1896) stated that *G. superus* is similar to *G. matulus* (Thomson). The differences between the two taxa listed by Thomson are of no value to separate them as distinct species. Therefore *G. superus* is synonymised here with *G. incubitor* (Linnaeus) (= *ornatulus* (Thomson)).

Fitton *et al.* (1978) listed *G. omatus* (Gravenhorst) as a junior synonym of *G. incubitor* (Linnaeus). Horstmann (1992) treated them as distinct species, but he did not examine the type of *Cryptus ornatulus* Gravenhorst (Horstmann, *in litt.*). The type of *Cryptus ornatulus* Gravenhorst agrees well with *Gambrus incubitor* (Linnaeus) and we support the synonymy as listed by Fitton *et al.* (1978). *Gambrus ornatulus* sensu Horstmann (1992) and other central European authors is probably *Gambrus bipunctatus* (Tschek).

The lectotypes of *Ichneumon incubitor* Linnaeus, *Cryptus ornatulus* Gravenhorst, *Spilocryptus ornatulus* Thomson and the holotype of *Spilocryptus quadricinctus* Strobl have been examined.

The lectotype of *Gambrus inferus* Thomson, 1896, is hereby designated: 'Ld', 'Lectotypus ♂ *Gambrus inferus* Thoms. des. Mart. Schwarz '91', '*Gambrus inferus* Ths. 1896 syntype ♂ det. M. G. Fitton 1978' (coll. Zoologiska Institution, Lund). The lectotype of *G. inferus* agrees well with our concept of *G. incubitor*, and this designation supports Horstmann's (1992) action of synonymising them.

Gambrus tricolor (Gravenhorst) (= *subcinctus* (Gravenhorst))

Numerous specimens. **England:** V.C. 22, 23, 27, 29. **Wales:** V.C. 45, 50, 52. **Scoúand:** V.C. 99, 101, 105, 108. Specimens have been collected from vi-x. Reared on two occasions (2 sites) solitarily from *Hartigia linearis* (Schrank) (Cephidae) in *Agrimonia* stems in which it had overwintered, but this cannot be its only host in view of the parasitoid's wider British distribution. *G. tricolor* occurs in open, frequently wet habitats.

Notes on the genus-group names *Aritranis*, *Hoplocryptus* and *Pycnocryptus*

Horstmann (1990) partly revised the genus *Pycnocryptus* Thomson, 1873, and, in accordance with Townes (*in litt.*), transferred *Cryptus nigripes* Gravenhorst and *Cryptus explorator* Tschek from *Aritranis* Foerster, 1869, to *Pycnocryptus*. Unfortunately the last species is the type species of the genus *Aritranis* and consequently *Pycnocryptus* has become a junior synonym of *Aritranis*, which was overlooked by Horstmann. We have examined nearly all known European species of *Aritranis* sensu Townes (1970) and *Pycnocryptus* sensu Townes (1970) and also some Nearctic and eastern Palaearctic species, and we agree with Horstmann (1990) that *Cryptus explorator* Tschek, *Cryptus nigripes* Gravenhorst and allied species belong to the genus called *Pycnocryptus* by Townes (1970), Horstmann (1990) and other authors, which now has to be named *Aritranis*. The valid name of the genus called *Aritranis* by Townes (1970), except for *explorator*, *nigripes* and closely related species, is *Hoplocryptus* Thomson, 1873.

The determination of the genus of some species of *Aritranis* and *Hoplocryptus* is difficult. The opportunity is taken here to list the western Palaearctic species and subspecies of the two genera as far as they are known to us.

***Aritranis* (= *Pycnocryptus* **syn. nov.**):** *claviventris* (Kriechbaumer) **comb. nov.**, *director* (Thunberg) **comb. nov.**, *explorator* (Tschek), *intellector* Aubert, *longicauda* (Kriechbaumer) **comb. nov.**, *nigrifemur* (Szépligeti) **comb. nov.** (= *Spilocryptus rarus* Habermehl, 1920, **syn. nov.**), *nigripes* (Gravenhorst) s.l. (cf. Horstmann, 1990) and *nitida* (Ceballos) **comb. nov.**

***Hoplocryptus*:** *bellosus* (Curtis), *buccatus* (Tschek) (= *Spilocryptus magrettii* Kriechbaumer, 1893, **syn. nov.**; = *Spilocryptus uffelni* Habermehl, 1929, **syn. nov.**; = *Spilocryptus alpicola* Habermehl, 1935, **syn. nov.**), *centricolor* (Aubert) **comb. nov.**, *clementi* Habermehl, *confector* (Gravenhorst), *coxator* (Tschek), *femoralis* (Gravenhorst), *fugitivus* (Gravenhorst), *heliophilus heliophilus* (Tschek), *heliophilus jordanicus* (Kolarov) **stat. nov.**, **comb. nov.**, *melanocephalus* (Gravenhorst) **stat. rev.**, *odoriferator* (Dufour & Perris), *quadriguttatus* (Gravenhorst) and *rufoniger* (Desvignes) (= *Hoplocryptus mesoxanthus* Thomson, 1873, **syn. nov.**).

The holotypes of *Cryptus rufoniger* Desvignes, *Spilocryptus magrettii* Kriechbaumer, *Spilocryptus uffelni* Habermehl, *Spilocryptus alpicola* Habermehl, *Aritranis jordanicus* Kolarov, the lectotype of *Spilocryptus rarus* Habermehl and paralectotypes of *Gambrus* (*Spilocryptus*) *nigrifemur* Szépligeti have been examined.

The lectotype (♂) of *Cryptus buccatus* Tschek, 1872, is hereby designated:

'Type', 'Tschek 1872 Piesting.', '*Hoplocryptus buccatus* Tschek det. Habermehl ♂', 'Syntype ♂ *Cryptus buccatus* Tschek det. M. G. Fitton 1981', 'Lectotypus ♂ *Cryptus buccatus* Tschek, 1872 des. Mart. Schwarz 1989' (coll. Naturhistorisches Museum, Wien).

The lectotype (♂) of *Hoplocryptus mesoxanthus* Thomson, 1873, is hereby designated: '1190', 'Scan', '*mesoxanthus*', '*Hoplocryptus mesoxanthus* Ths. '73 Syntype ♀ det. M. G. Fitton 1978', 'Lectotypus ♀ *Hoplocryptus mesoxanthus* Ths. des. Mart. Schwarz 88' (coll. Zoologiska Institution, Lund).

Hoplocryptus bellosus (Curtis)

Numerous specimens. **England:** V.C. 9, 11, 28, 29, 38. **France:** Lot-et-Garonne, Dordogne. Collected from vi–viii (Britain) and v–ix (France). In England reared from unidentified Aculeata in *Rubus* stems (2) and from *Hylaeus* sp. (Colletidae) in a trap-nest (1). The parasitoid overwinters in the host nest.

Hoplocryptus confector (Gravenhorst) (= *dubius* (Taschenberg))

Many specimens from only one locality in **England:** Cambridgeshire, Chippenham Fen, TL6569 (V.C. 29), carr at reedbed edge (*J. Field*). Collected from vi–vii. Reared from *Ancistrocerus nigricornis* (Curtis) (Eumenidae) (10 specimens, host in some cases marked with a query) and *Symmorphus bifasciatus* (Linnaeus) (= *mutinensis* (Baldini)) (Eumenidae) (1) in trap-nests, and from one natural but unidentified Aculeata nest in elder (*Sambucus*). The parasitoid overwinters in the host nest. Also **France:** 1♀, Lot-et-Garonne (Bernac).

Hoplocryptus coxator (Tschek)

France: 3♂, Lot-et-Garonne (Bernac). **Gibraltar:** 1♀. Specimens collected from vi–vii and in ix.

Hoplocryptus femoralis (Gravenhorst)

France: 1♂, Vaucluse, Mt. Ventoux, 10.vii.1991 (*M. R. Shaw*).

Hoplocryptus fugitivus (Gravenhorst)

Several specimens. **France:** Lot-et-Garonne (Bernac). **Sweden:** Vastmanland (Lindesberg). Specimens collected from vi–vii.

Hoplocryptus melanocephalus (Gravenhorst) **stat. rev.**

France: 1♀, Dordogne (Monestier); 1♀, Vienne (Availles-Limouzine). Collected in vii and viii.

The ♀ of this species can be distinguished from other western Palaearctic species of *Hoplocryptus* with a partly or entirely red thorax and/or propodeum by the following combination of characters: ovipositor sheath longer than hind tibia, most of the mesoscutum lustrous, antenna with third segment rather short and 4.6–5.7 times as long as broad. Males are unknown and therefore it is probable that *H. melanocephalus* (Gravenhorst) is at least partly thelytokous. The holotype of *Cryptus melanocephalus* Gravenhorst has been examined.

Hoplocryptus quadriguttatus (Gravenhorst)

France: 19, Lot-et-Garonne, Bernac, 1–11.vii.1992 (*R. R. Askew*). The specimen differs from central European specimens in having the second tergite of the gaster red.

Hoplocryptus cf. *quadriguttatus* (Gravenhorst)

France: 1♂, Dordogne, Monestier, 8–29.vii.1985 (*R. R. Askew*). This specimen differs from *H. quadriguttatus* (Gravenhorst) in the shape of the clasper and in the much more extended white coloration. It is possibly a different species.

Aritranis director (Thunberg)

Numerous specimens. **England:** V.C. 1, 5, 7, 9, 11, 14, 16, 17, 22, 23, 28, 29, 59. **Scotland:** V.C. 83. **France:** Lot-et-Garonne, Dordogne. **Germany:** Baden-Württemberg. Specimens collected from v–viii, in open habitats.

Aritranis explorator (Tschek)

Italy: 19, Umbria, Lago Trasimeno, 10.viii.1995 (*M. R. Shaw*).

Aritranis longicauda (Kriechbaumer)

Greece: 1♂, Corfu (*Akr. Ekaterini*).

Aritranis nigripes (Gravenhorst) s.str. (= *occisor* (Gravenhorst))

Several specimens. **England:** Norfolk, Stanton Downham, TL8188 (V.C. 28); Oxfordshire, Barrow Farm Fen, SU4697 (V.C. 22); Oxfordshire, Chimney Meadows Ditch, SU3599 (V.C. 22). **France:** Dordogne. Specimens collected in England from (?v)vi–ix.

Hidryta fusiventris (Thomson)

Austria: 19, Salzburg (*Muntigl*).

Hidryta nigricoxa (Provancher)

This species is here recorded as British for the first time. **Wales:** 1♀, 7♂, Anglesey, Cors Erddreiniog, SH4782 (V.C. 52), vii.1988 (*P. Holmes*); 1♀, Anglesey, Rhôs y Gad, SH5078 (V.C. 52), vii.1988 (*P. Holmes*).

Hidryta sordida (Tschek)

British records of this species (e.g. Edgar, 1971) were overlooked by Fitton *et al.* (1978) and consequently the name did not appear on the check list.

Numerous specimens. **England:** V.C. 7, 12, 23, 29. **Wales:** V.C. 35, 41, 44, 46, 52. **Scotland:** V.C. 102. **Ireland:** V.C. H14. Specimens collected from vi–viii. Reared from egg cocoons of *Pardosa pullata* (Clerck) (Lycosidae) (1), and '*Lycosa*' (probably *Pardosa*) sp. (1). The adult parasitoids emerged in the same year that the egg sacs were collected.

Idiolispa analis (Gravenhorst)

Numerous specimens. England: V.C. 7, 16, 22, 23, 28, 29. Wales: V.C. 52. Scotland: V.C. 92, 96, 97, 99, 101, 102, 105. Belgium: Branie (?). France: Lot-et-Garonne. Germany: Baden-Württemberg. Italy: Umbria. Specimens collected in Britain from v–viii. One specimen reared from an unidentified lycosid egg sac. *I. analis* usually occurs in localities with short and/or sparse vegetation.

Idiolispa obfuscator (Villers)

Fitton *et al.* (1978) listed the name *obfuscator* as a doubtfully placed species of *Trychosis*. Morley (1907) listed it correctly under *Idiolispa* but probably misidentified the specimens concerned: there is no material from Britain in his (or other) collections in BMNH and, as it is unlikely that this southern and central European species has ever been collected in Britain, it should be deleted from the check list.

France: 1 ♀, Dordogne, St. Alvère, 18.v.1996 (*M.R. Shaw*).

Idiolispa subalpina (Schmiedeknecht)

This species is here recorded as British for the first time. Scotland: 1 ♂, Dunbartonshire, Caldarvan, NS4483 (V.C. 99), 8–20.vi.1983 (*I. C. Christie*). Austria: 10, Salzburg/Kärnten, Hohe Tauern, E. of Hochtor, 47°04'N, 12°50–51'E, 2500–2630 m, 3.viii.1995 (*M. Schwarz*).

Trychosis gradaria (Tschek)

France: 2 ♀, Alpes-de-Haute-Provence, Villars-Colmars, 17.vii.1991 (*M. R. Shaw*). Austria or Italy: 19, Tirol, Klausen, 12.vi.1908. (There is at least one 'Klausen' in each of Nordtirol (Austria), Osttirol (Austria) and Südtirol (now Italy), and it is not clear from which the specimen came). The two French specimens are rather small and their determination is uncertain.

Trychosis* cf. *ingrata (Tschek)

The following specimens, all males, are close to but fall outside the range of variation of *T. legator* and probably belong to *T. ingrata*, of which the male was unknown to van Rossem (1966, 1990). We have seen similar males from Germany. On this basis this species is here recorded as British for the first time. England: 16, Norfolk, East Wreatham Heath NR, TL9088 (V.C. 28), ex egg sac *Tibellus* sp. (Philodromidae), coll. 3.viii.1988, em. 18.vi.1989 (*M. R. Shaw*); 36, Devon, Southleigh (V.C. 3), ex unidentified spider egg sac (possibly *Clubiona* sp.) in tetrahedrally curled *Salix atrocinerea* leaf, coll. 20.viii.1979, em. 4.vi.1980 (*M. R. Shaw*) (a brood of 4 cocoons of which only 3 emerged). The specimens are within the normal size range of *T. legator*, but differ in having white hind tarsi, a narrower areolet in the forewing, and in the hindwing the nervellus intercepted above the middle.

Trychosis insularis van Rossem

This species is here recorded as British for the first time. England: 19, Cambridge-shire, Wicken Fen (V.C. 29), viii.1942. This specimen has been compared with a paratype of *Trychosis insularis*.

Trychosis legator (Thunberg)

Numerous specimens. England: V.C. 1, 3, 4, 6, 7, 10, 11, 12, 15, 17, 22, 23, 24, 27, 28, 29, 36, 40, 58, 71. Wales: V.C. 46, 52. Scotland: V.C. 72, 73, 74, 82, 86, 88, 97, 99, 103, 106, 110. Ireland: V.C. H20, H21. France: 'Northern France', Hautes-Alpes, Alpes-de-Haute-Provence, Alpes-Maritimes, Dordogne, Lot-et-Garonne. Germany: Baden-Württemberg, Spain: Santander. British specimens collected from vi–viii and rarely in v and x. Reared in Britain from egg cocoons of *Xysticus ulmi* (Hahn) (Thomisidae) (5 solitary broods, all rather small ♀ specimens) collected on *Phragmites* in vii–viii. Most adults (including two from unidentified hosts) emerged (v)vi the following year, but one emerged in ix of the same year suggesting that the species may be partly bivoltine in Britain. In addition is one doubtful ♂ from France: Vaucluse, Bédoin, coll. as cocoon in a folded leaf of *Colutea arborescens* vii.1993, em. 19.iv.1994 (*M. R. Shaw*). The lectotypes of *Cryptus plebejus* Tschek, *Cryptus abnormis* Tschek and *Cryptus rusticus* Tschek, and the holotypes of *Cryptus inimicus* Tschek and *Cryptus simulator* Tschek have been examined and conform with this concept of *T. legator*, which is based on van Rossem's (1966) redescription.

Trychosis mesocastana (Tschek)

France: 19, Lot-et-Garonne, Bernac, 26–30.vi.1992 (*R. R. Askew*); 19, Haute-Marne, Fayl-Billot, 24.vii.1996 (*M. R. Shaw*).

Fitton *et al.* (1978) listed *titillator* misident. in the synonymy of *T. mesocastana*, the erroneous use of this name being traceable in particular to Morley (1907). However, the old British specimens in NMS and BMNH determined (by Morley and others) as *titillator* (Linnaeus) have proved to be *T. legator* and *Idiolispa analis*. There is no real evidence that *T. mesocastana* has been found in Britain and it should be deleted from the British list. The specimen (det. J. F. Perkins as *titillator*) on which Waterston (1981) based his more recent record of *T. mesocastana* from the Outer Hebrides is in NMS and has now been redetermined as *T. legator*.

Ttychosis neglecta (Tschek)

Austria: 1♀, Salzburg (Kotschachdorf). The male described by van Rossem (1966) as *Trychosis neglecta* (Tschek) belongs to *T. gradaria* (Tschek).

Ttychosis picta (Thomson) stat. **rev.**

This species is here recorded as British for the first time. Several specimens. England: 4♂, Oxfordshire, Spartum Fen, SP6501 (V.C. 23), 13.v–2.vi.1988 (*K. Porter*); 29, Norfolk, Barton Turf, TG3523 (V.C. 27), ex egg sac *Xysticus ulmi* in fen, coll. 31.vii.1988, em. 18.vi.1989 (*M. R. Shaw*) (from separate sacs); 19, Cambridgeshire, Chippenham Fen, TL6569 (V.C. 29), carr at reedbed edge, 25.vi–9.vii.1985 (*J. Field*). Scotland: 1♀, Inverness-shire, Loch Garten (V.C. 96), *Pinus* and *Betula*, vi–vii.1985 (*J. A. Owen*); 19, Wester Ross, Beinn Eighe NNR, NH0064 (V.C. 105), native pine, vi.1989 (*I. MacGowan*). Specimens collected from vi–vii, probably univoltine. Reared as a solitary parasitoid of egg sacs of *Xysticus ulmi* (Hahn) (Thomisidae) on *Phragmites* (2). Both the disjunct distributional records and the disparity of habitats suggest that this species may occur more widely, perhaps in relatively mature sites.

T. picta is not a synonym of *T. legator* as stated, for example, by van Rossem (1966), though it is morphologically very similar to that very variable species. The two species can be distinguished rather easily by their coloration:

T. picta (Thomson): first segments of flagellum entirely orange in the female sex, tergites 1–3 of gaster and sometimes base of the fourth tergite orange;

T. legator (Thunberg): first segments of flagellum entirely black (♂) or at least black above, often orange beneath (♀), usually tergites 1–4 of gaster orange, base of first tergite in most cases black, if hind half of tergite 3 is black then base of tergite 1 is always black.

The lectotype of *Goniocryptus pictus* Thomson has been examined.

Trychosis tristator (Tschek)

This abundant and rather easily recognised species was not included by Fitton *et al.* (1978) in the British check list. It may not have been formally recorded from Britain before now, although the specimens more recently mentioned by Fitton *et al.* (1987) are in fact British.

Numerous specimens. **England:** V.C. 6, 7, 9, 11, 12, 15, 17, 22, 23, 28, 29, **64**, 69. **France:** Alpes-de-Haute-Provence, Hautes-Alpes, Dordogne, Lot-et-Garonne. **Germany:** Baden-Württemberg. British specimens collected from (?v)vi–viii, mostly in open grassy habitats. Reared as a solitary parasitoid of the egg cocoons of *Pisaura mirabilis* (Clerck) (Pisauridae) (16), almost always hatching the following year. However, at least one emerged in the year of collection, indicating that the species may be partly bivoltine.

'*Trychosis*' *coarctata* (Gravenhorst) sensu Fitton *et al.*, 1978

Fitton *et al.* (1978) listed *coarctata* (Gravenhorst) as a doubtfully placed species in *Trychosis*. Morley (1907) had placed it in *Idiolispa* but in fact it belongs to *Mesoleptus* (Schwarz, 1988), not in Cryptini.

Enclisis alpicola (Habermehl)

Austria: 1 ♂, Salzburg (Elsbethen).

Enclisis infernator (Aubert)

France: 1 ♂, Lot-et-Garonne, Bernac, 3–21.ix.1993 (*R. R. Askerw*). **This** specimen differs from the holotype, hitherto the only known male of this rarely collected southern European species, in the slightly more extended white and red coloration (cf. Schwarz, 19893).

Enclisk macilenta (Gravenhorst)

Numerous specimens. **England:** V.C. 9, 22, 23, 27, 29, 58. **Wales:** V.C. 52. Specimens collected from v–ix(?x). Reared as solitary parasitoid from an unidentified cocoon in *Rosa* stem (1), an unidentified aculeate nest in a *Sambucus* stem (3) and from *Symmorphus bifasciatus* (Linnaeus) (= *mutinensis* (Baldini)) (Eumenidae) (1) in a trap-nest. Probably bivoltine, overwintering in the host nest.

Enclisis ornaticeps (Thomson) (= *Aritranis ruforbator* Aubert, 1966, **syn. nov.**)

Austria: 1♂, Oberosterreich, nr Wolfsegg am Hausruck, Deisenheim, 16.vi.1986 (M. Schwarz). The holotype of *Aritranis ruforbator* Aubert has been examined.

Enclisis ruficeps (Desvignes, 1856) (= *Enclisis pulchella* Schwarz, 1989, **syn. nov.**)

The syntypes (♀) of *Cryptus ruficeps* Desvignes, 1856, are lost (Fitton, 1976) and the taxon was placed as a doubtful species of *Itamoplex* (now *Cryptus*) in the British check list (Fitton et al., 1978). *Enclisis pulchella* Schwarz is the only western Palaearctic species of Cryptinae which fits the description of *Cryptus ruficeps* Desvignes. There are British specimens in BMNH.

Enclisis vindex (Tschek) (= *striolata* (Thomson))

Many specimens. **England:** V.C. 12. **Scotland:** V.C. 85, 92, 96, 105. Specimens collected from v–vii, particularly in Scotland where it occurs in pine woods.

Ischnus alternator (Gravenhorst)

Numerous specimens. **England:** V.C. 1, 3. **Wales:** V.C. 41, 45, 49. **Scotland:** V.C. 88, 92, 96, 98, 99, 102, 105, 106, 108. **France:** Dordogne, Lot-et-Garonne. British specimens collected from (?v)vi–ix. One specimen reared from ?*Argyrotaenia ljugiana* (Thunberg) (= *pulchellana* (Haworth)) (Tortricidae) in *Centaurea scabwsa*. *I. alternator* occurs in open woodland and scrub.

Ischnus collaris (Tschek) (= *Habrocryptus punctiger* Thomson, 1896, **syn. nov.**; = *Habrocryptus insulanus* Krieger, 1897, **syn. nov.**)

This species is here recorded as British for the first time. Numerous specimens. **England:** 19, Norfolk, Santon Downham, TL8188 (V.C. 28). **Scotland:** Perthshire, Rannoch, NN5655 (V.C. 88); Aberdeenshire, Braemar, Morrone Birkwood NNR (V.C. 92); Aberdeenshire, Glen Tanar, NO4892 (V.C. 92); Inverness-shire, Cairngorms NNR, NH8805 (V.C. 96); Inverness-shire, Glen Strathfarrar, NH3339 (V.C. 96); Easter Ross, Amat, NH4689 (V.C. 106). Specimens have been collected from vi–ix, abundantly in several native pine woods (and one natural *Betula/ Juniperus* wood) in Scotland, and once only in a *Pinus* plantation in SE. England.

The lectotype (♀) of *Habrocryptus insulanus* Krieger, 1897, is hereby designated: 'Borkum 28.4.95 Schneider', '*Habrocryptus insulanus* Krgr ♀ Krieger det', '*Habrocryptus insulanus* Krgr.', 'Lectotypus ♀ *Habrocryptus insulanus* Krieger des. Mart. Schwarz '96' (coll. Museum fur Naturkunde, Berlin). The holotype of *Cryptus collaris* Tschek and the lectotype of *Habrocryptus punctiger* Thomson have also been examined.

Ischnus migrator (Fabricius) (= *Ichneumon inquisitorius* Miiller, 1776, **syn. nov.**; = *Ichneumon assertorius* Fabricius, 1793, **syn. nov.**; = *Cryptus brachyurus* Gravenhorst)

Many specimens. **England:** V.C. 5, 7, 11, 12, 22, 23, 28, 29, 69. **France:** Haute-Mame. Male specimens collected from vii–viii, females from v–viii and in x. One specimen reared from a pupa of a ?Tortricidae on *Corylus*. *I. migrator* is a univoltine woodland species, and the adult female hibernates (Cole, 1979).

The coloration of *I. migrator* is very variable. Traditionally, the more extensively white and red coloured specimens, which are usually larger, have been called *I. inquisitorius* (Müller) and smaller and darker specimens, which occur in cooler areas, have been determined as *I. migrator* (Fabricius) or *I. brachyurus* (Gravenhorst). We have seen many intermediate specimens and there seems no justification for recognising two species. Similarly we reject the treatment by Townes & Townes (1962) and Townes, Momoi & Townes (1965) of *I. inquisitorius* and *I. brachyurus* (smaller and darker specimens) as subspecies of one species. Intermediates occur frequently between lowland 'inquisitorius' and montane or northern 'brachyurus' populations, and we believe that the differences are plastic and primarily determined by climate.

The lectotype (♀) of *Ichneumon assertorius* Fabricius, 1793, is hereby designated: 'assertorius', 'Lectotypus ♀ *Ichneumon assertorius* Fabr. des. Mart. Schwarz '92' (coll. Zoologisk Museum, København). The lectotype (♀) of *Ichneumon migrator* Fabricius has also been examined.

Caenocryptus rufiventris impunctatus Schwarz (= *Cryptus collaris* Rudow, 1883, preocc.)

Numerous specimens. **England:** V.C. 12, 23, 58. **Scotland:** V.C. 83. Specimens collected from vi–vii. Reared in the Edinburgh district as a univoltine parasitoid of cocoons of *Ypsolopha vittella* (Linnaeus) (Yponomeutidae) in fissures in the bark of *Ulmus* (25), emerging in (v–)vi having overwintered in the host cocoon. One male (Hampshire) emerged vii from a case of *Diplodoma herminata* (Geoffroy) (Psychidae) collected earlier in the same month (probably from a tree trunk), suggesting that it may be bivoltine in S. England.

Buathra laborator (Thunberg)

Numerous specimens. **England:** V.C. 15, 16, 17, 21, 22, 23, 28, 34, 38. **Scotland:** V.C. 75, 77, 82, 83, 86, 88, 96, 97, 104, 105. **France:** Dordogne, Lot-et-Garonne. **Germany:** Baden-Württemberg, Bayern. British specimens collected from iv–viii. *B. laborator*, one of the largest British Cryptinae, occurs mostly in open habitats.

Buathra tarsoleuca (Schrank)

Scotland: 1 ♂, Inverness-shire, Creag Meagaidh NNR, NN4183 (V.C. 97), 375 m, 23.vii–7.viii.1988 (*D. Horsfield*). Males of *B. tarsoleuca* and *B. laborator* are very similar, and some specimens cannot be identified with certainty (Schwarz, 1990). Fortunately the male in NMS is an unequivocal specimen of *B. tarsoleuca*, and we have also seen one British female in BMNH. However, the specimens in NMS and BMNH determined by Morley as *B. tarsoleuca* that we have examined have all proved to be *B. laborator* or *Cryptus* species, and it is evidently a rare species in Britain.

Cryptus armator (Fabricius)

This, and other species here listed in *Cryptus*, were treated by Fitton *et al.* (1978) under *Itamoplex*, but the use of the name *Cryptus* for this group has been restored by Opinion 1757 (1994). The species listed by Fitton *et al.* (1978) as *Itamoplex attentorius* (Panzer) has been transferred to *Meringopus* (Schwarz, 1990).

Numerous specimens. England: V.C. 7, 11, 12, 22, 23, 28, 34, 53, 58, 66. Wales: V.C. 52. Scotland: V.C. 83. France: Hautes-Alpes, Lot-et-Garonne. British specimens collected from v–ix. Females search for hosts at soil level, mostly in sunny woodland clearings etc.

Cryptus bucculentus Tschek

Greece: 19, 1♂, Corfu (Akr. Ekaterini).

Cryptus diana Gravenhorst

Several specimens. England: V.C. 11, 28, 69. Specimens collected from vii–viii.

Cryptus fibulatus Gravenhorst

This species is here recorded as British for the first time. **Wales:** 19, Pembrokeshire, Puncheston Common, SN0030 (V.C. 45), ix.1987 (*P. Holmes*); 1♂, Pembrokeshire, Waun Isaf, SN1429 (V.C. 45), ix.1987 (*P. Holmes*); 29, Merionethshire, Trawsfynydd, SH7033 (V.C. 48), x.1988 (*P. Holmes*). **Scotland:** 1♂, Dunbartonshire, Loch Lomond NNR, Endrick Mouth (V.C. 99), 21–22.viii.1980 (*K. P. Bland*); 19, Wester Ross, Beinn Eighe NNR, NH0064 (V.C. 105), v.1989 (*I. MacGowan*). **Ireland:** 1♀, Donegal, Bundoran (V.C. H34), 30.ix.1946 (*R. C. Faris*).

Cryptus immitis Tschek

Germany: 39, 18, Baden-Württemberg, Murrhardt, collected on 10.vi.1903, 26.v.1905 (♂), 21.vi.1906 and 20.vii.1907.

Cryptus minator Gravenhorst

France: 19, 1♂, Lot-et-Garonne, Bernac, 26–30.vi.1992 (*R. R. Askew*).

Cryptus moschator (Fabricius)

1♂ without data from the Cameron collection, determined by Morley as *Cryptus tarsoleucus* (Schrank). The specimen cannot be presumed to be British.

Cryptus praefortis praefortis van Rossem

Canary Islands: 1♀, La Palma, Cumbre Nueva west slope, 28.v.1976 (*P. J. Chandler*). Not previously recorded from La Palma (Schwarz, 1994).

Cryptus sanguinator Desvignes

The syntypes (9) of *Cryptus sanguinator* Desvignes, 1856 are lost (Fitton, 1976) and the taxon was placed as a doubtful species of *Itamoplex* (now *Cryptus*) in the British check list (Fitton *et al.*, 1978). The description does not agree with any known European Cryptinae and therefore we consider that it is an Ichneumoninae. Morley (1903) placed it as a junior synonym of *Barichneumon* (now *Cyrtea*) *sanguinator* (Rossi) which might be correct.

Cryptus spinosus Gravenhorst

Former Yugoslavia: 1 ♀, Bavec.

Cryptus titubator (Thunberg)

Numerous specimens. England: V.C. 7, 23, 28, 36, 58. Wales: V.C. 52. Scotland: V.C. 83, 88, 89, 92, 96, 97, 105, 106, 108. France: Ardèche. Specimens collected from v–viii. *C. titubator* occurs mostly in woodlands, both coniferous and deciduous.

Cryptus triguttatus Gravenhorst

France: 1 ♀, Dordogne, St. Alvére, 18.v.1996 (*M. R. Shaw*); 1 ♂, Vaucluse, Bédoin, 11–18.vii.1993 (*M. R. Shaw*).

Cryptus viduatorius Fabricius

Numerous specimens. England: V.C. 1, 22, 28, 71. Wales: V.C. 52. Scotland: V.C. 110. Ireland: V.C. H20. **Austria or Italy**: 'Tirol, Klausen' (see note under *Trychosia gradaria*). France: Lot-et-Garonne. **Germany**: Baden-Württemberg. British specimens collected from (?v)vi–viii(?ix). *C. viduatorius* occurs in open habitats, often with short and sparse vegetation, where the females search for hosts at soil level.

Xylophrurus lancifer (Gravenhorst) s.str. (= *dispar* (Thunberg) preocc.)

Fitton *et al.* (1978) listed *Cryptus tumidus* Desvignes as a junior synonym of *Xylophrurus dispar* (Thunberg) but this name is preoccupied in *Ichneumon* (Sawoniewicz, 1986) and *Xylophrurus lancifer* (Gravenhorst) has been proposed as the valid name. However, Horstmann (1993b) mentioned that *Xylophrurus lancifer* (Gravenhorst) s.l. is dimorphic with respect to the length of the ovipositor sheath and that there are probably two related species. If this is correct then the species with the shorter ovipositor is tentatively referred to *X. lancifer* (Gravenhorst) (this interpretation being based on notes in Horstmann (1993b) and on specimens in the Zoologische Staatssammlung München, determined by Horstmann, though the type of *Echthrus lancifer* Gravenhorst has not been examined by any recent author as far as we are aware), leaving the valid name for the species with the longer ovipositor as *X. tumidus* (Desvignes) (= *Cryptus longiseta* Rudow, 1882, **syn. nov.**). Probably only the latter has hitherto been recorded from Britain. The holotype of *Cryptus tumidus* Desvignes has been examined.

With the above proviso, *X. lancifer* is here recorded as British for the first time. Several rather small specimens. England: Norfolk, Santon Downham, TL8188 (V.C. 28). Scotland: Perthshire, Rannoch, NN5655 (V.C. 88); Aberdeenshire, Glen Tanar, NO4892 (V.C. 92); Inverness-shire, Cairngorms NNR, NH8805 (V.C. 96); Nairn, Culbin, NJ9458 (V.C. 96). Specimens collected from v–vi, apparently univoltine. **The** localities are all pine woods, including both native forests and plantations.

Myrmeleonostenus italicus (Gravenhorst)

France: 1♀, Lot-et-Garonne (Bernac); 1♀, Vaucluse (Bédoin). **Greece:** 10, Corfu (Akr. Ekaterini). Collected in v and vii.

Meringopus calescens calescens (Gravenhorst)

Many specimens. **France:** Alpes-de-Haute-Provence, Col d'Allos, c. 2200 m, 31.vii.1984 (*M. R. Shaw*); Alpes-de-Haute-Provence, Villars-Colmars, 30.vii–7.viii.1986 (*M. R. Shaw*). These two localities are only a few kilometres apart.

Mesostenus cf. *albinotatus* Gravenhorst

France: 19, Alpes-de-Haute-Provence, Castellane, 26–30.vii.1986 (*M. R. Shaw*). The status of this taxon is unclear. It is very similar to *M. albinotatus* but differs slightly in the shape of the ovipositor tip as well as in the colour of the hind femora, and it might be a distinct species. We have seen other specimens with the same characters from Spain.

Mesostenus funebris Gravenhorst

Austria: 1♀, 10, Salzburg (Elsbethen; Puch).

Mesostenus grammicus Gravenhorst

France: 2♀, Vaucluse (Bédoin).

Mesostenus transfuga Gravenhorst

Many specimens. **England:** V.C. 1, 28. **France:** Dordogne, Lot-et-Garonne. **Germany:** Baden-Württemberg. Specimens have been collected in vii(–?viii) and ix(–?x) in Britain and in v, vii and ix in France.

Mesostenus sp. (= *notatus* auctt. nec Gravenhorst)

We do not know the correct name for this species (cf. Schwarz, 1989a). **France:** 1♂, Lot-et-Garonne, Bernac, 1–31.vii.1995 (*R. R. Askew*).

Listrognathus furax (Tschek)

France: 1♂, Dordogne, St. Alvère, 18.v.1996 (*M. R. Shaw*).

Listrognathus helveticae (Horstmann)

France: 1♂, Vaucluse, Mt. Ventoux, 23.vii.1986 (*M. R. Shaw*). **Germany:** 1♂, Baden-Württemberg, Murrhardt, ex *Zygaena carniolica* (Scopoli), 24.v.1906. The latter specimen is mounted with the host cocoon, and the date seems likely to refer to adult emergence.

Listrognathus mactator mactator (Thunberg)

France: 10, Lot-et-Garonne (Bernac), collected in v. (See comment below.)

Listrognathus mactator andalusicus Seyrig

France: 1 ♂, Lot-et-Garonne (Bernac), collected in vi. Gibraltar: 1 ♀. It is interesting that the two subspecies appear to overlap at the French locality.

Listrognathus mengersseni Schmiedeknecht

Horstmann (1990) referred to British specimens of this species and it is on that basis that we have included it in the check list.

Listrognathus obnoxius (Gravenhorst)

This species, and also *Listrognathus ligator* (Gravenhorst) (specimens *of* which we have seen from Britain), were listed by Fitton *et al.* (1978) under the generic name *Mesostenidea* Viereck which was regarded as a synonym of *Listrognathus* Tschek by Horstmann (1990).

Numerous specimens. England: V.C. 1, 2, 3, 9, 17, 58, 59, **63**. Wales: V.C. 41, 49. Nearly all specimens are reared, in every case from cocoons of *Zygaena* Fabricius (Zygaenidae): *Z. lonicerae* (Scheven) (5), *Z. filipendulae* (Linnaeus) (97), *Z. trifolii* (Esper) (4) and *Zygaena* sp. (25). Also France: 1 ♀, Lot-et-Garonne, reared from cocoon of *Z. transalpina* (Esper). This solitary parasitoid has one generation a year and overwinters in its own extremely tough cocoon within the host cocoon. Adults are active from vi–vii in Britain, but as early as v in France.

Listrognathus orientalis Horstmann

Lebanon: 2 ♂ (paratypes), reared solitarily from cocoons of *Zygaena carniolica* (Scopoli) (Zygaenidae).

Ateleute linearis Foerster

Although distinctive and evidently quite widely distributed in England, this species is here recorded as British for the first time. Numerous specimens. England: V.C. 7, 11, 22, 23, 27, 28, 29, 58. Specimens collected from v–viii. *A. linearis* seems to occur mostly in scrub or light woodland.

Stenarella domator domator (Poda) (= *gladiator* (Scopoli))

Many female specimens. France: Alpes-Maritimes, Hautes-Alpes, Dordogne, Lot-et-Garonne, Vosges. **Germany**: Baden-Württemberg. **Italy**: Tuscany. This species was retained on the British list by Fitton *et al.* (1978) as an oversight: as it has been recorded in Britain only by L. A. Carr (1924) it should have been deleted (cf. Fitton *et al.*, 1978: v–vi).

Nematopodius debilis (Ratzeburg)

Numerous specimens. England: V.C. 7, 11, 15, 21, 23, 27, 29, 36. France: Dordogne, Lot-et-Garonne. British specimens collected from vi–viii; probably univoltine. **Two** specimens were reared from cut *Phragmites* stem trap-nests in which the host was probably *Trypoxylon attenuatum* Smith (Sphecidae) or possibly *Passaloecus clypealis* Faester (Sphecidae), *Hylaeus communis* Nylander (Apidae) or *Trichrysis cyanea*

(Linnaeus) (Chrysididae). In addition there are three specimens reared from dead wood. The winter is passed in the aculeate host nest. Fitton *et al.* (1978) used the name *formosus* Gravenhorst for this species, but Horstmann (1990) showed that two species had been confused under that name, and only the other one has been found in Britain.

Nematopodius formosus Gravenhorst

France: 19, 18, Lot-et-Garonne (Bernac). These specimens were collected in v and ix, suggesting that the species is plurivoltine there. Also 19 from the same locality, reared from the solitary cell of a sphecid (probably *Trypoxylon* sp.) in a dead *Corylus* stem and provisioned with ?Linyphiidae, coll. 15.v.1996, em. 13.vi.1996 (*M. R. Shaw*).

Acroricnus seductor (Scopoli)

France: 19, Lot-et-Garonne (Bernac); 1 ♂, Vaucluse (Bédoin).

Acroricnus stylator (Thunberg)

England: 1 ♀, 1 ♂, Hampshire, New Forest (V.C. 11), 9.viii.1901 (♀) and 22.viii.1901. **Ireland:** 19, Kerry, Dingle (V.C. H2), 5.vii.1977 (*C. P. J. Ash*). **Germany:** 19, Baden-Württemberg (Bulach).

Schreineria populnea (Giraud)

France: 18, Dordogne, Monestier, 8–29.vii.1985 (*R. R. Askew*); 1 ♀, Ardèche, Darbres, 19.vii.1996 (*M. R. Shaw*).

Latibulus argiolus (Rossi)

France: 19, Lot (Crayssac). **Germany:** 19, Baden-Württemberg (Hopfigheim).

Latibulus lautus (Tosquinet)

France: 2 ♂, Vaucluse, Bédoin, 15–26.vii.1986 (*M. R. Shaw*).

Sphecophaga vesparum (Curtis)

Many female specimens. **England:** V.C. 7, 22, 23, 27, 28, 29, 36. **Scotland:** V.C. 96, 99. **France:** Alpes-de-Haute-Provence, Lot-et-Garonne. British specimens collected in v (first generation) and from (?v)vi–vii(?viii) (second generation). This is a well known parasitoid of Vespidae, which is thelytokous with males extremely rare. What we refer to as the first generation overwinters in the host nest. The two generations differ morphologically (Townes & Townes, 1962; Donovan, 1991).

Summary

Distributional, phenological and, in some cases, rearing data are given for some 90 species of western Palaearctic Cryptini (Hymenoptera: Ichneumonidae, Cryptinae), based on about 2250 specimens in the National Museums of Scotland. Twelve species are recorded from Britain for the first time. Taxonomic

and nomenclatural remarks are made and the 1978 British check list is revised. Taxonomic changes proposed are: *Aritranis* (= *Pycnocyrtus* **syn. nov.**), *Hoplocyrtus* is the valid genus name for most species of *Aritranis* sensu Townes (1970), *Gambrus incubitor* (Linnaeus) (= *Spilocyrtus ornatulus* Thomson, 1893, **syn. nov.**; = *Gambrus superus* Thomson, 1896, **syn. nov.**; = *Spilocyrtus quadricinctus* Strobl, 1901, **syn. nov.**; = *Cryptus ornatus* Gravenhorst, 1829, synonymy confirmed; = *Gambrus inferus* Thomson, 1896, synonymy confirmed), *Aritranis nigrifemur* (Szépligeti) (= *Spilocyrtus rarus* Habermehl, 1920, **syn. nov.**), *Hoplocyrtus buccatus* (Tschek) (= *Spilocyrtus magretti* Kriechbaumer, 1893, **syn. nov.**; = *Spilocyrtus uffelni* Habermehl, 1929, **syn. nov.**; = *Spilocyrtus alpicola* Habermehl, 1935, **syn. nov.**), *Hoplocyrtus rufoniger* (Desvignes) (= *Hoplocyrtus mesoxanthus* Thomson, 1873, **syn. nov.**), *Enclisis ornaticeps* (Thomson) (= *Aritranis ruforbator* Aubert, 1966, **syn. nov.**), *Enclisis ruficeps* (Desvignes) (= *Enclisis pulchella* Schwarz, 1989, **syn. nov.**), *Ischnus migrator* (Fabricius) (= *Ichneumon inquisitorius* Müller, 1776, **syn. nov.**; = *Ichneumon assertorius* Fabricius, 1793, **syn. nov.**), *Ischnus collaris* (Tschek) (= *Habrocryptus punctiger* Thomson, 1896, **syn. nov.**; = *Habrocryptus insulanus* Krieger, 1897, **syn. nov.**), *Xylophrurus tumidus* (Desvignes) (= *Cryptus longiseta* Rudow, 1882, **syn. nov.**), *Gambrus bipunctatus* (Tschek) **comb. nov.**, *Aritranis claviventris* (Kriechbaumer) **comb. nov.**, *Aritranis director* (Thunberg) **comb. nov.**, *Aritranis longicauda* (Kriechbaumer) **comb. nov.**, *Aritranis nigrifemur* (Szépligeti) **comb. nov.**, *Aritranis nitidus* (Ceballos) **comb. nov.**, *Hoplocyrtus centricolor* (Aubert) **comb. nov.**, *Hoplocyrtus heliophilus jordanicus* (Kolarov) **comb. nov.** and **stat. nov.**, *Hoplocyrtus melanocephalus* (Gravenhorst) **stat. rev.**, *Trychosis picta* (Thomson) **stat. rev.** Lectotypes of *Gambrus inferus* Thomson, 1896; *Cryptus buccatus* Tschek, 1872; *Hoplocyrtus mesoxanthus* Thomson, 1873; *Ichneumon assertorius* Fabricius, 1793; and *Habrocryptus insulanus* Krieger, 1897, are designated.

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