



Taxonomic Paper

Checklist of British and Irish Hymenoptera - Proctotrupoidea

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Abstract

Background

A revised checklist of the British and Irish Heloridae and Proctotrupidae (Proctotrupoidea) substantially updates the previous comprehensive checklist, dating from 1978. Country level data (i.e. occurrence in England, Scotland, Wales, Ireland and the Isle of Man) is reported where known.

New information

A total of three Heloridae and 39 Proctotrupidae (including only certainly recorded species) represents a 27% increase in the British list since 1978. Most species are still poorly known and there has been a dearth of taxonomic and faunistic work on the British and Irish fauna.

Keywords

Heloridae, Proctotrupidae, fauna, Ireland, Britain

Introduction

This paper is part of a series of new checklists to the British and Irish Hymenoptera fauna, that started with Broad and Livermore (2014b), Broad and Livermore (2014a) and Liston et al. (2014) and is the first update to the Hymenoptera checklist since 1978 (Fitton et al. 1978). Proctotrupoids are koinobiont endoparasitoids of holometabolous insect larvae. Although Proctotrupidae can be common and readily collected by sweep netting or Malaise traps, the superfamily is poorly known biologically. Proctotrupidae are parasitoids of Coleoptera and, to a lesser extent, Diptera larvae, with one extraordinary host record from a centipede, whereas Heloridae have been reared from Neuroptera larvae (biology summarised in Gauld and Bolton 1988). Extralimital families attack Coleoptera and Neuroptera, or (Austroniidae, Peradeniidae, Proctorenyxidae) are completely unknown biologically.

The superfamily 'Proctotrupeoidea' has generally been a welcoming home to a variety of parasitoid groups and recognised as not being monophyletic (Rasnitsyn 1988, Ronquist et al. 1999, Downton and Austin 2001); in the 1978 checklist (Fitton et al. 1978) the Platygastroidea and Diaprioidea were included in the Proctotrupeoidea. The removal of the Diapriidae, Maamingidae and Monomachidae to their own superfamily (Diaprioidea) has recently gained acceptance (e.g. Klopstein et al. 2013). The Proctotrupeoidea as presently defined (e.g. Sharkey 2007) now comprises the Heloridae and Proctotrupidae in Britain and the extralimital families Austroniidae, Pelecinidae, Peradeniidae, Proctorenyxidae, Roproniidae and Vanhorniidae.



Figure 1.

Representative British Heloridae. *Helorus ruficornis* Förster, female, England, Herts., Aldbury, 2013, coll. G.R. Broad.

There has been very little work on the British proctotrupoid fauna and most of what we know about the British and Irish Proctotrupidae derives from the global monograph of

Townes and Townes (1981). Both families can be recognised instantly by their distinctive wing venation and they each have a characteristic habitus (Figs 1, 2, 3). A revision of the British fauna would undoubtedly reveal more species.



Figure 2.

Representative British Proctotrupidae. *Disogmus basalis* (Thomson), male, England, Herefordshire, Mary Knoll Valley, 21-24.5.2007, coll. D.G. Notton, NHMUK010209578.



Figure 3.

Representative British Proctotrupidae. *Proctotrupes brachypterus* (Schrank), female, England, Rothamsted, 26.9.1973, NHMUK010209579.

Materials and methods

Much of the distribution data are taken from Townes and Townes (1981). Distribution data pertaining to Ireland are mostly from O'Connor et al. (2004). Other sources are referred to. There is an excellent online resource, [The Proctotrupidae of the World](#). The taxonomy follows Townes and Townes (1981) and Townes (1977) with subsequent changes referenced. We have tried to account for every name on the 1978 checklist Fitton et al. (1978) and all additions to the fauna since then have been referenced. A more complete methodology and rationale behind the checklist can be found in Broad (2014). The following conventions and abbreviations are used here:

[**species**] taxon deleted from the British and Irish list

NHM Natural History Museum, London

known or suspected introductions with at least temporarily self-sustaining populations

? status (including uncertain synonymy) or identification in the British Isles uncertain

misident. has been misidentified as this name

nom. dub. *nomen dubium*, a name of unknown or doubtful application

nom. ob. *nomen oblitum*, 'forgotten name', does not have priority over a younger name

nom. nov. *nomen novum*, a replacement name

nom. nud. *nomen nudum*, an unavailable name, with no type specimen

preocc. name preoccupied (junior homonym)

stat. rev. *status revocatus*, revived status (e.g., raised from synonymy)

unavailable not meeting the requirements of the International Code of Zoological Nomenclature

var. variety, only available as a valid name under the provisions of article 45.6 of the ICZN

Alternative versions of the checklist, as a formatted Word document and Excel spreadsheet, are provided here in the supplementary materials: Suppl. materials 1, 2.

Photographs were taken using a Canon EOS 450D digital camera attached to a Leica MZ12 stereomicroscope and partially focused images were combined using Helicon Focus v.4.80 software.

Proctotrupoidea

Superfamily PROCTOTRUPOIDEA

Family Heloridae Förster, 1856

Notes: Distribution data from Townes (1977), Fergusson and Smith (1974), Cooter and Fergusson (1993) and O'Connor et al. (2004).

Genus *Helorus* Latreille, 1802

Nomenclature:

COPELUS Provancher, 1881

Helorus anomalipes (Panzer, 1798)

Nomenclature:

Sphex anomalipes Panzer, 1798

ater Latreille, 1802

paradoxus (Provancher, 1881, *Copelus*)

?*bifoveolata* Gregor, 1938

?*nigrotibia* Hellén, 1941

Distribution: England, Ireland

Helorus nigripes Förster, 1856

Nomenclature:

rugosus Thomson, 1858

Distribution: England

Helorus ruficornis Förster, 1856

Nomenclature:

coruscus Haliday, 1857

corruscus misspelling

flavipes Kieffer, 1907

Distribution: England, Ireland

Family Proctotrupidae Latreille, 1802

Notes: Distribution data from Townes and Townes (1981) and O'Connor et al. (2004).

Genus *Brachyserphus* Hellén, 1941

Brachyserphus parvulus (Nees, 1834)

Nomenclature:

Codrus parvulus Nees, 1834

Distribution: England, Ireland

Genus *Codrus* Panzer, 1801

Codrus niger Panzer, 1805

Distribution: England, Ireland

Codrus picicornis (Förster, 1856)

Nomenclature:

Disogmus picicornis Förster, 1856

subcompressus (Hedicke, 1927, *Phaenoserphus*)

vexator (Nixon, 1938, *Phaenoserphus*)

subclavatus (Hellén, 1941, *Phaenoserphus*)

Distribution: England, Ireland

Notes: Listed as *Phaenoserphus subcompressus* in Fergusson (1978).

Genus *Cryptoserphus* Kieffer, 1907

Cryptoserphus aculeator (Haliday, 1839)

Nomenclature:

Proctotrupes aculeator Haliday, 1839

ater (Nees, 1834, *Codrus*) preocc.

perrisi (Kieffer, 1908, *Seprhus*)

deshii Drake, 1970, *Cryptoserphus*

Distribution: England, Scotland, Ireland

***Cryptoserphus dilatus* Townes, 1981**

Distribution: Ireland

Notes: added by Townes and Townes (1981)

***Cryptoserphus flavipes* (Provancher, 1881)**

Nomenclature:

Proctotrupes flavipes Provancher, 1881

brevimanus (Kieffer, 1908, *Serphus*)

longicalcar (Kieffer, 1908, *Serphus*)

cumaeus Nixon, 1938

fungorum Széleányi, 1940

Distribution: Ireland

***Cryptoserphus longitarsis* (Thomson, 1858)**

Nomenclature:

Proctotrupes longitarsis Thomson, 1858

Distribution: Ireland

Genus *Disogmus* Förster, 1856***Disogmus areolator* (Haliday, 1839)**

Nomenclature:

Proctotrupes areolator Haliday, 1839

aequator Förster, 1856

discrepator Förster, 1856

elegans (Thomson, 1858, *Proctotrupes*)

nigripennis (Thomson, 1858, *Proctotrupes*)

canadensis Harrington, 1900

diversicornis Kieffer, 1906

glabratus Kieffer, 1906

carinatus Kieffer, 1907

torvus Whittaker, 1930

Distribution: England, Scotland, Ireland

Disogmus basalis* (Thomson, 1858)*Nomenclature:**

Proctotrupes basalis Thomson, 1858

fuscitarsis Kieffer, 1907

Distribution: England, Scotland, Ireland

Genus *Exallonyx* Kieffer, 1904

Notes: unplaced species of *Exallonyx*:

[*Exallonyx leviventris* Kieffer, 1908 nom. dub., from England]

Subgenus *Exallonyx* Kieffer, 1904***Exallonyx (Exallonyx) ater* (Gravenhorst, 1807)****Nomenclature:**

Codrus ater Gravenhorst, 1807

aterrimus (Dalla Torre, 1898, *Proctotrypes*)

xanthocerus Kieffer, 1908

filicornis Kieffer, 1908

syriacus Kieffer, 1908

gracilis Nixon, 1938

Distribution: England, Ireland

***Exallonyx (Exallonyx) brevimala* Townes, 1981**

Distribution: England, Ireland

Notes: added by Townes and Townes (1981)

***Exallonyx (Exallonyx) confusus* Nixon, 1938**

Distribution: England, Ireland

Exallonyx (Exallonyx) crenicornis* (Nees, 1834)*Nomenclature:**

Codrus crenicornis Nees, 1834

clavipes (Thomson, 1858, *Proctotrupes*)

donisthorpei Kieffer, 1908

fumipennis Kieffer, 1908

Distribution: England, Scotland

Notes: Listed, as *Codrus fumipennis* (Kieffer), as doubtfully British by Fergusson (1978); status as a British species confirmed by Townes and Townes (1981).

***Exallonyx (Exallonyx) formicarius* Kieffer, 1904**

Distribution: England, Scotland, Ireland

***Exallonyx (Exallonyx) ligatus* (Nees, 1834)**

Nomenclature:

Codrus ligatus Nees, 1834

Distribution: England, Ireland

***Exallonyx (Exallonyx) longicornis* (Nees, 1834)**

Nomenclature:

Codrus longicornis Nees, 1834

micrurus (Kieffer, 1908, *Serphus*)

Distribution: Scotland, Ireland

***Exallonyx (Exallonyx) microcerus* Kieffer, 1908**

Nomenclature:

hyalinipennis Kieffer, 1908

Distribution: England, Ireland

Notes: Listed as a synonym of *Exallonyx formicarius* in Fergusson (1978).

***Exallonyx (Exallonyx) minor* Townes, 1981**

Distribution: England, Scotland, Ireland

***Exallonyx (Exallonyx) nixonii* Townes, 1981**

Distribution: England

Exallonyx (Exallonyx) pallidistigma* Morley, 1922*Nomenclature:**

niger misident.

milleri (Tomšik, 1942, *Phaenoserphus*)

Distribution: England, Ireland

Exallonyx (Exallonyx) quadriceps* (Ashmead, 1893)*Nomenclature:**

Proctotrypes quadriceps Ashmead, 1893

crassicornis Kieffer, 1908

hyalinipennis (Morley, 1922, *Proctotrypes*)

Distribution: England, Scotland, Ireland

Notes: Recorded by Townes and Townes (1981).

Exallonyx (Exallonyx) subserratus* Kieffer, 1908*Nomenclature:**

curtigena Nixon, 1938

Distribution: England, Ireland

***Exallonyx (Exallonyx) trichomus* Townes, 1981**

Distribution: England, Ireland

Notes: added by Townes and Townes (1981)

Exallonyx (Exallonyx) trifoveatus* Kieffer, 1908*Nomenclature:**

talpae Kieffer, 1908

borneanus (Cameron, 1912, *Proctotrypes*)

reicherti (Enderlein, 1916, *Proctotrupes*)

parvulus Brues, 1919

philonthiphagus Williams, 1932

Distribution: England, Ireland

Notes: added by Townes and Townes (1981)

Exallonyx (Exallonyx) wasmanni* Kieffer, 1904*Nomenclature:***myrmecophilus* Kieffer, 1904*socialis* Kieffer, 1908**Distribution:** England, Ireland**Notes:** Although excluded from the Irish list by O'Connor et al. (2004), the locality 'Tanrego' quoted by Townes and Townes (1981) refers to an estate in Sligo.**Subgenus *Eocodrus* Pschorn-Walcher, 1958*****Exallonyx (Eocodrus) brevicornis* (Haliday, 1839)****Nomenclature:***Proctotrupes brevicornis* Haliday, 1839*lineata* Kieffer, 1908**Distribution:** England, Scotland, Ireland**Genus *Mischoserphus* Townes, 1981*****Mischoserphus arcuator* (Stelfox, 1950)****Nomenclature:***Cryptoserphus arcuator* Stelfox, 1950*ione* (Kozlov, 1971, *Cryptoserphus*)**Distribution:** Ireland**Genus *Paracodrus* Kieffer, 1907*****Paracodrus apterogynus* (Haliday, 1839)****Nomenclature:***Proctotrupes apterogynus* Haliday, 1839*albipennis* (Thomson, 1858, *Codrus*)*bethyliformis* Kieffer, 1907**Distribution:** Ireland

Genus *Parthenocodrus* Pschorn-Walcher, 1958**Nomenclature:**

CRYPTOCODRUS Pschorn-Walcher, 1958

Parthenocodrus elongatus* (Haliday, 1839)*Nomenclature:**

Proctotrupes elongatus Haliday, 1839

buccatus (Thomson, 1858, *Proctotrupes*)

Distribution: England, Ireland

Genus *Phaenoserphus* Kieffer, 1908**Nomenclature:**

CARABIPHAGUS Morley, 1931

Phaenoserphus chittii* (Morley, 1922)*Nomenclature:**

Proctotrupes chittii Morley, 1922

dubiosus Nixon, 1938

Distribution: England, Ireland

Phaenoserphus fuscipes* (Haliday, 1839)*Nomenclature:**

Proctotrupes fuscipes Haliday, 1839

Distribution: Scotland, Ireland

***Phaenoserphus gregori* Tomšik, 1942**

Distribution: Ireland

Phaenoserphus pallipes* (Jurine, 1807)*Nomenclature:**

Codrus pallipes Jurine, 1807

rufipes (Brullé, 1846, *Proctotrupes*)

testaceicornis (Kieffer, 1908, *Serphus*)

Distribution: England, Ireland

Phaenoserphus viator* (Haliday, 1839)*Nomenclature:**

Proctotrupes viator Haliday, 1839

curtipennis (Haliday, 1839, *Proctotrupes*)

laevifrons (Förster, 1861, *Proctotrupes*)

sixianus (Vollenhoven, 1879, *Proctotrypes*)

Distribution: England, Ireland

Genus *Phaneroserphus* Pschorn-Walcher, 1958

Notes: species of *Phaneroserphus* removed from the British and Irish list:

[*cristatus* Townes, 1981] Fauna Europaea lists *Phaneroserphus cristatus* as occurring in Britain and France but Townes and Townes (1981) state that this species is only found in Japan, and no literature citations for its European occurrence can be traced.

Phaneroserphus calcar* (Haliday, 1839)*Nomenclature:**

Proctotrupes calcar Haliday, 1839

calcaratus (Thomson, 1858, *Proctotrupes*)

seticornis (Thomson, 1858, *Proctotrupes*)

areolatus (Kieffer, 1908, *Serphus*)

castaneus (Kieffer, 1908, *Serphus*)

Distribution: England, Scotland, Ireland

Genus *Proctotrupes* Latreille, 1796**Nomenclature:**

SERPUS Schrank, 1780

ERODORUS Walckenaer, 1802

PROCTRUPES Rafinesque, 1815

PROCTOTRYPES Aggasiz, 1846

PROCTOTROPIS Gistel, 1848

Proctotrupes brachypterus* (Schrank, 1780)*Nomenclature:**

Serphus brachypterus Schrank, 1780
divagator (Olivier, 1792, *Ichneumon*)
campanulator (Fabricius, 1798, *Ichneumon*)
emarciator (Fabricius, 1798, *Ichneumon*)
bimaculatus (Walckenaer, 1802, *Erodorus*)
brevipennis Latreille, 1802
bicolor Haliday, 1839
gladiator Haliday, 1839
sulcatus (Kieffer, 1908, *Serphus*)
hofferi (Tomšík, 1944, *Serphus*)
azarbajdzhanicus (Samedov, 1954, *Serphus*)

Distribution: England, Ireland

Proctotrupes gravidator* (Linnaeus, 1758)*Nomenclature:**

Ichneumon gravidator Linnaeus, 1758
meridionalis Gribodo, 1880
rufigaster Provancher, 1881
collaris Szépligeti, 1901
suzukii Matsumura, 1912
zabriskiei (Brues, 1919, *Serphus*)

Distribution: England, Ireland

Notes: *Proctotrupes indivisus* (Kieffer, 1908, *Serphus*) removed from synonymy by Notton (2007).

Genus *Tretoserphus* Townes, 1981

Notes: species of *Tretoserphus* removed from the British and Irish list:

[*foveolatus* (Möller, 1882, *Proctotrupes*)] Listed as British by Fergusson (1978) as *perkinsi* was then considered to be a junior synonym of *foveolatus*.

Tretoserphus laricis* (Haliday, 1839)*Nomenclature:**

Proctotrupes laricis Haliday, 1839

nigricauda (Kieffer, 1908, *Serphus*)

melanderi (Brues, 1919, *Cryptoserphus*)

Distribution: England, Ireland

Tretoserphus perkinsi* (Nixon, 1942)*Nomenclature:**

Cryptoserphus perkinsi Nixon, 1942

Distribution: England, Ireland

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Supplementary materials

Suppl. material 1: Checklist of British and Irish Proctotrupeoidea

Authors: Broad, G.R.

Data type: formatted text

Brief description: Word document version of the checklist

Filename: Hym_checklist_11_Proctotrupeoidea.docx - [Download file](#) (82.98 kb)

Suppl. material 2: Checklist of British and Irish Proctotrupeoidea

Authors: Broad, G.R.

Data type: spreadsheet

Brief description: Excel spreadsheet version of the checklist

Filename: Proctotrupeoidea_checklist_spreadsheet.xlsx - [Download file](#) (300.60 kb)