

Notes on Six Chalcidoid Parasites (Hym.) of *Rhynchaenus fagi* L. (Col.).

By
O. Bakkendorf.

Material of Chalcidoidea bred from *Rhynchaenus fagi* L. during a biological investigation in Jutland, Denmark, was made available to the author through the kindness of cand. mag. B. Overgaard Nielsen, Zool. Inst., Aarhus. The material was bred during the last half of June 1964. A list of the species follows below.

P t e r o m a l i d a e.

1. *Habrocytus orchestis* (Ratzeburg) 1844, I:205.

The species is known as a primary parasite of *Rhynchaenus alni* L. from England (Oldham 1928:695). The present material consists of 6 ♂♂ and 8 ♀♀.

E u l o p h i d a e.

2. *Pnigalio* (= *Eulophus*) *pectinicornis* (L.) s. lat. 1761:363.

Material 4 ♂♂, 11 ♀♀. The species is known from Sweden (Ruschka 1924:15) as a parasite of *Rhynchaenus fagi*. The species name is identical to Graham's *agraules*-group; it is most closely related to *coecilius* Walker, regarded by Bouček (1961:21, 28) as a synonym; it is also mentioned as a parasite of small Lepidoptera from the whole of Europe, but the synonymy is not yet fully clarified.

3. *Pnigalio* (= *Eulophus*) *longulus* (Zetterstedt 1840:428 (as *Entedon*).

The species was known by Kemner (1926:35) and Ferrière (1952:29) as an ectoparasite of *Lyonetia clerckella* L. The present material consists of 21 ♂♂ and 29 ♀♀. The males lack the transverse oblique costulae on the propodeum which is used for determining the females.

Kemner l.c. who has bred the species (the most numerous parasite of *L. clerckella*), remarks that in Lapland, where this host is unknown, it may possibly parasitize *Rhynchaenus* spp., as according to Ruschka (1924:15), it was bred from *Rh. fagi* in Sweden.

The species bred from *Dacus oleae* viz., *longulus* or *pectinicornis*, has proved to be new, (described as *mediterraneus* Ferrière and Delucchi 1957:123). A key to the English species is given by Graham (1959:81).

4. *Cirrospilus diallus* Walker 1838, I:312.

The species has been treated by Bouček (1959:247), it is bred as a primary parasite of *Lithocolletis* spp. and other leaf-miners (Delucchi 1958:247, as *Atoposomoidea*). The specimens, 20 ♂♂ and 15 ♀♀, bred from *Rh. fagi*, varied somewhat in colour design; the males were lighter and had a slenderer antenna.

5. *Kratochviliana* (= *Epilampsis*) *nephereus* (Walker) 1839:36 (as *Entedon*).

In this species the pronotum is seen to be only a narrow border in front of mesoscutum. However it is not indistinctly margined at the sides, as in Graham's sp. A. (1959:192). The length and breadth measurements of scutellum were almost alike (47, 45), and with rather finely punctured sculpture. The species seems to be allied to *gunholdi* Delucchi (1954 b:302), which has been bred from different *Lithocolletis* spp.; only the hind femora is more or less brown. The host of *nephereus* appears to have been unknown formerly.

The material could be separated into two parts, 9 ♂♂, and 14 ♀♀, with the middle and hind femora in the greater part dark, and 12 ♂♂, 30 ♀♀ having light coloured legs starting from the trochanters. However, in a few specimens the middle femora was light, and some specimens had a narrow ring of dark colour only at the base of the hind femora. These intermediates seem to show that only a single species is represented, though Delucchi (1954 b: 302), uses the colour of the legs to separate further species.

A genital preparation of the dark-legged form showed the following ratios in length and breadth of phallus compared to aedeagus: 64, 33, 82, 14. In the light-legged form was found: 70, 33, 82, 14. No other clear differences were found.

Phallus (fig. 1) truncate anteriorly, broadest before the middle and somewhat pointed backwards, parameres turned vertically,

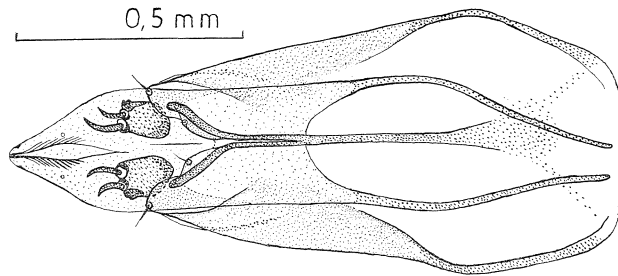


Fig. 1. *Kratochviliana nephereus* (Walk.), phallus.

but almost sessile, with an apical bristle. Central volcellar apodeme anteriorly dilated and diffused, probably caused by decomposed tissue, the apodeme Y-shaped posteriorly, with an internal lamella bearing a bristle. Digits with 2 strong spines, the outer one shorter and more curved. Aedeagus with 2 apodemes, and anterior to the middle, an oblique suture representing the ergot; an apical split is present (the phallotreme), bordered by fine oblique striae and a sensilla.

6. *Tetrastichus c. cyclogaster* (Ratzeburg) 1844: 167, 1848: 168.

2 ♂♂ bred 24/6, 3/7 1964. In the original description the marginal vein is stated to be 4 times as long as stigmal vein, not twice as long as quoted erroneously by Thomson (1878:285).

The species *xanthops* Nees is considered to be a colour variety (Bouček 1961:21).

Graham (1961:4) uses the generic name *Aprostocetus* Westwood instead of *Tetrastichus* Walker. However, it is not certain that this alteration will be accepted, owing to nomenclatorial difficulties.

Key to the chalcid species mentioned above.

- 1(2) Tarsi 5-jointed, antennae with 6 funicle joints. Pronotal collar feebly dilated laterally, propodeum smooth, feebly rugose, no distinct costulae. Head and thorax dull, metallic, brownish green, scape light reddish brown, flagellum dark brown with knees, apex of tibiae and tarsi yellowish, gaster with coppery bands, ♂ body green or blue, metallic, legs yellow, beginning with trochanters, gaster coppery with light spot at base
 **Habrocytus orchestis** (Ratz.)
- 2(1) Tarsi 4-jointed, funicle less than 6-jointed
- 3(8) Venation not interrupted between subcosta and prestigma
- 4(7) Parapsidal furrows incomplete, sometimes unfolding posteriorly. Funicle 4-jointed, in ♂ 3-branched

- 5(6) Costulae before the middle, in ♀ with 4th funicle joint subquadrate, basal tergite of gaster with hairs on lateral margins only **Pnigalio longulus** (Zett.)
- 6(5) Costulae in the middle, in ♀ with 4th funicle joint longer than broad, hairs of basal tergite extending well on to the disc, hind tibiae more or less testaceous proximally and blackish distally, propodeum with one weak hair outside base of plicae **Pnigalio pectinicornis** (L.)s. lat.
- 7(4) Parapsidal furrows complete, in ♂ antennae unbranched, funicle 2-, club 3-jointed. Scutellum with 2 sublateral lines, all 4 scutellar bristles equally strong. Wing disc less densely haired towards the speculum, cubital line not sinuate upwards, where it joins the basal line. Dark parts of body slightly metallic. Plicae laterales present. Speculum of fore wing narrow, closed below **Cirrospilus diallus** Walk.
- 8(3) Subcosta tapering distally until apparently interrupted by the prestigma
- 9(10) Parapsidal furrows incomplete, sometimes unfolded posteriorly as a depression. Head with frontal forked line distinct, first funicle joint shorter than pedicel, mesoscutum and scutellum of same colour, the latter as broad as long, fore wings hyaline, without hair lines from stigma, postmarginal vein much longer than stigmal, costal cell almost hairless, subcubital line of hairs widely interrupted medially. Propodeum with median carina and plicae laterales almost absent, petiole conical, not longer than broad, gaster as long as head plus thorax **Kratochviliana nephereus** (Walk.)
- 10(9) Parapsidal furrows complete, narrow. Scape reaching the front ocellus, subcosta with 3 dorsal bristles, gaster long. Body green or cyaneous, face, tegulae and legs pale yellow, hind coxae green with apex light, thorax in ♂ not yellow underneath and the scape with short sensory space **Tetrastichus e. cyclogaster** (Ratz.)

References.

- Bouček, Z., 1959: A Study of Central European Eulophidae, II: *Diaulinopsis* and *Cirrospilus* (Hym.) — Acta Ent. Mus. Pragae, 33: 171-194.
- , 1961: Materiali po Faune Chalcid (Chalcidoidea) Moldavskoj SSR. — Proc. Mold. Faun. Rech. Inst. Hort. Vinogr. Vinod. 7: 5-30.
- Delucchi, V., 1954a: Neue Arten aus der Subfamilie der Entedontinae. (Chalc. Eulophidae). — Commonw. Inst. Biol. Control, Europ. Lab., Feldmeilen (Zürich). 8 pp.
- , 1954b: Revision der Chalcidierarten der Gruppe *Derostenus-Chrysocharis* (Euloph., Entedontinae). — Mitt. Schw. Ent. Ges. 27: 281-305.

- Ferrière, Ch. and V. Delucchi, 1957: Les Hyménoptères parasites de la mouche des olives. I. Les Chalcidiens de la région méditerranéenne. — Entomophaga 2: 119-124.
- Ferrière, Ch., 1952: Parasites de *Lyonetia clerckella* en Valais (Hym., Chalcidoidea). — Mitt. Schw. Ent. Ges. 25: 29-43.
- Graham, M. R. de V., 1959: Keys to the British Genera of Elachertinae, Eulophinae, Entedontinae and Euderinae (Hym., Chalcidoidea). — Trans. Soc. Brit. Ent. 13: 160-204.
- , 1961: New species of *Aprostocetus* Westwood (Hym., Eulophidae) from Britain and Sweden. — Opusc. Ent. 26: 4-37.
- Kemner, N. A., 1926: Clerks minerarmal dess biologi och metoderna för dess bekämpande. — Medd. 301. Centr. försöksv. jordbruksomr. Ent. Avd. 49: 1-59.
- Oldham, J. N., 1928: The Metamorphosis and Biology of *Rhynchaenus alni* L. (Col.). — Ann. Appl. Biol. 15: 679-698.
- Peck, O., Z. Bouček and A. Hoffer, 1964: Keys to the Chalcidoidea of Czechoslovakia (Insecta: Hymenoptera). — Mem. Ent. Soc. Canada 34: 1-120.
- Ruschka, F., 1924: Kleine Beiträge zur Kenntnis der forstlichen Chalcididen und Proctotrupiden von Schweden. — Ent. Tidskr. 45: 6-16.
- Walker, Fr., 1838: XXXV. Descriptions of British Chalcidites. — Ann. Nat. Hist. I: 307-312.
- , 1839: Monographia Chalciditum I: 1-333.
-