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ON APTEROUS AND REDUCED-WINGED FORMS OF THE FAMILIES DROSOPHILIDAE, EPHYDRIDAE AND SPHAEROCERIDAE (DIPTERA)

By

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Hypselothyrea aptera sp. n. (India), *Tauromima* gen. nov. (type-species: *T. mountwilhelmi* sp. n., New Guinea), *Scatophila stenoptera* sp. n. (New Guinea), *Reunionia* gen. nov. (type-species: *R. unica* sp. n., Réunion), *Hackmaniella* gen. nov. (type-species: *H. ceylanica* sp. n.), *Apterobiroina* gen. nov. (type-species: *australis* sp. n., Australia, Victoria) are described; *Amalopteryx maritima* END., *Speomyia absoloni* BEZZI, *Paraspeomyia hungarica* DUDA, *Copromyza* (*Apterina*) *pedestris* MEIG. and *Anatalanta crozetensis* END. are discussed. *Speomyia* BEZZI and *Paraspeomyia* DUDA are new junior synonyms of *Copromyza* FALL. (*Speomyia* BEZZI retained as a subgen. of *Copromyza*, stat. nov.), *Apterina* MACQ. is a new junior synonym of the subgenus *Copromyza* (*Fungobia*).

In the dipterological literature special attention has always been paid to studies on apterous and reduced-winged flies. A critical review was given by HACKMAN (1964) in an excellent and thought-provoking paper. He summarized the types of wing reduction, the di- and polymorphism of the wing and other morphological features in Diptera with reduced wings, and gave a grouping of the environments in which short-winged or apterous forms have been found. He separated 9 groups (high altitude Diptera, Diptera in arctic, subarctic and subantarctic mainland habitats, nival Diptera, Diptera of oceanic islands, Diptera on sea shores, marine Diptera, Diptera in various terricolous and hypogeous habitats, Diptera in nests of Hymenoptera and termites, parasites of warm-blooded animals). In recent years also numerous papers dealt with reduced-winged Diptera (for example RICHARDS 1965, 1973, etc.). In the present material terricolous, cavernicolous, high altitude flies and flies from oceanic islands are discussed. The paper intends to be a mere contribution to our knowledge of the wide varieties of these kinds of dipterous forms (at least the present author is unable to solve any of the general problems of the morphology and evolution of the apterous and reduced-winged flies).

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Drosophilidae

Hypselothyrea aptera sp. n.

Body dark brown with a finely punctured surface (Fig. 1). Head much higher than long in profile. Facial carina edged, from above flat, bristle pairs *vte*, *vti*, *oc* robust, also proclinate anterior *ors* and reclinate posterior *ors* well-developed and thick (only a minute hair between them). Third antennal joint quite short, arista with two upper and one lower rays behind end fork, rays of end fork and also other rays very long (Fig. 1). Mouth edge only with one strong vibrissa. Palpi with one very long apical and a shorter bristle. Thorax flat dorsally, very wide (wider than head) above mid coxae and strongly attenuating posteriorad, very thin below scutellum. No wings or halteres. Scutellum very short and not upcurving. Thoracic chaetotaxy: 1 *np*, 1 outwards directed anterior and 1 incurving (!) posterior *sa*, 1 *pa*, 1 very long incurving anterior and 1 posterior *dc*, 1 apical *sc* and 1 *st* pairs. Scutellar bristles perpendicular to plane of scutellum. Legs ochreous yellow, fore tibia dark brown, fore tarsi light yellow. Dorsal preapicals on fore and mid tibiae only. Abdominal tergites 2—5 with two pairs each of long and thick perpendicular bristles. Male epandrium short and comparatively small, cerci quite big. Female ovipositor guides short with sharp apex. Tergites of both sexes

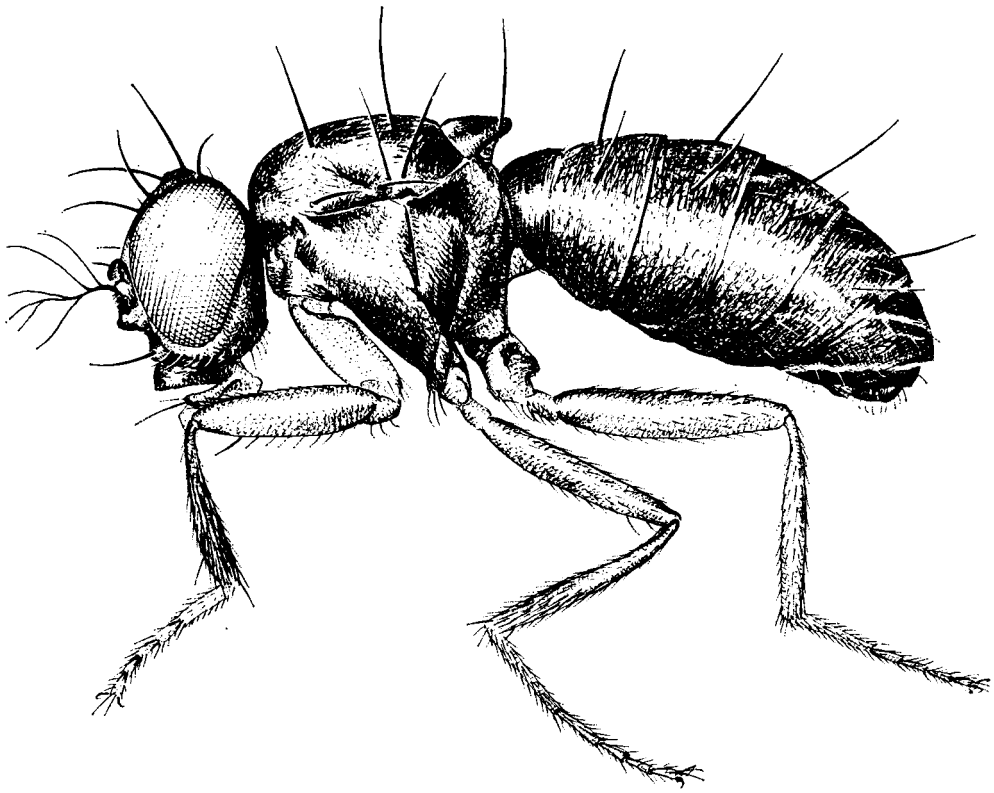

Fig. 1. *Hypselothyrea aptera* sp. n., paratype male

very wide, lateral margins downcurving to ventral side, abdominal sternites very small.

Body-length: holotype male: 1.91 mm, paratypes: 1.8—2.1 mm.

Holotype male: India, Madras, Palni Hills, audessus de Kodaikanal, 2200 m, 12. XI. 1972, leg. MUSSARD, BESUCHET et LÖBL, No. 23 (tamisages dans forêt dégradée avec rhododendrons). — Paratypes: 2 ♂, 4 ♀: data same as for holotype; 1 ♂: ibid., 7 km à l'est de Kodaikanal, 1750 m, 12. XI. 1972, leg. MUSSARD, BESUCHET et LÖBL, No. 24 (tamisages en forêt); 1 ♀: ibid., 10 km à l'ouest de Kodaikanal, 2300—2350 m, 13. XI. 1972, leg. MUSSARD, BESUCHET et LÖBL, No. 25b (tamisages dans forêt dégradée à 2350 m, près de la crête); 1 ♀: India, Kerala, Cardamom Hills, Muttapatti près de Munnar, 1700 m, 24. XI. 1972, leg. MUSSARD, BESUCHET et LÖBL, No. 48 (tamisages en forêt, au pied d'un groupe de fougères arborescentes); 1 ♀: ibid., col à 13 km au nord-est de Munnar, 1900 m, 26. XI. 1972, leg. MUSSARD, BESUCHET et LÖBL, No. 51.

The holotype 2 ♂ and 5 ♀ paratypes are deposited in the collection of Muséum d'Histoire naturelle Genève, 1 ♂, 2 ♀ in the collection of the Hungarian Natural History Museum.

Hypselothyrea aptera sp. n. runs to the couplet 5 of DUDA's key (1928) but its scutellum is short and flat, it has no wings or halteres. It is the first apterous species of this peculiar genus. It seems a common species in the soils of South India.

Ephydridae

Tauromima gen. n.

Head somewhat wider and much longer than thorax (Fig. 2). Head in profile 1.24 times longer than high. Face strongly protruding. Eyes elongately oval. Ocellar bristles originating from middle of frons, 1 pair each of long bristles *oc*, *vte*, *vti* and 2 long pairs of *ors*. Antennae very small, arista bare, basally thickened, dorsally only with two minute hairs. Mouth margin with

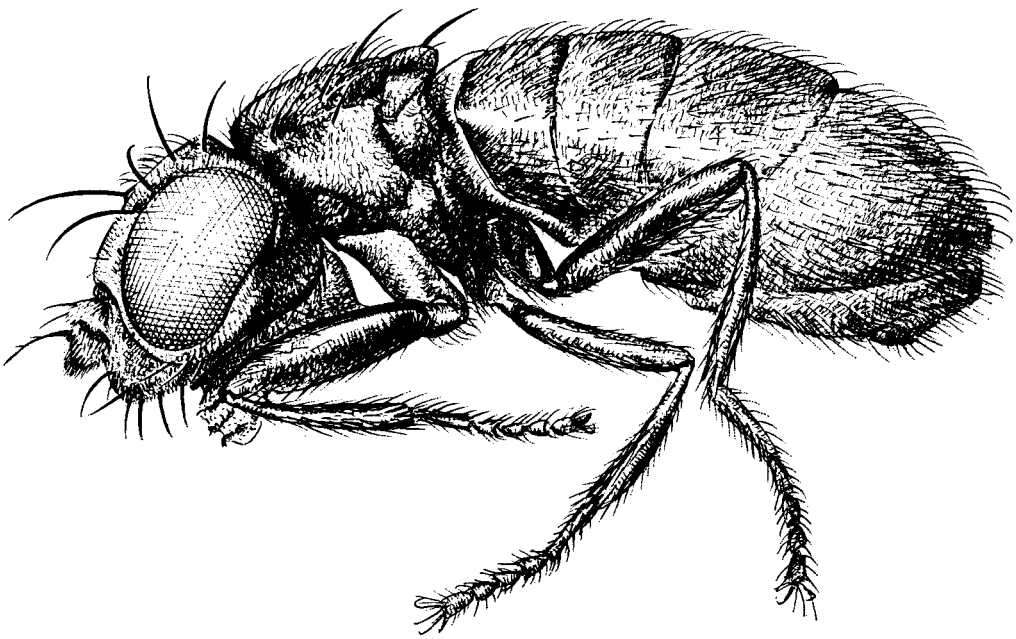

Fig. 2. *Tauromima mountwilhelmi* sp. n., holotype male

an anteral at upper third and 1 strong anterodorsal at lower 1/8. Hind tibia without characteristic bristles. Hind tarsal joints 3—5 long and flattened. Claws long and curved, pulvilli well-developed. Abdomen very thin at base, 0.82 mm, at widest 2.06 mm. Length of abdominal tergites 2—5: 49 : 33 : 23 : 9. Long marginal bristles only on 4th and 5th tergites.

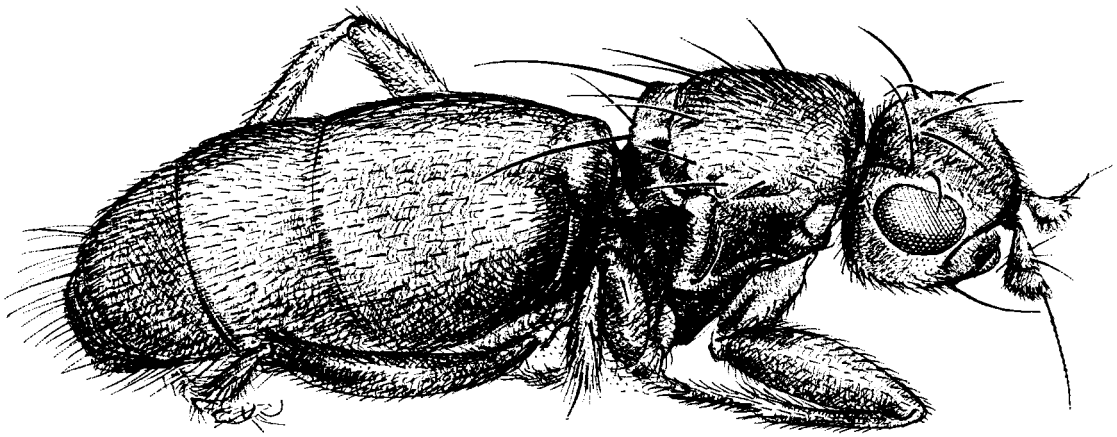

Fig. 10. *Anatalanta crozetensis* ENDERLEIN, 1909, ♂

HACKMAN (1969) discussed the systematic problems of *Anatalanta* EATON, 1875, and concluded that this is a very old branch of the Sphaeroceridae, possibly related to *Ceroptera*. I believe it to be a distinctly separate line in the phylogeny of the family Sphaeroceridae, though the relation of the trends in their phylogeny need more study. It seems rather probable that some of the features of *Anatalanta* may be plesiomorphous (bristles *if*, very long second antennal joint, numerous genal rows) and unique in Sphaeroceridae, but which can be found in other Acalyptrate fly families. On the other hand, most of its features must be apomorphous.

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