The families Perimylopidae and Dacoderidae (Coleoptera, Heteromera)

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SYNOPSIS

The families Perimylopidae and Dacoderidae are defined, and keys are given to the included genera. The relationships of the families are discussed.

INTRODUCTION

THE members of the two families considered here have all at some time been included in Tenebrionidae. For the reasons given below, however, neither Perimylopidae nor Dacoderidae can be included in Tenebrionidae as defined by Crowson (1955), which with relatively minor modifications is the sense in which I accept the latter family (Watt, 1967). Perimylopidae and Dacoderidae are not closely related to each other, but it is convenient to consider them together.

This paper presents the results of part of a comprehensive study of the classification of Tenebrionidae and related families, the bulk of which will be published elsewhere. Cleared preparations of adults and larvae of many Tenebrionidae and representatives of most other families of Heteromera were made. From these and from the literature, tables of the characters that have been used in the past to define families of Heteromera, and some other characters, were compiled. Out of about 70 adult characters and 65 larval characters, 31 and 30, respectively, of the most useful were selected (Watt, 1965). Decisions on the limits, status and relationships of the families of Heteromera considered here and elsewhere are based mainly on this data.

FAMILY PERIMYLOPIDAE

Perimylopidae St. George, 1939, *Proc. ent. Soc. Wash.* **41** : 212.

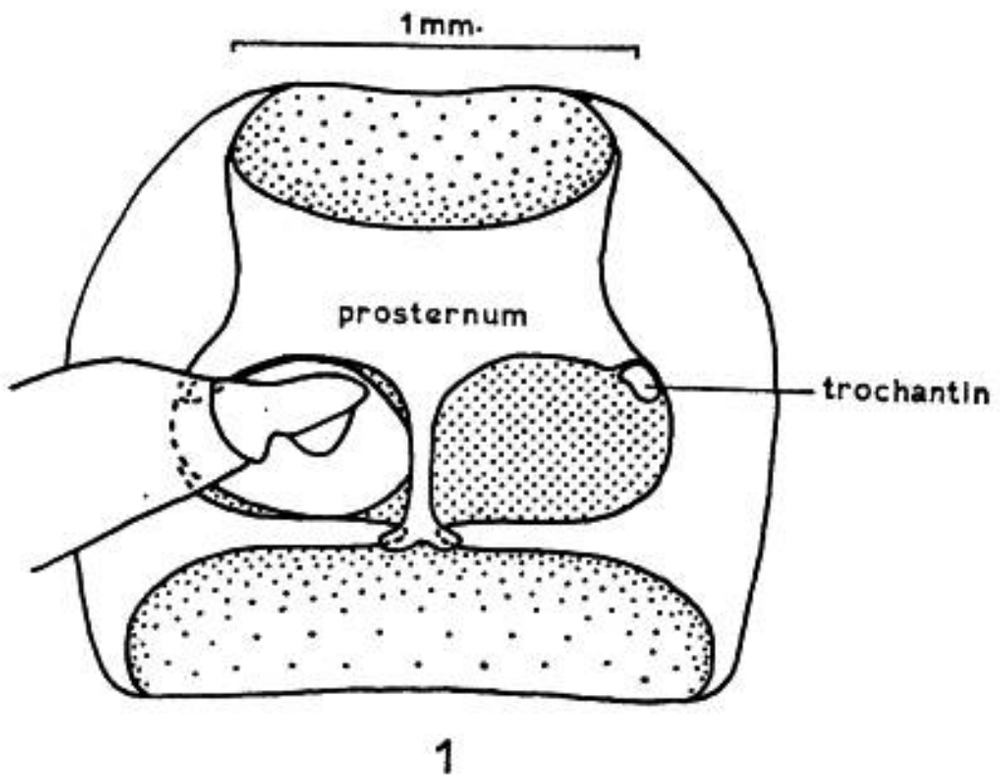
Adults

Antennae 11-segmented, filiform, inserted near sides of front, their insertions visible from above (fig. 5). Eyes small, without any trace of anterior emargination. Head slightly narrowed behind eyes. Labrum transverse, membrane between it and clypeus exposed. Epipharynx as in figure 7, membranous except at lateral basal angles. Mandibles (figs. 2, 3) bidentate at apex, teeth, mola and cutting edge heavily sclerotised. Terminal segment of maxillary palp ovoid, obliquely truncate at apex (fig. 9). Maxillae as in figure 8. Terminal segment of labial palp fusiform (fig. 9). Underside of head approximately as in figure 9, without distinct submentum, gular sutures extend forwards as far as posterior tentorial pits.

Prothorax rounded laterally, or distinctly carinate, or with lateral foliations (*Darwinella*). Front coxal cavities open or closed externally, open internally. Intercoxal process of prosternum very short to long; if extending back behind coxae then apex forked, with small curved lateral processes (fig. 1). Front coxae projecting, but not contiguous, their trochantins exposed (fig. 4). Mesocoxae somewhat projecting, their trochantins exposed (fig. 4), their cavities closed laterally partly by mesepimera. Mesosternum truncate anteriorly, not depressed. Mesosternal intercoxal process projects back over semi-membranous piece of metasternum between mesocoxal cavities; there is no distinct metasternal intercoxal process. Arms of mesofurca simple. Elytra without striae or regular rows of punctures, often without distinct pseudopleura. Metasternum transverse, median sulcus very short. Metacoxae transverse, narrowly separated, without internal flanges or ridges. Metathoracic wings reduced to very short vestiges. Metendosternite (fig. 13) with or without a short stalk, without laminae or median anterior process, arms simple, strongly diverging, bearing anterior tendons near their tips. Middle and rear trochanters of heteromeroid type, front trochanters of normal clavicorn type (fig. 1). Each tibia with 2 simple spurs. Tarsal formula 5–5–4. Tarsal segments and claws simple.

Abdomen with 5 sternites normally visible, first three weakly connate, fourth and fifth movable. Aedeagus (fig. 11) with lightly sclerotised tegmen and more heavily sclerotised, simple median lobe.

Proc. R. ent. Soc. Lond. (B) **36** (7–8). Pp. 109–118, 24 figs. 1967.



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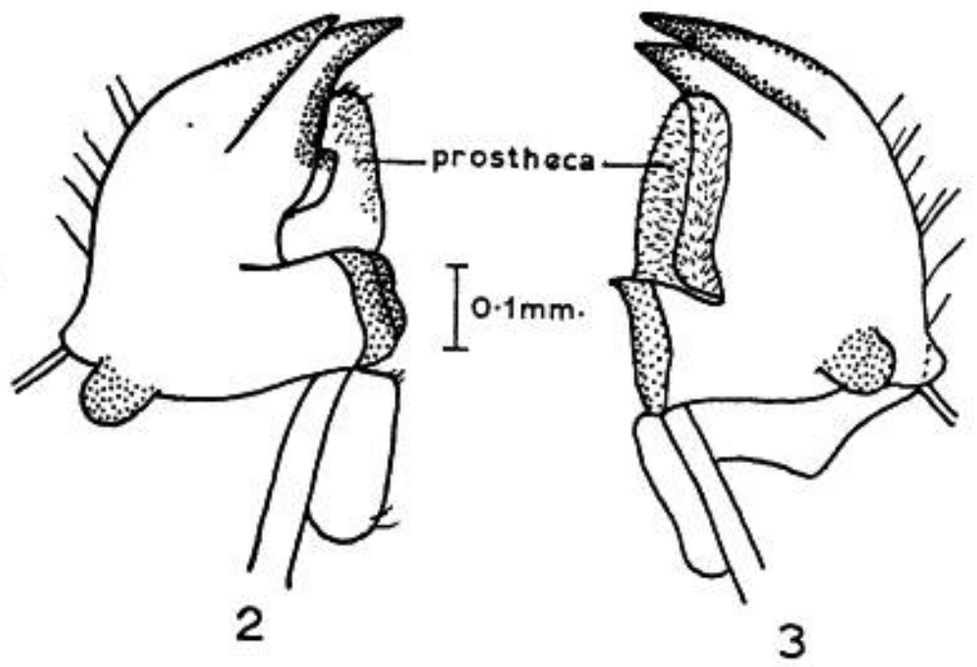

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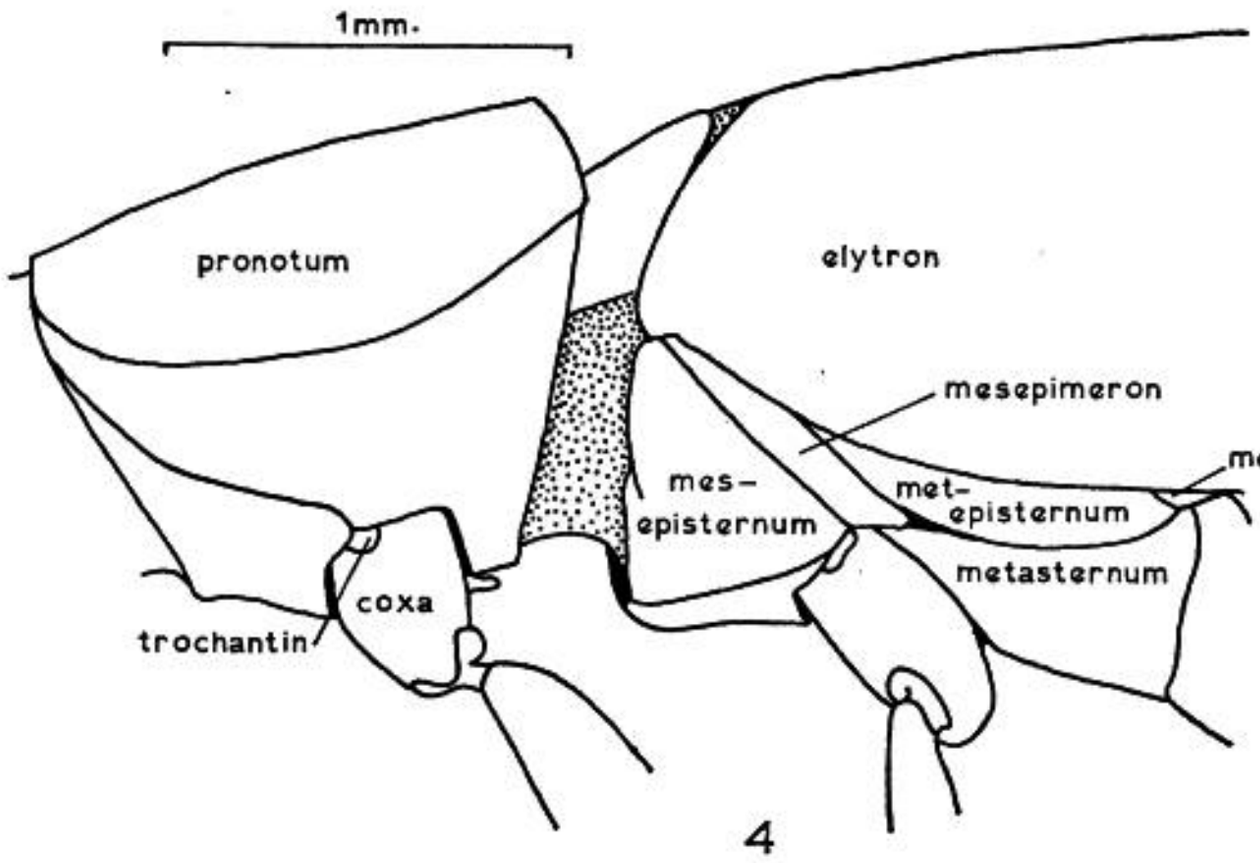

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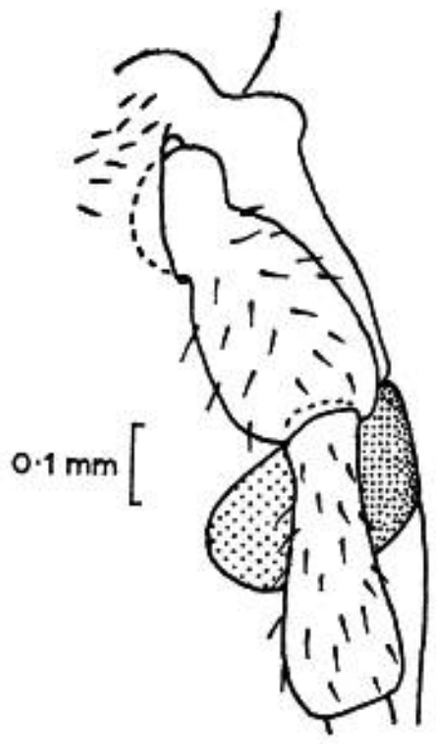

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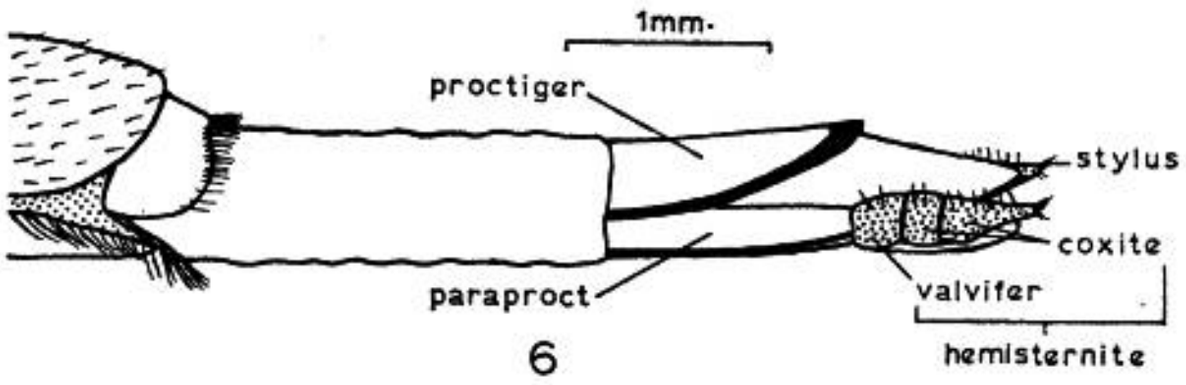

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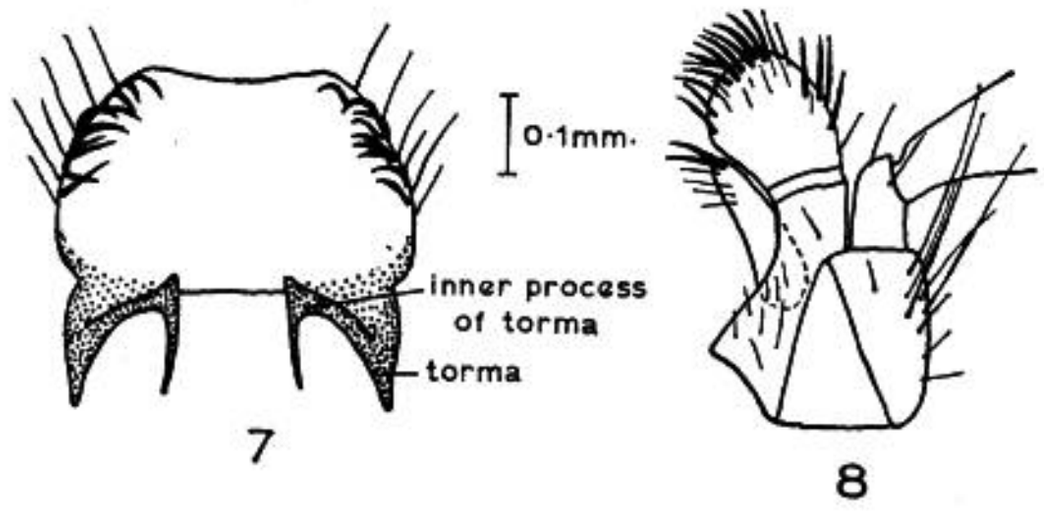

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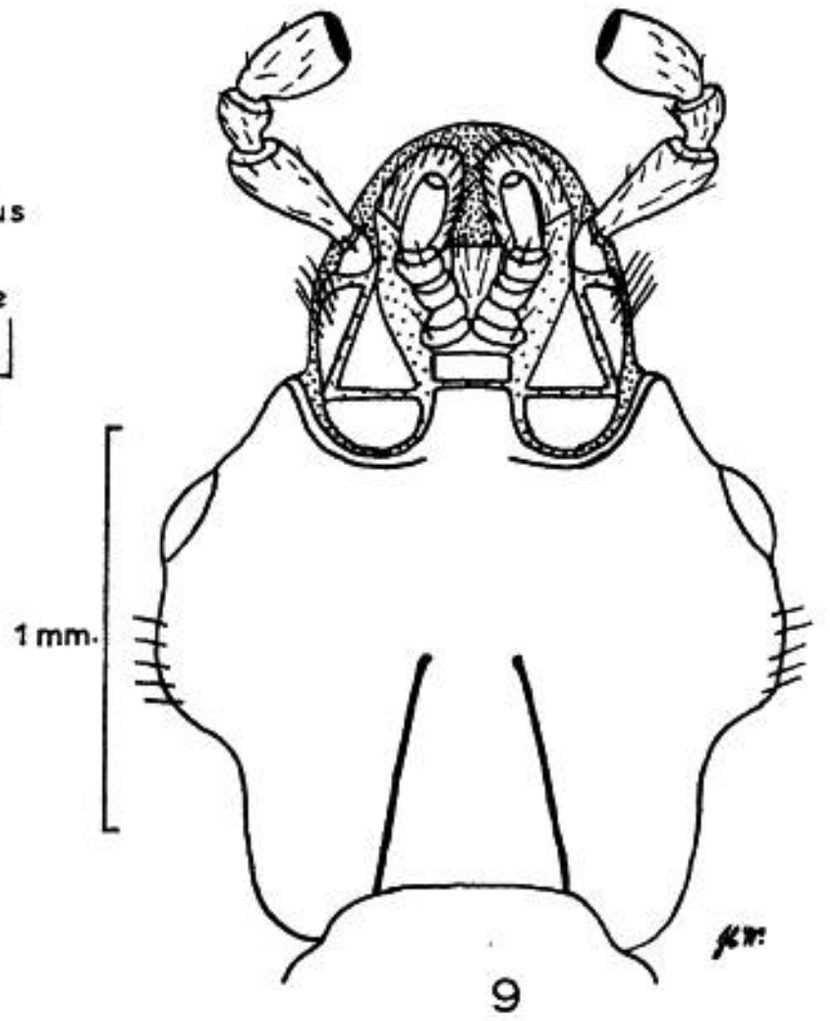

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FIGS. 1–9.—*Hydromedion sparsutum* Müller, adult: (1) prothorax, ventral view, left coxa removed; (2) right mandible, ventral view; (3) left mandible, ventral view; (4) thorax, lateral view; (5) base of right antenna and antennal socket, dorsal view; (6) ovipositor, lateral view; (7) epipharynx; (8) left maxilla, ventral view; (9) head, ventral view.

Apical piece of tegmen with divergent apices which bear some setae (fig. 11). Ovipositor (fig. 6) elongate, edges of ninth tergite (proctiger) thickened and more heavily sclerotised than remainder. Paraprocts elongate, each with strengthening rod ("baculum"). Valvifer divided from coxite, which is itself subdivided. Styli small, short, almost apical in position.

Larvae (see also St. George, 1939)

Elongate, subcylindrical, moderately sclerotised. Head with median epicranial suture and lyre-shaped frontal sutures. Clypeus not distinctly delimited posteriorly. Ocelli large, 5 in number, arranged in 2 vertical rows. Antennae elongate (longer than head), pubescent, first and second segments subequal, third relatively very small and short. Second segment bearing a conical sensorium at apex outside third segment. Antennal insertions separated from base of mandibles by a clearly visible strip of head capsule exceeding half the width of the first antennal segment. Labrum slightly transverse. Epipharynx as in figure 24, largely membranous. Each mandible (figs. 21–23) bidentate at apex and with a preapical ventral tooth. Right mandible with a preapical dorsal tooth, left mandible with a multi-lobed cutting edge. Molar part weakly developed, weakly sclerotised, with a few small teeth ("retinaculum") at its apex. Maxillary cardo divided (fig. 16), mala without tooth or uncus near apex of inner edge, indented at apex. Maxillary articulating area rather elongate, slightly convex. Ligula projects slightly in front of prementum. Mentum indistinctly divided from submentum. Ventral mouthparts set at lower level than ventral part of head; gula quite distinct from submentum and also from epicranium. Hypopharynx membranous, with bracon, without sclerome. Endocarina and hypostomal rods absent.

Legs fairly long, well-developed, pubescent, their coxae broadly separated. Each tarsungulus bears 2 long, equal setae. Spiracles annular, not cribriform (fig. 20). Urogomphi characteristic (fig. 17), narrowly separated at base, curved upwards, each with a dorsal process arising at base. Ninth sternite strongly transverse, convex. Tenth sternite produced into a median fleshy process (fig. 17).

Distribution

Known only from Patagonia, the Fuegian region, the Falkland Islands and South Georgia (Kulzer, 1963).

Biology

Hydromedion sparsutum Müller and *Perimylops antarcticus* Müller live in South Georgia under stones and moss and in large tufts of the tussock grass *Poa caespitosa* Forst.f., and *P. antarcticus* was also found in great numbers under cadavers (Brinck, 1945). What little has been recorded of other species of the family suggests that they have similar habits. Gut contents of larvae were composed of fragments of grass leaves and inorganic debris, suggesting that they feed on tussock litter.

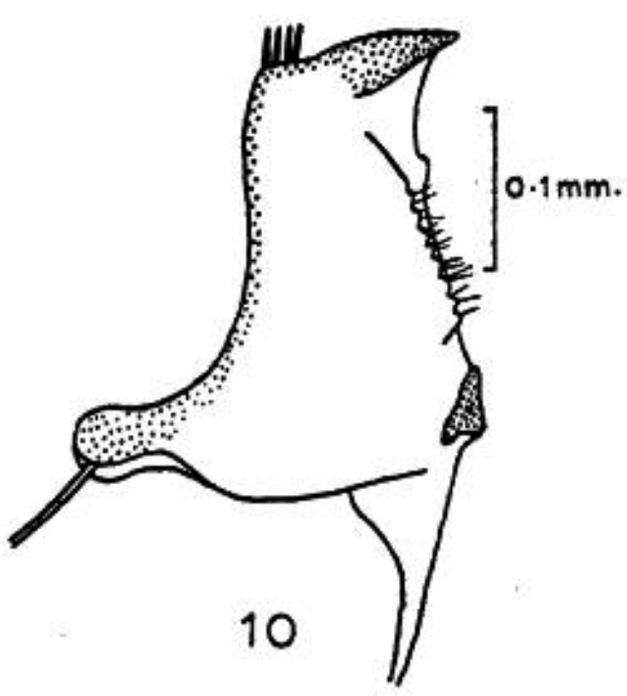
Discussion

When St. George (1939) proposed this family, he defined it on larval characters only. Crowson (1955 : 130) tentatively referred the genera *Perimylops* and *Chanopterus* to Pythidae, but in his conspectus (*op. cit.* : 172) he listed the family Perimylopidae under Cucujoidea, and included in it *Perimylops*, *Chanopterus* and *Hydromedion*. The family has apparently not yet won general acceptance, as Kulzer (1963) followed most earlier students of adult Tenebrionidae in referring these genera and some others to the tenebrionid tribe Helopini, although with some reservations.

Careful study of the structure of adults and larvae of Perimylopidae shows that they cannot possibly be included in Tenebrionidae as defined by Crowson (1955), although they are related more closely to Tenebrionidae than to Pythidae. Adult Perimylopidae are excluded from Tenebrionidae by the strongly projecting front coxae with exposed trochantins, the strongly projecting mesocoxae (fig. 4), the exposed antennal insertions (fig. 5), the front coxal cavities, which are completely open internally (fig. 1), and the aedeagus (fig. 11), which is of the lightly sclerotised, simple type and bears long setae on the apices of the parameres. Larval Perimylopidae are excluded from Tenebrionidae by the divided cardo (fig. 16), lyre-shaped frontal sutures, absence of mandibular mola and presence of "retinaculum", presence of a multi-lobed cutting edge on the left mandible, and the peculiar type of complex urogomphi (fig. 17). There is a strong superficial resemblance between perimylopid

larvae and those of some Lagriinae, which no doubt reflects their similar habits of living free amongst leaf litter.

The family Perimylopidae appears to be most closely related to the genus *Parahelops* Waterhouse, which I propose to include in a more broadly defined family Zopheridae, together with Ulodini and several related genera from Australia and New Zealand (Watt, 1965). The differences between *Parahelops* and Perimylopidae are more numerous, and seem to me to be more important, than those between *Parahelops* and Ulodini. The similarities between *Parahelops* and Perimylopidae may be due partly to their occurrence in the same or similar habitats in the Fuegian region and in the Falkland Islands. Adult Perimylopidae differ from *Parahelops* adults in



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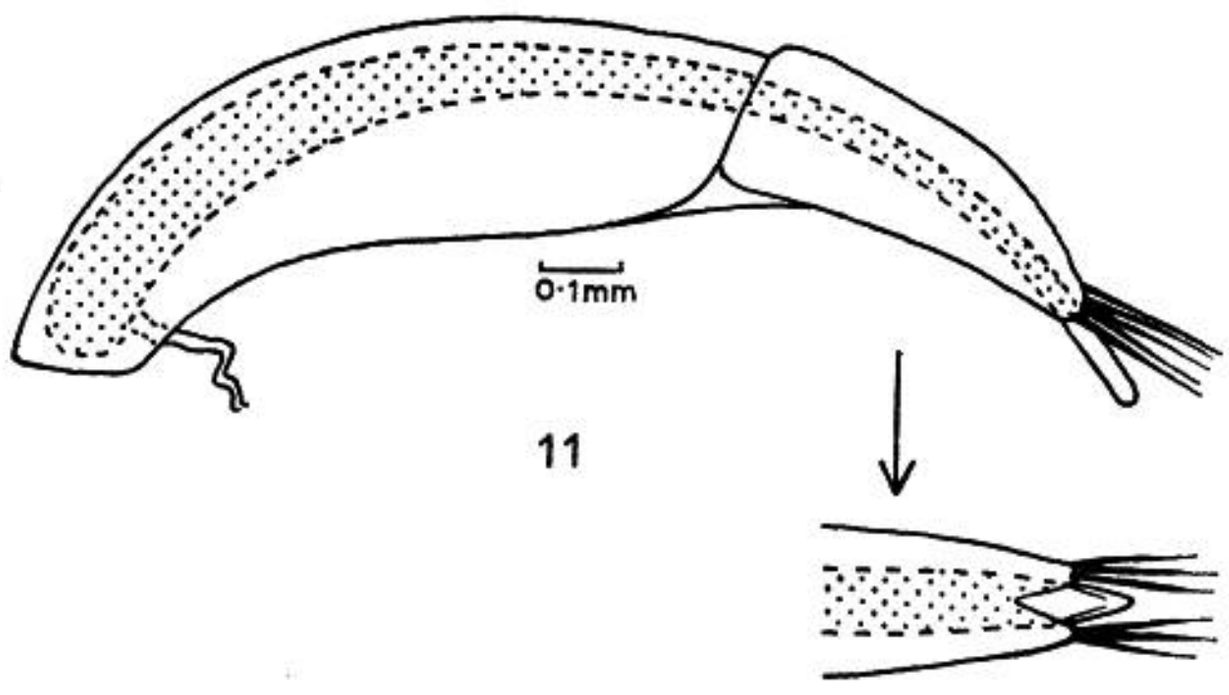

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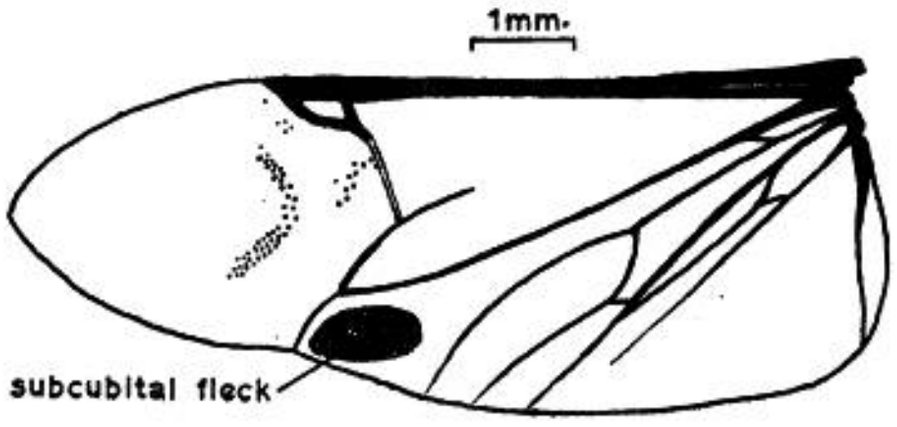

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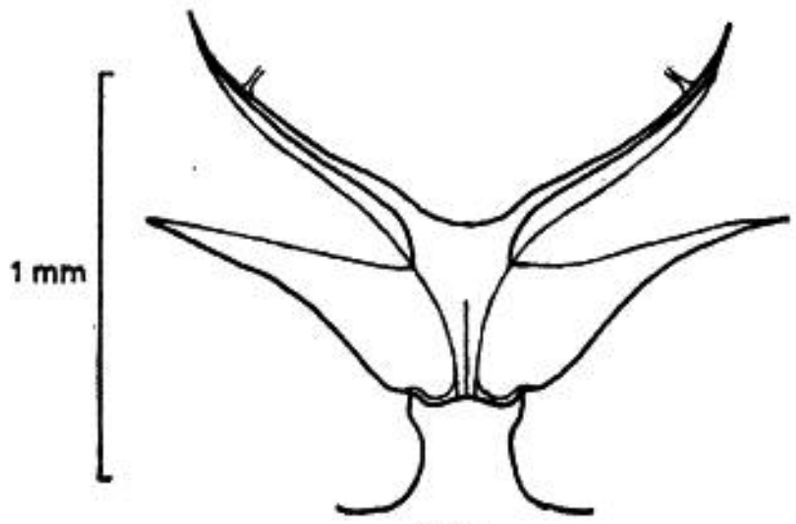

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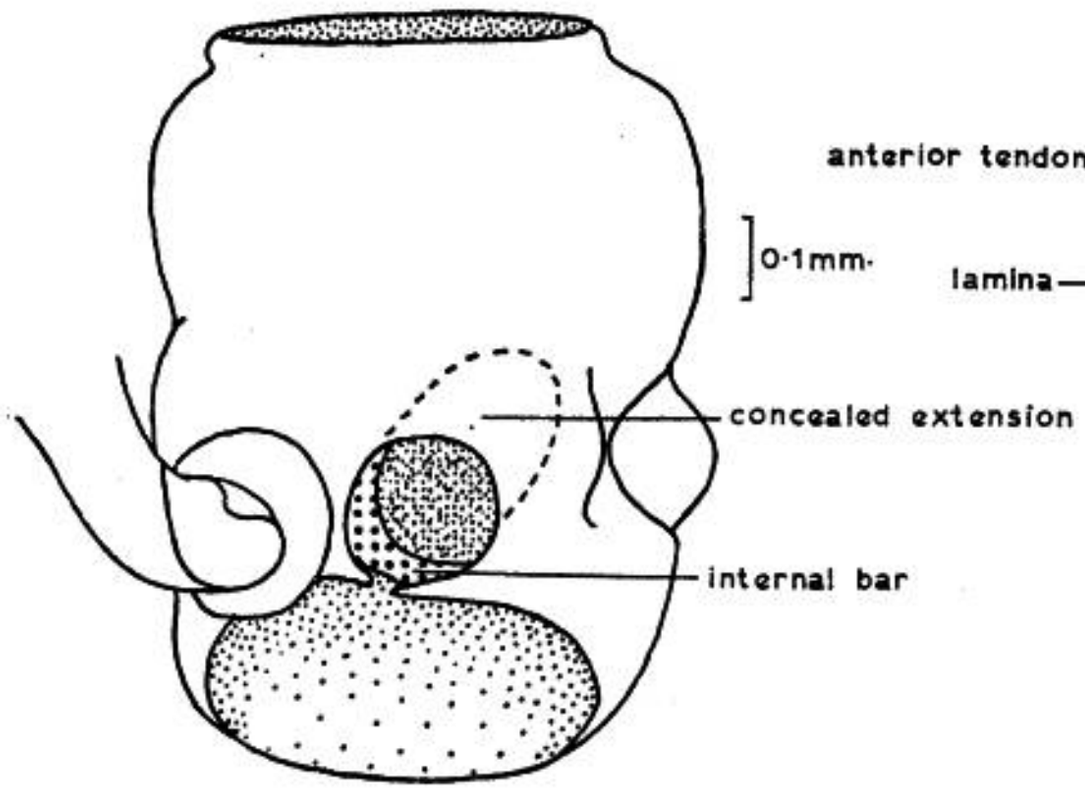

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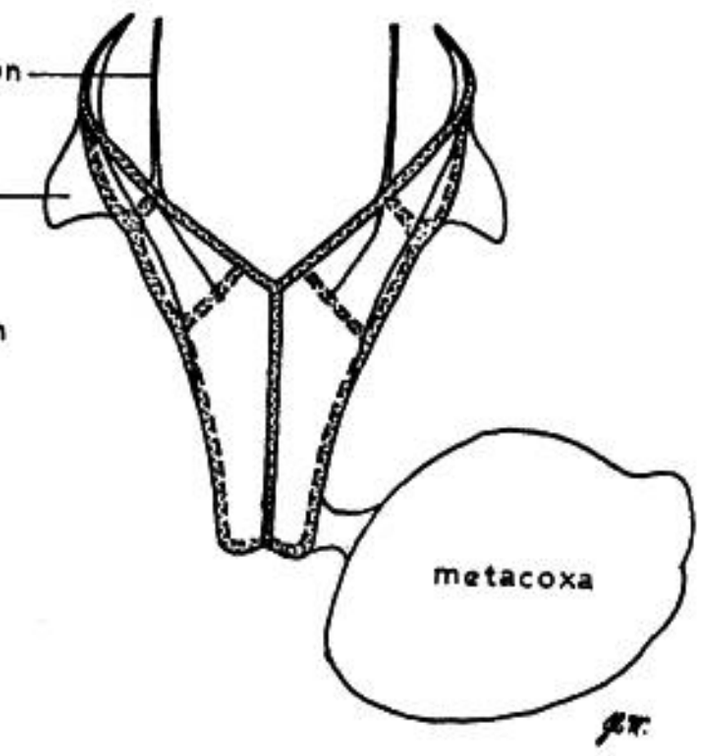

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FIGS. 10–15.—(10) *Dacoderus striaticeps* Leconte, right mandible, ventral view. (11) *Hydromedion sparsutum* Müller, aedeagus, lateral view and dorsal view of apex. (12) *Tretothorax cleistostoma* Lea, left wing. (13) *H. sparsutum*, metendosternite, dorsal view. (14) *D. striaticeps*, prothorax, oblique ventral view, left coxa removed. (15) *T. cleistostoma*, metendosternite, dorsal view.

their strongly projecting front coxae with exposed trochantins (fig. 4), narrow prosternal intercoxal process (fig. 1), projecting mesocoxae, which are not completely divided by intercoxal processes, non-striate elytra, and weakly sclerotised, soft integument. Perimylopid larvae have complex urogomphi (fig. 17), simple, non-cribriform spiracles (fig. 20), mandibles with retinacula, left mandible with multi-lobed cutting edge (fig. 22), and lack hypostomal rods, in all of which they differ from *Parahelops* larvae. There is apparently no feature of the pupa of *Parahelops* which would associate it with that of *Hydromedion* (Brinck, 1945) rather than that of typical Zopheridae, but too little is known at present of heteromerous pupae to assess the importance of most pupal characters.

St. George (1939) considered that the larva of *Perimylops* shows affinities to those of Zopheridae and Boridae. No close relationship with the latter family is suggested by either adult or larval Perimylopidae. St. George also stated: "The presence of the retinaculum on the molar part of the mandible suggests Salpingidae through *Rhinosimus*." This structure is found also in Tetratomidae, with which family Perimylopidae has more in common than with Salpingidae.

Poophylax falklandicus Champion, 1916, which was originally referred to Pythidae, is superficially similar to Perimylopidae, especially *Hydromedion*. It seems to be a true Salpingid, although the antepenultimate tarsal segments are distinctly lobed.

Kulzer (1963) included *Parahelops* and *Brachyhelops* together with the four Perimylopid genera in his paper on "Antarctic Helopini" (which are neither Antarctic nor Helopini). I have seen no specimens of *Brachyhelops*, and am unable to place it in a family from Kulzer's description, but it is apparent that it is not a Tenebrionid, Perimylopid or Zopherid. It has 4–4–4 tarsi with penultimate segments lobed, exposed antennal insertions, filiform antennae, laterally carinate prothorax, seriate-punctate elytra, distinct pseudopleura, and a prosternal intercoxal process which, from the description, seems to be similar to that of *Parahelops*, Ulodini and Merycidae.

Key to genera of Perimylopidae—Adults

1 Front coxal cavities open behind. Prosternal intercoxal process not extending back as far as hind margins of front coxae. Middle coxae widely separated, the distance between them almost as great or greater than the width of each coxa. Elytra weakly convex. Prothorax weakly or not carinate laterally 2

– Front coxal cavities closed behind. Prosternal intercoxal process extends back beyond hind margins of front coxae; forked at apex (fig. 1). Middle coxae narrowly separated, contiguous or nearly so internally, the distance between them externally much less than the width of each coxa. Elytra more strongly convex. Prothorax distinctly carinate or explanate laterally 3

2 Prothorax not carinate laterally. Prosternal intercoxal process extending backwards between coxae as a narrow projection. Middle coxae separated by less than the width of a coxa. Hind coxae separated by less than half the width of a coxa. Elytra without distinct pseudopleura or pseudopleural carina . . . . . ***Perimylops*** Müller, 1884 (with a single species, *P. antarcticus* Müller, confined to South Georgia).

– Prothorax carinate laterally. Prosternal intercoxal process short, blunt, broadly triangular, scarcely extending back between coxae. Middle coxae separated by slightly more than the width of a coxa. Hind coxae separated by just less than the width of a coxa. Elytra with distinct pseudopleura extending almost to apex, separated from upper surface of elytra by sharp pseudopleural carina . . ***Chanopterus*** Boheman, 1858 (with a single species, *C. paradoxus* Boheman (= *Chitoniscus brevipennis* Waterhouse, 1875), which occurs in Tierra del Fuego and Patagonia).

3 Lateral margins of pronotum and elytra produced as thin lateral flanges; elytral pseudopleura broad. Form broadly oval . ***Darwinella*** Enderlein, 1912 (with a single species, *D. amaroides* Enderlein, confined to the Falkland Islands).

– Lateral margins of pronotum and elytra not produced; elytral pseudopleura narrow. Form narrow, elongate oval ***Hydromedion*** Waterhouse, 1875 (= *Mylops* Fairmaire, 1883) with five known species, one of which, *H. sparsutum* Müller, inhabits South Georgia; the others occur in the vicinity of the Straits of Magellan, especially on Tierra del Fuego).

Notes on the generic classification

The only differences between *Darwinella* and *Hydromedion* are tabulated in the key. *Darwinella* appears to be little more than a specialised *Hydromedion.*

Perimylops and *Chanopterus* appear to be more closely related to each other than either is to *Hydromedion.* Schweiger's diagram of the underside of the prothorax in *Hydromedion magellanicum* (Schweiger, 1958, Taf. 1, fig. 1) does not agree with specimens I have examined, which run to this species in the key of Kulzer (1963). Schweiger's figure shows an abbreviated intercoxal process, as in *Chanopterus*, but in the specimens that I have seen this process is of normal length and forked posteriorly as in other species of *Hydromedion.*

Descriptions of Larvae

Hydromedion sparsutum Müller

These are similar in most respects to those of *Perimylops antarcticus* Müller, with which they exist sympatrically on South Georgia. The following description should be read in conjunction with the description and figures of *P. antarcticus* by St. George (1939).

Mature Larva

Colour variable, but always more or less strongly variegated dorsally, whereas *P. antarcticus* is fairly uniform in dorsal coloration (*cf.* Mjöberg, 1906).

All terga bear numerous setae, as in *P. antarcticus*, but the setae are shorter and more slender. Pronotum (fig. 18) bears 4 moderately long setae on each side, arising near its anterior lateral angle, and 4 similar setae near its posterior lateral angle (2 plus 2 in *P. antarcticus*). On following terga are a greater number of long lateral setae on each segment than in *P. antarcticus.* Hairs of ventral surface stouter and more numerous than in *P. antarcticus.* Vestiture of urogomphi characteristic (fig. 17), with at least 12 long setae arising on underside of each urogomphus (four in *Perimylops*).

St. George (1939, fig. 4), shows only 4 setae on clypeus of *P. antarcticus*, but there is a third pair towards the middle, as in *H. sparsutum.* Epipharynx as in figure 24, surface membranous. Epipharynx and tormae of *P. antarcticus* quite similar to this (St. George's figure 1 is incorrect with regard to the tormae). "Retinacula" of mandibles (a series of small teeth on inner surface: figs. 21, 22) often weakly developed in mature larvae, but distinct in younger larvae. This character variable in *P. antarcticus*, probably because of wear. Points of apical teeth sharper in *H. sparsutum.* Maxilla (fig. 16) with palp more elongate, bristles of apex of mala shorter and stouter than in *P. antarcticus.* The 2 setae of ligula (fig. 16) much shorter and stouter than in *P. antarcticus.*

Legs stouter and less elongate than in *P. antarcticus.* Thorax and abdomen more convex, approximately cylindrical. Urogomphi and their dorsal processes (fig. 17) stouter than in *P. antarcticus.*

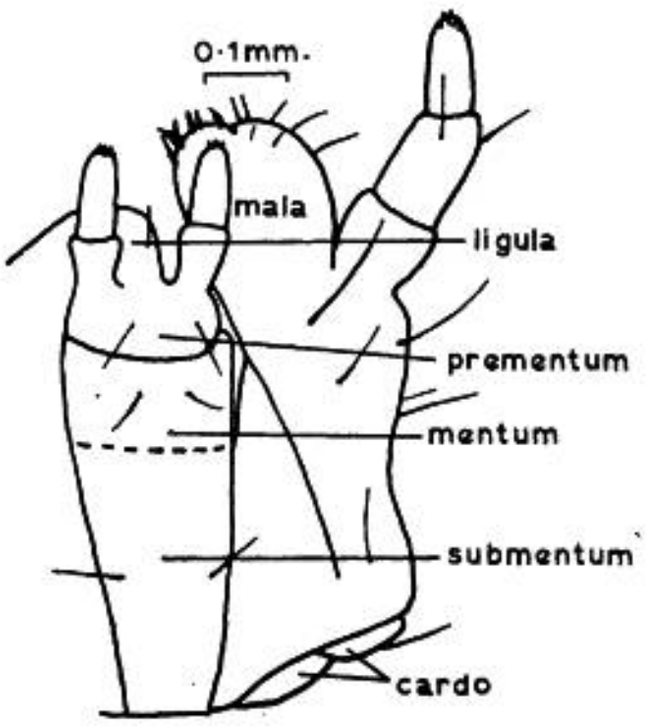
Spiracles similar in the 2 species. Thoracic and abdominal spiracles basically similar, but thoracic larger. Peritreme projecting slightly (fig. 19). Atrium flexible, inner surface closely covered with minute granules, which are larger on the closing apparatus, and bear minute setae (fig. 20). There is no definite filter apparatus.

Immature Larvae

In addition to their smaller size (see dimensions below), these differ from mature larvae in the mandibles, in which the "retinacula" are more strongly developed and in which the preapical teeth are less strongly developed. They bear fewer long lateral setae than do mature larvae, but are still easily distinguished from larvae of *P. antarcticus* by the numerous long setae arising on the underside of the urogomphi, and by their more elongate, convex and less depressed form, and relatively shorter, stouter legs.

Abnormal specimen

In a single medium-sized larva (H.W. 1·15 mm.), the antennae are greatly reduced in length and stoutness, with the first segment slightly broader than long, with the second segment just longer than broad, broadly rounded at its apex, and the third segment apparently absent. The antennae are similar to each other, but the basal segment of one is stouter. In all other respects the larva appears to be normal.



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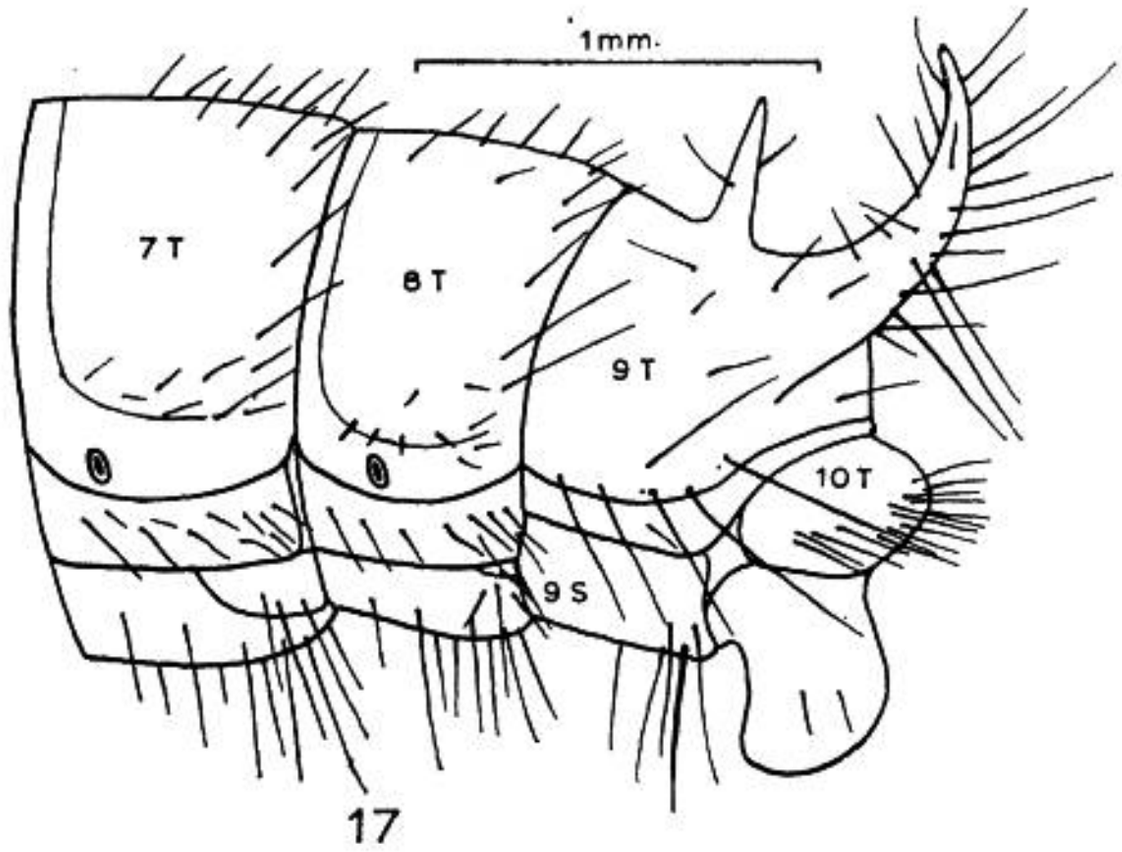

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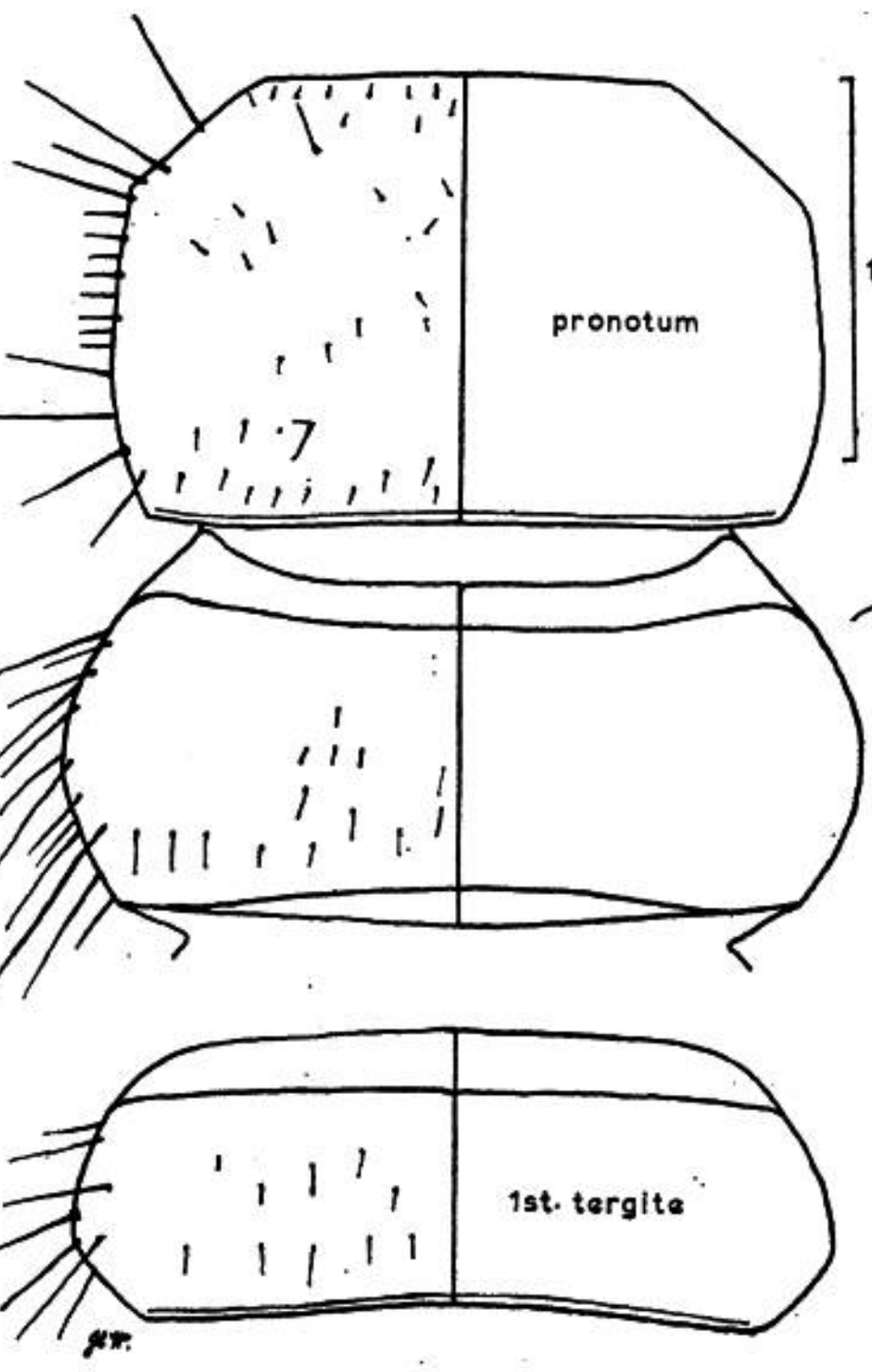

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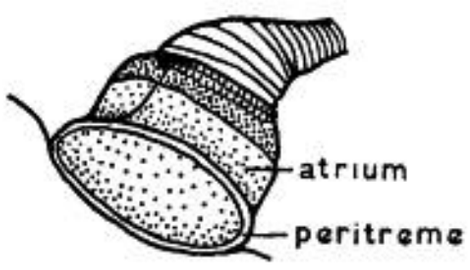

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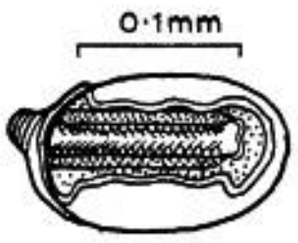

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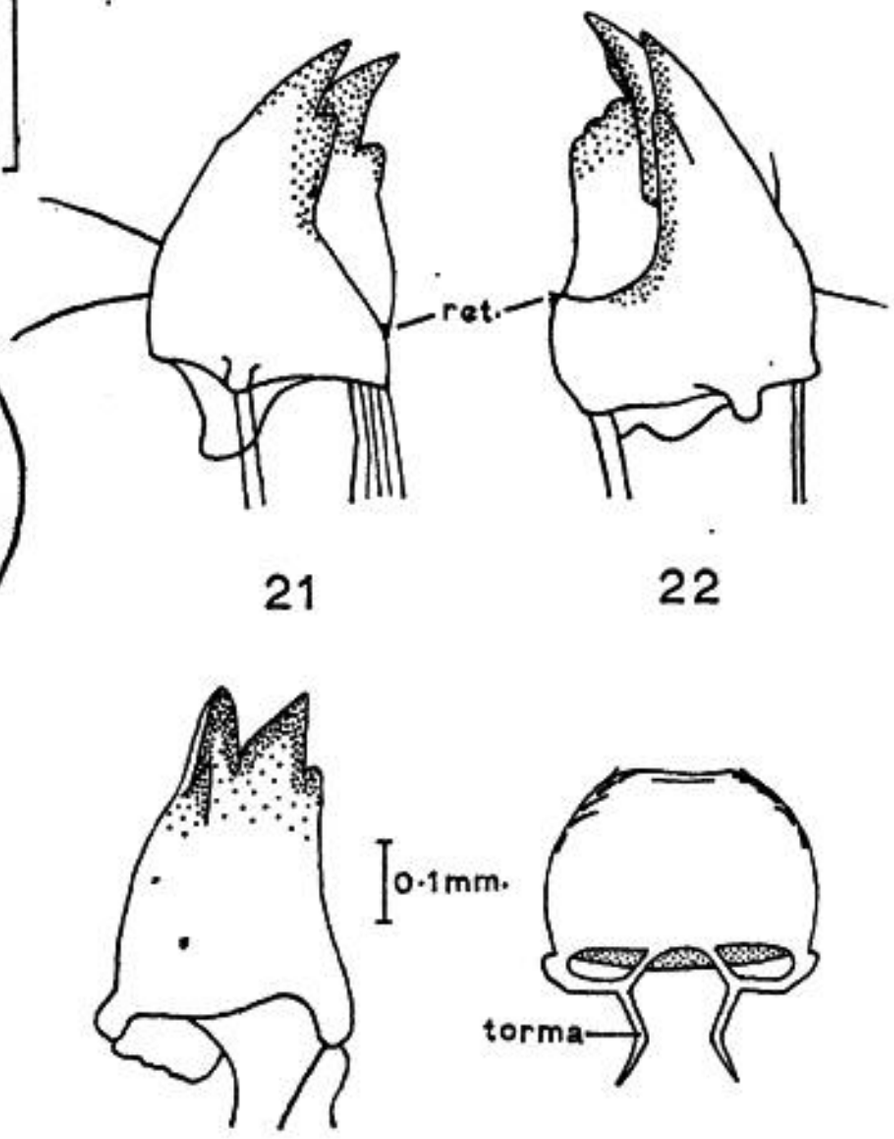

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FIGS. 16–24.—*Hydromedion sparsutum* Müller, mature larva: (16) left maxilla and labium, oblique ventral view (from slide); (17) terminal abdominal segments, lateral view (*T* = terga, *S* = sterna); (18) pronotum, mesonotum and first abdominal tergum, dorsal view; (19) thoracic spiracle, oblique view; (20) thoracic spiracle; (21) right mandible, ventral view (ret. = "retinaculum"); (22) left mandible, ventral view; (23) right mandible, inner surface; (24) epipharynx.

Dimensions.—The only dimension given by St. George (1939) for *P. antarcticus* is "length 7 mm.". The head-widths of 28 larvae of *P. antarcticus* and 39 larvae of *H. sparsutum* are tabulated below.

H.W. (mm.)	0·61–0·7	0·71–0·8	0·81–0·9	0·91–1·0	1·01–1·1	1·11–1·2	1·21–1·3	1·31–1·4	1·41–1·5
P. antarcticus	4	10	6	5	3	0	0	0	0
H. sparsutum	0	4	5	1	3	11	2	8	5

When the original measurements were plotted graphically, the histograms for both species gave the impression of having three modes, but this is not certain on the available data. Adults of both species are rather variable in size (*H. sparsutum*: length 8·2–10·7 mm., width 2·7–3·6 mm.; *P. antarcticus*: length 6·8–8·0 mm., width 2·2–2·8 mm.). Thus the larvae of each instar would be expected to be rather variable in size, and the instars may not be separable on head-width alone. No certainly first instar larvae have been seen.

Material examined.—South Georgia (*Hon. W. Rothschild*), B.M. 1907–283. (originally a mixed tube of about 25 *H. sparsutum* and 25 *P. antarcticus*). U.S.A. (*sic*) South Georgia, Bay of Isles (= Ample Bay or Paul Beach), 19.iv.54 (*N. Bonner*), B.M. 1958–365 (with adults). Other specimens from South Georgia, in Riksmuseum, Stockholm, including those on which the descriptions by Mjöberg (1906) were based, have been examined.

Hydromedion magellanicum Fairmaire

A single dry *Hydromedion* larva, associated with an adult bearing the same data, has been examined. This is readily distinguished from larvae of *H. sparsutum* by its longer, more slender urogomphi, and dorsal processes arising at the base of the urogomphi, and the shorter setae.

Material examined.—South America, Tierra del Fuego, Estancia Viamonte, vii.1927–ii.1928 (*P. W. Reynolds*), B.M. 1928–329 (1 dry larva, H.W. 1·60 mm., associated with 1 adult).

Family Dacoderidae

Dacoderini Leconte, 1862, *Classification of the Coleoptera of North America* **2** : 216.
Tretothoracidae Lea, 1910, *Proc. roy. Soc. Vict.* (N.S.) **23** : 210.

Adults

Antennae 10-segmented, without club. Head more or less rostrate, antennae inserted on sides near apex, under small dorsolateral elevations. Head narrowed behind eyes, but not abruptly. Mouthparts concealed by large, broad mentum. Labrum-epipharynx largely covered by clypeus, transverse, with well-developed tormae. Terminal segments of palpi fusiform. Galea broadly triangular, bearing a dense brush of fine setae at apex. Lacinia elongate, with a brush of similar setae on apex and extending along inner margin. Each mandible (fig. 10) thin, with very small, weakly sclerotised mola; inner margin distal to mola not sinuate; prostheca elongate, narrow; apex not strongly sclerotised, unidentate. Gular sutures separate, faint. Prothorax (fig. 14) approximately cylindrical, dorsal surface with a deep longitudinal furrow and a transverse furrow. Front coxae with substantial concealed extensions, projecting obliquely backwards and upwards, contiguous externally. Procoxal cavities incompletely closed externally, closed internally by a transverse bar (fig. 14); completely separated by a very narrow intercoxal process, which broadens posteriorly. Prothorax lacking sutures, prosternal area long in front of coxae, which are situated at the extreme posterior end of the prothorax (fig. 14).

Mesepisterna not nearly meeting in front of mesosternum. Mesosternum convex throughout, lacking distinct median keel. Mesocoxal cavities closed laterally by sterna, not reached by mesepimera. Mesocoxae without exposed trochantins; contiguous internally, separated by very narrow intercoxal processes of sterna. Metasternum elongate (*Tretothorax*) or transverse, with (*Tretothorax*) or without median suture. Metendosternite with (*Tretothorax*, fig. 15) or without short stalk, without anterior median process in front of arms, anterior tendons borne towards apices of arms, "laminae" present (*Tretothorax*) or absent. Metacoxae moderately separated, broadly oval

(fig. 15), with (*Tretothorax*) or without internal flanges. Wings with subcubital flecks and complete heteromeroid venation (fig. 12), or absent (*Dacoderus*). Tarsal formula 5–5–4 in both sexes. Claws and tibial spurs simple, tarsi lack lobed segments. Elytra without striae; with distinct pseudopleura but without pseudopleural carina.

Abdomen without connate sternites, but intersegmental membranes normally concealed, giving a false impression that the four basal sternites are connate in dried specimens. Aedeagus inverted, median lobe simple, elongate, slightly curved; tegmen weakly sclerotised, basal piece and parameres about equal in length, separated by a distinct suture, parameres diverge towards apex, and bear some long setae on their apices. Ovipositor elongate, with long sclerotised rods ("baculi") and short styli.

Larvae

Unknown, possibly specialised myrmecophiles.

Discussion

Crowson (1955) did not include Dacoderidae in his key to Heteromera, and listed it under the name of Tretothoracidae amongst Cucujoid families *incertae sedis* (*op. cit.* : 175).

Blair (1918) correctly recognised the affinity between *Tretothorax* and *Dacoderus*. He was misled, however, by the large mentum, concealed intersegmental membranes between abdominal sternites, closed mesocoxal cavities and concealed mesocoxal trochantins, all of which suggested relationships to some of the more specialised tribes of Tenebrionidae.

Tretothorax and *Dacoderus* are excluded from Tenebrionidae as recognised here by the free abdominal sternites, the structure of the prothorax and the structure of the aedeagus, which is of the lightly sclerotised type with diverging, setose parameres never found in Tenebrionidae.

The prothoracic structure is approached by Salpingidae. In fact Dacoderidae agrees with Salpingidae in almost all its important characters, the exceptions being the inverted aedeagus and the large mentum, which conceals the mouthparts. In addition, the non-striate elytra, the weakly transverse hind coxae, the absence of an anterior projection between the arms of the metendosternite, and the deep dorsal furrows on the prothorax are characters not found in any Salpingid known to me. Until larvae are discovered, it seems best to retain Dacoderidae as a separate family, although recognising its close relationship to Salpingidae.

Lea (1910), in his description of Tretothoracidae and *Tretothorax*, quotes a suggestion by Blackburn that the family is a link between Colydiidae and Rhysodidae. Any resemblance between *Tretothorax* and Rhysodidae is purely superficial, as the former is essentially polyphagous and cucujoid in its structure. There is a real, but not a close, relationship to Colydiidae.

Key to Genera

1 Rostrum long, length in front of eyes exceeding width of head at eyes. Head and prothorax with large punctures but without fine longitudinal grooves. Wings present. Metasternum elongate, with median sulcus. *Australia* . . . . . ***Tretothorax*** Lea, 1910

– Rostrum short, length in front of eyes less than width of head at eyes. Head and prothorax with fine longitudinal grooves, punctures small and confined to anterior and posterior margins of prothorax. Wings absent. Metasternum transverse, without median sulcus. *America* ***Dacoderus*** Leconte, 1862

Biology

T. cleistostoma Lea occurs in ants' nests in Queensland (Lea, 1910). *D. striaticeps* "usually occurs in small colonies of three or four, under stones in very dry places, and when captured feigns death so persistently that I have never seen one walking" (Horn, 1870). In view of the strong similarities between the two genera, including

the modified mouthparts, it is likely that *Dacoderus* also will prove to be myrmecophilus.

Summary

The family Perimylopidae is defined here for the first time on characters of both adults and larvae. It includes the general *Perimylops* Müller, *Chanopterus* Boheman, *Darwinella* Enderlein and *Hydromedion* Waterhouse, which have usually been referred to Tenebrionidae. The family differs in important characters of adults and larvae from Tenebrionidae, and appears to be most closely related to Zopheridae. It occurs in southern South America, the Falkland Islands and South Georgia. The larva of *Hydromedion sparsutum* Müller is described, and the larva of *H. magellanicum* Fairmaire is compared briefly.

The family Dacoderidae (= Tretothoracidae *auctorum*) is defined on adult characters only, larvae being unknown. The two included genera are *Dacoderus* Leconte from western North America and *Tretothorax* Lea from Australia, both of which have usually been included in Tenebrionidae. The family Dacoderidae is actually most closely related to Salpingidae.

I wish to thank Miss C. M. F. von Hayek (British Museum (Natural History)), Dr. H. Freude (Munich), and Dr. Bror Hanson (Riksmuseum, Stockholm) for loans of material. Drs. R. A. Crowson, B. M. Hobby and G. Kuschel have read the manuscript at various stages of preparation and offered advice and constructive criticism, for which I am grateful. This study (part of a thesis for the degree of Doctor of Philosophy) was carried out in the Hope Department of Entomology, Oxford, during the tenure of a New Zealand National Research Fellowship.

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(Manuscript received 20th December, 1966)