

DOLICHOPODIDAE (DIPTERA, BRACHYCERA) FROM THE AZORES AND MADEIRA¹

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The Dolichopodidae dealt with in the present paper were collected mainly in the tidal zone. Only a few samples come from inland localities. Collecting in the Azores was carried out from the end of February to the middle of April 1957, in Madeira in the second half of April 1957.

Four genera are represented in the material, viz. *Psilopus* Meig., *Campicnemus* Walk., *Aphrosylus* Walk., and *Teneriffa* Beck.

The genus *Psilopus* is new to Madeira and is represented by the widely distributed species *P. glaucescens* Loew. The present record seems to be the first one from the tidal zone.

Of *Campicnemus* we only obtained the species *C. mirabilis* Frey which is apparently endemic in the Azores.

Five species of the genus *Aphrosylus* have been recorded by Frey (1945, 1949) from the rocky shores of the Azores and Madeira. From the Azores Frey (1945) described two new species, *A. calcarator* Frey and *A. argyreatus* Frey, which both appear to be endemic. Only *A. calcarator* is represented in the present collection, it may be the more common one in the tidal zone. It is also possible that *A. argyreatus* had not yet appeared at the time of our visit, for Frey's specimens were found in May and June. From Madeira Frey (1949) recorded three species, viz. *A. madeirensis* Frey, *A. jucundus* Beck., and *A. venator* Loew. Both *A. madeirensis* and *A. jucundus* are represented in the present collection, but not *A. venator* Beck. A new species, which will be described in the present paper as *A. atlanticus* n. sp. was found in the tidal zone.

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1960

Dahl, Dolichopodidae from the Azores and Madeira

109

As Frey's descriptions of *A. madeirensis* and *A. calcarator* contained no figures, drawings of some relevant features have been included in the present report.

The specimens of the genus *Teneriffa* collected for the first time in Madeira apparently belong to the species *T. spicata* Beck. described from *Teneriffa* in the Canary Group by Becker (1908). The minor differences observed do not seem to warrant the creation of a new species.

Psilopus Meig.

Psilopus glaucescens Loew

Madeira: Funchal, Ribeiro Seco, 25.IV. (Loc. 126). 3 ♂, 2 ♀. — Funchal, Ribeiro Seco, 27.IV. (Loc. 133). 4 ♂, 5 ♀.

Known from Central Europe and the Mediterranean area. Becker (1908) recorded this species from the Canary Islands and from Egypt. It is new to Madeira and was taken in the tidal zone on stones covered by algae. As far as I know, no other species of the genus *Psilopus* is known from the tidal zone. Frey (1945) found it on «Felsen am Meeresufer» in the Azores. Probably *P. glaucescens* Loew is a raptatory species. A drawing of the hypopygium is reproduced in fig. A.

Campicnemus Walk.

Campicnemus mirabilis Frey

Azores: São Miguel, Sete Cidades, 21.III. (Loc. 50). 1 ♂, 1 ♀.

Endemic in the Azores, where it occurs in woods and gardens. Recorded by Frey (1945).

Aphrosylus Walk.

Aphrosylus calcarator Frey

Azores: São Miguel, São Pópulo, 12.III. (Loc. 26). 9 ♂, 25 ♀. — Ribeira das Três Voltas, 23.III. (Loc. 55). 25 ♂, 18 ♀.

Azores: Faial, Horta, Porto Pim, 9.IV. 1 ♂.

Azores: Pico, Areia Larga, 11.IV. (Loc. 107). 2 ♂, 12 ♀.

Azores: Flores, Ribeira d'Além da Fazenda, 14.IV. (Loc. 108). 9 ♂, 12 ♀.

This species is endemic in the Azores, where it is common in the tidal zone of all islands hitherto investigated. The lamellae of the hypopygium of *A. calcarator* and also *A. madeirensis* have a peculiar and unusual shape. The internal lateral lamellae are not forcipate as in the other species of the genus, but ribbon-like and the position of the spines on the external lamellae is also very characteristic (fig. D).

Aphrosylus madeirensis Frey

Madeira: Funchal, Ribeiro Seco, coast 25.IV. (Loc. 126). 5 ♂, 10 ♀. — Mouth of Ribeira do Faial, 26.IV. (Loc. 129). 2 ♀. — Funchal, Ribeiro Seco, 27.IV. (Loc. 133). 2 ♂, 9 ♀.

Endemic in Madeira and common in the tidal zone. For differences between *A. calcarator* and *A. madeirensis* see the descriptions by Frey (1945 and 1949) and fig. C and D.

Aphrosylus jucundus Beck.

Madeira: Funchal, Ribeiro Seco, mouth, 25.IV. (Loc. 125). 8 ♂, 4 ♀. — Funchal, Ribeiro Seco, coast, 25.IV. (Loc. 126). 22 ♂, 16 ♀. — Faial, Mouth of Ribeira do Faial 26.IV. (Loc. 129). 5 ♂. — Funchal, Ribeiro Seco, coast, 27.IV. (Loc. 133). 46 ♂, 49 ♀.

A very characteristic species, recorded by Frey (1945) from Madeira. The male is easy to recognize by the shape of the hypopygium and the yellow coxa I, and femora I, II, and III. The female with dark legs. The specimens from Madeira agree in all respects with those from the collection of Becker (1908) made in the Canary Islands, the only area outside the Azores where the species occurs. Drawings of the first leg, the hypopygium and the third segment of the antenna are reproduced in fig. B.

Aphrosylus atlanticus n. sp.

Madeira: Funchal, Ribeiro Seco, mouth, 25.IV. (Loc. 125). 8 ♂, 22 ♀. — Funchal, Ribeiro Seco, coast, 25.IV. (Loc. 126). 47 ♂, 33 ♀. — Faial, mouth of Ribeira do Faial, 26.IV. (Loc. 129). 6 ♂, 1 ♀. — Funchal, Ribeiro Seco, 27.IV. (Loc. 133). 95 ♂, 62 ♀.

Found only in Madeira. Type locality: Funchal, Ribeiro Seco.

Description

Male. A dark, brownish black species, legs of the same colour. The whole body with a bluish and silvery grey iridescence and the wings smoky. All spines and bristles strong and dark. Four big dc., no acr., 1 hum., and 2 sc. The third segment of the antennae very large, bulbiform and twice as long as broad. Arista $1\frac{1}{2}$ times as long as the third segment of antenna (fig. E3). Palps dark without silvery iridescence. Coxa of first leg with one large proximal spine, many short and stout spines on the anterior side and a row of 4 not very big spines at the distal end. Femur I with 4 large and one smaller spine on the anterior side and on the posterior side one distal and one proximal spine, with several smaller ones between them. Tibia I with two latero-anterior spines and several spines at the distal end. Tarsus I somewhat dilated distally and with a row of short distinct spines with several larger ones at the distal end (fig. E2). Coxa II with two short, strong, almost conical spines on the anterior side. Femur II with two big anterior and one big posterior spine and two rows of smaller spines. Femur III with 3 big posterior spines and some smaller ones. Tarsus I in legs I and II of equal length, tarsus II of the second leg a little longer than those of the other legs. The hypopygium (fig. E1) with a very large capsule. The lamellae externae are large and provided with 4 long, slightly undulated hairs, one seta and many bristles. The internal lateral lamella consists of two arms, one without spines and the other one with four spines at the distal end. The ventral lobi are forked, each branch with one strong terminal spine. The penis is long with a small elliptical dilatation near the elongate tip.

Length: 2.5–2.8 mm.

Female. The female is identical with the male except in the sexual differences. Length: 2.8–3.0 mm.

The species was obtained in various localities in Madeira. It occurs in the tidal zone and is apparently restricted to it. Mainly flying over stones covered with green algae which are laid bare at low tide.

As shown by figs. E and F *A. atlanticus* n.sp. is easily distinguished from *A. venator* Loew. Fig. F was drawn from a specimen in Loew's collection (probably the type material). Loew (1857) gives the coast of Italy as only locality, but the specimens kept in his collection in Berlin were all labelled Dalmatia. On the other hand *A. atlanticus* appears to be more close-

sely related (also ecologically) to the species *A. jaquemini* Vaillant (1952) and to *A. temaranus*, *A. aquellinus*, and *A. maroccanus*, all described by Vaillant (1955).

Holotype and allotype in the Entomological Department of the Zoological Institute in Lund, Sweden.

Teneriffa Beck.

Teneriffa spicata Beck.

Madeira: Funchal, Ribeiro Seco, 25.IV. (Loc. 126). 1 ♂, 4 ♀. — Funchal, Ribeiro Seco, coast, 27.IV. (Loc. 133). 11 ♂, 8 ♀.

T. spicata Beck. is new to Madeira. Like the *Aphrosylus*-species it seems to be confined to the tidal zone.

The specimens from Madeira are somewhat smaller than those from Teneriffa in the Becker collection. But they show the same number and pattern of bristles on the thorax. Also the armature of the legs is identical. The only differences found are in the hypopygium. The spines on the external lamellae do not correspond exactly and the ventral projection is somewhat longer in the specimens from Madeira. The proportion between the size of the lobi and the capsule is also somewhat different. However, it would hardly seem justified at present to split *T. spicata* Beck. into different subspecies. The number of specimens available is rather small and the range of variation in the populations unknown.

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References

- Becker, Th.:
1908. Dipteren der Kanarischen Inseln. *Mitt. Zool. Mus. Berlin*, 4.
1908–1910. Dipteren der Insel Madeira. *Ibidem* 4.
1917. Dipterologische Studien, erster Teil. *Nova Acta, Abh. Kais. Deutsch. Akad. Halle*, 102.
1918. Dipterologische Studien, dritter Teil. *Nova Acta, Abh. Kais. Deutsch. Akad. Halle*, 104.

- Frey, R.:
1945. Tiergeographische Studien über die Dipterenfauna der Azoren I. Verzeichnis der bisher von den Azoren bekannten Dipteren. *Soc. Scient. Fenn.*, 8:10. Helsingfors.
1949. Die Dipterenfauna der Insel Madeira. *Soc. Scient. Fenn.*, 8:16. Helsingfors.
Loew, H.:
1857. Neue Beiträge zur Kenntnis der Dipteren. *Progr. d. Königl. Realsch. Meseritz*.
Parent, O.:
1938. Diptères. Dolichopodidae, in *Faune de France*, 35. Paris.
Stackelberg, A.:
1930. Dolichopodidae, in Lindner, *Die Fliegen der Pal. Reg.* Lief. 51. Stuttgart.
Vaillant, F.:
1952. Contribution à l'étude des Dolichopodidae d'Algérie (Diptère). *Bull. Soc. Hist. Nat. de l'Afrique du Nord. Alger*, 41.
1952. Quelques Dolichopodidae. *Bull. Inst. Scien. Nat.*, 28: 65. Bruxelles.
1953. Sur Quelques Dolichopodidae du Tassili. *Inst. Rech. Sahar. Univ. d'Alger. Miss. Sci. au Tassili des Ajjco*, 1.
1955. Les Dolichopodidae des rivages maritimes en Afrique du Nord. *Bull. Soc. Hist. Nat. de l'Afrique du Nord. Alger*, 46.
Walker, F.:
1851. Diptera. *Insecta Britannica*, I. London.

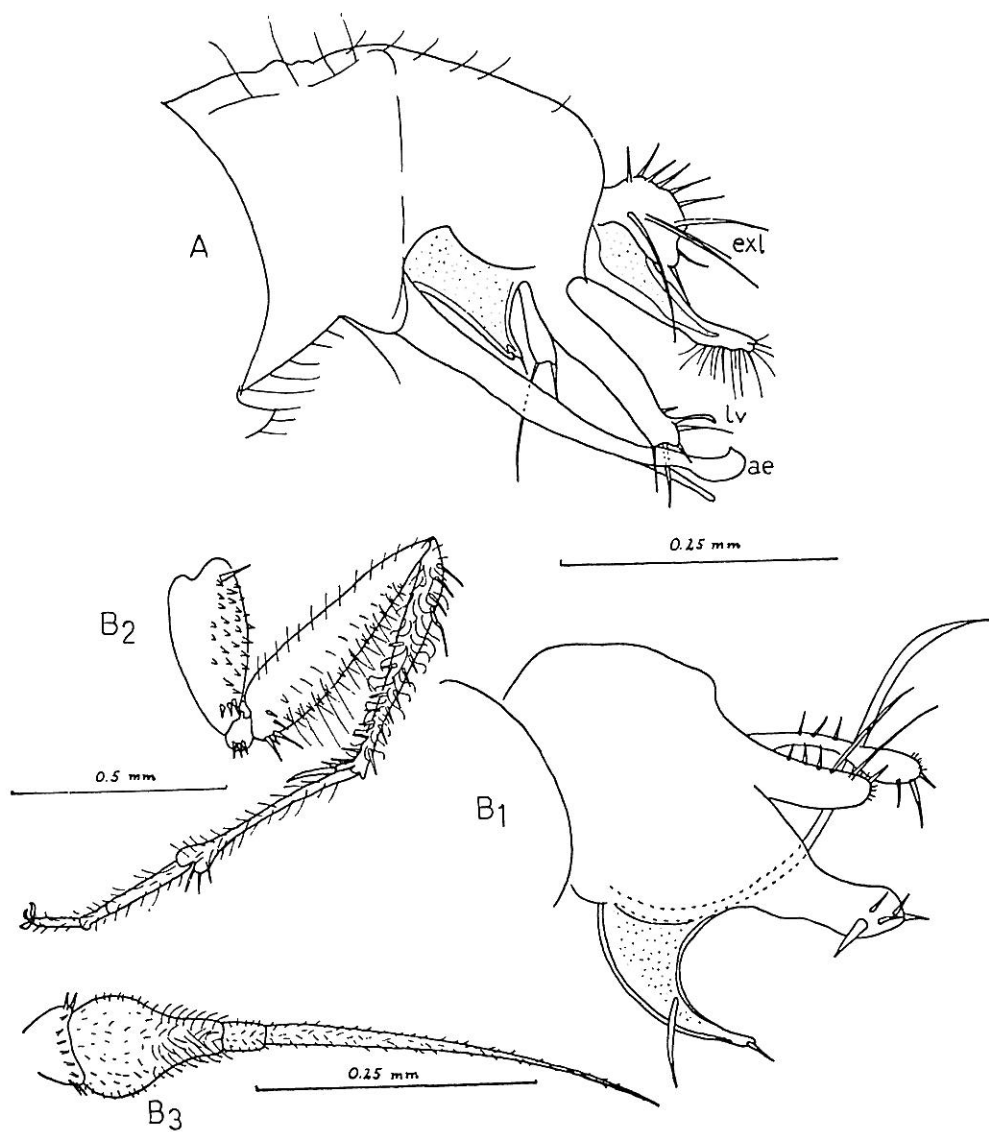


Fig. A. — *Psilopus glaucescens* Loew. Hypopygium.
Fig. B. — *Aphrosylus jucundus* Beck. 1. Hypopygium. — 2. First leg. — 3. Antenna.

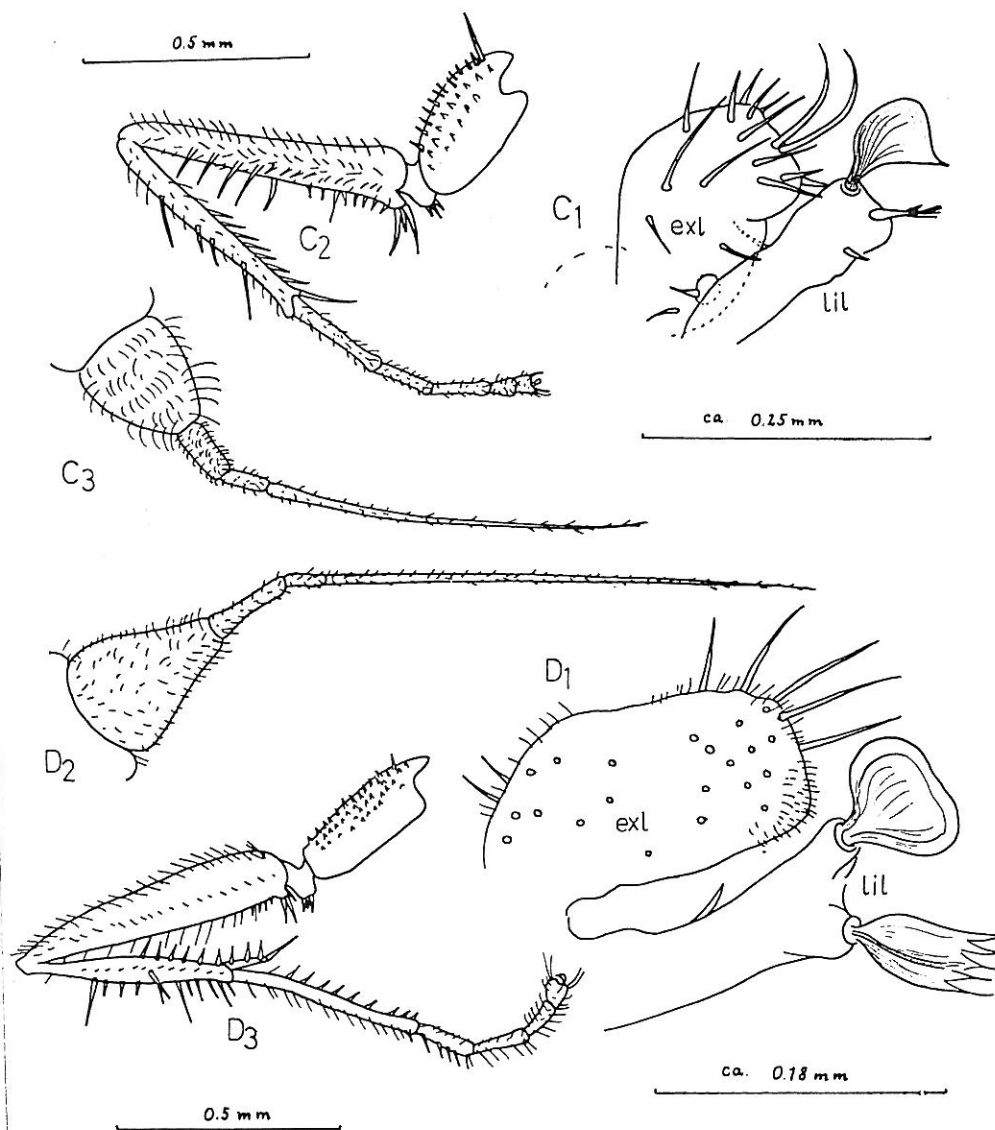


Fig. C. — *A. madeirensis* Frey. — 1. Part of hypopygium. — 2. First leg. — 3. Antenna.
Fig. D. — *A. calcarator* Frey. — 1. Part of hypopygium. — 2. First leg. — 3. Antenna.

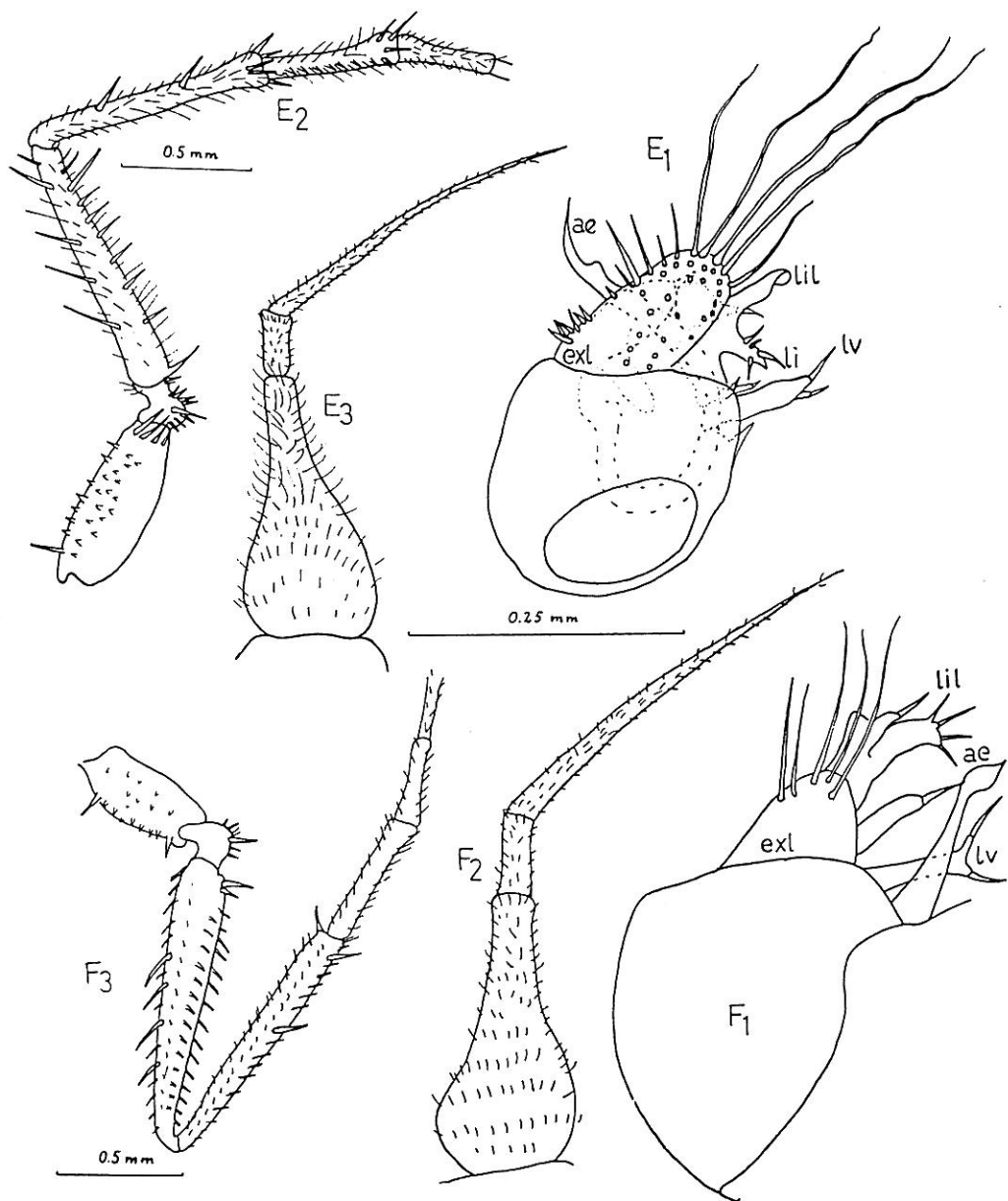


Fig. E.—*A. atlanticus* n. sp. Type. 1. Hypopygium: ae—aedeagus, exl—external lamellae, lil—internal lateral lamellae, li—internal medial lamellae, lv—ventral lobe. —2. First leg. —3. Antenna.

Fig. F.—*A. venator* Loew (coll. Loew) 1. Hypopygium. —2. First leg. —3. Antenna.

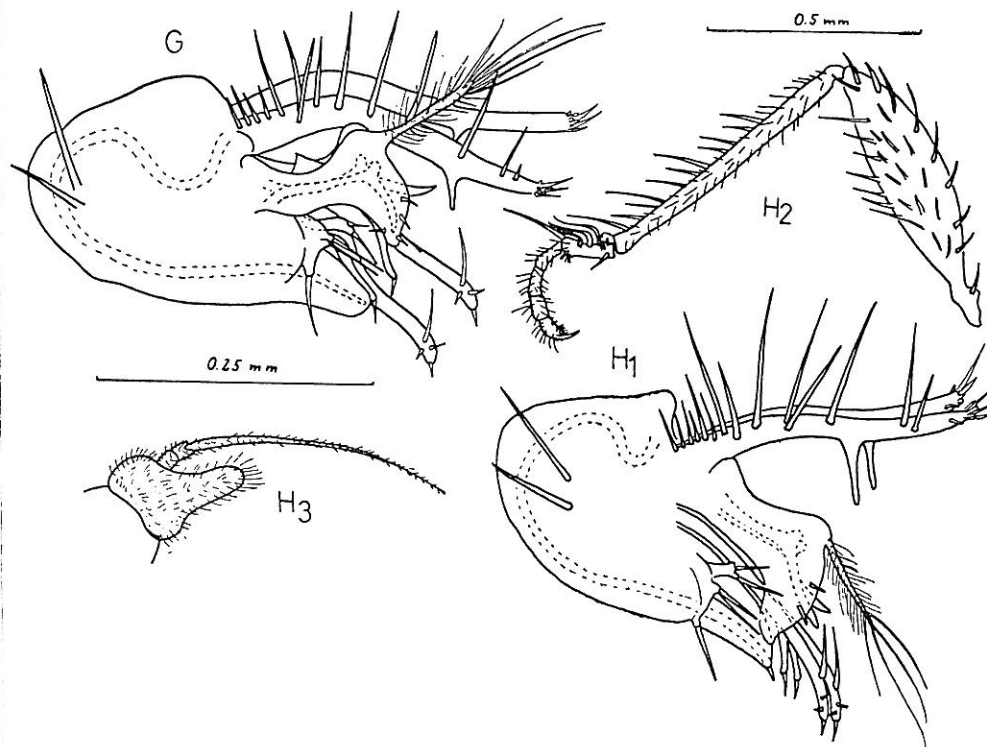


Fig. G.—*Teneriffa spicata* Beck. (Ex coll. Becker). Hypopygium.

Fig. H.—*T. spicata* Beck. (Specimen from Madeira). 1. Hypopygium. —2. First leg. —3. Antenna.