

RECORD OF THE ASELOTTE ISOPOD *AUSTROSIGNUM* HODGSON
FROM THE BAY OF NAPLES: *AUSTROSIGNUM MALTINII* N. SP.
(PARASELLOIDEA, MUNNIDAE)

BY

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INTRODUCTION

The family Munnidae sensu Wolff (1962) contains twelve more or less widely distributed genera only two of which, *Munna* Krøyer, 1839 (*M. mediterranea* Pierantoni, 1916 and *M. petiti* Amar, 1948) and *Pleurogonium* G. O. Sars, 1872 (*Pleurogonium* sp. Schiecke & Fresi, 1969) have been recorded from the Mediterranean.

The genus *Pleurocope* Walker, 1901, also found in the Mediterranean area, was previously attributed to the Munnidae. It does not belong to this family and should be referred, though with some uncertainties, to a new family (see Fresi & Schiecke, 1972: 212).

During the course of our survey of the asellote isopods of the Bay of Naples, we have recorded a Munnid belonging to the genus *Austrosignum* Hodgson, 1910, new to the European fauna.

Eight species of this genus are known at present. Four of them belong to the Antarctic continental waters and seem to have a circumpolar distribution: *A. glaciale* Hodgson, 1910, *A. grande* Hodgson, 1910, *A. incisum* (= *Austrimunna incisum*) (Richardson, 1908), and *A. dubium* (= *Paramunna dubia*) (Hale, 1937).

A. grande has also been found in South Chilean waters (Menzies, 1962). Three species have been recorded from the Antarctic region of South America: *A. latifrons* Menzies, 1962 and *A. globifrons* Menzies, 1962, from South Chile, and *A. falklandicum* Nordenstam, 1933, from the Falkland Islands. *A. tillerae* Menzies & Barnard, 1959, found in southern Californian and Mexican coastal waters, is the only species of the genus *Austrosignum* known from the northern hemisphere.

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A further species, *A. erratum* Schultz, 1964, also from South California, has been transferred to the genus *Munnogonium* (George & Strömberg, 1968). Fig. 1 shows the general distribution of all the known species of *Austrosignum*.

Our specimens of *Austrosignum* show characteristics which necessitate the erection of a new species: *Austrosignum maltinii* n. sp. The specific name is dedicated to the memory of our dearest friend Raniero Maltini, journalist and underwater photographer, who died tragically in a car accident in June 1970.

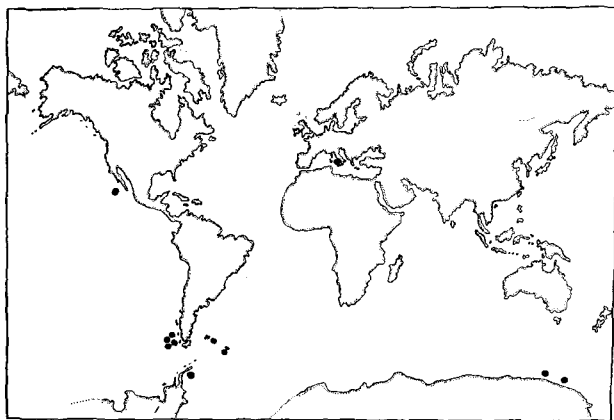


Fig. 1. Geographical distribution of the genus *Austrosignum*.

***Austrosignum maltinii* n. sp.**

Type-locality. — Marine cave in the vicinity of Lacco Ameno, island of Ischia, Bay of Naples. Substrate: sand partly of organic origin, with high content of detritus. Depth 5-6 m. A male holotype and a female allotype with one male and three female paratypes have been deposited in the Museum of the Stazione Zoologica di Napoli.

Description (for the generic diagnosis, see Nordenstam, 1933: 242, and Menzies, 1962: 50). — Male holotype (fig. 2 A). Length 1.0 mm. Colour brownish yellow. The cephalon is much broader than long and has a rounded frontal margin. The ocular lobes are slender and long. The peraeonites gradually increase in length from 1 to 4, the third being the broadest. Peraeonites 5 to 7 are subequal in length and appear distinctly narrower and shorter than the preceding ones. The lateral margins of all the peraeonites are rounded and smooth. The coxal plates are visible from above on peraeonites 5 to 7 only. Those on peraeonites 5 and 6 are rounded and smooth while those on peraeonite 7 bear some curved denticles.

The pleon consists of two segments, the first of which is almost as long as peraeonite 7. The second segment is as long as broad, being much narrower proximally. The lateral margins have several denticles directed backwards and increasing in size distally. The distal portion of the pleotelson is broadly linguiform.

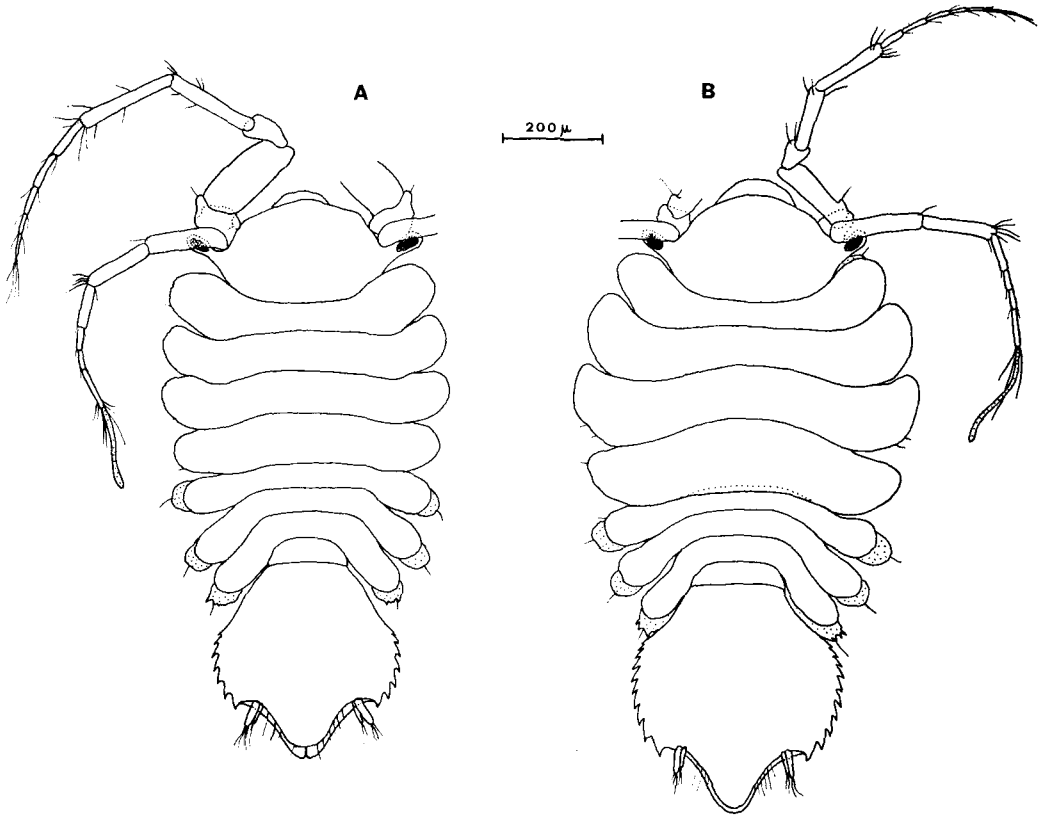


Fig. 2. *Austrosignum maltinii* n. sp. A, holotype, male; B, allotype, female.

The antennulae (fig. 3 A) are slender, about as long as the peduncle of the antennae. The peduncle consists of two articles the first of which is considerably broader and longer than the second, which is provided apically with a bunch of sensory setae. The flagellum is shorter than the peduncle and composed of four articles, the first and the fourth of which are subequal in length, being twice as long as the second and the third. The last flagellar article bears a long flattened sensory seta.

The antennae (fig. 3 B) are only somewhat shorter than the body. Their peduncle consists of 6 articles, the first two of which are very short. The third article is suboval and swollen. The fourth is less than half the length of the third article. Articles 5 and 6 are slender, the sixth being the longest (about as long as the third). The flagellum is composed of 5 articles, all bearing some fine setae.

Mandibles typical for the family (fig. 4 A). The pars incisiva of the left mandible bears 4 teeth, that of the right mandible 5. The lacinia mobilis is provided with 4 teeth. The pars molaris is typically well developed and has a denticulated apical border bearing 2 setae. The spine-row consists of 4 strong spines. The palp is absent.

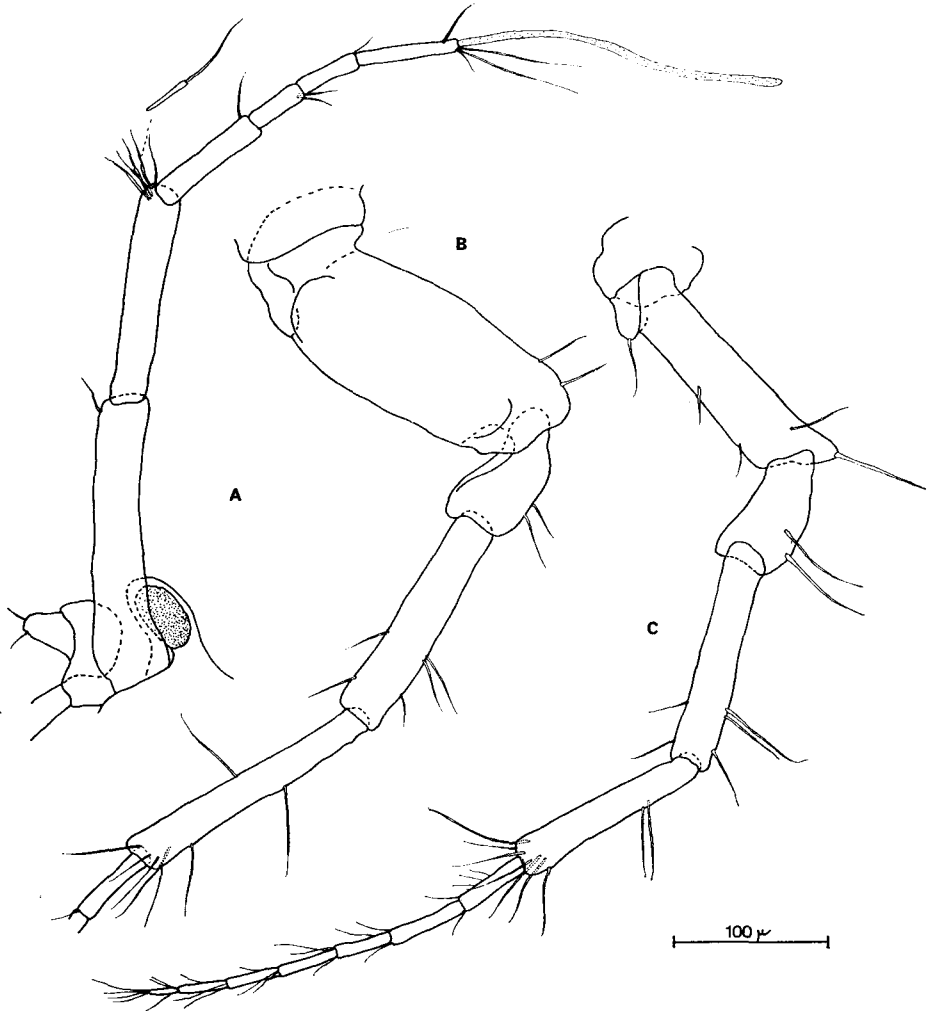


Fig. 3. *Austrosignum maltinii* n. sp. A, antennula; B, peduncle of the antenna, male; C, antenna, female.

Maxillulae normal (fig. 4 C). The outer lobe bears 8 or 9 strong spines. The inner lobe has four apical setae.

Maxillae normal (fig. 4 B). The two outer lobes are subequal in length and breadth, each bearing 3 apical spines. The inner lobe is much broader and bears several apical and some lateral spines.

Maxillipeds normal (fig. 4 D). The protopodite and the endite are broad. Several apical setae and two retinacula are present on the endite. The palp consists of 5 articles the first three of which are very broad, the third being the broadest. The epipod is distally rounded.

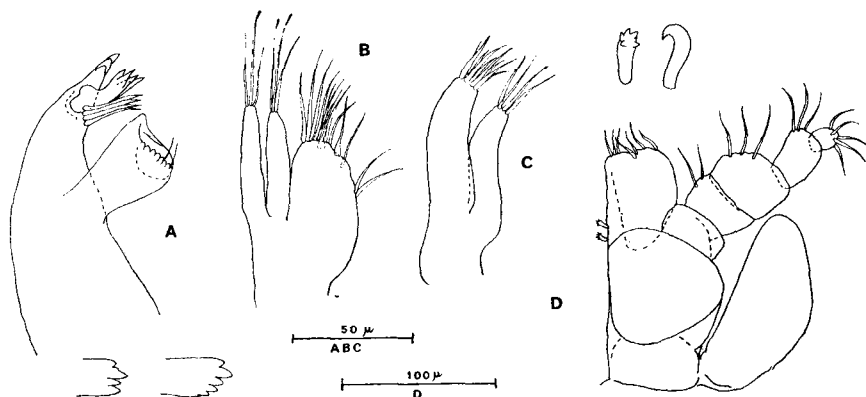


Fig. 4. *Austrosignum maltinii* n. sp. A, left mandible (below: pars incisiva of left and right mandible); B, maxilla; C, maxillula; D, maxilliped (above: opposite retinacula).

Peraeopods 1 (fig. 5 A) are short and very robust, prehensile, with propodus and dactylus forming a sub-chela. The ischium, merus and carpus are short. The carpus bears 2 long, strong spines and two short, curved teeth. The propodus is sub-oval, with smooth posterior margin which bears some fine setae. The rostral face is provided with an undulate chitinous crista. The dactylus is biunguiculate (fig. 5 B). Peraeopods 2 to 7 are much longer (figs. 5 C, D), all subequal in length, being simple walking legs. The dactylus is provided with only one claw.

Pleopods: The preoperculum (figs. 6 A, B) has the typical form. It is slightly longer than the pleotelson so that its distal margin is visible from above. Pleopods 2 (fig. 6 C) are of the typical form. The endopod is very long and slender. Pleopods 3 to 5 (fig. 6 D, E, F) are normal.

The uropods (fig. 6 G) are minute, biramous. The ventral ramus is 1.3 times as long as the dorsal one. Both are tipped with some setae.

Female allotype (fig. 2 B). Length 1.1 mm. The general features are as in the male, though the shape of the body is more oval. The first peraeonite is relatively narrower than that of the male. There is a gradual increase in length from peraeonite 1 to 4, the third being the broadest. Peraeonites 5 to 7 are as in the male.

The antennae (fig. 3 C) are more slender and relatively shorter than those of the male. The third peduncular article is not swollen.

Hitherto this sexual dimorphism has not been mentioned for any other species of the genus.

Antennulae, mouth parts and peraeopods do not differ from those of the male.

The operculum (fig. 6 H) is oval, with a distal linguiform portion. The lateral margins are provided with fine short setae.

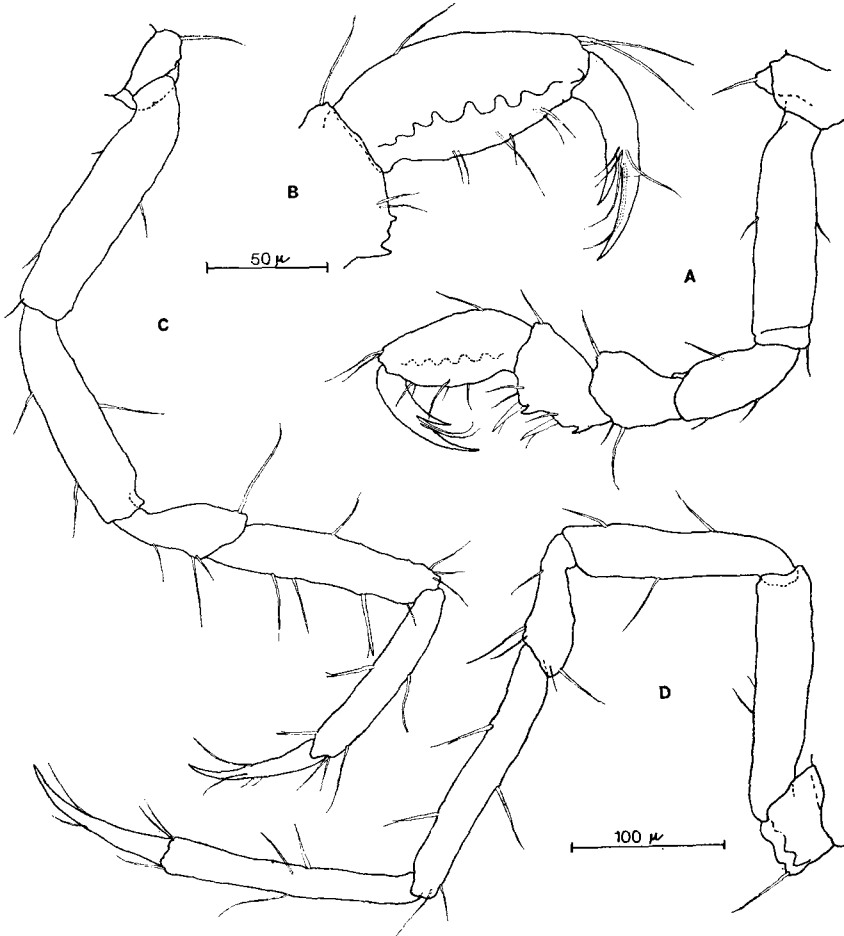


Fig. 5. *Austrosignum maltinii* n. sp. A, first pereopod; B, propodus and dactylus of first pereopod; C, second pereopod; D, seventh pereopod.

NOTES ON BIOLOGY

In a sample from the type-locality containing 56 specimens, we have found 20 females carrying eggs, 1 with 3 highly developed embryos in the marsupium and 2 with the brood-pouch empty. The females appear to reach sexual maturity at a length of about 1.0 mm. Over this size all the females were found to have a fully developed brood-pouch. This agrees with the statement of Wolff (1962) that in the Munnidae there is no preparatory stage with developing oostegites. The number of eggs was 3 in 12 specimens (60%), 2 in seven specimens (35%) and 4 in one specimen (5%).

On the basis of the available material, no relationship between the length of the females and the number of eggs or embryos could be established. All the females ranged in size from 1.0 to 1.2 mm.

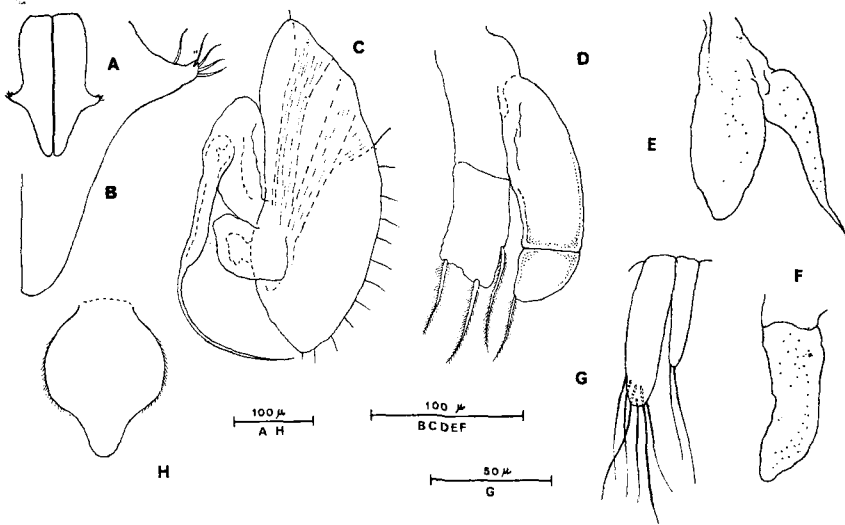


Fig. 6. *Austrosignum maltinii* n. sp. A, B, first male pleopod; C, second male pleopod; D, third pleopod; E, fourth pleopod; F, fifth pleopod; G, uropods; H, female operculum.

The sample contained 8 males. The enlargement of the third segment of the peduncle of the antenna, mentioned above as a secondary sexual characteristic of the male, becomes evident at a length of about 0.8 mm, increasing gradually with the length. This feature, however, did not allow a precise definition of the minimum length for sexual maturity. The maximum observed size of the males was 1.1 mm.

The remaining part of the sample consisted of 25 juvenile specimens.

TAXONOMICAL REMARKS

A. maltinii n. sp. does not show any particular affinity to other known species. It might be mentioned that the lack of the mandibular palp has been recorded also in *A. globifrons* Menzies.

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ZUSAMMENFASSUNG

Es wird eine neue Art der Gattung *Austrosignum* beschrieben: *A. maltinii*. Diese Gattung war bisher (mit Ausnahme von Kalifornien) nur in antarktischen Gewässern gefunden worden.

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