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ÅKE ANDERSSON

On a collection of Amphipoda of the family  
*Talitridae* from the Canary Islands



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## On a collection of Amphipoda of the family Talitridae from the Canary Islands

By ÅKE ANDERSSON

The material which is the basis of this paper was collected in 1957 and 1960 by Professor O. Lundblad, who kindly handed it over to the Invertebrate Department of the Swedish State Museum. The collection comprises four species, one of which is here recorded for the first time from the Canary Islands.

### *Talitrus saltator* (Montagu)

This species has previously been reported from the islands of Fuerteventura, Lobos and Gran Canaria (Chevreux, 1900, p. 1). Lundblad's collection comprises one sample from Corralejos in the northern part of Fuerteventura, dated 8.7.1960. It contains 4 ♀♀ with fully developed oostegites, 4 ♀♀ with oostegites in different stages of development, and 1 ♂. The animals are collected on a sandy beach under seaweed washed up by the waves.

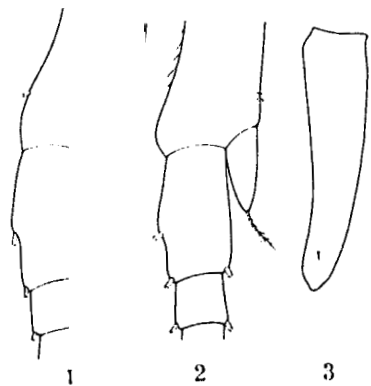
### *Talitroides alluaudi* (Chevreux)

*T. alluaudi* is hitherto not recorded from the Canary Islands. This species belongs to the Indo-Pacific region, but it has been introduced by human interference into Europe and America where it lives in greenhouses. Lundblad collected *T. alluaudi* on Tenerife in Puerto de la Cruz (26.3.1957) just below the Fuente Martiánez spring in wet moss on stones and gravel.

Probably the species is introduced into the Canary Islands from Spain. The biotope in which the specimens in question were found might indicate that *T. alluaudi* has been able to acclimatize on the Canary Islands. The climate is subtropical and very mild, but the precipitation is small, and for that reason the humidity ought to be a limiting factor. Palmén (1949, p. 63) has shown that *T. alluaudi* is very sensitive in this respect.

The adaptation to terrestrial life is pronounced in the genus *Talitroides*. There is a strong reduction in the pleopods which also exhibit a rather wide variation (Medcof, 1940, p. 79; Palmén, l.c.).

The material from the Canary Islands comprises three females with a length of 4 to 4.6 mm. The endopodite of the first pleopod is two-jointed, that of the second pleopod one-jointed, and the third pleopod consists of the protopodite only in all the specimens (Figs. 1-3). The first joint of the endopodite of the first pleopod has



Figs. 1-3. *Talitroides alluaudi* (Chevreux). 1. Plp1. 2. Plp2. 3. Plp3.  $\times 190$

one plumose seta in all pleopods but one. The seta is sometimes situated on the inner side of the joint as shown in the figure, but sometimes it sits on the outer side. The third pleopod has a small spine near the top.

#### *Orchestia platensis* Kröyer

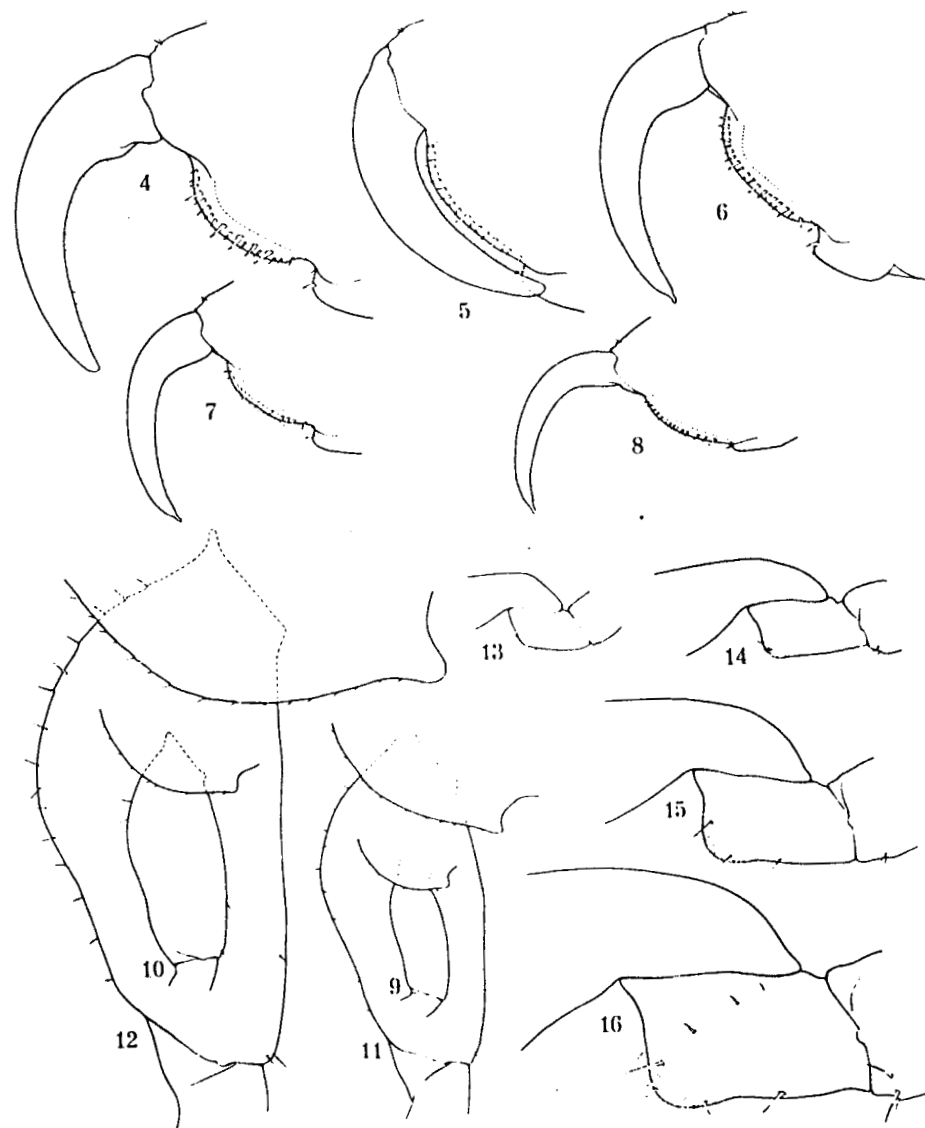
The collection at hand comprises two samples of this species from Tenerife. 1 ♀ with emptied marsupium and 1 ♂ come from Puerto de la Cruz, Fuente Martianeaz. The label is dated 27.4.1960. The other sample, dated 24.4.1960, contains 2 ♀♀ with eggs, 1 ♀ with larvae, 1 ♀ with emptied marsupium, and 1 ♂. It was collected at Igueste at a brook in a small ravine with abundant vegetation, about 200 m above sea level.

*O. platensis* is widely distributed. It is reported from the Canary Islands by Dahl (1946, pp. 13 and 31), who kindly informed me that he has examined a sample from Tenerife, kept in the Copenhagen Museum.

#### *Orchestia chevreuxi* de Guerne

*O. chevreuxi* was previously found at Gran Canaria, Fuerteventura, La Palma and Tenerife (Chevreux, 1900, p. 4). The present collection contains five samples from Tenerife. The following specimens were collected at Las Mercedes among faded leaves in ravines: 29.3.1957, 8 ♀♀ (1 with eggs, 2 with oostegites without setae) and 2 ♂♂; 2.6.1957, 5 young ♀♀; 25.5.1960, 17 ♀♀ (2 with oostegites without setae) and 1 ♂; 18.6.1960, 7 ♀♀ (1 with emptied marsupium and 2 with oostegites without setae) and 2 ♂♂. One sample, dated 24.4.1960, was taken in a small, moist ravine with abundant vegetation at San Juan de la Rambla, and contains 5 ♀♀ (1 with emptied marsupium, 3 with oostegites without setae) and 2 ♂♂.

Lundblad also collected *O. chevreuxi* on Gomera in El Cedro among faded leaves at about 1000 m above sea level in the fog region. The material from Gomera comprises the following specimens: 22.4.1957, 1 ♀ and 3 ♂♂; 7.6.1960, 1 ♀ and 2 ♂♂; 8.6.1960, 2 ♀♀ and 2 ♂♂. None of these specimens is full-grown.



Figs. 4-16. *Orchestia chevreuxi* de Guerne. 4-8. ♂. Gn2. palm and dactylus,  $\times 28$  (length of ♂♂ 16, 16, 15, 13 and 11 mm respectively); 9-12. ♀. Gn2. basis,  $\times 41$ ; 13-16. ♀. Gn2. merus.  $\times 65$  (length of ♀♀ 4.5, 7.5, 11.0 and 17.5 mm respectively).

Before 1928 *O. chevreuxi* was supposed to occur on the Canary Islands and the Azores only, but this year (p. 7) Cecchini reported it from Livorno, Italy. Cecchini says that his specimens coincide in the most important characters with the descriptions of *O. chevreuxi* given by Chevreux (1900) and Stebbing (1906), but he also points out that the determination of the species of the genus *Orchestia* is often

patient owing to the pronounced age variation. Dahl (1950, p. 198) hesitates in accepting Cecchini's statement.

Cecchini's drawings (op. cit., Pl. 1, Figs. 4a-c) indicate that the specimens from Livorno do not belong to *O. chevreuxi*. In this species the carpus of the last pereopod (Fig. 33) is never as triangular as in Cecchini's figure, and the margins of the joint are smoother. The second gnathopod differs from that of *chevreuxi* (Fig. 32) in that its palm is longer than the posterior margin of the propus. The lack of the incision which in *chevreuxi* limits the palm posteriorly is less important, as this incision is sometimes feebly developed even in adult males (Figs. 4-8).

The female of *O. chevreuxi* was first described by de Guerne 1887 (p. 195) in a short diagnosis which was completed in two papers 1888 (a, p. 60, Figs. 1-8; b, p. 49). The material was collected at the Azores. In 1888 (p. 92, Figs. 1-6) Chevreux described antennae, second gnathopods and last pereopods of the male from a material collected at Tenerife, and this description was completed in 1900 (p. 3, Pl. 1, Figs. ca 1). Stebbing (1906, p. 533) adds nothing to the descriptions mentioned above, and neither do the authors which have treated the species after him (Chevreux, 1925, p. 365; Dahl, 1950, p. 198). Therefore it is considered urgent to point out some characteristic features to be seen in the Figs. 17 to 37.

Palp of maxilliped is four-jointed with the last joint small but quite distinct (Fig. 19).

Basis of first gnathopod in both sexes is proximally, on inner side, provided with a group of bristles (Fig. 31). In this character *O. chevreuxi* differs from all the other *Orchestia* species known from the Canary Islands, and also from those Mediterranean species which I have been able to examine, namely *mediterranea*, *cavimana* and *montagu*. As far as can be seen from the literature at hand such bristles are not observed in any other *Orchestia* species.

Propus of female first gnathopod has a small but distinct palm. Dactylus is curved and reaches about half its own length beyond the palm (Fig. 34).

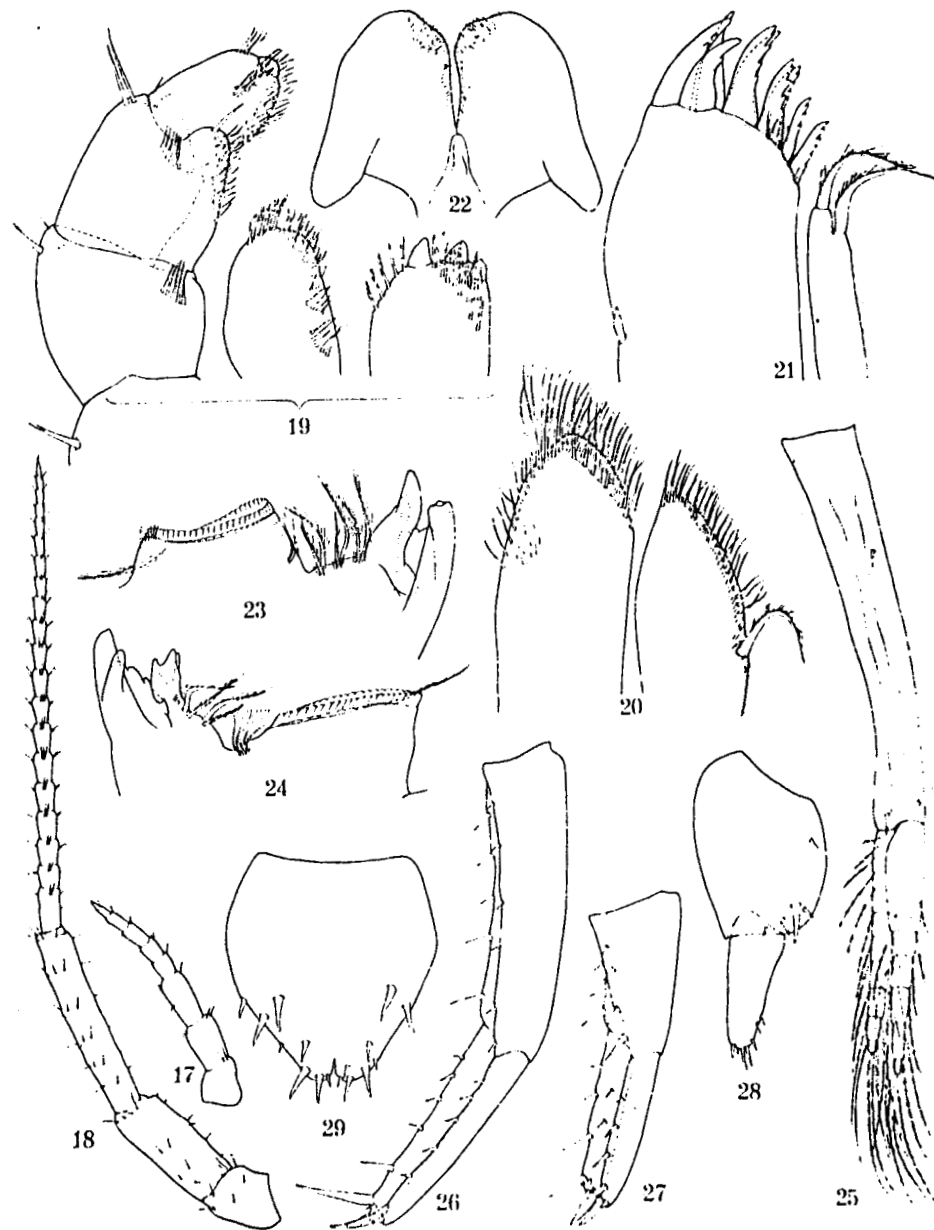
Full-grown females have a generously expanded basis on second gnathopod, but in younger specimens the expansion is not so pronounced (Figs. 9-12). Also merus of the same leg shows age variation. The scabrous lobe becomes more and more pronounced, and the number of setae increases (Figs. 13-16).

The outline of the palm on propus of second male gnathopod is generally very convex (Fig. 32) owing to an incision which limits the palm posteriorly. It has already been pointed out that this incision is sometimes feebly developed (Figs. 4-8). In such cases the palm is less convex, but it is always shorter than the posterior margin of the propus.

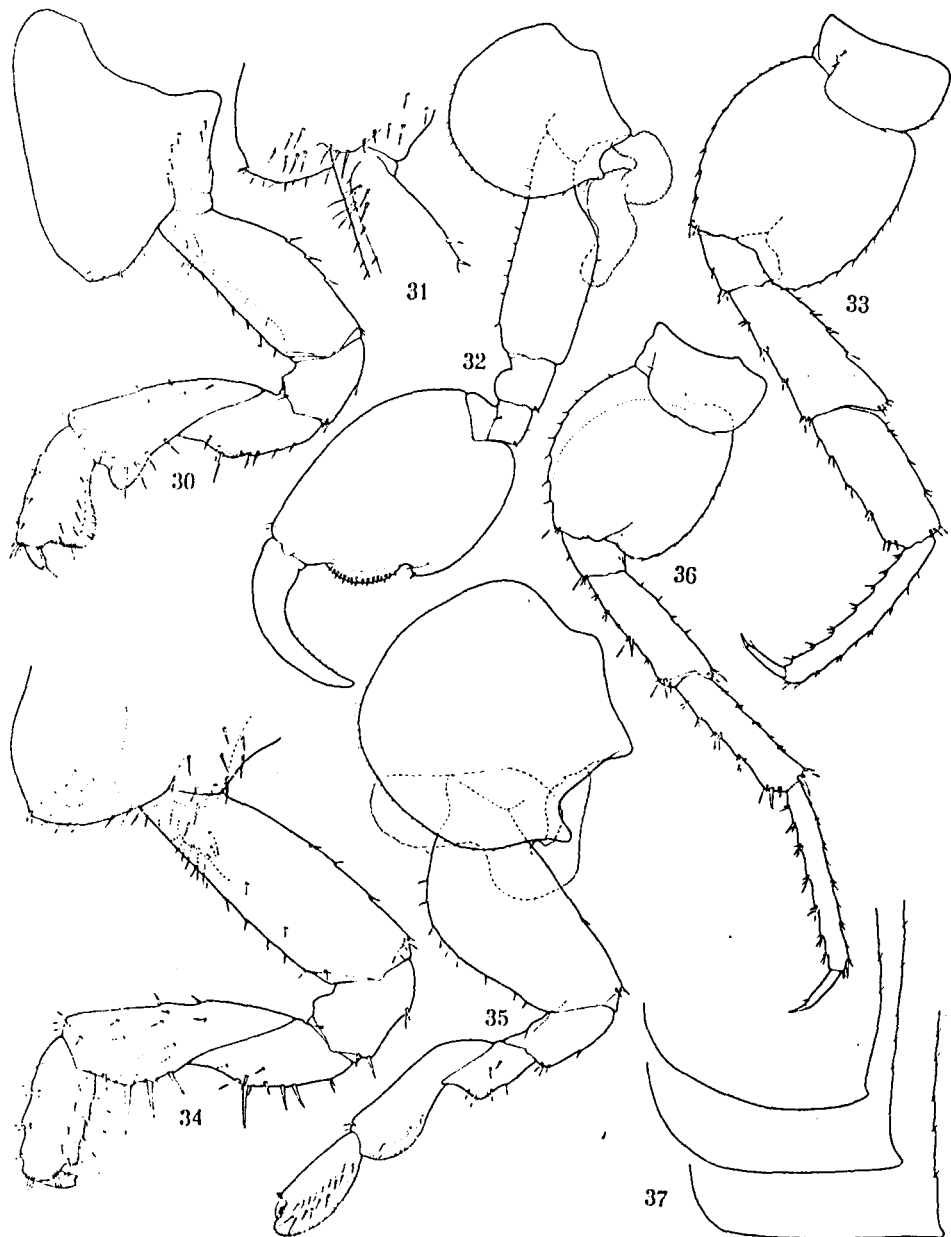
In full-grown males merus and carpus of the last pereopod are expanded (Fig. 33). Carpus is rectangular and somewhat more than twice as long as wide. The expansion appears only in connection with one of the last moults. This taxonomically very important fact was reported by Bonnier (1890, p. 987) for *O. gammarellus*, and seem to be applicable to all the *Orchestia* species with an expanded last pereopod.

*O. chevreuxi* shows no tendency towards loss of pleopods. In all three pairs peduncle is longer than rami, and sparsely spined (Fig. 25). There are two hook-formed coupling spines. Inner ramus is slightly longer than the outer one.

Dorsal margins of peduncle of first and second uropods with stout spines (Figs. 26 and 27). Peduncle of first uropod is longer than rami which each have a dorsal row of spines. Both rami have long end spines. Peduncle of second uropod is shorter than rami. Both rami have a row of dorsal spines, but in addition there are one or



Figs. 17-29. *Orchestia chevreuxi* de Guerne. 17. A1 ♀, × 19; 18. A2 ♀, × 19; 19. Mxp ♀, × 140; 20. Mx2 ♂, × 140; 21. Mx1 ♂, × 140; 22. Labium ♂, × 60; 23. Left Md ♂, × 63; 24. Right Md ♂, × 63; 25. Plp1 ♂, × 43; 26. Up1 ♂, × 25; 27. Up2 ♀, × 25; 28. Up3 ♂, × 50; 29. Telson ♀, × 50



Figs. 30-37. *Orchestia chevreuxi* de Guerne. 30. Gn1 ♂, × 28; 31. Gn1 ♂, basis, inner side, × 28; 32. Gn2 ♂, × 15; 33. P7 ♂, × 13; 34. Gn1 ♀, × 39; 35. Gn2 ♀, × 26; 36. P7 ♀, × 15; 37. Ep1-3 ♂, × 27.

two lateral spines on inner ramus. The end spines are not as long as on first uropod. Peduncle of third uropod is longer than ramus, and lies near the dorsal margin, about five spines (Fig. 28). Ramus has terminal spines and spines on distal half of dorsal margin.

Telson is about as long as wide and has an apical notch (Fig. 20). It is strongly spined. The number of spines shows both individual and generic variation, which is also the case on uropods, especially the third pair.

De Guerne and Chevreux (op. cit.) discuss the close relationship between *O. chevreuxi* and *gammarellus*, but they also emphasize that the two species are clearly separated. Besides being morphologically different, *O. gammarellus* and *chevreuxi* live in different localities. The former is a supralittoral species, while the latter must be considered a terrestrial or leafmould species (Hurlcy, 1959, p. 110).

*O. canariensis* Dahl (1950, p. 195) also seems to be a truly terrestrial species. It differs from *O. chevreuxi* because it has no bristles proximally on inner side of basis of first gnathopod. In the female carpus of first gnathopod has a distinct scabrous lobe and basis of second gnathopod seems never to be as expanded as in *chevreuxi*. Propus of second male gnathopod lacks the incision which in *chevreuxi* limits the palm posteriorly, and last peraeopod seems to have no delated joints. There are also some differences in spination of third uropod and telson. Dahl states that the palp of the maxillipede is three-jointed, but there is a small but quite distinct fourth joint.

#### ABBREVIATIONS

A1 = first antenna	Mx1 = first maxilla
A2 = second antenna	Mx2 = second maxilla
Ep1-3 = first to third epimeral plate	Mxp = maxillipede
Gn1 = first gnathopod	P7 = seventh peraeopod
Gn2 = second gnathopod	Plp1-3 = first to third pleopod
Md = mandible	Up1-3 = first to third uropod

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