

TERRESTRIAL AMPHIPODA COLLECTED IN GREENHOUSES IN THE NETHERLANDS

by

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During the years 1942-1949 investigations were made on the fauna of the greenhouses of several Botanic Gardens in the Netherlands, on the initiative of Dr. A. D. J. Meeuse; material was also collected in greenhouses belonging to other institutions and in those kept for commercial purposes. A list of publications based on the results of these investigations has been given by Van der Hammen (1969).

In a number of greenhouses the terrestrial amphipod, *Talitroides alluandi* (Chevreux), was collected. This paper reviews the distribution of this species in Dutch greenhouses, and gives a survey of the occurrence of terrestrial species or the genus *Talitroides* in Europe.

The genus *Talitroides* was erected by Bonnier (1898) for a species later named *T. bonnieri* by Stebbing (1906). Many authors consider *Talitroides* to be no more than a subgenus of *Talitrus* Bosc, but as the genera within the superfamily Talitridae can by no means be said to be settled, and as the representatives of *Talitroides* form, at least ecologically, a clearly defined complex, the name *Talitroides* will here be used. It is probable that this species-complex will have to be broken up into several genera, as the structural differences between the species (e.g. in the reduction of pleopods and 3rd uropods) are very considerable. The members of this genus form a characteristic element of the leaf-mould fauna of tropical and southern subtropical countries, chiefly in the Indo-Pacific area (cf. Hurley, 1959, 1968), but several species have been accidentally transported by man and have established themselves in greenhouses throughout the world, especially before the widespread use of modern insecticides. The terrestrial leaf-hoppers do not tolerate low temperatures and require a high, constant humidity (cf. e.g. Palmén, 1947); in Europe they are only able to maintain themselves outdoors where there is a mild and equal Atlantic climate, such as in the extreme southwest of England and Ireland.

The taxonomy of the species of *Talitroides* is still insufficiently known: on the one hand, the old descriptions are very incomplete, and often postulated a large variability in characters now known to be fairly constant (such as

the degree of reduction of the pleopods); on the other hand many species are probably still undescribed. A key to the species of *Talitrus* s.l., described before 1955, is given by Hurley (1955).

DISTRIBUTION IN EUROPE

At least five species of *Talitroides* have been found in Europe:

1. *Talitroides alluaudi* (Chevreux, 1896)

Synonyms: *Talitroides bonnierii* Stebbing, 1906; ? *Orchestia senni* Menzel, 1911 (fide Stephensen, 1924).

Descriptions and figures. — Chevreux & Fage, 1925: 270, figs. 280-281; Schellenberg, 1942: 144, fig. 118; Palmén, 1949: 61, figs. 1-12.

Distribution in Europe. — Greenhouses in Finland (Palmén, 1949), Sweden (Dahl, 1846), Denmark (Stephensen, 1924), Scotland (Chevreux & Fage, 1925), England (Tattersall, 1931), Germany (Schellenberg, 1942; Eichler, 1952), the Netherlands (this paper), Belgium (Bonnier, 1898), France (Chevreux & Fage, 1925; Rémy, 1942), ? Switzerland (Menzel, 1911), Czechoslovakia (Černý & Straškraba, 1958), Hungary (Dudich, 1927), and Poland (Urbanski, 1948, fide Černý & Straškraba, 1958). Outdoors in the Canary Islands (Andersson, 1963) and the Azores (Dahl, 1967).

2. *Talitroides dorrieni* Hunt, 1925

Synonyms: *Talitrus sylvaticus* - Hurley, 1955 (p.p.); Ingle, 1958; non *T. sylvaticus* Haswell, 1880. In a forthcoming paper on Australian Talitridae Bousfield (in litt., February 1972) will reestablish *T. dorrieni* Hunt as a valid species, allied to, but different from, *T. sylvaticus*.

Description and figures. — Hunt, 1925; Reid, 1947: 19, fig. 10.

Distribution in Europe. — Outdoors in the Isles of Scilly and the county of Cornwall, England and Co. Galway, Ireland (for references see Ingle, 1958).

3. *Talitroides hortulanus* Calman, 1912

Description and figures. — Calman, 1912; Reid, 1947: 21, fig. 20; Bousfield, 1971: 285, fig. 17.

Distribution in Europe. — Greenhouses in the Royal Botanic Gardens, Kew, England (Calman, 1912).

4. *Talitroides topitotum* (Burt, 1934)

Synonyms: *Talitrus sylvaticus* - Shoemaker, 1936 (non Haswell, 1880); *Talitrus pacificus* Hurley, 1955; Dahl, 1967. For a discussion of this synonymy see Ruffo (1958: 41), Bousfield & Carlton (1967: 278) and Hurley (1968: 351).

Descriptions and figures. — Shoemaker, 1936; Hurley, 1955: 155, fig. 3.

Distribution in Europe. — Greenhouses in the botanical Garden, Berlin-Dahlem, Germany (Schellenberg, 1942: 144) and the Royal Botanic Gardens, Kew, England (Bousfield, 1971: 287). Outdoors in the Azores and Madeira, where the species is very common (Dahl, 1967).

5. *Talitroides* species

Synonym: *Talitroides alluaudi* - Reid, 1947, non *Talitrus alluaudi* Chevreux, 1896.

Description and figures. — Reid, 1947: 21, fig. 11.

Distribution in Europe. — Greenhouse in Norwich, England.

Remarks. — This material does not belong to *T. alluaudi*, as pleopod 2 is much further reduced and the ramus of uropod 3 even smaller than in that species. According to Bousfield (in litt., February 1972) this material probably represents a still undescribed species.

Talitroides alluaudi (Chevreux)

Occurrence in the Netherlands. — The first author to record *Talitroides alluaudi* from the Netherlands was Hoek (1913, as *Talitrus alluaudi*) who had identified some specimens sent to him from “a greenhouse for palms” at Velp, near Arnhem. Chevreux & Fage (1925: 271) recorded specimens from the greenhouses of the Zoological Gardens at The Hague, and Stock (1950: 3) mentioned the presence of the species “in greenhouses”. Below, an enumeration is given of the material collected during the 1942-1949 investigation on the fauna of Dutch greenhouses. For further details on collectors, collecting data, and the greenhouses concerned the reader is referred to papers by Holthuis (1945) and Meeuse & Hubert (1949).

1. Greenhouses of the Botanic Gardens, Amsterdam. 1942: 1 specimen, 1948: 5 specimens.
2. Greenhouses of the Botanic Gardens, Leiden. 1942: 13 + 3 specimens.
3. Greenhouses of the Zoological Gardens, The Hague. 1942: 4 specimens (1 ♀ with embryos). This is the same locality as that mentioned by Chevreux & Fage (1925).
4. Greenhouses of the “Garden for technically important plants of the Laboratory for Technical Botany”, Delft. 1942: 1 + 4 specimens (2 ♀♀ ovig.).
5. Greenhouses of the Zoological Gardens „Blijdorp”, Rotterdam. 1942: 10 specimens.
6. Greenhouses of the “Cantonspark”, Baarn, province of Utrecht. 1949: 5 specimens.
7. Greenhouses of the Botanical Gardens, Utrecht. 1949: 1 juvenile.
8. Greenhouses of an orchid nursery, Dieren, province of Gelderland. 1950: 1 specimen.

The specimens conform in all particulars with the descriptions and figures of *Talitroides alluaudi* in the literature. Though the occurrence of *T. alluaudi* in Dutch greenhouses was reported as early as 1913 (Hoek, 1913), and mentioned by Chevreux & Fage (1925), the Dutch records have been consistently overlooked by all later authors.

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