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**The terrestrial Amphipod
Talitroides hortulanus (Calman 1912)
found in Samoa and in the New Hebrides.**

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The genus *Talitroides*, erected by (Bonnier 1898) Stebbing 1906 (p. 527) for the species of *Talitrus* with "pleopod 3 consisting of a small process representing the peduncle without rami"*), comprises a few species which are all truly terrestrial, living among the dead leaves or in the moist humus in tropical and other warm countries, frequently at a great distance from the shore and up to great altitudes above sea-level.

Three of these species are found outdoors or (in temperate countries) in hot-houses in Europe and North America, probably introduced in the soil around the roots of plants.

The true homes of two of these species are known (see below); but that of the third species, *T. hortulanus*, was previously unknown. The present paper is intended to show that it has its home in Samoa and the New Hebrides.

The three species are as follows:

1. *T. alluaudi* (Chevreux) (*Talitrus* a., Chevreux & Fage 1925, p. 270, figs.). Found in hot-houses in Europe (also Denmark) and North America (K. Stephensen 1925 and 1935 a, p. 3; Shoemaker 1936, p. 60; Medcof 1939), and outdoors in North America (Medcof 1939).

Distributed from the Seychelles Islands and Madagascar to Polynesia, at altitudes up to 500 m (K. Stephensen 1935 a, p. 3).

*) In *T. africanus* (Bate) and *T. hortulanus* (Calman) pleopod 3 is not without rami, but in the other species they are more or less reduced (see Carl 1934, p. 746); the terrestrial forms, however, have very few setae on the maxillipeds (see Hunt 1925, textfig. 2 B, *T. dorrieni*), in contrast to the littoral *Talitrus saltator* (Montagu), which has a very dense spinose armature (Hunt 1925, textfig. 2 A).

2. *T. sylvaticus* (Haswell) (*Talitrus* s. K. Stephensen 1935 b, p. 19, with figs. and lit.; Shoemaker 1936, figs.). According to Schellenberg 1934, p. 159, it is synonymous with *Talitrus dorrieni* Hunt (Hunt 1925, p. 858, figs.). Found outdoors in Europe and North America: in a garden, in moist humus, and under dead leaves in the Scilly Isles (*T. dorrieni* Hunt 1925), and on similar ground on the shore of Lake Kylemore, Co. Galway, Ireland (*T. dorrieni*, Rawlinson 1937). Bryher, Isle of Scilly, 29. 9. 1938, from under a door-mat (outside the door) of a house (D. M. Reid, Harrow, Middx. ded; specimens in the Zoological Museum, Copenhagen). California and New Orleans, U. S. A. (Shoemaker 1936).

Widely distributed in Australia, Tasmania, and Polynesia, at altitudes up to 1500 m. (K. Stephensen 1935 b, p. 21).

3. *T. hortulanus* (Calman), see below.

***Talitroides hortulanus* (Calman).**

Talitrus hortulanus Calman 1912, with figures.

Calman (l. c.) described his *T. hortulanus* n. sp. on the basis of about a dozen specimens, including adults of both sexes, found in the "Tropical Pits" in the Royal Botanical Gardens, Kew, England; but he did not know its true home.

However, in the Zoological Museum of Copenhagen, in the material collected by the Danish "Monsunen"-Expedition 1934, I have found some specimens of the species from the New Hebrides, and among a few terrestrial Amphipods from Samoa, sent me for determination by the British Museum (Natural History), London, before the war, I have likewise found a few specimens of the same species.

Remarks on the material.

1. Malololelei, Upolu, Samoa, 2000 feet, 21. VI. 1924. On land, very wet forest. Buxton & Hopkins leg. 2 females with marsupium about 10 mm, 1 specimen about 7 mm.

The best preserved female (Fig. 1) agrees on the whole with Calman's description and figures; but a few additions should be made. Antenna 1: flagellum has only

6 joints + the minute apical joint. Antenna 2: flagellum has about 20—22 joints. All the oral parts were dissected out (Calman mentions only the maxillipeds). On the whole they agree well with the existing drawings

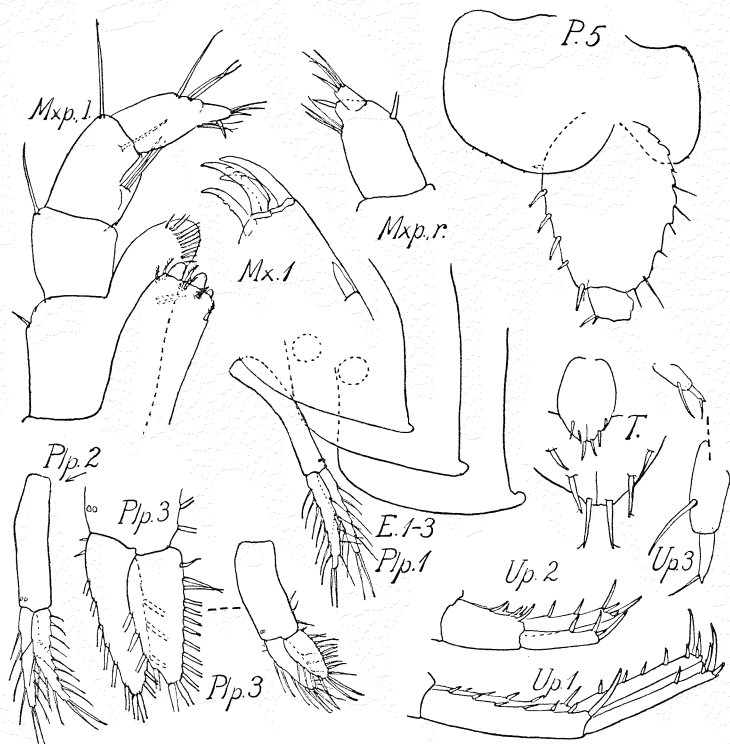


Figure 1: *Talitroides hortulanus* ♀, from Samoa. (*E. 1-3*: epimeral plates of metasome segments 1-3. *Mx. 1*: maxilla 1, part of distal end of outer lobe with palp. *Mxp., l.*: left maxilliped. *Mxp., r.*: distal end of palp of right maxilliped. *P. 5*: basal part of pereopod 5. *P.p. 1-3*: pleopods 1-3. *T.*: telson. *Up. 1-3*: uropods 1-3).

and descriptions of the oral parts of different species of the genus, for instance *T. alluaudi* Chevreux & Fage 1925, p. 270, with figs., or *T. (Talitropsis) topitotum* Burt 1934, p. 186, with figs., and usually also as regards the

number of spines. The left mandible (with lacinia mobilis) has only one (strong) plumose seta proximally to the lacinia; the right mandible has 3 (4?) spines in the corresponding place. The maxilla 1 has a short, 1-articulate palp, equal in length to that of *T. decoratus* Carl 1934, fig. 2 (in *T. alluaudi* it is much smaller (Chevreux & Fage 1925, fig. 280), in *T. topitotum* it is entirely absent (Burt 1934, p. 186, pl. 12 fig. 6). The maxillipeds agree excellently with those of *T. topitotum* (Burt 1934, p. 186, pl. 12 fig. 8), but it cannot be stated with certainty whether the apical end of the left palp is a fourth joint or a process on the third joint (in the right palp the articulation is rather distinct). Calman says regarding *T. hortulanus* that there is "a minute fourth segment, obscurely defined".

As regards pereopods 1—7 there is nothing noteworthy except that the sideplates of prps. 2—4 have each a tooth at about the middle of the hind margin (Calman writes regarding the sideplates of prps. 3—4 (which he calls prps. 1—2) that they have "hind margin gently convex"; no doubt the tooth has been overlooked). Sideplate 4 not deeper than No. 5; plate 5 has a fairly long forelobe, somewhat deeper than the rather narrow hindlobe.

The epimeral plates of the metasome segments have entirely smooth hind margins, without teeth etc.; lower hind corner of plates 2—3 rectangular; and a prominent, rounded tooth at the corner of all three pairs of plates. Pleopods described by Calman; in the present specimen they differ a little. Outer ramus of plp. 1 not much shorter than peduncle, a trifle shorter than outer ramus. Plp. 2 not essentially different from plp. 1 in length of peduncle and rami; but (as mentioned by Calman) the peduncle is broader than that of plp. 1. In plp. 3 the two rami are of equal length. All three pairs of pleopods have two coupling spines each.

Uropods not mentioned by Calman, except third pair. Urop. 1 has 4 marginal spines on inner ramus, 1—2 on outer ramus near apex. Urop. 2 has 2 marginal spines on inner ramus, 1—2 on distal third of outer ramus. Urop. 3 and telson agree with Calman l. c., except that telson has 3—4 pairs (not 1 pair) of spines near apex.

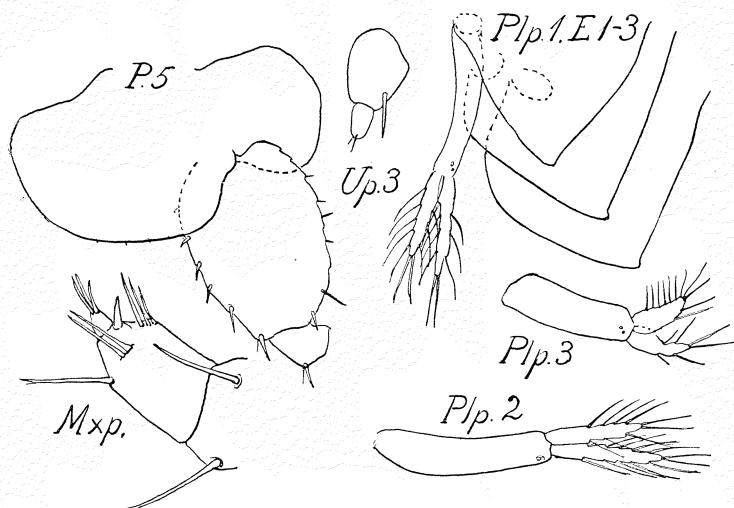


Figure 2: *Talitroides hortulanus*, ♀ with marsupium, from the New Hebrides. (*Mxp.*: distal end of palp of maxilliped. For explanation of the other letters, see figure 1).

2. New Hebrides: Truchy Point, Pentecost, under leaves, 500 m. above sea-level. 19. VII. 1934. The Danish "Monsunen"-Exped. About 10 specimens (in Zoological Museum, Copenhagen).

The largest specimen (a female with marsupium, about 8 mm (Fig. 2)) was dissected (but not the oral parts, except the maxillipeds) and compared with Calman's description of the type and the specimens from Samoa. The most important differences are given below.

Antenna 1: flagellum has 6 joints + the minute apical joint. Antenna 2: flagellum has 19 joints. Maxillipeds:

4th joint distinctly articulated in both left and right palp. Pereiopod 5: sideplate has hind lobe broader; second joint has upper hind corner somewhat prominent (as in Calman's type; not prominent in the specimens from Samoa). Prp. 7 so long that urop. 1 reaches to end of 5th joint of prp. 7. Tooth on lower hind corner of epimeral plates of metasome segments 1—3 very small, much smaller than in the specimens from Samoa. Plps. 1—2 have somewhat shorter rami than the Samoa-specimens, with fewer setæ and inner ramus a trifle longer than outer ramus. Plp. 3 has narrower rami than in the Samoa-specimens and with rather few setæ. Urops. 1—3 agree well with the Samoa-specimens, but urop. 3 has, apically on the ramus, 2 (short) setæ, not 1 long spine. The telson has only 1 pair of spines (as in Calman, fig. 7).

A few of the females have 1—4 enormous eggs.

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Dansk Oversigt.

Næsten alle Amphipoder er marine; forholdsvis faa lever i Ferskvand og tilhører væsentlig Familien *Gammaridae*. Endnu færre, næppe stort over 30 Arter i alt og alle tilhørende Familien *Talitridae*, er virkelige Landdyr, levende i Jorden i fugtige Tropskove og paa lignende Steder, især i tropiske og subtropiske Dele af det Indo-pacifiske Omraade.

Tre af disse Landarter er helt udenfor deres virkelige Hjemsted fundet i Europa og Nordamerika, væsentlig i Drivhuse, og rimeligvis tilfældig indslæbt med Jord omkring Planterødder. For to af disse Arters Vedkommende (*Talitroides alluaudi* (Chevreux)*) og *T. sylvaticus* (Haswell)) kender man Hjemstedet, der i begge

*) *T. alluaudi* er flere Gange fundet i Drivhuse i København.

Tilfælde er Øer i det Indiske og Stille Ocean. Men for den tredje Arts Vedkommende, *T. hortulanus* (Calman), som blev beskrevet allerede 1912 paa Basis af Exemplarer fra Drivhuse i Kew Gardens, London, havde man hidtil ikke vidst, hvor den stammede fra, da den overhovedet ikke var genfundet, siden den blev beskrevet første Gang. I nærværende Arbejde paavises det, dels paa Basis af Materiale fra den danske „Monsunen“-Expedition 1934, dels ved Exemplarer, der var sendt til Bestemmelse fra British Museum (Natural History), London, at den har sit Hjem i hvert Fald paa Ny Hebriderne (500 m over Havet) og Samoa-Øerne (600 m over Havet).
