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DOI

[10.1080/00222939400770411](https://doi.org/10.1080/00222939400770411)

Publication date

1994

Published in

Journal of Natural History

[Link to publication](#)

Citation for published version (APA):

Stock, J. H., & Biernbaum, C. K. (1994). Terrestrial Amphipoda (Talitridae) from Ascension and Saint Helena (South Central Atlantic). *Journal of Natural History*, 28, 795-811. <https://doi.org/10.1080/00222939400770411>

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Terrestrial Amphipoda (Talitridae) from Ascension and Saint Helena (South Central Atlantic)

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(Accepted 16 August 1993)

Three species of Talitridae have been found well above sea-level (335–853 m) of the islands of Ascension and St Helena in the South Central Atlantic: (1) *Platorchestia platensis* (Krøyer, 1845), collected on Ascension only, represented by a morphologically and ecologically aberrant morph, provisionally called *P. platensis* f. *monodi* (Mateus *et al.*, 1986); (2) *Talitriator insularis* nov. sp., collected on both islands, and closely related to *T. cylindripes* K. H. Barnard, 1940 from South Africa; (3) *Talitroides alluaudi* (Chevreux, 1896), likewise found on both islands, undoubtedly accidentally introduced with vegetation as in many other areas of the world. Remarks are provided on *Floresorchestia* and on *Platorchestia joi* nom. nov. (pro *P. crassicornis* (Derzhavin, 1937), a preoccupied name).

KEYWORDS: Amphipoda, Talitridae, Ascension, St Helena, *Talitriator insularis* nov. sp., *Platorchestia joi* nom. nov.

Introduction

Landhoppers (Crustacea: Amphipoda: Talitridae) are among those animals that are easily introduced, mostly with plant material, into foreign countries. In the open air such introductions remain limited to tropical to warm-temperate areas, a good example being the occurrence of the Indo-Pacific *Talitroides topitotum* Burt, 1934 in the Azores, Madeira, the Canary Islands, the southern US and elsewhere (Shoemaker, 1936; Dahl, 1967; Biernbaum, 1980). Others survive in cooler regions in greenhouses, like the well-known *Talitroides alluaudi* (Chevreux, 1896) and *Brevitalitrus hortulanus* Calman, 1912.

It seemed interesting, therefore, to study the landhoppers of Ascension, an isolated island in the Central Atlantic. *A priori* two possibilities seem feasible: the island has its own endemics, derived from some stranded marine stock, or it has alien talitrids which have been introduced onto the island. For comparison, a sizeable collection of landhoppers from St Helena (1200 km SE of Ascension) has been studied also.

Both Ascension and St Helena are islands situated geographically in the tropics of the South Central Atlantic: Ascension (08°00'S; 14°25'W) lies on the Mid-Atlantic Ridge, St Helena (15°55'S; 05°43'W) just east of the Ridge. The islands lie closer to one another than to any other point of land and are wholly volcanic and oceanic. The highest point of Ascension, The Peak, reaches 2817 ft (856 m); that of St Helena, Mt Actaeon, is only slightly lower at 2685 ft (818 m). The higher parts are relatively humid and cool, and covered by dense vegetation and crops. Many plants, especially on Ascension, have been introduced by man on a large scale after 1800, mainly from

the African Cape Province, botanical gardens in England and perhaps Sydney, and St Helena (Duffey, 1964).

In the luxuriant vegetation of the moist and cool crests of Ascension we collected a number of terrestrial Talitridae, which form the subject of the present paper. At first we concentrated only on this material, collected by the junior author in 1980 and the senior author in 1989. Collections from both trips contained the same three species, which yielded significant taxonomic difficulties. In an attempt to solve these problems, we obtained on loan a rich collection of terrestrial amphipods from St Helena, preserved in the Musée Royal d'Afrique Centrale (Tervuren, Belgium), collected by P. Basilewski, P. Benoit and N. Leloup in 1965/1966. These collections contained two species, which were identical with two of the species from Ascension.

One of these taxa, *Talitroides alluaudi*, is a wide-spread species introduced with plant material in several places of the world, both in the open air (in tropical to warm-temperate areas) and in greenhouses. The second species, *Platorchestia platensis*, is represented by a morphologically distinctive morph, which we provisionally consider identical with what is called its 'tropical form' by some authors, '*Orchestia monodi*' by others. This form has a wide distribution in tropical and warm-temperate areas on both sides of the Atlantic Ocean, but usually not far from the sea coast, whereas the Ascension material comes from considerable altitudes and not from the shore. This ecological difference, added to slight morphological differences in gnathopod 2 of the male, induced us to regard our identification as provisional.

The third species is, as far as we know at present, an endemic of Ascension and St Helena, but since it belongs to the genus *Talitriator*, with five or six species distributed over large parts of Southern Africa, we cannot exclude the possibility that it has been introduced from the Cape, and that it is still to be discovered in its homeland.

In summary, the analysis of the terrestrial Amphipoda of these two mid-Atlantic islands has not yielded any firm biogeographic results. This is not surprising when one realizes that most of the flora and fauna, at least of Ascension, has been accidentally or purposefully introduced by man from at least three different continents within the last two centuries (Duffey, 1964). Ferrara and Taiti (1981) reach the same conclusion for terrestrial isopods on Ascension, a group which probably has very similar synanthropic dispersal mechanisms as the talitrids. Saint Helena, which is somewhat larger than Ascension, and presumably much older, is known to harbour many endemic species, but this higher degree of endemism is not borne out by the terrestrial Amphipoda.

Materials and methods

Material used for this paper has been deposited as follows: all St Helena specimens in the Musée Royal d'Afrique Centrale, Tervuren, Belgium (MRAC); Ascension material bearing station numbers starting with 89- in the Zoölogisch Museum Amsterdam, The Netherlands (ZMA); Duffey material at the British Museum (Natural History), London, UK (BMNH); material from the remaining Ascension stations in the Smithsonian Institution, Washington, DC, USA (USNM).

Taxonomy

Platorchestia platensis (Krøyer, 1845) forma *monodi* (Mateus *et al.*, 1986)
(Fig. 1)

Material examined. **Ascension:** Sta. 89-939, 8♂♂, 9♀♀, The Piggery (just below The Peak), altitude c. 762 m, UTM coordinates ES 57170 × 912103; under stones

FIG. 1. *Platorchestia platensis* (Krøyer, 1845). (a–d), forma *monodi* (Mateus *et al.*, 1986) from Ascension: (a) gnathopod 2, ♂ (scale 1); (b) coxal plate 6, ♀ (2); (c) coxal plate 6, ♂ (2); (d) pereiopod 7, ♂ (2). (e, f) forma *platensis* (Krøyer, 1845) from Møns Klint, Denmark: (e) palmar margin and claw of gnathopod 2, ♂ (1); (f) coxal plate 6, ♀ (2). (Scales on Fig. 5.)

and wood, 11 November 1989. GMBL 80-47a, 8♂♂, 18♀♀ (including ovigerous specimens), on ridge below the peak of Green Mountain, alt. c. 792 m, in short vegetation consisting largely of the prostrate species *Centella asiatica* L., 1 August 1980. ASC-2, 1♀, at farm on Green Mountain, alt. c. 759 m, 12 July 1976, leg. R. Manning.

Remarks. The elucidation of the taxonomic status of this Ascension landhopper caused us great difficulty. The material has all the essential characters of *Platorchestia*, viz. a 5-dentate left lacinia mobilis, an unarmed dorsal margin of the exopodite of uropod 1, an incrassate male antenna 2, cuspidactylate pereopods 3 through 7, etc. (see emended diagnosis of the genus in Jo, 1988). It agrees rather well with the common Atlantic species, *Platorchestia platensis* (Krøyer, 1845), although the largest Ascension specimens are smaller than is usual for *P. platensis*. Our material is sexually mature: the females carry, at a body length of 8.5 mm, fully setose oostegites and some of them carry eggs or juveniles in the brood pouch.

The Ascension material differs in certain details from adults of *P. platensis* that we examined. The most striking difference is that the merus of male pereopod 7 is never widened (our Fig. 1d), contrary to the situation in terminal males of *P. platensis* (see for example Jo, 1988, fig. 8h). In younger males of *P. platensis* this segment is not widened either, but even in such males the palmar margin of gnathopod 2 shows two marked deep notches, about as deep as wide, situated rather close to the palmar angle (Fig. 1e, arrows), whereas in the Ascension males these notches are wide and shallow, barely indicated, and are located closer to the insertion of the claw (Fig. 1a, arrows). On closer inspection, the tip of the finger of gnathopod 2 of Ascension males is drawn out into a long, narrowed distal part (this narrow part occupies almost 30% of the length of the claw), whereas in *P. platensis* only a very short part of the fingertip is narrowed (about 5% of the length of the claw). The drawn-out part of the finger in the Ascension males opposes a wide rugose swelling of the palmar angle; that of typical *platensis* males opposes a narrow rugose swelling (Figs 1a and 1e, arrows).

Furthermore, as first pointed out by Bousfield (1973, plate XLVI fig. 2), *P. platensis* is characterized by the anterior corner of the posterior lobe of coxal plate 6, which is produced into a rounded point (Jo, 1988, fig. 8g). In the Ascension material this corner is more or less rectangular (compare Fig. 1b for Ascension material with Fig. 1f for European material, arrows).

Finally, the flagellum of antenna 2 (both sexes) is relatively short (c. 1.25 times as long as peduncle segment 5) in *P. platensis* (see Jo, 1988, fig. 8b), while in the Ascension material the flagellum is longer (1.6–1.8 times as long as peduncle segment 5).

Many, if not all, of these differences are known to be age-dependent in the *Orchestia* group of genera. It looks as if the Ascension material reaches sexual maturity at a small size and that the males never reach the terminal ('senile') morphology. A search through the literature revealed that Ciavatti (1989) described a population of *P. platensis* from Guadeloupe (West Indies) somewhat similar in morphology to the animals from Ascension; he called his animals 'forme tropicale'. Mateus *et al.* (1986), without any reference to *P. platensis*, described a similar form from the Azores as a new species, under the name of *Orchestia monodi*. A closely related form is recorded from Madeira by Stock and Abreu (in press), under the name of *P. platensis*.

The long, drawn-out fingertip of male gnathopod 2 is distinctive for the Ascension population and is not encountered in other populations of 'typical' *P. platensis*, *P. platensis* 'forme tropicale', or *P. monodi*. (Note: we have examined material with a

monodi morphology from the following localities: (1) West Florida, USA, Choclawatchees Bay, sandy shore, c. 10 km from Niceville; (2) Madeira, Ponta de São Lourenço, Fonte (= spring) do Geraldo, near seal-level; (3) South Carolina, USA, Charleston, in *Spartina* meadow near Grice Marine Laboratory.)

All specimens of *Platorchestia platensis* or of '*Orchestia*' (in reality belonging to *Platorchestia*) *monodi* have been found on beaches or in terrestrial habitats close to the sea, consequently at low altitudes. (Note: Stebbing (1900) mentions *P. platensis* from altitudes of 610–914 m in Hawaii, but J. L. Barnard (1955: 23) believes another species is involved.) The material from Ascension comes from the humid highest peak on the island, at elevations between approximately 759 and 792 m, far from the sea. This presents us with a problem: the barren, arid lava rocks on Ascension found between the humid peak and the wrack on the beach are uninhabitable to terrestrial talitrids. So, if the Ascension specimens really are *P. platensis*, they are geographically and ecologically separated from the beach by the arid zone, preventing any kind of gene flow. Parenthetically, it should be mentioned that near-coastal populations of *P. platensis* have not been observed on Ascension.

We are in doubt as to what to do: should we (1) consider our material, notwithstanding morphological and ecological differences, as *P. platensis* s.l.; (2) describe it as a new species; or (3) call it *P. platensis* forma *monodi* (a new rank for *Orchestia monodi* Mateus *et al.*, 1986)? In the present paper we have chosen the third possibility, mainly to draw attention to the plasticity of *P. platensis*.

There are no publications known to us that record accidental transport of *P. platensis* by man, contrary to the situation in *Talitroides alluaudi* (see below), which is quite regularly imported into foreign territories with plant material. *Platorchestia platensis* is not present in the St Helena samples studied by us. Benoit's report on the occurrence of this species on the island comes from confusion with *Talitroides alluaudi* and *Talitriator insularis*. Melliss' old record (1875: 204) has to be confirmed, as does the record of Macnae (1953) from Tristan da Cunha.

A note on Floresorchestia. During our survey of the literature, we noticed certain species superficially similar to our Ascension material, viz. *Orchestia floresiana* Weber, 1892 (originally described from Flores, Indonesia), and *O. anomala* Chevreux, 1901 (originally described from the Seychelles). Bousfield (1984: 205) has erected the genus *Floresorchestia* for these and a number of other species (1984, table 6). They are, according to Bousfield (1984: 183), characterized by a 4-dentate (instead of 5-dentate) left lacinia mobilis. We doubt if this character is very useful, basing our opinion on two arguments: (1) Jo (1988: 160) noticed that the left lacinia of *Platorchestia* can be 5- or 6-dentate; and (2) re-examination of the syntypes of *Orchestia anomala* (Muséum national d'Histoire Naturelle, Paris, Am. 4595–4596) revealed a 5-dentate left lacinia in this species. (The type-species of *Floresorchestia*, *Orchestia floresiana*, has a 4-dentate lacinia, in agreement with Bousfield's diagnosis.) Both '*Orchestia*' *floresiana* and '*O.*' *anomala* are readily distinguishable from the *Platorchestia platensis* cluster by the lack of sexual dimorphism in the second antenna.

A note on homonymy in Platorchestia. As a spin-off of our literature survey, we noticed two homonymous, but not identical, species in *Platorchestia*: *P. crassicornis* (Costa, 1867) and *P. crassicornis* (Derzhavin, 1937).

Costa's species was originally described in the genus *Orchestia*, Derzhavin's species in *Talorchestia*. For a long time Costa's species has been considered a junior

synonym of '*Orchestia*' *platensis* (see Stebbing, 1906: 540), and when Bousfield erected the genus *Platorchestia*, with *Orchestia platensis* as type-species, *Orchestia crassicornis* became automatically a species-group name in *Platorchestia*.

Bousfield (1982) also placed *Talorchestia crassicornis* in his new genus *Platorchestia*, whereupon *crassicornis* Derzhavin, 1937 became a junior homonym of *crassicornis* Costa, 1867. Jo (1988), in discussing *Platorchestia* and its component species, justified the status of *crassicornis* sensu Derzhavin as a good species in *Platorchestia*, but did not notice the homonymy. It is evident, therefore, that *Platorchestia crassicornis* (Derzhavin, 1937) has to receive a new name, for which we propose *Platorchestia joi* nom. nov., in honour of Dr Young Won Jo, a Korean scientist who unfortunately died prematurely in 1991, and who gave a detailed re-description and synonymy of the species (Jo, 1988: 161–167, figs 5–7, 9a, c, e, 10d, e).

Talitriator insularis nov. sp.

(Figs 2–6)

Orchestia platensis (part.); Benoit, 1977: 466 (non Krøyer, 1845).

Talitrus (*Talitroides*) *eastwoodae*; Duffey, 1964: 238–239, 243 (non Methuen, 1913).

Material. Ascension: HOLOTYPE 50⁺ paratypes, Sta. 89–910, Breakneck Valley, near Octagon Tank (UTM coordinates $5^{\circ}16'8'' \times 91^{\circ}20'8''$), alt. c. 732 m, under humid stones, 4 November 1989 (ZMA Amph. 200.402). 3 Paratypes, Sta. 89–911, Lower Breakneck, The Pines (UTM coordinates $5^{\circ}19'5'' \times 91^{\circ}20'8''$), alt. c. 571 m, under stones and wood near water reservoir, 4 November 1989 (ZMA Amph. 200.403). 62 Paratypes, Sta. GMBL 80–46, Peak of Green Mountain, bamboo grove surrounding Dew Pond, soil temperature 18.0°C, alt. c. 853 m, 1 August 1980 (USNM 266408). 1 Paratype, Sta. GMBL 80–47a, on ridge below the peak of Green Mt, in short vegetation largely consisting of the prostrate species *Centella asiatica* L., alt. c. 792 m, 1 August 1980 (USNM 266409). 1 Specimen, Sta. 89–938, Dampier's Spring, in loam and leaf debris, alt. c. 335 m, 11 November 1989. 16 Specimens, Sta. 245, in traps in grass above Rock Cottage, 3 October 1958, leg. E. Duffey. 6 Specimens, Sta. 250, in grass (*Paspalum* and *Stenotaphrum*) on slope above Rock Cottage, 1 September 1958, leg. E. Duffey. 5 Specimens, Sta. 256, under stones and in grass along Elliot's and above, 25 October 1958, leg. E. Duffey. 1 Specimen, Sta. 264, under stones among Norfolk Is. pines, Green Mt, 15 August 1958, leg. E. Duffey. 2 Specimens, Sta. 265, in grassland (*Stenotaphrum*), north slope of saddle below Elliot's Pass, 10 September 1958, leg. E. Duffey. 32 Specimens, Sta. 273, in grass on mountain ridge between peaks, 2 September 1958, leg. E. Duffey. 1 Specimen, Sta. 275, same locality as Sta. 273, 2 September 1958, leg. E. Duffey. 2 Specimens, Sta. 282, in grassland (*Paspalum* and *Stenotaphrum*), south side of weather gardens, 11 September 1958, leg. E. Duffey. 32 Specimens, Sta. 283, in traps in grass above the Rock, 3 October 1958, leg. E. Duffey. 6 Specimens, Sta. 285, under stones, in grass under moss, beside path to the Peak from the Rock, 31 August 1958, leg. E. Duffey. 3 Specimens, Sta. 287, in tussocks of '*Molinia*-type' grass, on east side of Green Mt, alt. c. 442 m, 7 September 1958, leg. E. Duffey. 2 Specimens, Sta. 288, in grass (*Paspalum*) among guavas, east slope of mountain between peaks and Elliot's Pass, 8 September 1958, leg. E. Duffey. 5 Specimens, Sta. 2013, in short grass along path through dense stand of 'ginger lily', 22 November 1957, leg. 'B.S.' (the British Museum records provide no information as to who B.S. was).

St Helena: Many specimens, centre of island, Haute Fisher's Valley, alt. 518 m, 11–13 November 1965 (MRAC 51894 and 51895). 3 Specimens, centre of island, springhead of Fisher's Valley, alt. 610–640 m, 10 November 1965 (MRAC 51896). 7 Specimens, centre of island, Cason's Gate, alt. 671 m, 24 October 1965 (MRAC 51897).

Description of Ascension material. Male and female very similar in morphology. Body length of adults 10–12 mm. Live colour orange to greenish.

Head (Fig. 2a) with round, dark eyes. Antenna 1 reaching to 25–40% of peduncle segment 5 of antenna 2 (in juveniles even shorter); peduncle segment 3 longest (Fig. 2b). Antenna 2 (Fig. 2c) with very elongate 5th peduncle segment; flagellum 21- to 27-segmented.

Upper lip (Fig. 2d) bell-shaped. Lower lip (Fig. 2e) without inner lobes.

Left (Fig. 2f) and right mandible both with molar seta; pars molaris consisting of 2 prongs, proximal one 5-dentate, distal one bicuspidate; left lacinia mobilis 5-dentate; right lacinia (Fig. 2g) with small irregular teeth.

Maxilla 1 (Fig. 2h) with small palp; outer lobe with 9 distal teeth, the medial margin of which armed—from lateral to medial—with 0, 1, 3, 4, 3, 4, 3, 3 and 3 denticles, respectively; inner lobe parallel-sided, narrow, slightly shorter than outer lobe, with 2 strong plumose distal setae.

Maxilla 2 (Fig. 2i) consisting of 2 roughly ovate lobes, with numerous distal (outer lobe) and distomedial (inner lobe) setae.

Maxilliped (Fig. 2j) with 4-segmented palp; segments 1–3 roughly rectangular, segment 4 forming minute distal knob. Outer plate with 2 proximolateral and 3 distolateral spines; distomedial angle produced into setulose rounded projection; inner plate with 3 distal, rounded teeth and row of barbulated spines along medial and distal margins.

Gnathopod 1 (Fig. 3a): Coxal plate longer than wide with rounded ventral margin, armed with longish spines. Basis with spinous anterior and posterior margins. Merus non-lobate, upper and lower margins parallel. Propodus slightly tapering; palma hardly indicated. Dactylus >> palma > unguis.

Gnathopod 2 (Fig. 3b): Coxal plate wider than long, posterior margin produced into strong, rounded point, ventral margin spinulose, but spines shorter than in gnathopod 1. Coxal gill large, lobate. Basis with almost smooth margins. Merus lobate. Carpus with small distoposterior lobe; length (measured along anterior margin) equal to that of propodus. Propodus with row of spinules on mid-lateral surface and many rugosities in ventral half. Palma, short, opposing claw also short; dactylus > unguis. Distal part of propodus produced into large, slightly upcurved, rugose lobe.

Pereiopod 3 (Fig. 4a): Coxal plate much wider than long; posterior margin with rounded, straight or vaguely upcurved point. Coxal gill smaller than that of gnathopod 2, bilobate. Basis with some spines on anterior and posterior margins. Claw simplidactylate; dactylus > unguis, not markedly 'pinched' (Fig. 4a, detail). Pereiopod 4 resembling P3, but posterior point of coxal plate slightly downcurved (Fig. 4b). Dactylus not 'pinched' (Fig. 4c), simplidactylate.

Pereiopod 5 (Fig. 4d) << P6. Coxal plate anterolobate. Coxal gill small, bilobate. Basis, narrow, posteroventral corner hardly produced or overhanging.

Pereiopod 6 (Fig. 5a) as long as P7. Coxal plate posterolobate. Coxal gill larger than that of P5, complexly lobate, some lobes ribbon-like. Basis narrow;

FIG. 2. *Talitriator insularis* nov. sp., ♀ paratype from Ascension: (a), head and antennae 1 and 2, from the right (scale 3); (b) antenna 1 (2); (c) antenna 2 (2); (d) upper lip (1); (e) lower lip (1); (f) left mandible (4); (g) right lacinia mobilis (4); (h) maxilla 1 (4); (i) maxilla 2 (1); (j) maxilliped (1). (Scales on Fig. 5.)

FIG. 3. (a, b), *Talitriator insularis* nov. sp., ♀ paratype from Ascension: (a) gnathopod 1 (scale 5); (b) gnathopod 2 (5). (Scales on Fig. 5.) (c–f), *Talitriator cylindripes* Barnard, 1940 (after Barnard, 1940, fig. 27): (c) distal segments of gnathopod 1; (d) pleopod 1; (e) pleopod 2; (f) pleopod 3.

FIG. 4. *Talitriator insularis* nov. sp., ♀ paratype from Ascension: (a) pereiopod 3 (scale 5); (b) posterior margin of coxal plate 4 (5); (c) claw of pereiopod 4 (1); (d) pereiopod 5 (2). (Scales on Fig. 5.)

FIG. 5. *Talitriator insularis* nov. sp., ♀ paratype from Ascension: (a) pereopod 6 (scale 2); (b) pereopod 7 (2).

FIG. 6. *Talitriator insularis* nov. sp., paratypes from Ascension: (a) pleopod 1, ♂ (scale 1); (b) pleopod 2, ♂ (1); (c) pleopod 3, ♂ (1); (d) epimeral plates 1 to 3, ♂ (2); (e) uropod 1, ♂ (2); (f) uropod 2, ♂ (2); (g) left and right uropod 3, ♀ (1); (h) telson, ♀ (1). All setae on the pleopods are plumose, but plumosity is omitted on some setae for clarity. (Scales on Fig. 5.)

posteroventral corner hardly produced or overhanging; posterior margin not serrate, with several strong spines.

Pereiopod 7 (Fig. 5b): Coxal plate non-lobate, no coxal gill. Basis broad, almost circular; posteroventral corner well-marked; posterior margin serrate, with minute spines. Carpus and merus of adult male not widened.

Oostegites (Fig. 4a) narrow; some short, smooth setae near tip; present on gnathopod 2 and pereiopods 3 through 5.

Epimeral plates (Fig. 6d) with smooth ventral and posterior margins. Posteroventral corner weakly pointed.

Pleopod 1 (Fig. 6a): Peduncle with sinuous margins, narrow in the middle; distal half of lateral margin with plumose setae; medial margin with 2 distal, simply hook-shaped retinacula. Exopodite > endopodite, swollen in basal part, narrow and slightly tapering in distal part; traces of segmentation lines present in distal half; many plumose setae on lateral and medial margins. Endopodite tapering, with some vague segmentation lines; many plumose setae on both margins. Margins of exo- and endopodite notched, indicating suppressed segmentation.

Pleopod 2 (Fig. 6b): Peduncle several times longer than wide, sinuous; with plumose setae in distal half of lateral margin. Exopodite twice as long as endopodite, basal part swollen, distal part tapering. Endopodite elongate-ovate. Margins of both rami notched and armed with numerous plumose setae.

Pleopod 3 (Fig. 6c): Peduncle as long as wide, broadly rectangular; lateral margin with plumose setae over almost entire length. Endopodite ovate, less than half as long as exopodite. Both rami with notched margins, bearing numerous plumose setae.

Uropod 1 (Fig. 6e) without proximoventral peduncular spine; dorsolateral and dorsomedial peduncular margins with 5–7 spines; interrampal spine simple. Exopodite with unarmed dorsal margin; endopodite with variable number of dorsal spines.

Uropod 2 (Fig. 6f): Endopodite without dorsal spines. Endopodite with strongly variable number of dorsal spines.

Uropod 3 (Fig. 6f): Peduncle broad, long than ramus, with 2 dorsolateral spines. Ramus with 1 long and 1 short distal spine, with or without a single dorsal spine.

Telson (Fig. 6h) widest at 0.66 of its length, narrower at base. Distal margin with shallow notch. Two pairs of dorsal spines in distal third; left and right distal lobe with 1 or 2 spines.

Ovigerous females carrying very few (often only one) eggs (comparable low number also encountered in *Talitroides alluaudi*).

Material from St Helena. The morphology of the St Helena animals is almost completely the same as that of the Ascension specimens. Some specimens from St Helena are slightly larger than the largest Ascension specimens, and have—as is to be expected—the highest number of segments in the flagellum of antenna 2.

Derivatio nominis. The specific name, *insularis*, alludes to the distribution of the species on two mid-Atlantic islands, Ascension and St Helena.

Origin of Talitriator insularis. It is quite possible that *T. insularis* was imported by man along with plant material from South Africa, where the remaining species of the genus *Talitriator* are endemic, but as explained below we are unable to identify the insular material with any of the five or six South African taxa described so far.

On the other hand, plant material introduced to Ascension has come on several occasions from St Helena, which has (contrary to Ascension) rather rich and varied biotas, with many endemics. So, it is also possible that *T. insularis* was originally an endemic of St Helena, accidentally introduced to Ascension.

Remarks. The genus *Talitriator* presently includes 5 species, all from southern Africa: the type-species *T. eastwoodae* Methuen, 1913 (= forma *typica* of Barnard, 1940), and four other 'formae' described by K. H. Barnard (1940), which were raised to full specific rank by Bousfield (1984: 209 and table 7), *T. cylindripes*, *T. setosus*†, *T. calvus*†, and *T. macronyx*.

A special problem surrounds the taxonomic status of *Talorchestia*(?) *africana* Bate, 1862 from Port Natal (the old name for Durban). Several authors have placed this species in the genus *Talitriator* (e.g. Hurley, 1975) or even synonymized it with *Talitriator eastwoodae* (e.g. Stebbing, 1917; Hunt, 1925). However, as K. H. Barnard (1940: 464) puts it, 'a revision of my former material' (i.e. that treated in his 1916 paper) 'together with a lot of new material, shows unfortunately that the matter is not quite simple'. In short, Bate's figure (Pl. II fig. 6h) shows a species with a linear or cylindrical carpus of gnathopod 1, whereas Methuen's *T. eastwoodae* has an expanded carpus. Forms with a carpus similar to that illustrated by Bate do occur in South Africa; but none of these specimens, according to Barnard (1940), come from east of 26°E; all specimens from Natal, Durban, Zululand and the Eastern Cape Province agree with *T. eastwoodae* and not with *Talorchestia*(?) *africana*. An additional problem is that Bate does not provide any information on the mouthparts, pleopods, and the nature of the pereopodal claws (simplidactylate or cuspidactylate) of his animal. At best, *Talorchestia*(?) *africana* remains a *species inquirenda*. The carpus and propodus of gnathopod 1 look like that of the new species described in the present paper, but the shape of the propodus of gnathopod 2 (Bate's Pl. II fig. 6i) does not (the large, upcurved distal propodal lobe, so characteristic of the new species, is absent in both *Talorchestia*(?) *africana* and *Talitriator eastwoodae*).

Moreover, *T. eastwoodae* has untransformed pleopods (peduncle slender, straight; rami slender and subequal in length; endopodite segmented). The remaining four species have modified pleopods, showing one or more of the following transformations: rami unequal and unsegmented, peduncle sinuous, and both rami and peduncle widened. *Talitriator setosus* differs from the new species in having an expanded carpus in gnathopod 1 (as in *T. eastwoodae*), and subequal or slightly unequal rami in pleopods 2 and 3. *Talitriator calvus* differs in the same characters as *T. setosus*, and has moreover glabrous (non-plumose) pleopod pedunculi. *Talitriator macronyx* differs above all by its long unguis (> dactylus) in gnathopod 1 and pereiopods 3 to 7, subequal pleopod rami, and a longer antenna 1. Only *T. cylindripes* resembles *T. insularis* in most characters, such as the relative length of antenna 1, and general structure of pleopod pedunculi and rami. However, if we may trust Barnard (1940, fig. 27e), the carpus and propodus of gnathopod 1 as much more elongate and slender (his figure is reproduced in the present paper, fig. 3c) and his figures 27f–h (reproduced in the present paper, fig. 3d–f) show no traces of segmentation of the pleopod rami (no vestiges of segmentation lines and smooth unnotched margins), contrary to the situation in *T. insularis*. The propodus of gnathopod 2 is neither described nor illustrated by Barnard, perhaps pointing to the fact that it is similar to that of *T. eastwoodae*. At any rate, the propodus of *T. insularis*, with its elongate, upcurved distal lobe, is not at all like that of *T. eastwoodae*. Attempts to locate Barnard's type-material in the South African Museum failed.

† K. H. Barnard and Bousfield treat the genus name as feminine, which in our opinion is incorrect. We therefore used masculine endings for the specific names in this genus.

Talitroides alluaudi (Chevreux, 1896)

Stephensen, 1924: 199 (older lit.); Stephensen, 1935: 3 (refs); Shoemaker, 1936: 60; Schellenberg, 1942: 144, fig. 118; Hurley, 1955: 147 (in key); Hurley, 1975: 159 (refs), 166 (in key); Mateus *et al.*, 1986: 92.

Material. **Ascension:** 100+ specimens (some ovigerous), Sta. 89-938, Dampier's Spring (UTM coordinates ES $5^{\circ}11'18'' \times 91^{\circ}21'08''$), alt. 335 m, in loam and leaf debris, 11 November 1989. 7 Specimens, Sta. 89-921, same locality, but 8 November 1989. 42 Specimens, Sta. 89-937, Castle's Drip (UTM coordinates $5^{\circ}22'0'' \times 91^{\circ}20'22''$), alt. 518 m, trough shadowed by 'cedar tree', electric conductivity of water in trough $453 \mu\text{S}/\text{cm}$, 19.9°C , 19 November 1989. 115 Specimens, Sta. GMBL 80-69, Green Mountain farm area, alt. c. 747 m, in miscellaneous plant debris along road, 6 August 1980. 6 Specimens, Sta. GMBL 80-70, off road leading to Green Mountain, at lookout tower, alt. c. 518 m, in plant debris, 6 August 1980. 1 Specimen, Sta. ASC-2, Green Mountain farm area, close to Sta. GMBL 80-69, alt. c. 759 m, in vegetation, 12 July 1976, leg. R. Manning. 49 Specimens, Sta. 261, under rotten wood among acacias, just east of Rock Cottage, 4 September 1958, leg. E. Duffey. 11 Specimens, Sta. 283, in traps in grass above Rock, 3 October 1958, leg. E. Duffey.

St Helena: Several specimens, centre of the island, Haute Fisher's Valley, alt. 518 m, 11–13 November 1965 (MRAC 51894).

Remarks. This Indo-Pacific species has been introduced into many greenhouses in Europe, Canada and the USA. Outside the Indo-Pacific, it has been recorded in the open air from the USA, and in the Atlantic on the Canary Is. and Azores (Andersson, 1962; Dahl, 1967; Mateus *et al.*, 1986), where it was most probably introduced with agricultural and garden plants. It is very likely that the species has been introduced on Ascension and St Helena in the very same way.

Duffey (1964: 239) recorded terrestrial Amphipoda from Ascension, which he identified as *Talitrus* (*Talitroides*) cf. *eastwoodae* (Methuen). A re-examination of this material by one of us (CKB) proved that there were specimens of *T. alluaudi* among them.

Acknowledgements

The senior author acknowledges the financial support for the fieldwork on Ascension of a NATO Collaborative Grant, Brussels, Contract RG001/88, of the Foundation for Scientific Research in the Tropics (WOTRO), The Hague (file W09-99.122.89), of the Treub Maatschappij, Amsterdam, and the Amsterdamse Universiteits-vereniging, Amsterdam. The contacts with Ascension were carefully prepared by Mr E. Matthey, Foreign and Commonwealth Office, West Indian and Atlantic Department, London. In Ascension, we received greatly appreciated assistance from H.H. the Administrator, Mr J. J. Beale, various officers of the Police Office, Mr Graham Avis of Ascension Island Services (B.B.C.), Mr Pat Booth, B.B.C. Power Manager, Mr Aubrey Peters, of The Farm, and various members of the Ascension Historical Society. Transportation of personnel and gear to Ascension was provided by the Royal Air Force. Ronald Vonk MSc (Amsterdam) endangered life and skin on the sharp volcanic outcrops of the island to make the sampling a success. The junior author wishes to thank H.H. the Administrator of Ascension for his assistance and the US Air Force and the Commander of the Ascension Island Air Base for facilitating transportation to the island and lodging and assistance while on the island. W. D. Anderson, J. Castro, N. A. Chamberlain and C. Koenig aided in specimen

collection. Early taxonomic advice from Dr E. L. Bousfield (Victoria, B.C., Canada) is greatly appreciated. The authors are greatly indebted to Dr R. Jocqué, Musée Royal de l'Afrique Centrale, Tervuren, Belgium for making a collection of terrestrial Talitridae from St Helena available to us. This is Contribution No. 109 of the Grice Marine Biological Laboratory.

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