

COMMENTS ON THE TYPE SPECIES OF THE GENUS *TRIGONUROPODA* TRÄGÅRDH 1952 (ACARINA : UROPODIDAE)

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ACARINA
UROPODIDAE
TRIGONUROPODA

ABSTRACT : The genus *Trigonuropoda* was described by TRÄGÅRDH 1952, with type species *Urodinychus polyphemus* Vitzthum 1935. TRÄGÅRDH and VITZTHUM based their taxa on two different series of specimens. HIRSCHMANN later considered that TRÄGÅRDH and VITZTHUM had been examining two different species, and created the new name *T. tragardhi* Hirschmann 1975 for *T. polyphemus* sensu TRÄGÅRDH. This action led to confusion as to the identity of the type species of the genus. However, the characters that HIRSCHMANN used to separate the two species are not valid. *T. tragardhi* Hirschmann 1975 is a synonym of *T. polyphemus* (Vitzthum 1935), and the latter is the type species of the genus.

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ZUSAMMENFASSUNG : Die Gattung *Trigonuropoda* wurde von TRÄGÅRDH 1952 beschrieben und als ihre Typenart wurde *Urodinychus polyphemus* Vitzthum 1935 designiert. TRÄGÅRDH und VITZTHUM basierten ihre Beschreibungen jedoch auf unterschiedliche Individuen. HIRSCHMANN nahm später an, daß TRÄGÅRDH und VITZTHUM unterschiedliche Arten untersuchten und schuf den Namen *T. tragardhi* Hirschmann 1975 für *T. polyphemus* sensu TRÄGÅRDH. Dieser Vorgang stiftete Verwirrung bezüglich der Typenart dieser Gattung. Die Merkmale, die HIRSCHMANN jedoch zur Trennung beider Arten anführt, sind nicht gerechtfertigt. *T. tragardhi* Hirschmann 1975 ist ein Synonym von *T. polyphemus* (Vitzthum 1935), und *T. polyphemus* ist die Typenart der Gattung.

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RÉSUMÉ : Le genre *Trigonuropoda* a été décrit par TRÄGÅRDH en 1952, avec pour espèce type *Urodinychus polyphemus* Vitzthum 1935. TRÄGÅRDH et VITZTHUM basèrent leurs taxons sur deux différentes séries de spécimens. Plus tard HIRSCHMANN considéra que TRÄGÅRDH et VITZTHUM ont observé deux espèces différentes et il créa le nouveau nom de *T. tragardhi* Hirschmann 1975 pour *T. polyphemus* sensu TRÄGÅRDH. Ceci mena à la confusion pour l'identité de l'espèce type du genre. Cependant, les caractères que HIRSCHMANN a utilisé pour séparer les deux espèces ne sont pas valides. *T. tragardhi* Hirschmann 1975 est synonyme de *T. polyphemus* (Vitzthum 1935), et cette dernière est l'espèce type du genre.

INTRODUCTION

VITZTHUM (1935) described *Urodinychus polyphemus* (Acarina : Uropodidae) from an unspecified number of male specimens from Tahiti. TRÄGÅRDH

(1952) later recorded male and female specimens of *U. polyphemus* from southeastern Polynesia. TRÄGÅRDH (1952) also designated *U. polyphemus* as the type species of his new genus *Trigonuropoda*, with his concept of the species based on the latter

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collection of specimens. TRÄGÅRDH noted that "there are quite a few differences between my specimens and VITZTHUM's description and figures", but dismissed these differences as artefacts. However, HIRSCHMANN (1975a, 1975b, 1975c) considered that TRÄGÅRDH's specimens were not conspecific with VITZTHUM's, and used the former as the types of a new species, *T. tragardhi* Hirschmann 1975a. If HIRSCHMANN's decision was correct, the type species of *Trigonuropoda*, *T. polyphemus*, must be considered as being based on misidentified specimens. The problem of a genus with a misidentified type species must be formally presented to the International Commission for Zoological Nomenclature for resolution. The purpose of this paper is to draw attention to this problem, and to present the relevant taxonomic and nomenclatural information required for its resolution.

Abbreviations — ZMUH : Zoologisches Institut und Zoologisches Museum, Universität Hamburg, Martin-Luther-King Platz 3, D-20146 Hamburg, Germany ; ZSM : Zoologische Staatssammlung, Münchhausenstrasse 21, D-81247 München, Germany.

Trigonuropoda Trägårdh
(Figs. 1-3)

Trigonuropoda Trägårdh 1952 : 77.

Type species — *Trigonuropoda polyphemus* (Vitzthum 1935), by original designation.

Trigonuropoda polyphemus (Vitzthum)
(Figs. 1, 2A, 2C, 2E, 3A)

Urodinychus polyphemus VITZTHUM 1935 : 154, fig. 3.
HIRSCHMANN and ZIRNGIEBL-NICOL 1962 : 59, 72,
pl. 22, figs. 17HM, 17TRM, 17CHM (twice), pl. 25,
figs. 3VW, 3TM, 3RM, 3VM.

Trigonuropoda polyphemus : HIRSCHMANN and HUTU 1974 : 35. HIRSCHMANN 1975b : 62; HIRSCHMANN 1975c : 81, figs. 72RM, 72VM.

Types. — *Paratype*, male (in fragments, gnathosoma missing), Tahiti, Tuauru-Tal, 5.9.1926, leg.

ADAMSON, det. VITZTHUM 7.8.1933. Bearing identification label "Zool. Staatssammlg. München V1307, *Urodinychus* (*Urodinychus*) *polyphemus* Vitzthum 1913 [sic]. Male Paratypoide." (examined, in ZSM).

NOTE : Dr Egon POPP (personal communication, 1993) has kindly informed me that this single slide carries the only specimen of *T. polyphemus* in the Zoologische Staatssammlung, München.

Trigonuropoda tragardhi Hirschmann
(Figs. 1B, 1C, 2B, 2D, 2F, 3B)

Trigonuropoda tragardhi HIRSCHMANN and HUTU 1974 : 35
(*nomen nudum*).

Trigonuropoda tragardhi HIRSCHMANN 1975a : 59. HIRSCHMANN 1975b : 62; HIRSCHMANN 1975c : 81, figs. 73RW, 73VW, 73VM.

Trigonuropoda polyphemus : TRÄGÅRDH 1952 : 77, figs. 57-59.

Trigonuropoda traegardhi Hirschmann : HIRSCHMANN and WISNIEWSKI 1993 : 148 (incorrect emendation).

Types. — *Syntypes*, Polynesia, 1 female, Nr. 32, Raivavae, viii-9, N. Akouovi, leg. COOKE, KONDO, ANDERSON, Eing. Nr. A1, 1972, 123. 1 female on 3 slides, Nr 42, Tubuai, viii-22, NE slope, Teyactu, leg. ZIMMERMANN, Eing. Nr. A1, 1972, 124 (gnathosoma and legs I and II only); same data, Eing. Nr. A1, 1972, 125 (labelled "dorsal plate venter", but carrying venter only); same data, Eing. Nr. A1, 1972, 126 (legs III and IV only). 1 male on 2 slides, Nr 56, Rurutu, viii-28, Bluff N. of Hauti, leg. St. JOHN, Eing. Nr. A1, 1972, 127 (idiosoma and legs II-IV); same data, Eing. Nr. A1, 1972, 128 (leg I only). All also labelled "Mangarevan Expedition 1934", "Coll. M. Sellnick" and "Zool. Mus. Hamburg" (examined, in ZMUH).

NOTES : The specimens listed are syntypes, but are not labelled *T. tragardhi*. They should have been deposited in the Bernice P. Bishop Museum, Honolulu, but were eventually located in ZMUH.

The name *T. tragardhi* in the catalogue of HIRSCHMANN and HUTU (1974) was not accompanied by any description or illustration and is a

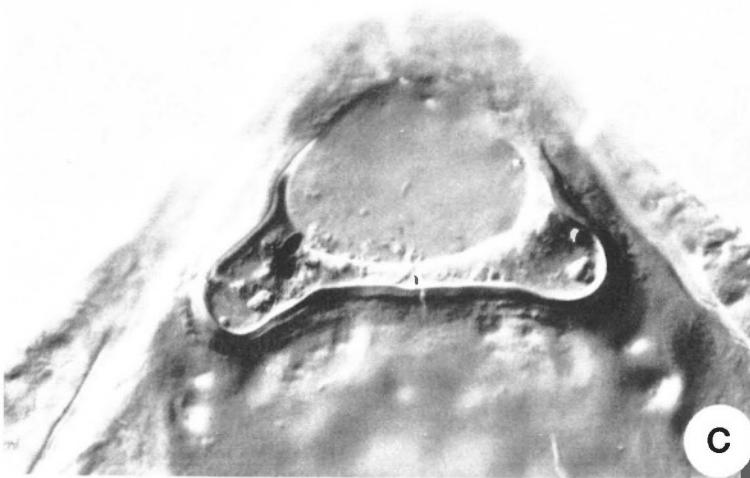
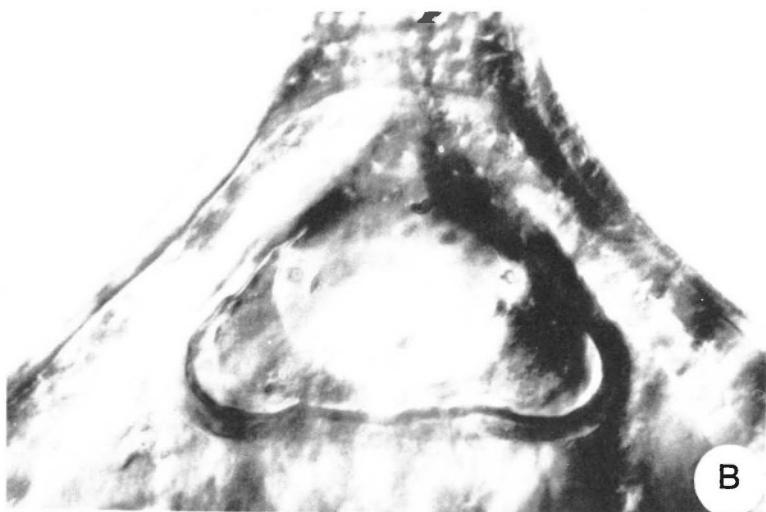


FIG. 1 : *Trigonuropoda* spp., males, pre-dorsal pit.
A. — *T. polyphemus*, paratype. B, C. — *T. tragardhi*, two syntypes.

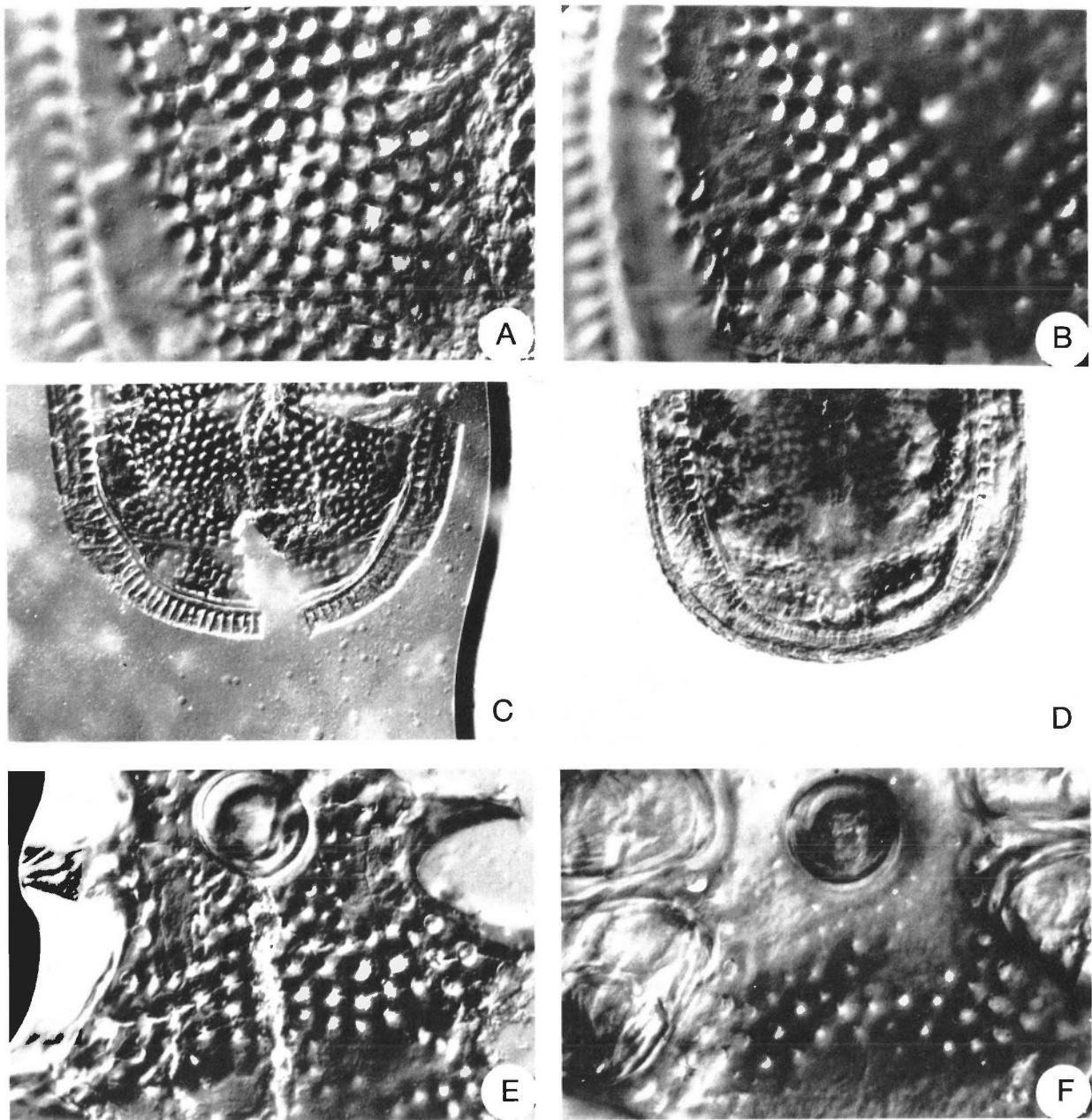


FIG. 2 : *Trigomuropoda* spp., males.

A. — *T. polyphemus*, paratype, dorsal shield ornamentation. B. — *T. tragardhi*, syntype, dorsal shield ornamentation. C. — *T. polyphemus*, paratype, posterior dorsal shield. D. — *T. tragardhi*, syntype, posterior dorsal shield. E. — *T. polyphemus*, ventral idiosoma. F. — *T. tragardhi*, syntype, ventral idiosoma.

nomen nudum. It was first made available by its appearance in the identification key on page 59 of HIRSCHMANN (1975a). The name *tragardhi* appeared in HIRSCHMANN (1975b : 62) and HIRSCHMANN (1975c : 81) incorrectly accompanied by the designation "nov. spec.". It was consistently presented in these works as *trägardhi* until emended to

traegardhi by HIRSCHMANN and WISNIEWSKI (1993). However, since the name TRÄGÅRDH is Swedish and not German, the correct spelling is *tragardhi* (International Code of Zoological Nomenclature, Articles 27, 32(c)(vi), 32(d)(i)(2)). HIRSCHMANN (1979) and HIRSCHMANN and WISNIEWSKI (1993) recorded this species from Australia as well as Polynesia.

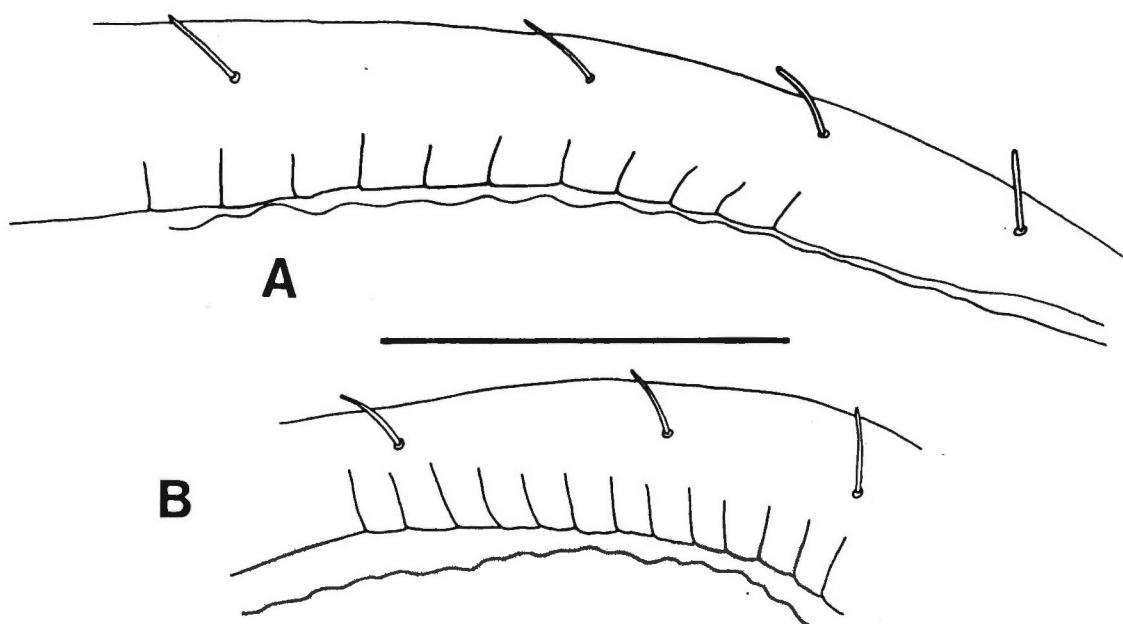


FIG. 3 : *Trigonuropoda* spp., males, postero-marginal dorsal shield setae.
A — *T. polyphemus*, paratype. B. — *T. tragardhi*, syntype. Scale bar 100 µm.

This record of *tragardhi* from Australia is incorrect, apparently based on TRÄGÅRDH's use of the name Austral Islands (= Tubuai Islands, 23°23' S 149°27' W).

DISCUSSION

HIRSCHMANN (1975a : 59, 1975c : 81) pointed to a series of taxonomic differences between the two species, as detailed in Table 1. It appears as if HIRSCHMANN made these interpretations on the basis of published descriptions and illustrations, without personally examining the relevant specimens. The identification key that distinguishes these species in HIRSCHMANN (1975a) refers to the male of *T. polyphemus* (his Figure 72, taken from VITZTHUM) and the female of *T. tragardhi* (his Figure 73, taken from TRÄGÅRDH). However, TRÄGÅRDH (1952) examined both sexes of *T. polyphemus* sensu TRÄGÅRDH, and found the shape and structure of the dorsal shields to be the same in the two sexes, except for the genital opening, in the intercoxal region of the ventral surface.

It is now possible to re-interpret these characters on the basis of a direct comparison of the specimens

Character	<i>T. polyphemus</i>	<i>T. tragardhi</i>
1. Shape of predorsal pit	narrower	wider
2. Posterior edge of predorsal pit	1 arch	3 arches
3. Dorsal shield ornamentation pits	smaller, circular	larger, oval shaped
4. Post-dorsal strip	narrower, smooth	wider, pitted
5. Ventral idiosoma ornamentation pits	smaller, circular	larger, oval shaped
6. Dorsal and marginal body setae	shorter, narrow basally	longer, wider basally
7. Ventral idiosoma setae	shorter, narrow basally	longer, wider basally

TABLE 1 : Differences between *Trigonuropoda polyphemus* and *T. tragardhi*, according to HIRSCHMANN (1975a, 1975c).

concerned : (1) I have been unable to detect any difference between the shape of the pre-dorsal pit in the male of *T. polyphemus* and either the male or female of *T. tragardhi* (Figs. 1A-C). (2) The ridge that forms the posterior edge of the pre-dorsal pit of *T. tragardhi* is slightly uneven, but does not form 3 distinct arches (Figs. 1B, 1C). (3) The pits that ornament the dorsal shield of *T. tragardhi* are circular, not oval (Fig 2B), and are the same size as those in *T. polyphemus* (Fig 2A). (4) The posterior area of the dorsal surface is ornamented with pits in

both species (Figs. 2C, 2D). (5) The pits that ornament the ventral idiosoma of the male are the same shape and size in the two species (Figs. 2E, 2F). (6) The marginal dorsal shield setae are of similar length and shape in the two species (Figs. 3A, 3B). The setae in the central area of the dorsal shield of the single available specimen of *T. polyphemus* are all missing or broken. Those on the marginal shield have a mean length of 22.7 µm (range 20.0-25.0, n = 9, 3.4 % of shield length). The corresponding setae in *T. tragardhi* have a mean length of 20.0 µm (range 18.3-21.7, n = 7, 3.2 % of shield length). These setae in both species are uniform in thickness for most of their length, and narrow towards the tip. (7) The ventral idiosomal setae are similar in length and morphology in the two species. The only discernible ventral idiosomal setae in *T. polyphemus* are those lateral of the anus. These have a mean length of 19.2 µm (range 13.3-25.0, n = 6). The same setae in *T. tragardhi* have a mean length of 18.6 µm (range 16.7-21.7, n = 6).

The fact that *T. polyphemus* is known only from a single broken male specimen limits the number of characters that are available for study. However, on the basis of the characters detailed above, and further comparison of the specimens, I am unable to distinguish *T. tragardhi* Hirschmann 1975a from *T. polyphemus* (Vitzthum). The apparent differences noted by HIRSCHMANN are due only to differences between the illustrations of VITZTHUM and TRÄGÅRDH (TRÄGÅRDH's illustrations were actually prepared by Dr M. SELLNICK), and are not apparent in the specimens themselves. For example, TRÄGÅRDH drew attention to the fact that the dorsal shield has a central "almost hexagonal" median area of ornamentation, flanked by smoother lateral strips. This pattern is also present in *T. polyphemus*, although it is not clearly visible in the illustration of VITZTHUM (1935).

In view of this evidence I consider *Trigonuropoda tragardhi* Hirschmann, 1975 to be a junior subjective synonym of *Trigonuropoda polyphemus* (Vitzthum, 1935). The type species of the genus *Trigonuropoda* Trägårdh 1952 remains undisturbed as *T. polyphemus* (Vitzthum 1935).

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