Two new species and new records of terrestrial isopods (Isopoda: Oniscidea) from Oman

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Two new species and new records of terrestrial isopods (Isopoda: Oniscidea) from Oman

Helmut Schmalfuss

Abstract

A small but highly interesting collection of terrestrial isopods from Oman is reported. The new species *Xeroniscus siegfriedhuberi* **n. sp.** and *Somalodilloides pseudopilosus* **n. sp.** are described and illustrated, and new records are given for the species *Chaetophiloscia* sp., *Periscyphis omanensis*, *Xeroniscus erythraeus* and *X. troglophilus*.

Keywords: Isopoda, Oniscidea, Oman, new species, new records.

Zusammenfassung

In einer kleinen, aber hochinteressanten Aufsammlung von Landisopoden aus dem Oman fanden sich die neuen Arten *Xeroniscus siegfriedhuberi* **n. sp.** und *Somalodilloides pseudopilosus* **n. sp.**, die beschrieben und abgebildet werden, und neue Nachweise von *Chaetophiloscia* sp., *Periscyphis omanensis*, *Xeroniscus erythraeus* and *X. troglophilus*.

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1 Introduction

Until the year 1988 only one species of the Oniscidea was known from Oman (*Tylos maindroni* Giordani Soika, 1954). Ferrara & Taiti (1988) reported six additional species from the country. In the most recent publication on Oman's terrestrial isopods (Taiti et al. 2000) a number of additional species are recorded, adding up to 17 species known from the country.

In the year 2000 Siegfried Huber accompanied Prof. Peter Weygoldt on a collecting tour through Oman and collected a number of isopod samples. This new material contains two species new to science and new records of four additional species, two of which are reported for the first time from Oman, thus extending their distribution area considerably.

The new records increase the number of terrestrial isopod species known from this country to the following 21 species:

Ligia pigmentata Jackson, 1922
Tylos maindroni Giordano Soika, 1954
Chaetophiloscia sp.
Agnara gallagheri (Ferrara & Taiti, 1988)
Agnara madagascariensis (Budde-Lund, 1885)
Porcellionides pruinosus (Brandt, 1833)
Agabiformius lentus (Budde-Lund, 1885)
Proporcellio vulcanius Verhoeff, 1908 (= *P. quadriseriatus*)
Porcellio evansi Omer-Cooper, 1923
Porcellio sp.
Periscyphis vittatus (Omer-Cooper, 1926)
Periscyphis albomarginatus Taiti, Ferrara & Allspach, 1997
Periscyphis insularis Ferrara & Taiti, 1988
Periscyphis omanensis Taiti & Ferrara, 1991
Periscyphis dhofarensis Taiti, Ferrara & Davolos, 2000
Xeroniscus troglophilus Taiti, Ferrara & Davolos, 2000
Xeroniscus erythraeus (Ferrara, 1972)
Xeroniscus siegfriedhuberi n. sp.
Omanodillo gardneri Taiti, Ferrara & Davolos, 2000
Somalodillo paeninsulae Ferrara & Taiti, 1986
Somalodilloides pseudopilosus n. sp.

Acknowledgments

Siegfried Huber (Uhldingen-Mühlhausen/Germany) has donated the isopod material used in this article to the SMNS; Dr. S. Taiti (Florence/Italy) gave advice for the identification of the treated species, he and Dr. S. Sfenthourakis (Nicosia/Cyprus) helped to improve the original manuscript, and Dr. K. Wolf-Schwenninger (SMNS) operated the scanning electron microscope and the Leica Macroscope. To all of them I wish to express my sincere thanks. Collection permission was granted to Prof. P. Weygoldt (no. 07/2000, date 23.IX.2000).

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2 Methods

Photographs were taken through a Leica Z16 APO Macroscope, processed with Leica Application Suite Version 3.1.8 to obtain combined photographs with extended depth of field; Fig. 1 is a SEM-photograph from air-dried material. The mounted specimen was coated with a 20 nm Au/Pd layer and examined with a Zeiss EVO LS15 scanning electron microscope.

Abbreviation

SMNS Staatliches Museum für Naturkunde Stuttgart (+ number of isopod collection), Germany

3 New terrestrial isopod material from Oman

3.1 *Chaetophiloscia* sp.

Bibliography

Schmalfuss 1990: 170, figs. 1–17; Schmalfuss 1991: 2, figs. 4–5.

New material

1 ♂, 2 ♀♀, northern Oman, near Al Hamra, W of Nizwa, leg. S. Huber, IX.2000 (SMNS 11485).

Remarks

Up to now the species of this genus were known from the Mediterranean region. The new record extends the distribution area considerably to the southeast. However, it cannot be excluded that the new record from Oman is due to anthropogenous introduction. The specimens show similarities to *C. cellaria*, but this taxon seems to consist of a number of separate species. The male is somewhat damaged, so no exact illustrations of the diagnostic characters (pleopods) can be given.

3.2 *Periscyphis omanensis* Taiti & Ferrara, 1991

Bibliography

Taiti & Ferrara 1991: 219, figs. 5a–5i; Taiti et al. 2000: 147, 152.

New material

1 ♀, SW-Oman, Dhofar, Tawi Atayr, Wadi Dharbat, ± 30 km SE of Salalah, leg. S. Huber, X.2000 (SMNS 11483). – 5 ♂♂, 4 ♀♀, SW-Oman, Dhofar, no exact locality, leg. S. Huber, X.2000 (SMNS 11484). – 1 ♀, northern Oman, near Al Hamra, W of Nizwa, leg. S. Huber, IX.2000 (SMNS 11485). – 3 ♂♂, northern Oman, Al Hamra, W of Nizwa, 23°04′45″N, 57°21′10″E, leg. S. Huber, IX.2000 (SMNS 11485).

Distribution

The species is known only from Oman, where it has been found in the northern and in the southwestern parts.

3.3 *Xeroniscus erythraeus* (Ferrara, 1972) (Fig. 1)

Bibliography

Ferrara 1972: 211, figs. 2–13 (*Periscyphis e.*); Ferrara & Taiti 1986: 96, figs. 7a–f, 17 (*Periscyphis e.*); Ferrara & Taiti 1990: 93, figs. 1, 4A–4C.

New material

2 ♂♂, 1 ♀, Northern Oman, near Al Hamra, W of Nizwa, leg. S. Huber, IX.2000 (SMNS 11485).

Distribution

The species *X. erythraeus* was known up to now from northern Ethiopia and from southwestern Saudi Arabia. First record for Oman.

Fig. 1. *Xeroniscus erythraeus*, ♂, 7 × 3 mm (SMNS 11485), pereopod 7, frontal view, SEM-photograph. – Scale: 0.1 mm.

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3.4 *Xeroniscus siegfriedhuberi* **n. sp.** (Figs. 2–12)

Material examined

Holotype: ♂, ~16 × 8 mm, SW-Oman, Dhofar, Tawi Atayr, Wadi Hinna, ±40 km NE of Salalah, leg. S. Huber, X.2000 (SMNS T602).

Paratypes: 3 ♂♂, 5 ♀♀, same data as holotype (SMNS 11482).

Derivatio nominis

The species is dedicated to Siegfried Huber (Uhldingen-Mühlhausen/Germany) who collected a great number of highly interesting isopod samples in many parts of the world and donated them to the SMNS.

Description

Maximum dimensions: 16 × 8 mm.

Coloration: Tergal parts yellowish, head with dark grey central part, pereon-tergite 1 with dark anterior and posterior stripe and a medial dark bridge, the remaining pereon-tergites with dark posterior stripes and two rows of dark medial speckles, pleon completely dark except epimera, so the animal gives a zebra-like impression.

Cuticular structures: Tergites smooth.

Eyes with around 22 ommatidia arranged in 4 rows (ammonite type). Cephalon with profrons slightly convex, pronounced lateral lobes triangular, interocular line visible except in the middle (Fig. 8). Pereonite 1 with strongly concave posterior margin, frontal corners bent upwards (Figs. 8–9). Posterior margin of pereonite 7 sinuous. Telson slightly wider than long, but laterally deeply excavated, thus with a long narrow distal part, apex pointed (Fig. 10). Antennae with first flagellar article twice as long as second.

Male: Pereopods 1–3 with brushes of terminally forked spines on merus and carpus (Fig. 11). Pereopod 7 long and slender, merus proximally with process, ischium ventrally concave, frontally with ridge delimiting a conspicuous depression (Fig. 12). Pleopods 1–5 see Figs. 2–7.

Distribution

Southwestern Oman, only known from the type locality in Dhofar.

Differential diagnosis

The ascription of this new species to the genus *Xeroniscus* is based on the morphology of the pleopod-exopodites. They have the same structure as in other species of *Xeroniscus*, with respiratory organs in all five exopodites (see Figs. 2–7). The body structure is somehow different from other species of the genus, with pronounced but interrupted interocular line and deeply rounded concavities in the hind margin of the first pereon-tergite (see Figs. 8, 9; compare Ferrara & Taiti 1990 for figures of these characters in other species of *Xeroniscus*).

3.5 *Xeroniscus troglophilus* (Taiti, Ferrara & Davolos, 2000)

Bibliography

Taiti et al. 2000: 154, figs. 4a–k, 8.

New material

1 ♀, northern Oman, Al Hamra, Al Hota Cave, 23°06′14″N, 57°21′58″E, leg. S. Huber, IX.2000 (SMNS 11486).

Distribution

The species is known only from the type locality in Oman (Al Hota/Al Fallah Cave system, detailed description in Hanna & Al-Belushi 1996).

3.6 *Somalodilloides pseudopilosus* **n. sp.** (Figs. 13–19)

Material examined

Holotype: ♂, ~5.0 × 2.3 mm, northern Oman, Al Hamra, W of Nizwa, leg. S. Huber, IX.2000 (SMNS T603).

Derivatio nominis

The species name indicates the great similarity with *S. pilosus* Taiti & Ferrara, 2004 (see Taiti & Ferrara 2004: 298, figs. 58a–h, 59a–h, pl. 25).

Description

Dimensions: ~5.0 × 2.3 mm.

Coloration: White without pigmentation.

Cuticular structures: Tergites thickly covered with apically blunt scale-setae (Fig. 13), which are on posterior margins of tergites not fan-shaped as in *S. pilosus*; body outline fringed with long pointed setae as in *S. pilosus*.

Eyes with around 10 ommatidia. Cephalon with thin margin separating frontal shield and vertex. Pereon-epimeron 1 with lateral thickening, dorsally not concave, separated from sulcus arcuatus by a ridge, sulcus arcuatus extending along epimeron about three quarters of its length, anteriorly not as wide as in *S. pilosus* (Figs. 13, 15). Posterior margin of pereon-tergite 1 straight. Outer and inner lobe of schisma rounded, the inner one slightly protruding backwards as in *S. pilosus*. Telson with short distal part and truncate apex as in *S. pilosus* (Fig. 16). Antenna short and stout, flagellum as long as distal article of peduncle, distal flagellar article three times as long as proximal one. Pereopods with long pointed setae without denticulate apex (Fig. 14). Uropod with minute exopodite, inserted dorsally near posterior margin of protopodite.

Male: Pereopods without sexual modifications. Pleopod-exopodite 1 about twice as wide as long with rounded medial part, endopodite 1 with distal part straight (Fig. 17). Pleopod-exopodite 2 with very long medial part, which is only slightly surpassed by endopodite 2 (Fig. 18).

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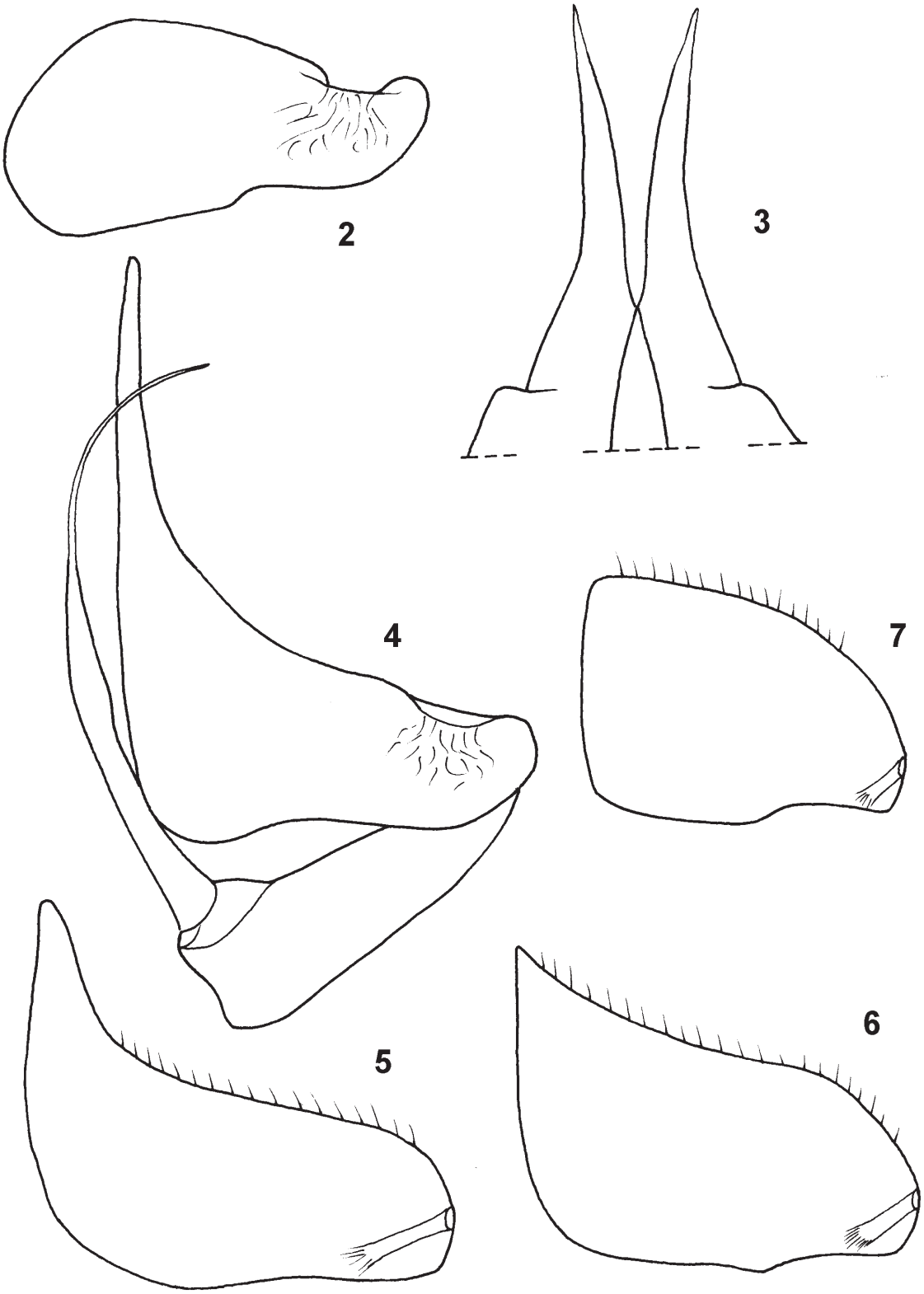

Figs. 2–7. *Xeroniscus siegfriedhuberi* n. sp., holotype ♂, 16 × 8 mm (SMNS T602). – **2**. Pleopod-exopodite 1. **3**. Pleopod-endopodites 1, apical parts. **4**. Pleopod 2. **5**. Pleopod-exopodite 3. **6**. Pleopod-exopodite 4. **7**. Pleopod-exopodite 5.

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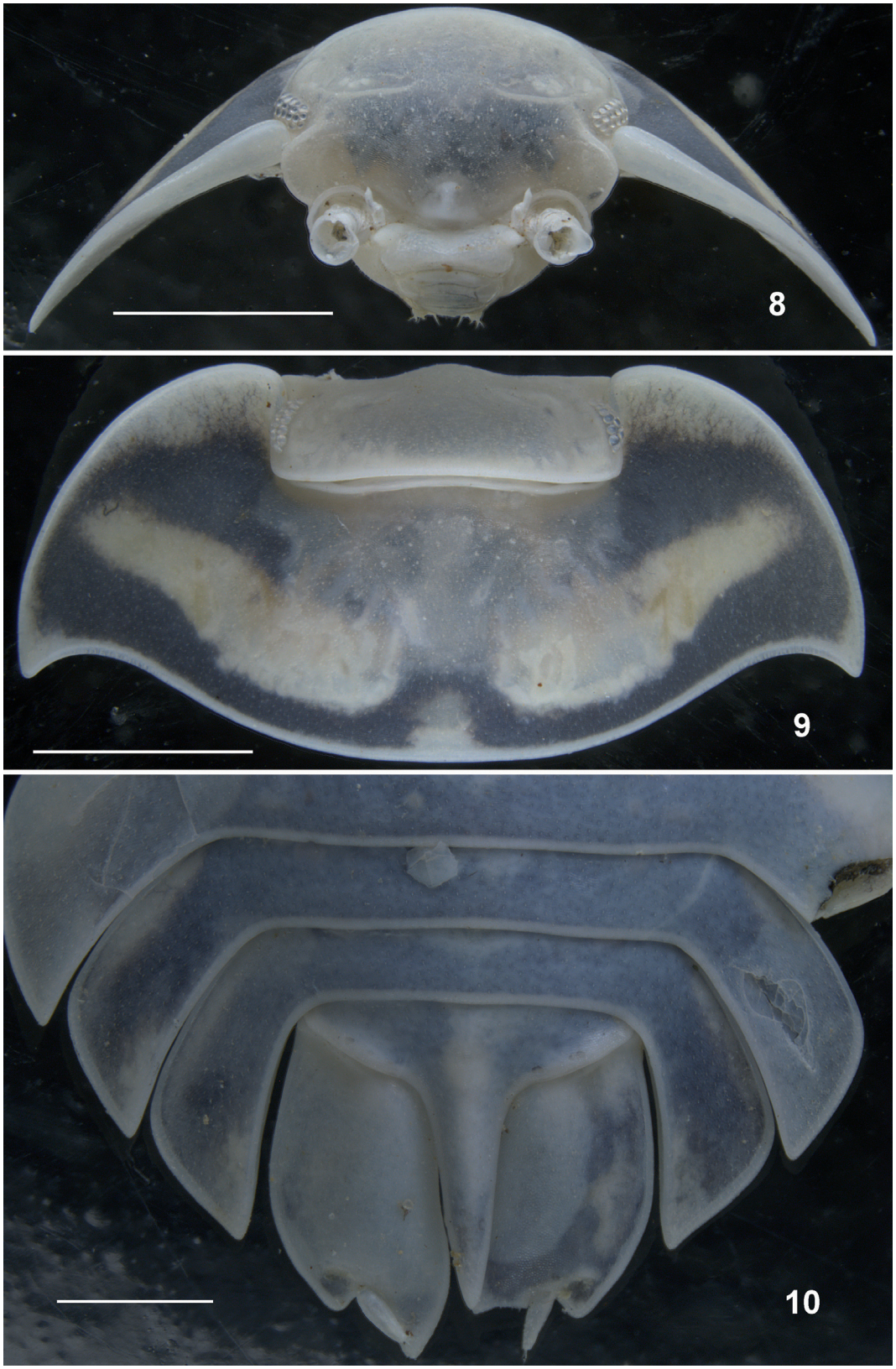

Figs. 8–10. *Xeroniscus siegfriedhuberi* n. sp., holotype ♂, 16 × 8 mm (SMNS T602). – **8**. Head and pereon-segment 1 in frontal view. **9**. Head and pereon-segment 1 in dorsal view. **10**. Terminal part of pleon, dorsal view. – Scales: 2 mm (8–9), 1 mm (10).

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Figs. 11–12. *Xeroniscus siegfriedhuberi* n. sp., holotype ♂, 16 × 8 mm (SMNS T602). – **11**. Pereopod 1, frontal view **12**. Pereopod 7, frontal view. – Scales: 1 mm.

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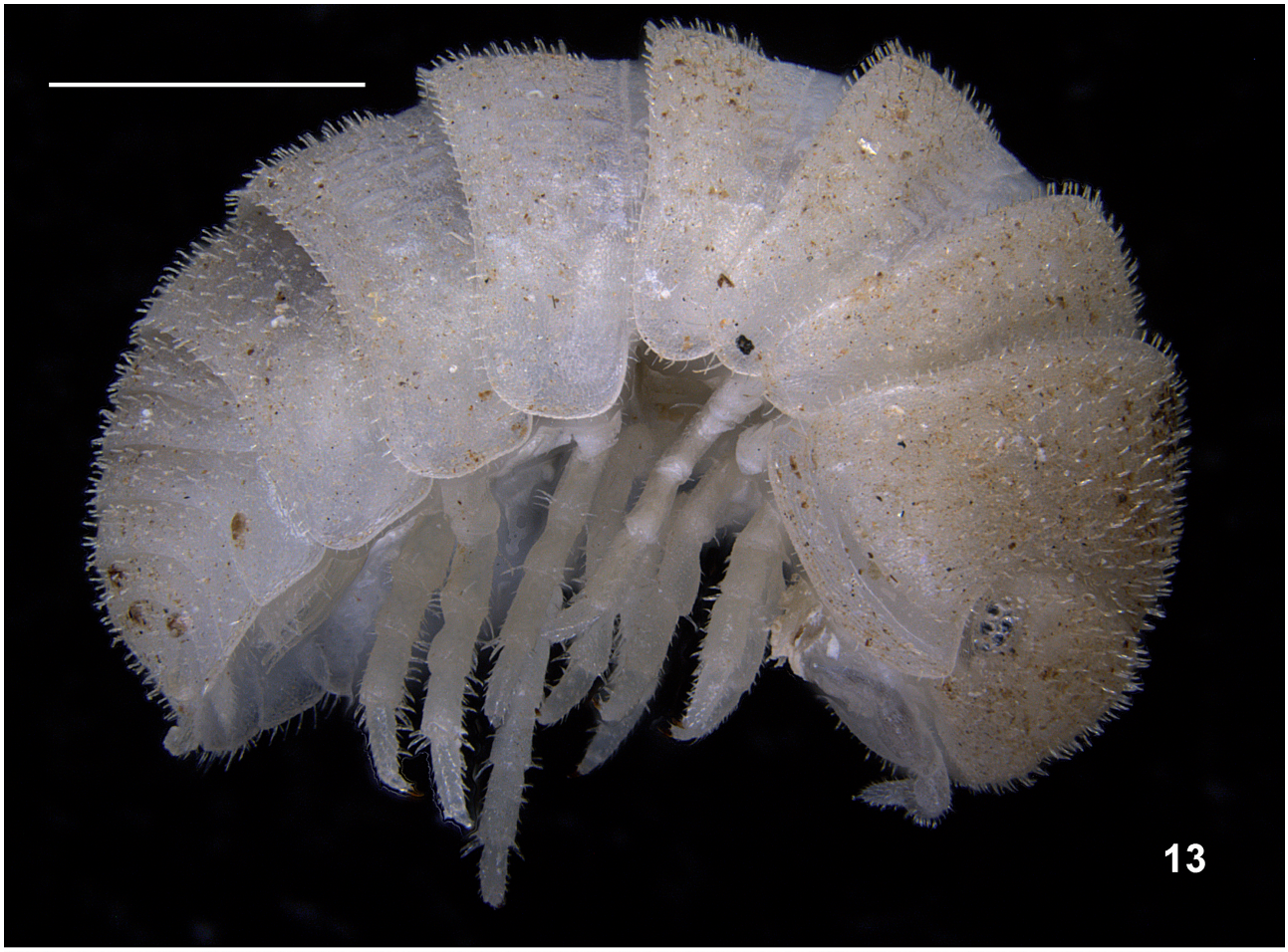

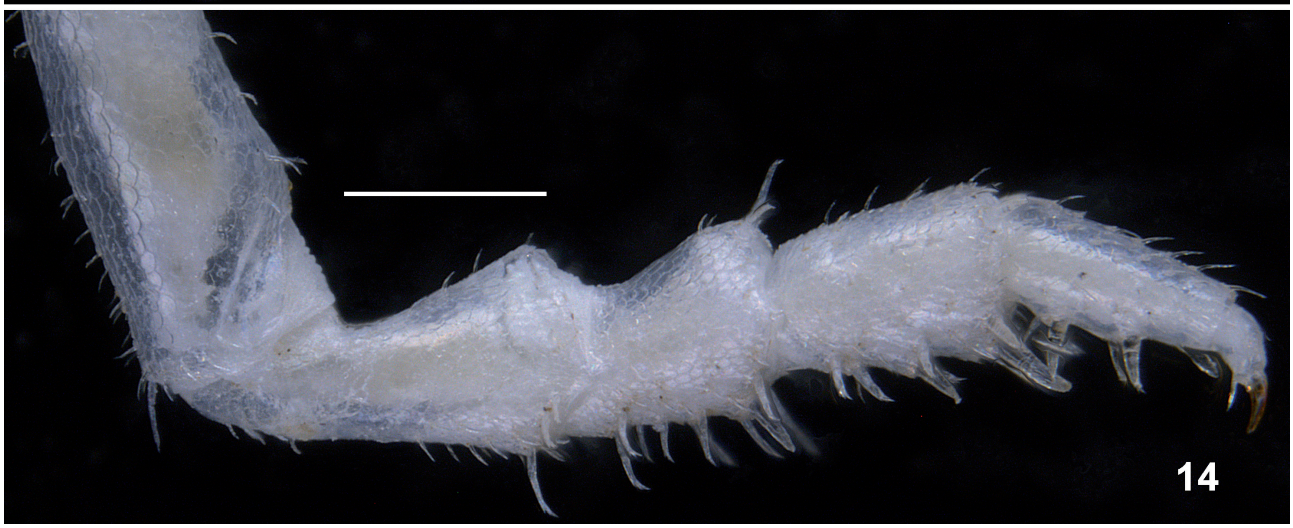

Figs. 13–14. *Somalodilloides pseudopilosus* n. sp., holotype ♂, ~5.0 × 2.3 mm (SMNS T603). – **13**. Lateral view of whole animal. **14**. Pereopod 7. – Scales: 1 mm (13), 0.2 mm (14).

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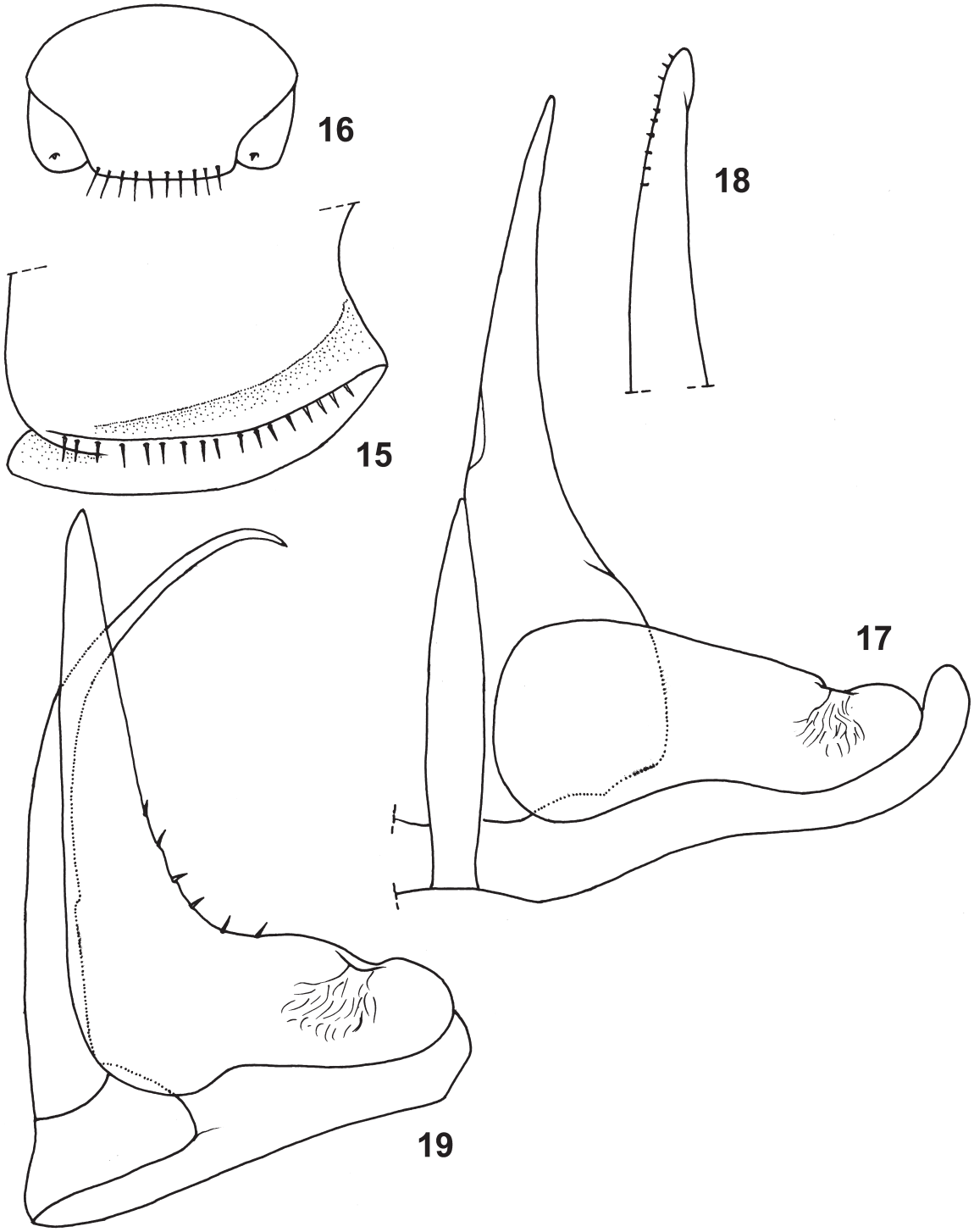

Figs. 15–19. *Somalodilloides pseudopilosus* n. sp., holotype ♂, ~5.0 × 2.3 mm (SMNS T603). – **15**. Lateral view of pereon-segment 1. **16**. Dorso-caudal view of telson and uropods in situ. **17**. Pleopod 1 in ventral view. **18**. Apex of pleopod-endopodite 1 enlarged. **19**. Pleopod 2 in ventral view.

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Distribution

The new species is known only from the type locality in northern Oman.

Differential diagnosis

Somalodilloides pseudopilosus n. sp. is very similar to *S. pilosus* from Socotra Island (see TAITI & FERRARA 2004: 298, figs. 58a–h, 69). There are, however, some differences which seem to justify the erection of a new species: Sulcus arcuatus shorter, extending for only two thirds of the length of the epimeron, anteriorly not unusually widened; setae on pereopods with pointed apex, not denticulate as in *S. pilosus*; male pleopod-exopodite 1 with rounded medial corner, not angulate as in *S. pilosus*; width-length relation of pleopod-exopodite 2 is 1.0 : 1.6 (in *S. pilosus* 1.0 : 1.1).

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