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Several species of moss-mites (*Acari, Oribatida*) from the Antarctic coastal zone

ABSTRACT: In the present paper several species of moss-mites (*Acari, Oribatida*), including a species new for science (*Halozetes impeditus* sp. nov.) caught in the vicinity of the Polish "H. Arctowski" Station on King George Island (South Shetlands) are discussed.

Key words: Antarctic, King George Island, *Oribatida* (*Acari*), *Halozetes impeditus sp. nov.*

1. Introduction

Land invertebrate fauna of Antarctica being extremely poor in species is still insufficiently known. Therefore all new informations are interesting.

Owing to the kindness of Dr. B. Jabłoński and Dr. J. Pilarska the author obtained several samples containing moss-mites (*Acari, Oribatida*) which were collected in the vicinity of the "H. Arctowski" Station on King George Island. Several species were represented in the samples in great abundance. Two of these species were new for Antarctica. One of them, *Ceratozetes gracilis* (Michael), rather unexpectedly found, is certainly a species brought there accidentally. The other one is a species new for science.

2. Materials

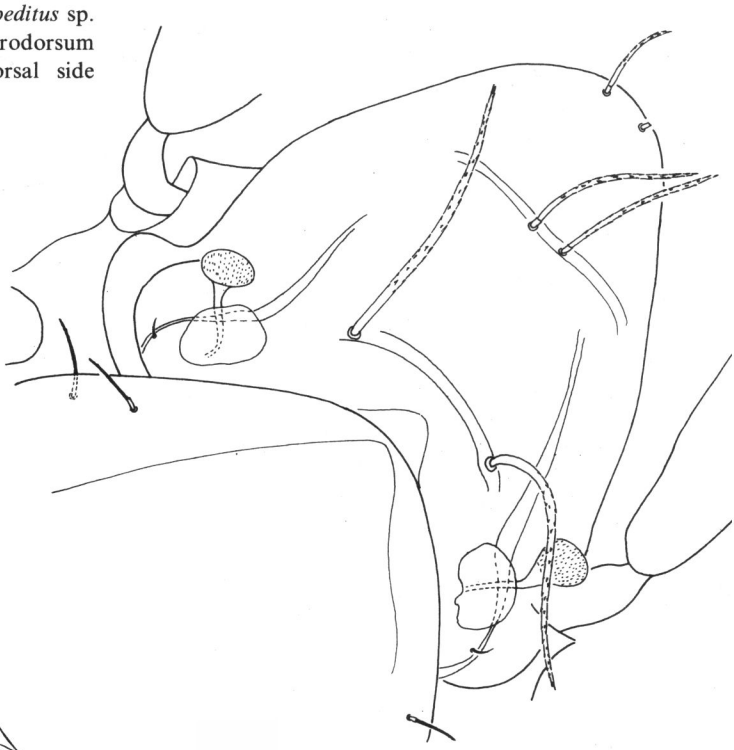
A. Small valley behind the Orange Cliff, under stones stuck in soil and overgrown with moss and green algae, leg. J. Pilarska: 14 March 1978 — *Alaskozetes antarcticus antarcticus* (Michael) — about 1000 specimens.

B. At the shore of the Admiralty Bay, from the soil in the penguin colony, leg. B. Jabłoński:
27 January 1980 — *Alaskozetes antarcticus antarcticus* — about 100 specimens, *Halozetes belgicae belgicae* (Michael) — 2 specimens, *Halozetes belgicae longisetae* Wallwork — 6 specimens, *Ceratozetes gracilis* (Michael) — 1 specimen, *Halozetes impeditus* sp. nov. — 6 specimens.
17 February 1980 — *Alaskozetes antarcticus antarcticus* — 9 specimens, *Halozetes belgicae belgicae* — 20 specimens, *Halozetes belgicae longisetae* — 5 specimens.
28 February 1980 — *Alaskozetes antarcticus antarcticus* — 4 specimens.
26 October 1980 — *Alaskozetes antarcticus antarcticus* — 4 specimens.
28 October 1980 — *Alaskozetes antarcticus antarcticus* — 5 specimens.
28 November 1980 — *Alaskozetes antarcticus antarcticus* — about 500 specimens, *Halozetes belgicae belgicae* — 6 specimens, *Halozetes belgicae longisetae* — 4 specimens, *Oppia loxolineata longipilosa* Covarrubias — about 80 specimens.
28 December 1980 — *Alaskozetes antarcticus antarcticus* — about 500 specimens, *Halozetes belgicae belgicae* — 1 specimen, *Halozetes belgicae longisetae* — 30 specimens.
30 December 1980 — *Alaskozetes antarcticus antarcticus* — about 200 specimens.

3. Description of the new species

Halozetes impeditus sp. nov.
Colour brown. Body length 641μm; width of notogaster 325 μm. Prodorsum as in Fig. 1. The rostral, lamellar and interlamellar setae are covered with tiny spines. The interlamellar setae are longer (113 μm) than the lamellar (64,3 μm) and rostral (36,5 μm) ones. The lamellar setae are four times longer than the distance between them and interlamellar ones are 1,7 times longer than distance between them. The lamellar setae are situated on a long transverse carina the same occurs in the case of the interlamellar setae, but their carina is shorter. Lamellae run from the bothrids but they do not reach the lamellar carina. The exobothridial seate are small (10,1 μm) and spine-like. Sensillus (45,4 μm) with a thin stem and a round head covered with tiny spines. Notogaster (Fig. 2) with 14 pairs of setae. Most of them are small, smooth and spine-like. Only setae c_1, c_2, ps_1, ps_2 and ps_3 are rather thick and covered with tiny spines. The length of seta c_1 amounts to 22,7 μm, of seta c_2 to 30,2 μm; lp — 5,0 μm.
The abdominal side as in Figs. 3 and 4. Setae h of infracapitulum are longer than distances between them. The epimere formula is 3–1–2–3. The

Fig. 1. *Halozetes impeditus* sp. nov. — prodorsum from the dorsal side (holotype).



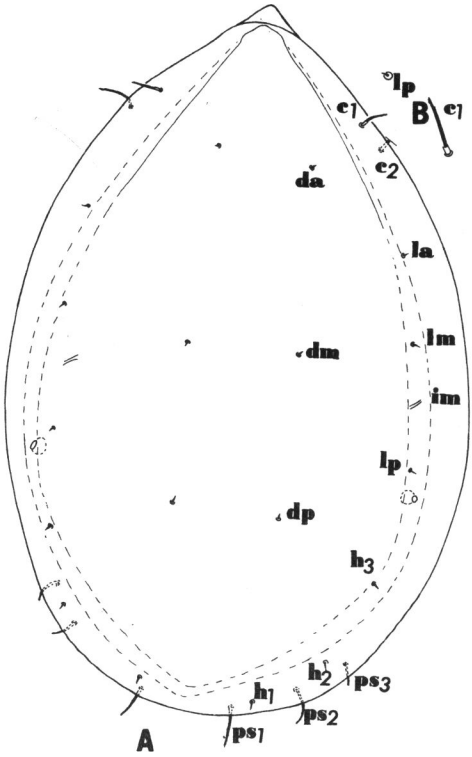


Fig. 2. *Halozetes impeditus* sp. nov. — notogaster from the dorsal side (holotype).

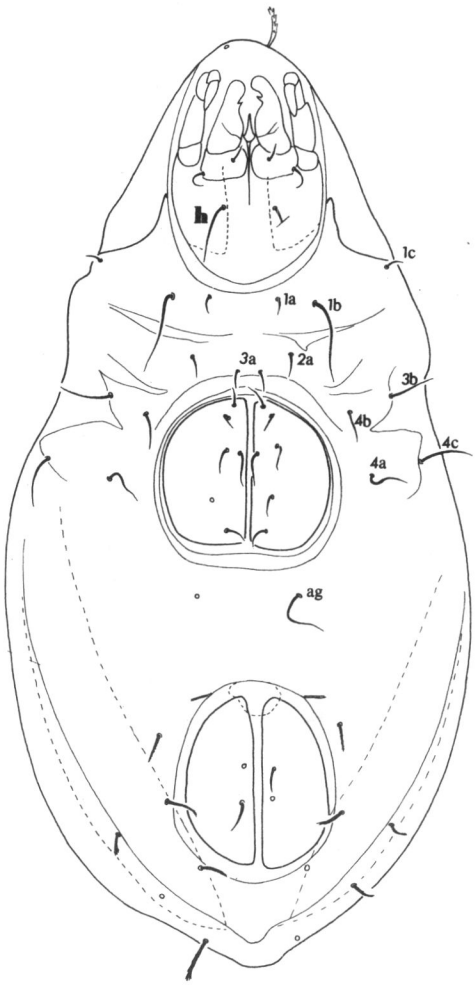


Fig. 3. *Halozetes impeditus* sp. nov. — abdominal side (paratype).

Fig. 4. *Halozetes impeditus* sp. nov. — aggenital area (holotype).

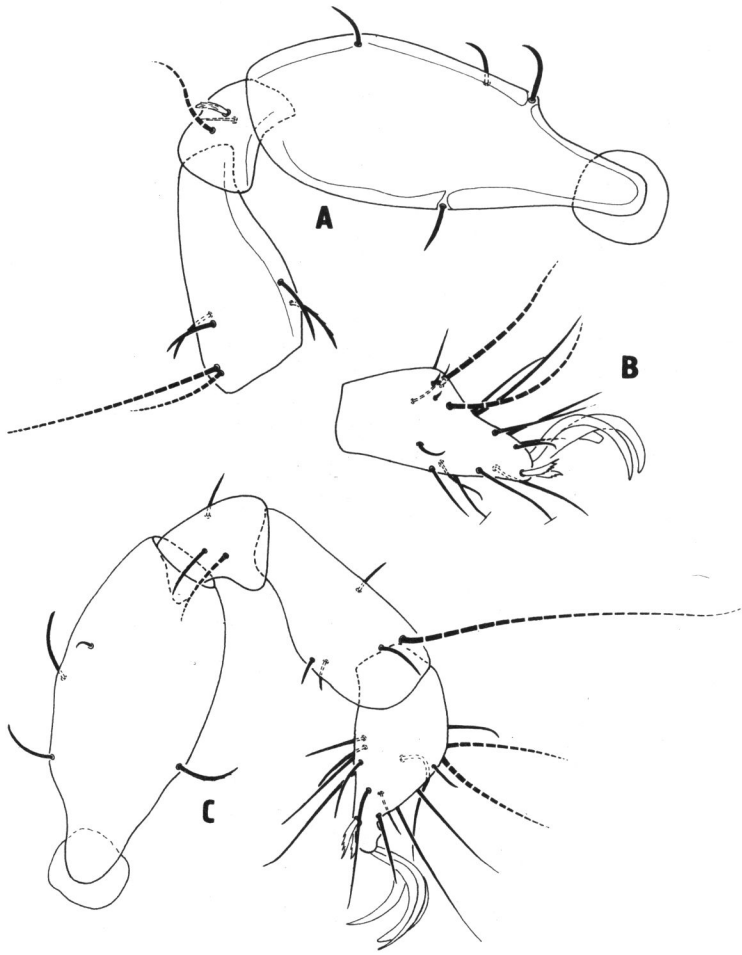


Fig. 5. *Halozetes impeditus* sp. nov. — leg I and II: A, B — leg I (holotype), antiaxial position; C — leg II (holotype), antiaxial position.

genital plate (length 83,2 μm, width 78,1 μm) is covered with 6 pairs of setae. The number of aggenital setae varies. In the holotype, there are 6 setae on the right side, and 8 on the left side; in 4 paratypes, there is one pair of setae; and in paratype III only one seta. The anal plate (length 126 μm, width 93,2 μm) with 2 pairs of setae, however, paratype I lacks one seta, while on the right plate of paratype II there are three anal setae. The distance between the anal and genital plates is 80,6 μm. There are three pairs of adanal setae.

Legs as in Gigs. 5 and 6. The chaetotaxy of setae: I (0—4—2—4—18—3), II (0–4–2–4–15–3), III (2–3–1–3–15–3), IV (1–2–1–3–12–3); chaetotaxy of solenidia: I (1–2–2), II (1–1–2), III (1–1–0), IV 1–1–0).

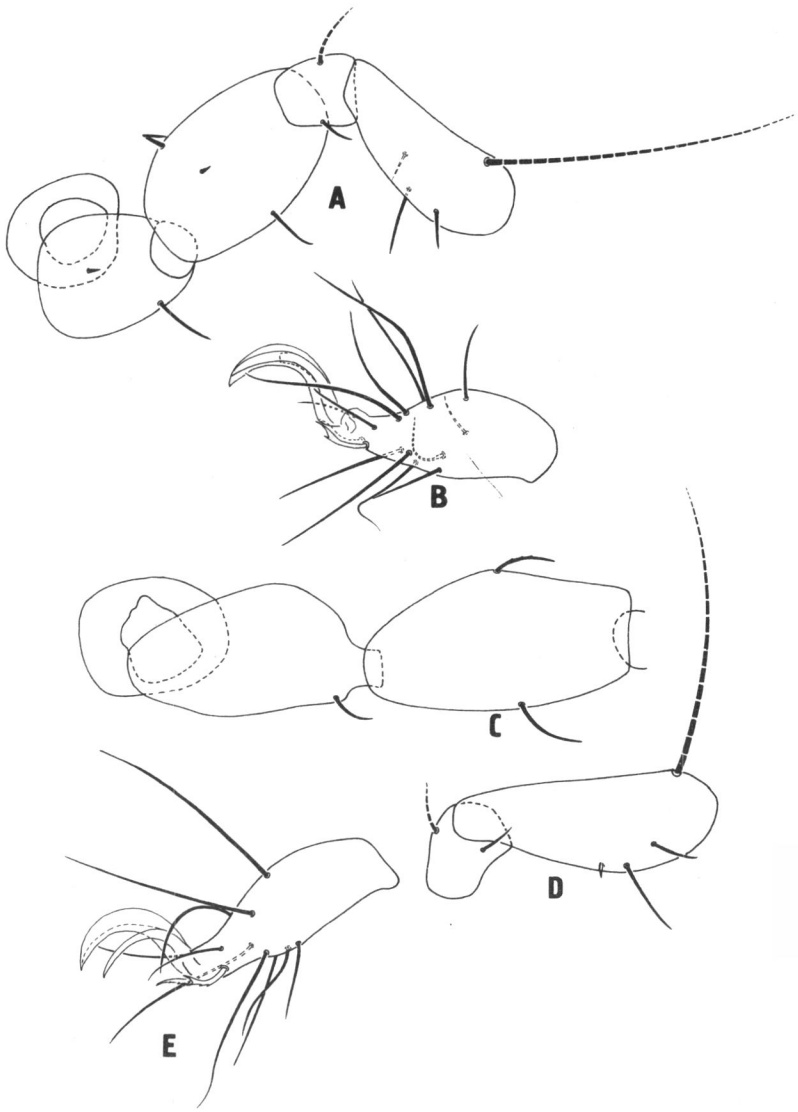


Fig. 6. *Halozetes impeditus* sp. nov. — leg II and IV: A, B — leg III (holotype), A — antiaxial position; C, D, E — leg IV, C, D (holotype), antiaxial position, E (paratype) — antiaxial position.

This species differs from other species of this genus in the shape of notogastral setae, most of them being tiny and spine-like. It is similar to *Halozetes otagoensis* Hammer from New Zealand. However, in *H. impeditus* setae of row h are not thick, seta c_1 is thick, distance between interlamellar setae is smaller, lamellae do not reach the basis of lamellar setae, and males and females do not differ in distances between lamellar and interlamellar setae.

The holotype (male) and 5 paratypes (females) are deposited in the Department of Animal Morphology of the A. Mickiewicz University in Poznań.

4. Discussion

Halozetes is the genus that is in Antarctica richer in species than in other regions. Moreover the specific variability within this genus is noticeable.

Representatives of this genus were not found inside the Antarctic continent. In the coastal zone of Antarctica only three forms are known: *Halozetes belgicae belgicae* (Michael), *H. belgicae longisetae* Wallwork and *H. marinus* (Lohmann) (Covarrubias 1968, Wallwork 1965, 1967, 1973). Following species of this genus are most abundant on subantarctic islands: *Halozetes marinus, H. intermedius* Wallwork, *H. maquarensis* (Dalenius), *H. edwardensis* Pletzen et Kok, *H. litoralis* Wallwork, *H. crozetensis* (Richters), *H. belgicae belgicae, H. belgicae brevipilis* Wallwork, *H. fulvus* Engelbrecht, *H. marionensis* Engelbrecht, *H. marinus devilliersi* Engelbrecht, *Halozetes* sp. (Wallwork 1963, Dalenius 1965, Dalenius, Wilson 1958, Pletzen, Kok 1971, Sitnikova, Andreychikova 1972, Engelbrecht 1974, 1975, Travé 1976).

5. Резюме

В окрестности польской антарктической станции „Арцтовски" (о. Кинг Джордж, Южные Шетландские о-ва) обнаружено 6 таксонов панцирных клещей (*Acari, Oribatida*). Один оказался новым видом (*Halozetes impeditus* sp. nov.), а второй — *Ceratozetes gracilis*. автор считает видом, принесенным случайно.

6. Streszczenie

W okolicy Polskiej Stacji Antarktycznej im. H. Arctowskiego na Wyspie Króla Jerzego (Szetlandy Południowe) stwierdzono 6 taksonów mechowców (*Acari, Oribatida*), z których jeden okazał się nowym dla nauki (*Halozetes impeditus* sp. nov), zaś *Ceratozetes gracilis* (Michael) uznany został za gatunek przypadkowo zawleczony.

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