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A REDESCRIPTION OF MYCOBATES SAREKENSIS
(TRÄGÅR DH) (ACARI: ORIBATEI)

by Ingrid W. SOLHØY*

MORPHOLOGY

ABSTRACT: The species Mycobates sarekensis (Trägårdh, 1910) is redescribed on the basis of material from Norway and Canada.

MORPHOLOGIE

ZUSAMMENFASSUNG: Die Art Mycobates sarekensis (Trägårdh, 1910) wird anhand von Material aus Norwegen und Kanada wiederbeschrieben.

MORPHOLOGIE

RÉSUMÉ : L’espèce Mycobates sarekensis (Trägårdh, 1910) est redécrite à partir de matériel provenant de la Norvège et du Canada.

Mycobates sarekensis was first described as Oribata sarekensis by Trägårdh in 1910 from material collected in the Sarek mountains in Swedish Lapland. This description is quite good, compared to other descriptions from this period, and gives a lot of morphological details. The drawings and the description, however, are inaccurate and incomplete and show some errors, e.g. the number of setae on the notogaster and on the legs. The type is unknown (Marshall et al., 1987), but a co-type is deposited in the collection of The Natural History Museum, London.

M. sarekensis inhabits dry heathland and certain lichens and mosses on rocks and boulders in alpine, subarctic and arctic regions and has a circumpolar distribution (Seyd 1979; Seyd & Seaward, 1984; Marshall et al., 1987; Behan-Pelletier, 1994; Gjelstrup & Solhøy, 1994). In the sediments of a coastal late-glacial lake in Western Norway the species has been found constantly after the deglaciation from the Allerød (ca. 12–11 000 14C-years BP) to the Upper Holocene (Solhøy & Solhøy, unpublished).

Behan-Pelletier (1994) has recently revised the genus Mycobates, redescribed the known North American species and described several new species. She also considers Mycobates consimilis Hammer, 1952 as a junior subjective synonym of M. sarekensis.

Thor (1929) used Oribata sarekensis as the type species of a new genus called Calyptozetes. Willmann (1931) proposed that Calyptozetes was a synonym of Mycobates Hull, 1916. Shaldybrina (1974) conclusively confirmed the opinion of Willmann. However, the name Calyptozetes sarekensis has been used by most authors until recently.


Mycobates sarekensis (Trägårdh, 1910)

Material studied: Norway: 32 specimens (21 males, 11 females), Sogn & Fjordane, Aurland, Flåm, Gud-

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medal, 930 m. a. s. l., lichen on stone. Coll. T. SOLHøy, 8 October 1988. ZMB Collection, Bergen.

Canada: 20 specimens (12 males, 8 females), Yukon Territory, British Mountains 'Sunday Mt.', 900 m. a. s. l., 69° 17', 140° 03', ex Saxifraga oppositifolia, moss, lichens. Coll. V. BEHAN, 24 June 1984. CNC, Ottawa.

Other material examined.

Sweden: Co-type, 1 specimen, labelled Oribata sarekensis, Trägårdh, Stor Takar, Suobbatjaure, Pårtefjälet, Sarek, Swedish Lapland, on moss and lichen in lichen zone near highest point in stone block zone. Coll. TRÄGÅRDH, 19 July 1904. - See TRÄGÅRDH (1910: 379) (sample Nr. 6). NHM Collection, London.


Measurements

All measurements in Table 1 and that of notogaster height are from specimens in cavity slides. Measurements of setae, porose area and other structures mentioned in the text are taken from dissected specimens.

Body length: dorsal, measured from the tip of the rostrum to the posterior margin of notogaster when both points are in focus.

Body width: dorsal, the largest width of the notogaster behind the pteromorphs.

Notogaster height: lateral, the largest height of the notogaster behind the pteromorphs.

Pteromorph length: lateral, measured from the concave anterior edge behind the bothridium to the posterior edge where the pteromorph bends to notogaster margin.

Pteromorph width: lateral, measured from the hinge to the rounded tip of pteromorphae.

Genital plate length to width ratio: length of the axial margin of the genital shield to the largest breadth of both shields in the front part of the genital plate.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Flim, Norway (n=21)</th>
<th>'Sunday Mt.', Canada (n=12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>body length</td>
<td>mean 521, range 475-570</td>
<td>mean 499, range 460-520</td>
</tr>
<tr>
<td>body width</td>
<td>mean 339, range 300-375</td>
<td>mean 316, range 280-340</td>
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<tr>
<td>mean length: width</td>
<td>1.54, 1.53</td>
<td>1.58, 1.60</td>
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<tr>
<td>pteromorph length</td>
<td>mean 124, range 110-130</td>
<td>mean 116, range 105-125</td>
</tr>
<tr>
<td>pteromorph width</td>
<td>mean 133, range 110-150</td>
<td>mean 123, range 115-130</td>
</tr>
<tr>
<td>mean length: width</td>
<td>0.93, 0.93</td>
<td>0.94, 0.95</td>
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<tr>
<td>genital plate length</td>
<td>mean 59, range 50-65</td>
<td>mean 54, range 48-65</td>
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<tr>
<td>genital plate width</td>
<td>mean 70, range 60-80</td>
<td>mean 67, range 58-73</td>
</tr>
<tr>
<td>mean length: width</td>
<td>0.83, 0.82</td>
<td>0.81, 0.83</td>
</tr>
</tbody>
</table>

Table 1: Measurements (μm) of adult M. sarekensis from Norway and Canada.
Figs. 1-3: *Mycobates sarekensis*, adult ♀
1. — Dorsal aspect. 2. — Ventral aspect. 3. — Lateral aspect.
Figs. 4-6: Mycobates sarekensis, adult.
Diagnosis


Description

The description and the adult measurements given below are taken from the Norwegian specimens of *M. sarekensis* collected in Flåm.

Adult measurements: Female: mean body length 554 µm (range 485–590 µm), mean width 362 µm (range 330–390 µm) (11 ex.). Male: mean body length 521 µm (range 475–570 µm), mean width 339 µm (range 300–375 µm) (21 ex.). Ratio body length: width 1.54.

Integument: Microtuberculate over whole body. Microtubercles forming longitudinal striae on abaxial surface of femora I to IV and pedipalp and trochanters III and IV (Figs. 11–14), and forming short striae on lamellae and interlamellar region (Fig. 4), on posterior of mentum (Fig. 8) and on anterior of pteromorph. The surface integument of notogastral porose areas is smooth.

Prodorsum, dorsal aspect: Rostrum rounded. Prodorsal setae (excluding sensilla) setiform and barbed. Rostral, lamellar and interlamellar setae curved anteriomedially. Rostral setae (ro) about 60 µm, lamellar setae (le) about 65 µm, interlamellar setae (in) about 75 µm. Distance ro-ro longer than distance between the lamellar cusps. Distances le-le and in-in of same length. Seta in not reaching the translamella. Lamellae narrow, reaching the bothridium, with translamella and lamellar cusps. Translamella well-developed, about 37 µm wide, of same depth as the width of lamellae. Lamellar cusps about 33 µm long. Area bordered by translamella and lamellar cusps rectangular with translamella slightly convex. Lamellar cusps divided in a dorsal and ventral lamina, the dorsal lamina narrower and shorter than the ventral lamina. Dorsal lamina with one or two dens covering insertion of seta le. Ventral lamina pointed or with two dens. Bothridium with dorsal and ventral scales. Dorsal scale strongly concave where the stalk of sensillus protrudes. Base of the bothridium covered by the dorsosejugal suture. Sensillus clavate on short stalk, the head covered with short spines. The head is somewhat flattened dorsoventrally, as a result it often looks thin and tapered in the lateral aspect. The stalk bends behind the head. Dorsal apodemes (dorsophragma) separated.

Prodorsum, lateral aspect: Tutorium broad, distally rounded, with or without 1–4 teeth (Figs. 4 and 5). The distal border of tutorium covering insertion of rostral seta. Exobothridial seta about 55 µm long and barbed, inserts under the bothridium near the base of tutorium. Insertion of seta ex covered by anterior margin of pteromorph. Porose areas AI, Am, Ah present. Porose area AI difficult to see, was only visible in one dissected specimen. Genal process broad, tapered.

Notogaster: Oval, length to width ratio 1.3:1. Notogaster height about 200 µm. 10 pairs of setae. Setae long (e.g. c2 45–65 µm) and smooth, often slightly bent into an s-shape near insertion. Small area around the insertions of the setae darker, more sclerotized. 4 pairs of distinct round or oval porose areas, Aa largest porose area. Dorsosejugal margin free, rounded, reaching insertions of setae in and covering base of bothridia. Posterior margin of notogaster with overlapping lobes (Fig. 10). Pteromorphs short (110–135 µm), movable, with complete hinge. Anterior edge of pteromorph convex by which the anterior margin of notogaster is concave behind the bothridium (Fig. 1).

Ventral plate: Epimeral setae barbed. Epimeral setal formula: 3-1-3-3. Apodemata short, not meeting axially. Setae of genitoanal region smooth. 6 pairs of genital and 1 pair of aggenital setae present, short (15–25 µm). 2 pairs of anal and 3 pairs of adanal setae present, long (50–63 µm). Genital plate broadest in the anterior half. Anal plate trapezoid and broadest in the posterior half. The lyrifissures iad adjacent to the anterior lateral border of anal plates. Postanal porose area present, oval, as broad as the anal plate. Circumpedal carina a distinct line bending posteriorly and reaching margin bpv of ventral plate.
Figs. 7–10: *Mycobates sarekensis*, adult.

FIGS. 11-14: Mycobates sarekensis, adult ♀.
Custodium broad, bending axially and tapered. Discidium triangular. Anteriorly to the circumpedal carina near the margin bpv of ventral plate two short carinas forming edges in the margin of ventral plate when viewed from the ventral aspect. The anterior carina semicircular, the posterior carina longitudinal, slightly curved (Fig. 6).

Pedotectal region, lateral: Shape of pedotectum I (pd I) similar to tutorium: long, broad and rounded. Pd I totally covering the insertion of leg I. Pd II as long as insertion of leg II. Pd III and pd IV curved, covering half of insertions of legs III and IV respectively. Pd III with discidium. The tip of custodium ending anteriorly to pd II.

Gnathosoma: Infracapitulum with typical setation: 1 pair of barbed setae on mentum, 2 pairs of setae on genae, of which the anterior pair is smooth and the posterior pair is barbed. Two pairs of oral setae long, barbed. Tubular sacculus extending near the anteriolateral edge of mentum. Gena without posteriorly directed tectum.

Chelicerae with one small accessory dens present on dorsolateral side of digitus fixus. Trägårdh's organ tapered, reaching the dens of the digit.

Palps with setal formula: 0-2-1-3-9 (1). Solenidium (ω) closely associated with eupathidium (acm) along half of its length, building a slightly curved "corne double".

Legs: Heterotridactylous. Medial claw robust, sickle-shaped, with rough surface and a tiny proximal spur. Lateral claws thin, with straight middle part, rough surface and a tiny cusp distally. Leg setation (solenidia not included, given in parentheses): leg I 5 - 3 (1) - 4 (2) - 20 (2); leg II 5 - 3 (1) - 4 (1) - 15 (2); leg III 2 - 2 - 1 (1) - 3 (1) - 15 (0); leg IV 1 - 2 - 2 (0) - 3 (1) - 12 (0); Tibia I with small posteroventral ridge. Tibia II with anterodorsal cusp and postero-dorsal a knee-like bend. Genu I with large, rounded ventral cusp and genu II with a smaller one. Femur I, II and III with narrow, and femur IV with large, ventral carina. Tibia and tarsus of leg I and IV with dorsally thickened integument. Solenidium ω₁ on tarsus I erect and strongly tapered, solenidium ω₂ on tarsus I curved anteriorly with slightly tapered or rounded tip. Seta I" on genu II very long and smooth.

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