

**MAUDHEIMIA PETRONIA N. SP. (Acari: Oribatei),
AN ORIBATID MITE FROM ANTARCTICA**

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Abstract: A description is given of a new species of oribatid mite, *Maudheimia petronia*. The material on which the description is based originates from Hallett Glacier, Antarctica. The principal differences between this species and the type for the genus, *M. wilsoni* Dalenius, involve the length of the dorsal setae (these appear to be longer in *M. petronia* than in *M. wilsoni*), the structure of the genital setae (smooth in *M. wilsoni*, barbed in *M. petronia*), the number of anal setae (3 pairs in females of *M. wilsoni*, 2 pairs in both sexes of *M. petronia*) and in the distribution of setae on coxisternal regions III/IV.

The Bishop Museum has sent me collections of oribatid mites from Antarctica containing 5 specimens belonging to the rare genus *Maudheimia*. The material was collected by E. B. Fitzgerald for the Dominion Museum, Wellington, New Zealand, and originates from lichen growing on warm rock at an elevation of 300 m on the east side of Hallett Glacier. The specimens differ in a number of respects from the type and only other representative of the genus presently known, *M. wilsoni* Dalenius 1958, and are described below as a new species, *M. petronia*. I express my appreciation to Drs. J. L. Gressitt and N. Wilson of Bishop Museum, and Dr. B. Holloway of the Dominion Museum, for making this material available to me.

Maudheimia Dalenius, 1958

This genus is characterised as follows. Small immovable pteromorphs, which are triangular in shape and curved slightly ventrad, are present on the humeral region of the notogaster; the lamellae are strongly recurved apically and a translamella may be present; there are 10 pairs of setae and 4 pairs of areae porosae on the notogaster; the anterior margin of the notogaster is broadly arched; coxisternal ridges IV are lacking on the ventral surface of the podosoma; there are 6 pairs of genital setae; all tarsi are tridactyle. The type species, *M. wilsoni* Dalenius 1958, is of considerable interest for it appears to be restricted to the Antarctic continent.

Maudheimia petronia Wallwork, n. sp. Figs. 1-2.

Material examined: 5 adults (3 ♂♂, 2 ♀♀).

The 5 specimens are all damaged to some extent; under these circumstances it was not desirable to select a holotype; all 5 specimens are regarded as a syntypic series.

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Sexual dimorphism is weak. Females are larger and have a relatively larger and more strongly rounded genital aperture than ♂♂.

Measurements: Males: average length: 595.5 μ (range: 585.2 μ –600.6 μ); average width: 328.5 μ (range: 308.0 μ –354.2 μ). Females: average length: 669.9 μ (range: 662.2 μ –677.6 μ); average width: 361.9 μ (range: 354.2 μ –369.6 μ).

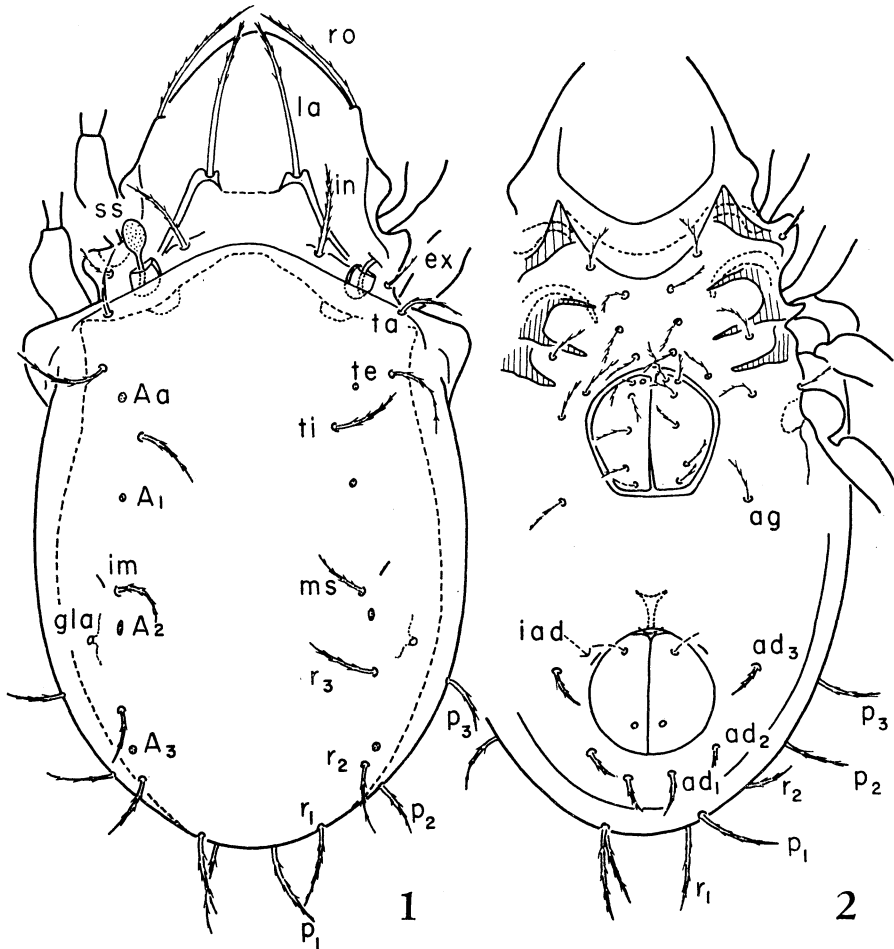
Cuticle: The surface of the body and legs is smooth and brown in color. A cerotegument was not observed.

Prodorsum: Rostral setae are inserted rather far back from the anterior margin of the rostrum on the lateral margins of the prodorsum; these setae are 100 μ long, thickened, unilaterally barbed; they are curved, following the contour of the broadly rounded anterior margin of the rostrum, the tips extending in front of the rostrum for a short distance. Lamellar setae are 110 μ long, thickened structures extending anteriorly as far as the anterior margin of the rostrum; these setae are smooth proximally, bilaterally barbed distally. Interlamellar setae are 70 μ long, bilaterally barbed; these setae are thinner than the rostral and lamellar setae, with fine tips extending forwards to the level of the insertions of the lamellar setae. An exopseudostigmatic seta is present on each side lateral to the pseudostigma; these setae are thin, barbed structures, 35 μ long.

The lamellae are slightly convergent ridges, extending antero-medially from each pseudostigma for a distance slightly less than 1/2 the length of prodorsum; these ridges become broader anteriorly, the apex of each being strongly recurved and tapering shortly to a fine point which is directed postero-medial; the broad recurved part of the apex is deeply notched to accommodate the insertion of the lamellar seta. A fine translamellar ridge joins the pointed apices of the lamellae in 3 of the specimens; this ridge was not observed in the other 2 specimens. A short ridge runs medial from the base of each lamella immediately anterior to the insertion of each interlamellar seta; this ridge weakly developed. A longitudinal ridge, which appears to be an extension of tectopedium I is also present laterally on the prodorsum above the insertion of leg I on each side. Each pseudostigma is deeply cup-shaped, the base being covered by the anterior margin of the notogaster. The sensillus has a short stem and rounded, club-shaped head which is minutely barbed. These features of the prodorsum are shown in fig. 1. Tectopodia I and II are well developed.

Notogaster: Ovoid in shape, with anterior margin broadly arched and thickened. A pair of triangular immovable pteromorphs is present; these are rather small and slightly curved ventrad. There are 10 pairs of notogastral setae, inserted as shown in fig. 1. These setae are generally 60 μ long, although setae *te*, *r*₁ and *p*₁ are slightly longer. The setae are curved and bilaterally barbed. One specimen (♂) was observed to possess an additional seta near to seta *ti*, on the right side. There are 4 pairs of small, circular pore areas, designated Aa, A₁, A₂ and A₃ in fig. 1. The fissure *im* is distinct and is aligned obliquely with respect to the long axis of the body; fissure *ia* was not identified with certainty. The aperture of the lateral abdominal gland (*gla*) is small and rounded.

Genito-anal region: In ♂♂ the genital aperture is trapezoidal in shape, being appreciably narrower posteriorly than anteriorly (fig. 2); in ♀♀ this aperture is more strongly rounded, being almost circular in shape. Genital plates are strongly rounded anteriorly in both sexes; each plate bears 6 barbed setae; 2 setae on each plate are inserted on the



Figs. 1-2. *Maudheimia petronia* n. sp., adult ♂: 1, dorsal view; 2, ventral view. (ro=rostral setae; la=lamellar setae; in=interlamellar setae; ex=exopseudostigmatic setae; ss=sensillus; ta, te, ti, ms, r₁, r₂, r₃, p₁, p₂, p₃=notogastral setae; Aa, A₁, A₂, A₃=areae porosae; im=notogastral fissure; gla=aperture of lateral abdominal gland; ag=aggenital setae; iad=adanal fissure; ad₁, ad₂, ad₃=adanal setae.)

anterior margin. A single pair of barbed aggenital setae (*ag*) is present, located posterolateral to genital aperture. One ♀ specimen has the aggenital seta duplicated on the left side of the animal; insertions of these 2 setae are close together but not contiguous.

The anal aperture is strongly rounded to ovoid in shape. Each anal plate bears 2 barbed setae; this condition is present in both sexes. Three pairs of barbed adanal setae flank the anal aperture; these setae are more strongly thickened than the other ventral setae. Adanal fissure is a slit, lying very close to the rim of the anal aperture and parallel to it.

Ventral region of podosoma: All coxisternal setae are conspicuously barbed; coxisternal setal formula is (3-1-2-3). Coxisternal ridges I are continuous with the posterior border

of the camerostome; ridges II, III and the ventro-sejugal ridge do not extend to the mid-ventral line. Coxisternal ridge IV is lacking on each side. The apodemes associated with these ridges are generally short, with the exception of apodemata II which are strongly curved posteriad; these ridges are indicated by broken lines in fig. 2. There is no sternal ridge.

Gnathosoma: The labio-genal articulation is complete and extends laterad on each side to the base of the palp (diarthral condition). The rutellum has a pantelebasic expansion. Infracapitular setae *h* (one pair), *m* (one pair) and *a* (one pair) are barbed.

Legs: All tarsi are tridactyle; the median claw is more strongly developed than the 2 laterals. All true setae are conspicuously barbed.

DISTRIBUTION: As indicated earlier, all 5 specimens were taken from lichen growing on warm rock at an elevation of 300 m on the east side of Hallett Glacier.

Remarks: This species resembles the type species, *M. wilsoni* Dalenius, in many respects. The principal differences involve the length of the dorsal setae (these appear to be longer in *M. petronia* than in *M. wilsoni*), the structure of the genital setae (smooth in *M. wilsoni*, barbed in *M. petronia*), the number of anal setae (3 pairs in ♀♀ of *M. wilsoni*, 2 pairs in both sexes of *M. petronia*) and in the distribution of setae on coxisternal regions III/IV.

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