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A new genus and species of oribatid from pack rat nests (Acari: Cryptostigmata, Tectocepheidae)

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A NEW GENUS AND SPECIES OF ORIBATID FROM PACK RAT NESTS (ACARI: CRYPTOSTIGMATA, TECTOCEPHEIDAE)[1]

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ABSTRACT

In a study of oribatids from pack rat nests in Utah a new genus and species of oribatids was found. The new form *Exochocepheus eremitus*, gen. n., sp. n., is compared with *Niphocepheus* and *Lamellocepheus*, but is differentiated on the basis of the cerotegument, lamellae, translamella and prodorsal hairs.—T.A.W.

When Travé (1959) erected the new family Niphyocepheidae and described two new subspecies within the monotypical genus, he cited Balogh (1943) as the author of the type genus, *Niphocepheus*, and Schweizer (1922) as the describer of the original species (*Cepheus nivalis*) from which the generic name was modified. Balogh (1965) listed the family and the genus in his synopsis of world genera.

In a study of oribatids collected from pack rat nests we found a series of mites that are like *Niphocepheus* in the appearance of the lamellae, the lamellar hairs and general features, but differ in the fewer setae (6 compared to 13-18) on the genital covers. This new species is also like *Lamellocepheus* in other features. The cerotegument is reticulate in pattern rather than longitudinal ridges as in *Niphocepheus;* large spines are found on the tarsi and tibiae of the legs. The sensilli of the new species are different from either *Niphocepheus* or *Lamellocepheus*.

We have not found in the literature any described oribatids that resemble these new forms either from free-living soil mites or from recorded inhabitants of pack rat nests and have concluded that these mites constitute a new genus and species. This new form is described below with a name that indicates its resemblance to the projecting lamellae of *Niphocepheus* and also refers to the desert type of habitat in which it is found.

Exochocepheus eremitus, gen. n., sp. n.
(Figs. 1-5)

Diagnosis: Prodorsum resembles *Nichocepheus* in general shape of the lamellae and attached cerotegument, but with lamellae separated medially rather than fused and without a complete translamella; the sensillus is clavate and spined, at least a third longer than the sensillus in *Nichocepheus* in comparative length and without as large a head as in *Lamellocepheus*. The lamellae of the new species are most similar to those of *Lamellocepheus*, but exhibit a slight incomplete translamella compared to the complete absence of this feature in *Lamellocepheus*. The six pairs of genital setae and the

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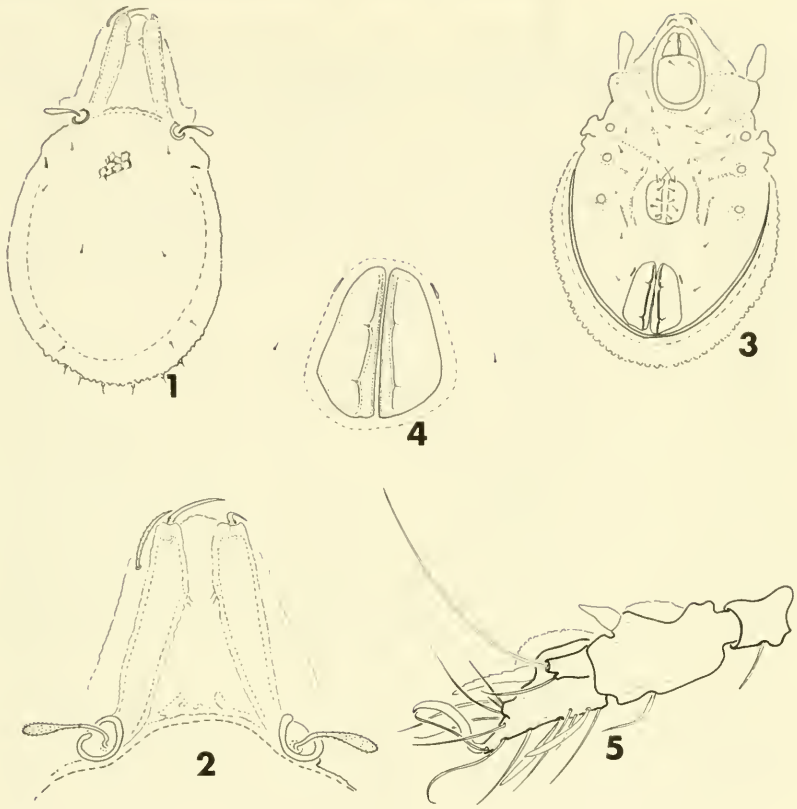

Fig. 1. Dorsum of *Exochocepheus eremitus*, gen. n., sp. n., with cerotegument in place; legs omitted.
Fig. 2. Enlarged view of prodorsum of *E. eremitus*, gen., n., sp. n.
Fig. 3. Venter of *E. eremitus*, gen. n., sp. n., with cerotegument in place, legs partially shown.
Fig. 4. Enlarged view of anal covers of *E. eremitus*, gen. n., sp. n.
Fig. 5. Genu, tibia, tarsus of leg I of *E. eremitus*, gen. n., sp. n., from lateral aspect.

feature in *Lamellocepheus*. The six pairs of genital setae and the large leg spines in this genus and species are the bases for placement in the Tectocepheidae rather than the Niphocepheidae. The generic name is formed from the Greek *exochos*, meaning jutting out or projecting and refers to the lamellae; the trivial name derives from the Greek *eremites* and implies desert dweller.

Description: Color yellow-brown; integumental surface obscured by rugose cerotegument; rostrum irregular in outline, rostral hairs finely barbed, curved, inserted posterior to level of lamellar hairs; lamellae narrowed, covered with a translucent cerotegument, curved laterally to meet the pseudostigmata; lamellar hairs hook-like or strongly decurved, smooth most of length of hair, finely barbed at base of hair shaft near insertion (Fig. 2), inserted in tips of round-

ed lamellar cusps, extending through circular channels in cerotegument into areolae in distal tips of lamellae; translamella nearly absent except for small, medial sclerotized points about a third the length of lamellae posteriorly; pseudostigmata circular in outline, widely opened, sensillus clavate and distinctly spined, spines extended down two-thirds length of sensillus toward base, head longer than pedicel; tectopedia I with outer covering of cerotegument.

Hysterosoma nearly round, narrowed posteriorly in some specimens, covered with cerotegument of reticulate surface pattern; distinctly squared shoulders posterior to pseudostigmata; visible dorsal setae and fissures as seen in Fig. 1.

Camerostome elongated, broken in type specimen; ventral apodemata and setae as in Fig. 3; genital aperture between levels of legs III and IV, nearly square, each genital cover with six setae; g:1 near anteromedial corner, at least twice as long as other setae; g:2 either lateral to or slightly posterior to g:1; g:3, g:4, g:6 inserted about same distance from medial margin equidistant from each other; g:5 displaced laterally; aggenital setae laterad of genital and anal openings, inserted subequal distance from each opening; anal opening pentagonal, larger and more elongated than genital; each anal cover is divided by a longitudinal ridge, closer to medial margin than to lateral; anal setae inserted in slight emarginations of ridge in anterior and posterior thirds of cover (Fig. 4); fissure *iad* near anterolateral margin of anal opening; only one pair of adanal setae observed in type (ada:3) (Fig. 4).

Legs heterotridactylous, medial claw much larger than fine, hair-like laterals; large spine on tibia and tarsus I (Fig. 5) and all other legs; tibial solendion of leg I in large prominence with subapical seta, other setae as seen in Fig. 5.

Measurements: Total length 492μ from tip of lamella to posterior margin, cerotegument included, prodorsum 132μ; width at widest part of hysterosoma 283μ.

Collection Data: The type specimen is a male and slightly broken, the drawing is partially reconstructed. The type was drawn from slide 1326.037, University of Utah-Ecol. Res. Thirteen specimens, 10 males, two females and one undertermined sex, were taken from a *Neotoma* nest, Cedar Mountains, Tooele Co., Utah, 22 June 1953 by W. Thomas; two males were from Bicknell, Utah, one taken 19 March 1949, one taken 29 March 1951, both by Harold G. Higgins; one specimen of undetermined sex was collected from a *Neotoma* nest at Sigurd, Utah, 9 April 1949, by S. Mulaik.

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