TWO NEW SPECIES OF MYOBIIDAE FROM NORTH AMERICAN MAMMALS (ACARINA)

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During investigations on parasitic mites from small North-American mammals, the junior author discovered two new species of fur-mites of the family Myobiidae. The mites were collected by Chris Maser during his studies of mammals of Oregon. We thank Karen Philips for preparing the slides.

One of these species, genus *Radfordia,* was found on the Red Tree Mouse (Cricetidae ; Rodentia), *Phenacomys longicaudus* True. The second species, genus *Eadiea,* was collected on Townsend's Mole (Talpidae : Insectivora), *Scapanus townsendii* (Bachman). These two new species are described here.

Genus **Radfordia** EWING, 1938

In a recent paper FAIN (1975) listed all the known species of myobiid mites parasitizing rodents. This author has divided the genus *Radfordia* into 9 subgenera based mainly on the chaetotaxy of the body and the legs.

The new species described here belongs to the subgenus *Graphiurobia.* This subgenus so far includes 8 species. The new species is clearly distinguished in both sexes from all the known species of this subgenus by the strong development of the idiosomal and leg chaetotaxy, the thick, toothed and long dorsal setae ; the broadly foliate shape of the anteroventral pair of setae of the

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gnathosoma in the female ; and by the extreme anterior position of the genital orifice in the male. Foliate anteroventral setae of the gnathosoma are also encontered in two other species of *Radfordia* from Cricetidae, *R. (G.) lemnina* (KOCH) and *R. (G.) cricetulus* FAIN. However in these species the chaetotaxy is distinctly different.

Radfordia (Graphiurobia) arborimus sp. n.

This species is represented only by the holotype female and the allotype male.

FEMALE (fig. 1-2) : The length of the body (gnathosoma included) in the holotype is 399 µ, the maximum width 210 µ. Copulatory lobes very poorly developed, the *g 7* hairs are in the shape of recurved hooks. Legs rather thick, with well developed claws. Gnathosoma longer than wide from both dorsal and ventral views, its posterior half distinctly enlarged.

Chaetotaxy : the *v i, v e, sc i, sc e* are very finely striated and 63 µ, 100 µ, 135 µ and 105 µ long respectively. They present a very distinct tooth in their posterior half. The *v e* are thicker (10 µ) than the *sc e* and the *sc i* (7,5 µ) and the *v i* (6-6,5 µ). The *d 1, d 2, d 3, d 4, l 1, l 2, l 3* are strong and 63 µ, 75 µ, 54 µ, 42 µ (not complete), 105 µ, 78 µ, 69 µ long respectively. The *d 5* and *l 4* are thin and short (12-15 µ). The *ic* setae are thick and very finely attenuated apically. The *ic 1-ic 3* are 21-24 µ long, the *ic 4* are 35 µ long. Coxal setae (I to IV) : 3-2-0-0. There are 6 genital setae. Legs (II-IV) : Trochanters 3-3-3 ; the dorsal hair of trochanters III-IV are strong and 120 and 150 µ long respectively. Femora 5-3-3. Genua 7-6-5. Tibiae 6-6-6. Tarsi 7-6-6. Some ventral setae of genua and tibiae III-IV are strong spines. Most of the tarsal setae II-IV are foliaceous.

MALE (fig. 3-4) : Allotype 285 µ long and 160 µ wide. Genital orifice far anterior, nearly at the level of *v i*. It is flanked with two stong paramedian forward-directed spines and two smaller and unequal pairs of hairs. Penis straight, finely pointed apically, and 120 µ long. The *v e, sc e* and *l 1* are strong, with a large tooth and 90 µ, 105 µ and 120 µ long respectively. In the posterior third of the dorsum there are 2 strong setae in a longitudinal median line and farther back are 2 pairs of thinner and shorter

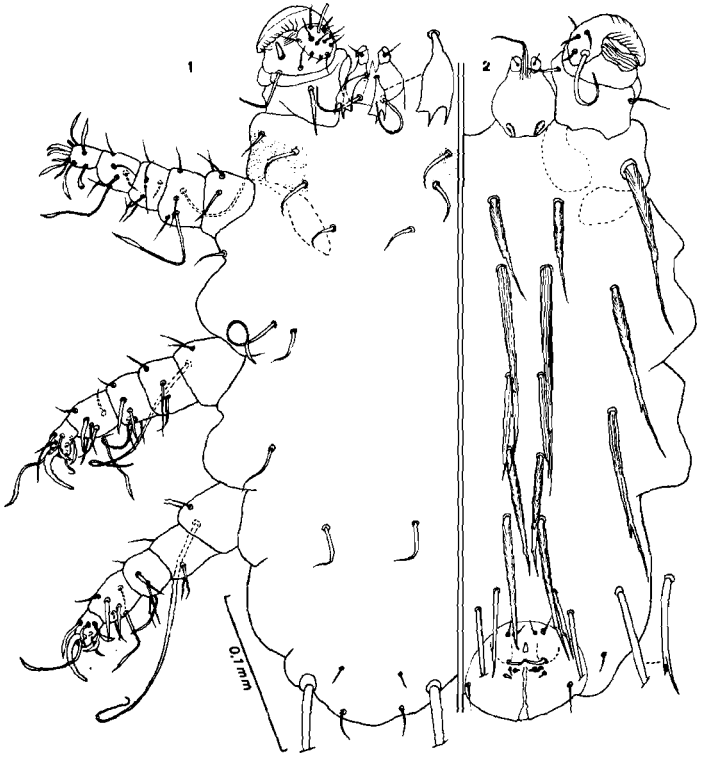

FIG. 1-2 — *Radfordia arborimus* sp. n. Female holotype in ventral (fig. 1) and dorsal (fig. 2) view.

setae. Ventral hairs as in the female but the coxal internal II is shorter. Legs and gnathosoma as in the female.

Host and locality :

On *Phenacomys longicaudus,* Benton Co, Corvallis, Oregon, U.S.A. CM 6256 (Holotype female) and CM 6266 (Allotype male) (Coll. C. MASER).

Type : in U.S. National Museum, Washington.

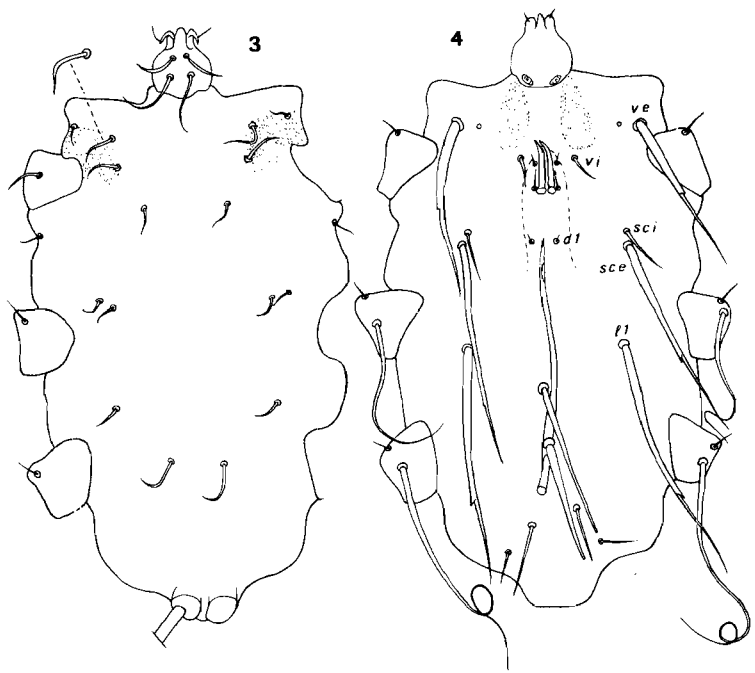

FIG. 3-4 — *Radfordia arborimus* sp. n. Allotype male in ventral (fig. 3) and dorsal view (fig. 4).

Genus **Eadiea** JAMESON, 1949

The genus *Eadiea* JAMESON is well characterized in the female by the position of the anus far in front of the vulva, by the presence of a pair of very unequal claws on tarsi II-IV, and by legs I being formed by 5 free articles with the tarsi being free and bearing two very poorly developed claws.

Up to now 5 species have been described in this genus. All are strictly confined to Talpidae in the Old or New World. The

new species that we describe here has been found on *Scapanus townsendi,* in Oregon, U.S.A.

We list here all the known species of *Eadiea.*

LIST OF HOSTS OF SPECIES OF *Eadiea*

(N.B. * = type species ; ** = typical host)

Species	Host	Family and subfamily of host	Locality
		TALPIDAE :	
E. brevihamata HALLER, 1882	***Talpa europaea* L.	Talpinae	Europe
	Neurotrichus gibbsii (BAIR)	Scalopinae	U.S.A.
E. longisetosa DUBININ et KARPOVITSCH	***Desmana moschata* (L.)	Desmaninae	U.S S.R
E. desmanae LUKOSCHUS, 1969	***Galemys pyrenaicus* (E. GEOFFROY)	Desmaninae	France
**E. condylurae* JAMESON, 1949	***Condylura cristata* (L.)	Condylurinae	U.S.A.
E. silvatica UCHIKAWA, 1972	***Dymecodon pilirostris* TRUE	Scalopinae	Japan
E. scapanus sp. n.	***Scapanus townsendi* (BACHMAN)	Scalopinae	U.S.A.

KEY TO THE GENUS **Eadiea**

(Females)

1. Setae *v i* and *sc i* subequal and small 2
   Setae *v i* small ; setae *sc i* much thicker and longer than *v i* 3
2. Ventral setae of trochanters II and III peg-like and striate . . . . . *E. brevihamata* (HALLER, 1882)
   Ventral setae of trochanters II and III simple *E. silvatica* UCHIKAWA, 1972

3. Setae *ic 2* longer (70 µ) and stronger than *ic 1* (15 µ) ; *l 1* longer (250 µ) than *sc e* (225 µ ; *sc e* 2.5 to 3 times longer than *sc 1*. . . *E. scapanus* sp. n.

   Setae *ic 2* and *ic 1* very short and subequal ; *l 1* shorter than *sc e* ; *sc e* not more than twice *as long as sc i* or shorter than *sc i*. . . 4

4. Setae *sc e* shorter than *sc i* . . . . . *E. longisetosa* DUBININ and KARPOWITSCH, 1958

   Setae *sc e* distinctly longer than *sc i* . . . 5

5. Setae *v e* lanceolate and abruptly attenuate posteriorly ; distance *sc i-sc i* twice as long as distance *sc i-sc e* . . . . . *E. condylurae* JAMESON, 1949

   Setae *v e* cylindro-conical ; distance *sc i-sc i* subequal to distance *sc i-sc e* . . . . . *E. desmanae* LUKOSCHUS, 1969

E. scapanus sp. n. is clearly distinct from the other species in the genus in the female by the much greater length of the *ic 2* setae, and in the male by the shape and much greater length of the penis.

Eadiea scapanus sp. n.

FEMALE (fig. 5-6) : The holotype is 510 µ long and 320 µ maximum wide. In a paratype ; 450 × 285 µ. The anus and the two recurved copulatory lobes are far in front of the vulva. The legs are strong. Leg I with two small and only slightly recurved tarsal claws, tibia I bears a large striated and scale-like hair. Genu I bears an ovoid striated hair dorsally. Tarsus II with two claws, one strong and long, the other about one fourth shorter and very thin. Tarsi III-IV as for tarsi II but the claws are slightly longer and stronger. Gnathosoma large, and progressively widened posteriorly.

Chaetotaxy : v e foliate anteriorly where they are 15 μ wide ; *v i* short and thin ; *sc i* cylindro-conical 70-80 μ long ; *sc e* cylindro-conical about 225 μ long, *l 1* about 250 μ long. The *d 1, d 2, d 3, d 4, l 3,* and *l 4* are more or less cylindrical with attenuate apices and 100 μ, 90 μ, 55 μ, 45 μ, 80 μ and 75 μ long respectively. The *ic 1* are fine and short (15 μ), the *ic 2, ic 3* and *ic 4*

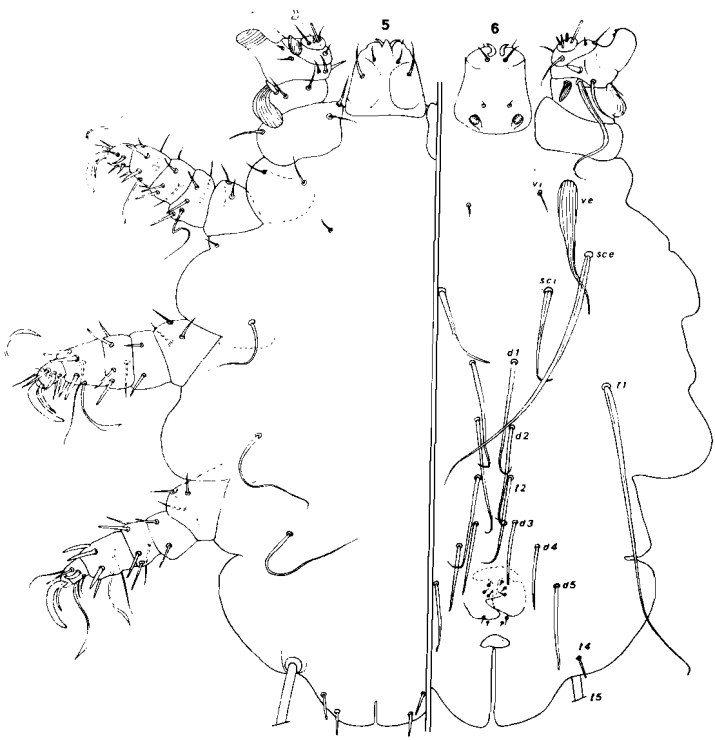

FIG. 5-6 — *Eadiea scapanus* sp . n. Female in ventral (fig. 5) and dorsal (fig. 6) view.

measure 70 μ, 105 μ and 122 μ respectively. Coxal hairs 2-1-0-0. Legs II-IV : Trochanters 2-3-3. Femora 5-2-2. Genua 6-5-5. Tibiae 6-6-6. Tarsi 7-6-6.

MALE (fig. 7-9) : Allotype 320 μ long and 195 μ wide. Genital orifice in the anterior half of the idiosoma, slightly in front of the *l 1* setae. There are 9 pairs of small hairs around the genital aperture. The penis is strongly curved and extremely thin in its

anterior half, its total length is 234 μ long. The setae *v e*, *sc e* and *l 1* are long and distinctly inflated in their basal part ; they are not toothed. The *v i* and *sc i* are very small. There is only one pair of setae behind the genital orifice, it is situated close to the *l 5* setae.

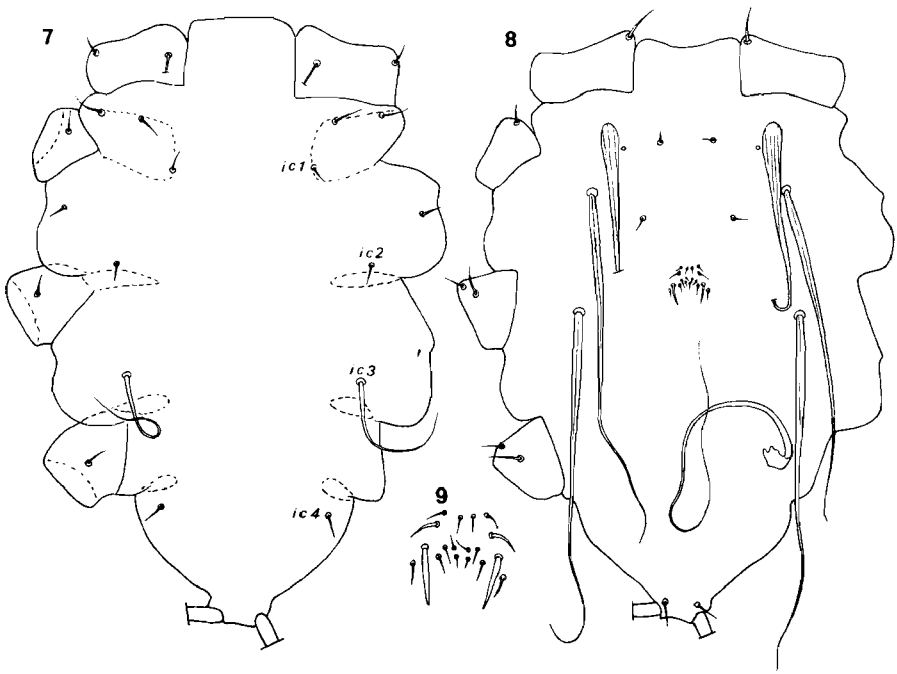

FIG. 7-9 — *Eadiea scapanus* sp. n. Male in ventral (fig. 7) and dorsal view (fig. 8). Genital hairs (fig. 9).

Host and locality :

On *Scapanus townsendii,* Benton, Corvallis, Oregon, U.S.A. 3 October 1973. (Coll. C. MASER) (Holotype and 2 paratype females, allotype and 2 paratype males).

Types : in the U.S. National Museum, Washington.

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