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TWO NEW PARASITIC MITES (ACARI)
FROM NORTH AMERICAN MAMMALS⁽¹⁾

by A. FAIN ⁽²⁾, F.S. LUKOSCHUS ⁽³⁾ and J.O. WHITAKER jr ⁽⁴⁾

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While in the United States in 1981 F.L. found two new species of parasitic mites on North American mammals.

Zumptiella tamias sp. n. was found by Lukoschus and Whitaker in the nasal cavities of the Eastern Chipmunk, *Tamias striatus*, from the Juniata College Biological Field Station at Huntingdon, Pennsylvania. *Leporacarus* (*Leporacaroides*) *sylvilagi* sp. n. was recovered from Cottontail Rabbits, *Sylvilagus bachmanni*. This species has already been described in a short preliminary note (Fain, Whitaker & Lukoschus, 1981). A more complete description with figures is given herein.

HALARACHNIDAE (MESOSTIGMATA)

ZUMPTIELLINAE FAIN, 1962

Genus *Zumptiella* FAIN, 1962

Zumptiella tamias sp. n.

This species is known only from female specimens.

Female (fig. 1-2): Holotype 468 μ long (idiosoma), 260 μ maximum wide. Cuticle finely striated. *Dorsum*: Dorsal plate 295 μ long and 205 μ wide (maximum) bearing 7 pairs of microsetae. Anus terminal situated in the anterior part of a punctate

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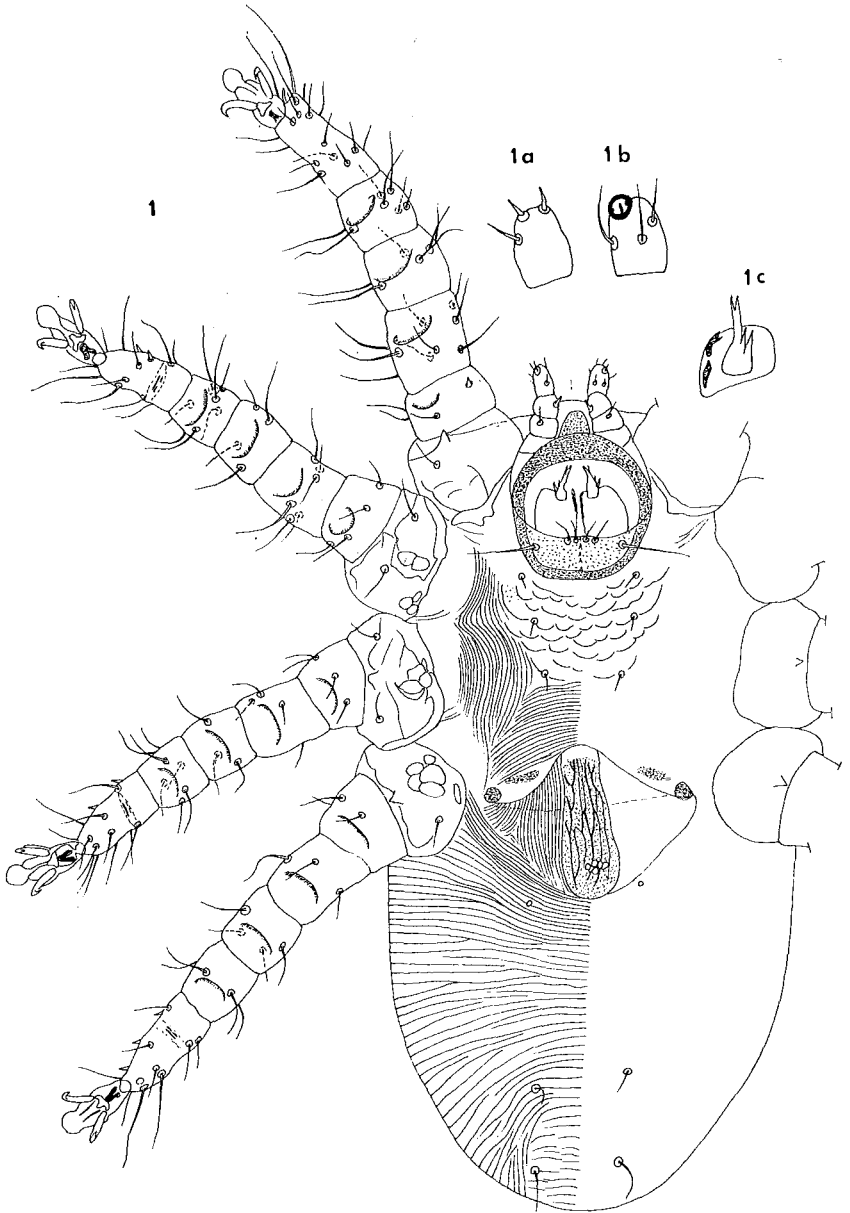


FIG. 1. — *Zumptiella tamias* sp. n. Female holotype, ventral surface (1);
 extremity of palp in dorsal (1a) and ventral (1b) view;
 chelicerae, movable digit (1c)

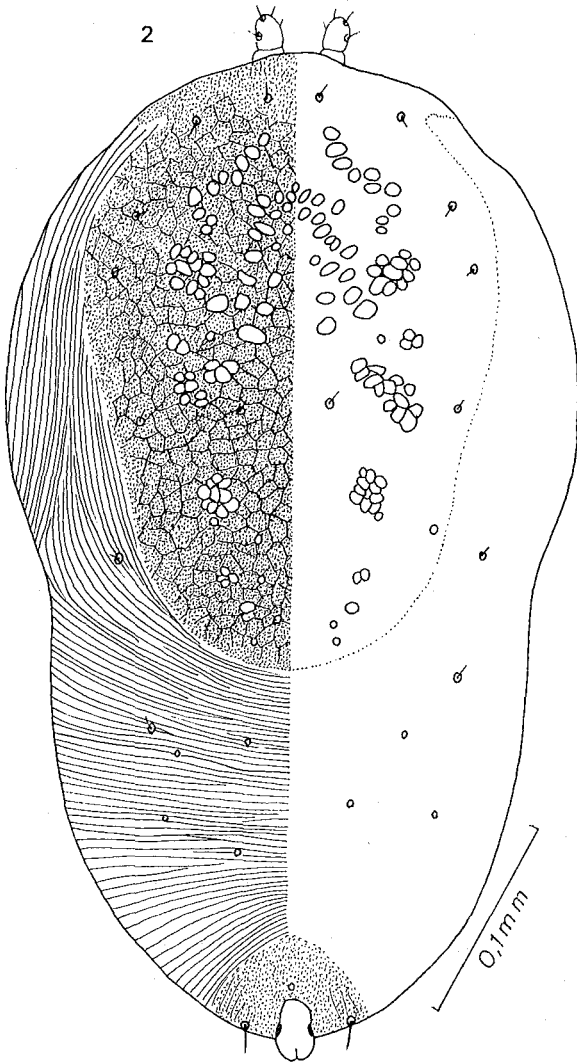


FIG. 2. — *Zumptiella tamius* sp. n. Female holotype, dorsal surface

plate. *Venter* : Sternal plate scaly and punctate, wider (90 μ) than long (60 μ), bearing the three pairs of sternal setae. Epigynial plate narrow, not bearing setae. Opisthosoma with two pairs of posterior setae. Legs well developed with strong claws. The tibia, genu, femur and trochanter bear a ventral rounded and transverse crest. All the articles bear thin hairs, only tarsi II-IV bear in addition two or three small anterior spines. Gnathosoma almost entirely ventral, only the apical segments of the palps are visible from above, its base forming a very strong sclerotized ring containing thick chelicerae. These chelicerae are poorly sclerotized; their base is large, but the fingers are small. The movable digit is tapering and forked apically and bears near its base two strong barbs. A distinct fixed digit has not been observed. Hypostoma short, with one longitudinal median row of 5 to 6 deutosternal teeth.

Host and locality :

From the nasal cavities of *Tamias striatus*, Juniata College Biological Field Station, Huntingdon Co., Pennsylvania, U.S.A., 28.VIII.1981 (Holotype and 3 paratypes female). Holotype in U.S. National Museum, Washington, Paratypes in the collections of the authors.

Remarks :

The genus *Zumptiella* contained until now five species of which two are nearctic : *Z. citelli* CLARK and CLIFFORD and *Z. bakeri* (FURMAN). We have examined the holotype of *Z. citelli* and we give herein a new figure of the ventral surface of this specimen (fig. 3). *Zumptiella tamias* is clearly distinct from that species by the scaly aspect of the sternal shield, the modified and more inflated aspect of the base of the gnathosoma and the more ventral situation of the gnathosoma.

We were not able to compare our specimens with the type specimens of *Z. bakeri* (FURMAN, 1954) as they are not in the U.S. National Museum and are probably lost. From the description and original figures by Furman, our species differs from *Z. bakeri* by the smaller size of the body, the more ventral position of the gnathosoma, the more inflated aspect of the gnathosomal base and the greater number of deutosternal teeth.

We give here a key to the known species of the genus *Zumptiella*.

Key to species of the genus *Zumptiella* (females) :

1. Sternal shield wider than long and with a scaly-like structure 2
- Sternal shield punctate without scales, either well-developed and longer than wide or as wide as long or vestigial . . . 4

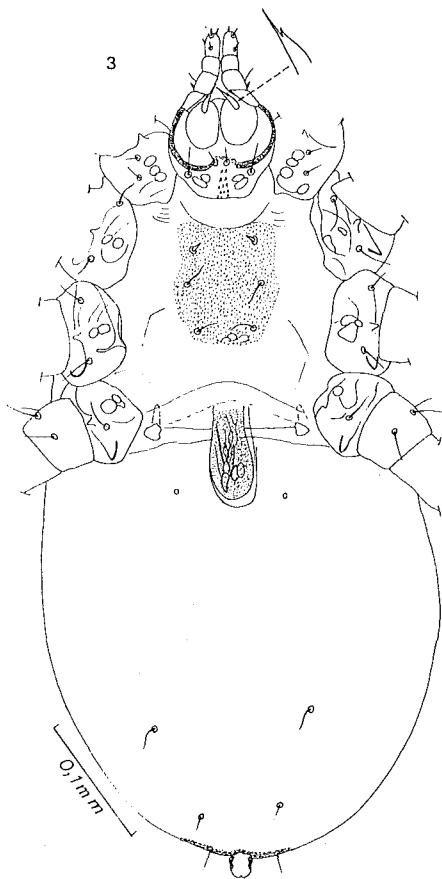


FIG. 3. — *Zumptiella citelli* CLARK and CLIFFORD :
Female holotype, ventral surface

2. Base of gnathosoma very broad forming a thick and sclerotized ring. Hypostome very short. Palps almost completely ventral, only the tarsus is visible from above. Deutosternum with a

- single longitudinal median row of 5-6 teeth. Length of body 468 μ (holotype). From *Tamias striatus*, North America *Z. tamius* sp. n.
 Base of gnathosoma not forming a sclerotized ring. The three or four apical segments of the palps visible from above. Hypostome much longer 3
3. Base of gnathosoma rectangular, much wider than long. Deutosternum with a longitudinal median row of 7 teeth. Genital plate rounded posteriorly. Idiosoma 490 μ long (average). From *Sciurus vulgaris coreae*, Korea
 *Z. coreaensis* AH, 1964
 Base of gnathosoma ovoid, longer than wide. Deutosternum posteriorly with several transverse rows of numerous teeth. Genital plate truncate posteriorly. Idiosoma 563 μ long. From *Tamiasciurus douglasii*, western North America
 *Z. bakeri* (FURMAN, 1954)
4. Base of gnathosoma very large, ovoid. Hypostome very short 5
 Base of gnathosoma only slightly enlarged. Hypostome longer. Deutosternum with 15 transverse toothed crests. Sternal shield well developed. From *Pedetes cafer*, South Africa
 *Z. furmani* FAIN, 1962
5. Sternal shield vestigial. Deutosternum with a single longitudinal row of teeth. Palp-tibia and palp-genu with a long hair. From *Cynictis penicillata*, South Africa *Z. cynictis* FAIN, 1962
 Sternal shield well developed. Deutosternum with transverse rows of 3 to 4 teeth. Palp-tibia and palp-genu with short hairs. From *Spermophilus columbianus*, North America
 *Z. citelli* CLARK & CLIFFORD, 1964

LISTROPHORIDAE (ASTIGMATA)

Genus *Leporacarus* FAIN, 1970

Subgenus *Leporacaroides* FAIN, 1971

Leporacarus (*Leporacaroides*) *sylvilagi*
 FAIN, WHITAKER and LUKOSCHUS, 1981

We have briefly described this species but without giving figures. We complete here this description and give the first figures.

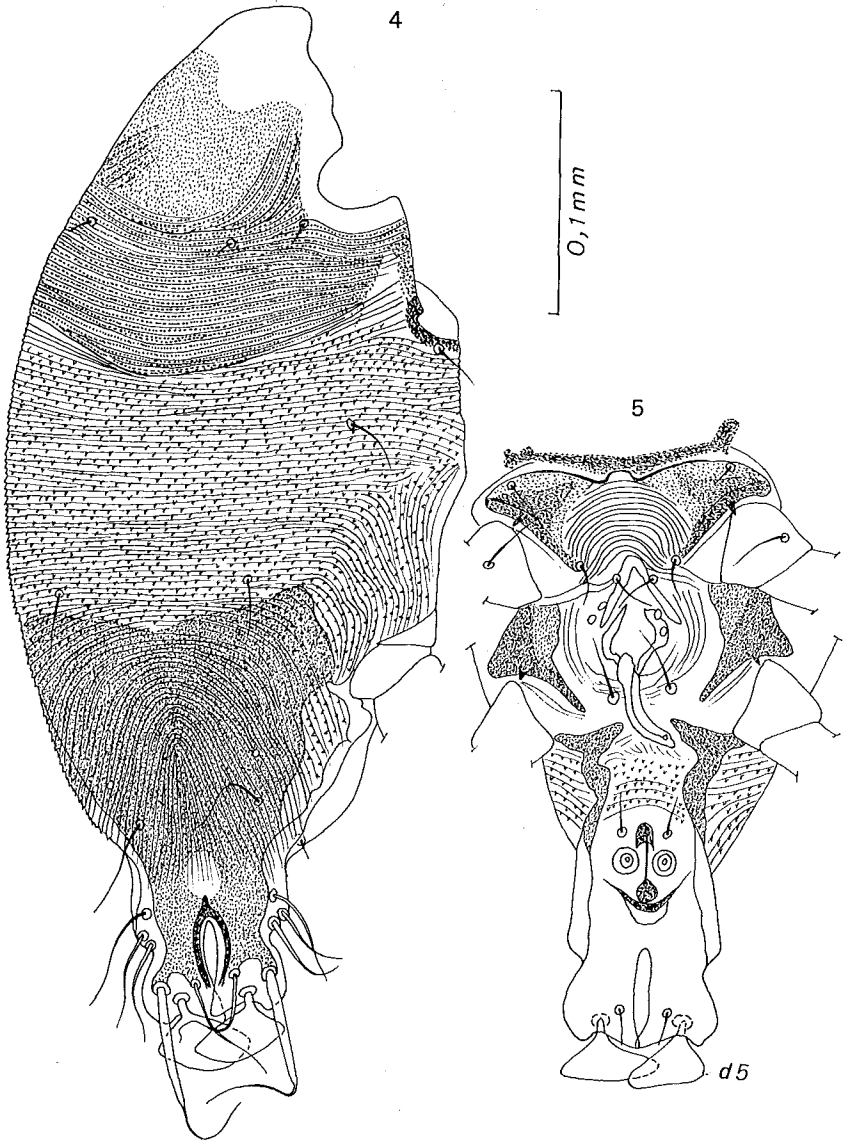


FIG. 4-5. — *Leporacarus sylvilagi* sp. n. Holotype male in dorsal view (4); paratype male, hystero-gaster (5)

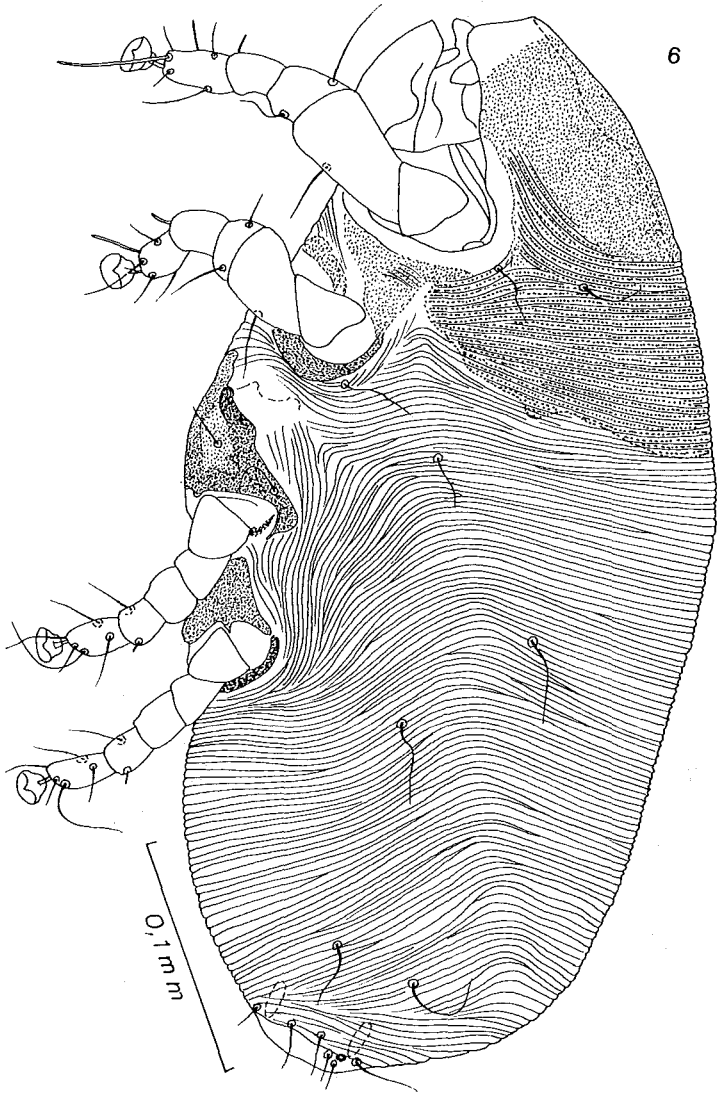


FIG. 6. — *Leporacarus sylvilagi* sp. n. Paratype female in lateral view

Male (fig. 4-5): Holotype 460 μ long (idiosoma) and 190 μ wide. Postscapular shield finely striate-punctate, 70 μ long in mid-line. Anterior half of hysteronotum bearing very numerous small triangular cuticular scales; the posterior half is covered by a large finely striated shield. Opisthosoma relatively short divided into 2 lobes longer (45 μ) than wide (36 μ) and bearing a seta *l 5* relatively thick and short (95 μ). Other characters as in *L. brevicaudatus*.

Female (fig. 6): Length 440 μ , width 215 μ (in latero-ventral position). Postcapular shield striate-punctate as in the male. Hysteronotum striated, without scales. All the dorsal setae are very thin and short. Most of them are 5 to 15 μ long. The longest are 30 μ long. Ventral surface and legs as in *L. brevicaudatus* except that the striations on opisthogaster are much less numerous and the posterior legs are shorter.

Host and locality:

Attached to the hairs of *Sylvilagus bachmanni*, Corvallis, Oregon, U.S.A., 12.VII.1981. (Coll. Donald Gettinger) (Holotype and 3 paratype males, 1 paratype female). Holotype in U.S. National Museum, Washington.

Key to the genus *Leporacarus* (males):

1. Anterior half of hysteronotum striated, without scales. Posterior half of hysteronotum with a scaly plate. Opisthosoma with a long, rectangular prolongation divided in 2 lobes which are about 1.5 times as long as wide. From the rabbit *Oryctolagus cuniculus* Subgenus *Leporacarus* FAIN, 1970
 One species: *L. gibbus* (PAGENSTECHER, 1862)
 Anterior half of hysteronotum striated and bearing very numerous small triangular scales; posterior half covered by a non-scaly shield. Opisthosoma much shorter and divided in 2 lobes. From hares . . Subgenus *Leporacaroides* FAIN, 1971 . . 2
2. Postscapular plate punctate, without striations. On *Lepus saxatilis*, South Africa . . *L. leporicolus* (LAWRENCE, 1951)
 Postscapular plate punctate and striate 3
3. Posterior lobes longer (45 μ) than wide (36 μ), bearing seta *l 5* 95 μ long and with basal half thick and cylindrical and apical half very thin. From *Sylvilagus bachmanni*, U.S.A . .
 *L. sylvilagi* FAIN, WHITAKER & LUKOSCHUS, 1981

Posterior lobes wider (30 μ) than long (26 μ). Setae 15
180 μ long with a base (45 μ long) slightly thickened and
cylindrical. From *Lepus timidus* and *Lepus europaeus*, Europe
. *L. brevicaudatus* (ULLRICH, 1939)

Acknowledgements

We thank R. Smiley, U.S. National Museum, Washington, who kindly sent us the holotype of *Zumptiella citelli*, and Robert L. Fisher, Director of the Juniata College Biological Field Station, for help during our stay there.

Abstract

Zumptiella tamius sp. n. (Acari, Halarachnidae) is described from the nasal cavities of *Tamias striatus* in USA. The description of *Leporacarus* (*Leporacaroides*) *sylvilagi* FAIN et al. is completed and figures given for the first time.

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