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Two new species of mites (Acari, Astigmata) from nests of North American rodents°

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Summary

Two new species and a new genus of mites (Acari) are described from the nests of North American rodents: *Acotyledon neotomae* sp. n. (Acaridae) ex *Neotoma cinerea* and *Prolepidoglyphus oregonensis* gen. n., sp. n. (Glycyphagidae) ex *Clethrionomys gapperi.*

Résumé

Deux nouvelles espèces et un nouveau genre d'acariens astigmates sont décrits de nids de deux rongeurs nord-américains: *Acotyledon neotomae* sp. n. (Acaridae) ex *Neotoma cinerea* et *Prolepidoglyphus oregonensis* gen. n., sp. n. (Glycyphagidae) ex *Clethrionomys gapperi.*

We describe herein two new species and a new genus of mites found in nests of two North American rodents. They belong to two different families of Astigmata.

All the measurements given herein are in μm.

FAMILY ACARIDAE

Genus *Acotyledon* OUDEMANS, 1903

Acotyledon neotomae sp. n.

FAIN and PHILIPS (1978) described the life of *Acotyledon paradoxa* OUDEMANS, 1903. The deutonymph (hypopus) of this species is characterized by a strong reduction of the suctorial plate which bears only the anterior suckers. The posterior suckers and the conoids are vestigial and represented by remnants.

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The hypopus that we describe herein presents the general characters and the same shape of suctorial plate as *A. paradoxa*. It differs from it, however, by several important characters of the chaetotaxy, which justifies its description as a separate species.

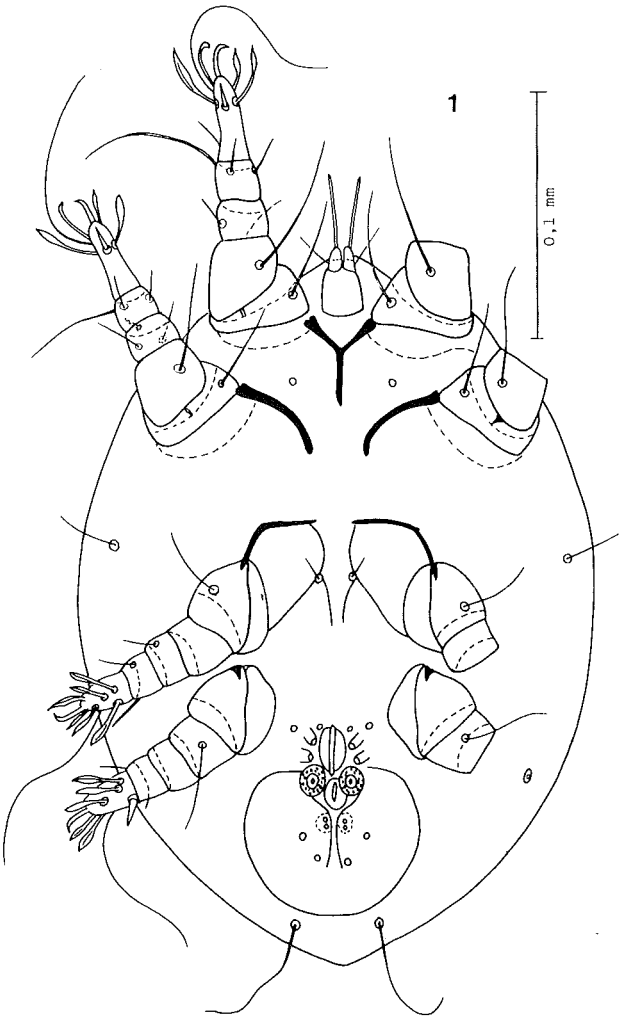

Fig.1 *Acotyledon neotomae* sp. n. Hypopus in ventral view.

Hypopus (figs. 1-6): Length and width of holotype 273 x 195. Measurements of 4 paratypes: 301 x 220; 316 x 230; 330 x 235; 335 x 242. Anterior and posterior extremities slightly conical. There are two pairs of lyrifissures, one dorsally inside the setae *l 1*, the other ventro-laterally at the level of the genital slit. Dorsum: Sejugal furrow well developed. Length of setae: *s cx* 26-30; *vi* 20; *ve* 10; other setae 22 to 30. Orifice of oil glands situated laterally slightly behind setae *h*. Venter: Total length of palposoma (including

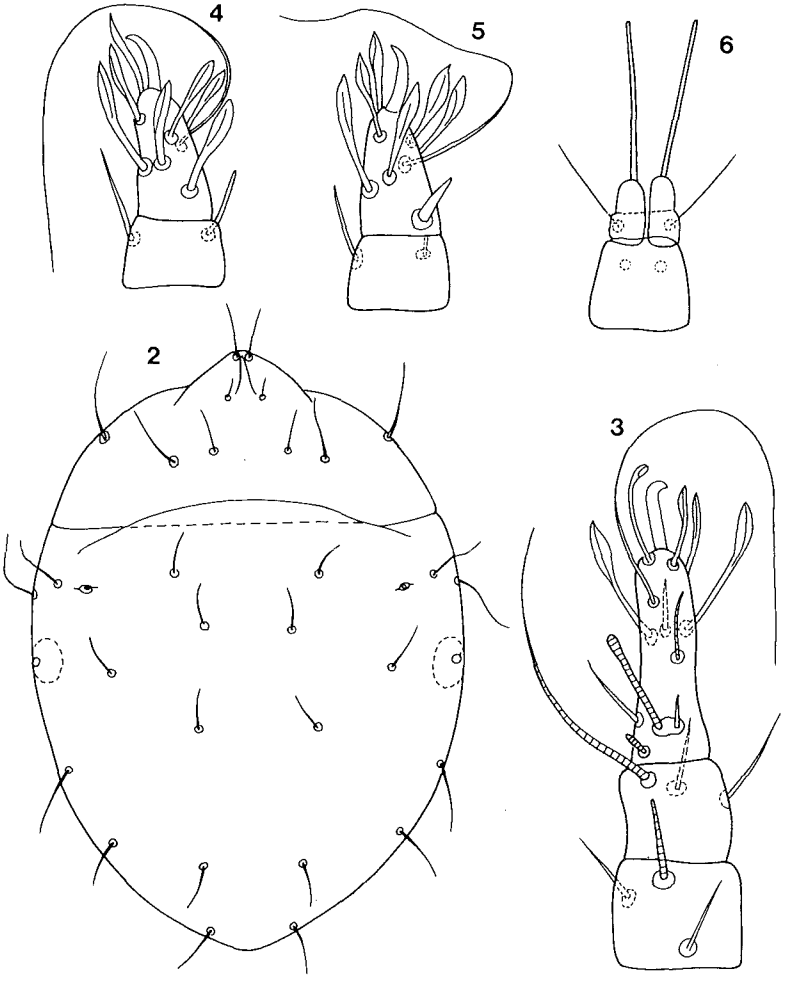

Fig.2-6 *Acotyledon neotomae* sp. n. Hypopus in dorsal view (2); apical segments of legs I (3), leg III (4), leg IV (5); palposoma (6).

base) 24, maximum width of base 15, length of the two "palps" 9.5; these palps clearly separated in the midline and they are apparently formed of two slightly movable articles. Solenidions *alpha* 25 long. Suctorial plate as in *A. paradoxa*. Length of tarsi I-IV: 35-30-20-19. Claws 13. Chaetotaxy of tarsus I: Apical half with 4 foliate setae, one spoon-like seta, one thin and long dorsal seta and one narrow ventral spine; basal half with one stiff seta (*ba*). Tarsus II as in tarsus I but *ba* more apical. Tarsus III with 7 foliate setae and one long simple seta. Tarsus IV as in tarsus III but the basal seta replaced by a thick spine. Tibiae I-IV with stiff setae. Genua I-II with 2 thin setae. Solenidiotaxy: Tarsus I with a relatively long and narrow $\omega 1$ inflated apically (length 18); famulus rather long (6).

Host and locality:

Holotype and 10 paratypes, all hypopi, collected by Wynn W. Cudmore from a nest of *Neotoma cinerea*, 5 miles West of Blue River, Oregon, Lane Co., W.W.C. 1212 (12 November 1984). Holotype in the US National Museum, Washington. Paratypes in Institut royal des Sciences naturelles de Belgique.

Remarks:

Acotyledon neotomae sp. n. is closest to *A. paradoxa*. It differs from it by the following characters:

1. Seta *ba* of tarsi I-II, setae *hT* of tibiae I-II and setae *mG* of genua I-II are stiff and rather long setae rather than short spines as in *A. paradoxa*.

2. Tarsi longer, 35-30-20-19 (30-27-16-15 in *A. paradoxa*).

3. Palposoma longer, with palps relatively longer and more or less biarticulate.

4. Body size much larger (273 to 335 as opposed to 213 to 270 in *A. paradoxa*).

FAMILY GLYCYPHAGIDAE

Information on phoretic hypopi of North American mammals was summarized by FAIN and WHITAKER (1973).

Genus *Prolepidoglyphus* gen. n.

Definition: This new genus is intermediate between *Glycyphagus* HERING, 1838 and *Lepidoglyphus* ZACHVATKIN, 1936, but closer to the latter. In both sexes tarsi I-IV bear a

large ventral pilose and flattened hair (*wa* or *w*); this hair is much shorter and narrower than the grooved scale found in *Lepidoglyphus*. This hair extends about 60% of the length of the tarsus. A well-developed shield is present on the propodonotum. All dorsal setae are pilose. Cuticle with needle-like projections in some parts and a pattern of shagreen-like projections in other parts. In the female the needle-like projections cover all the

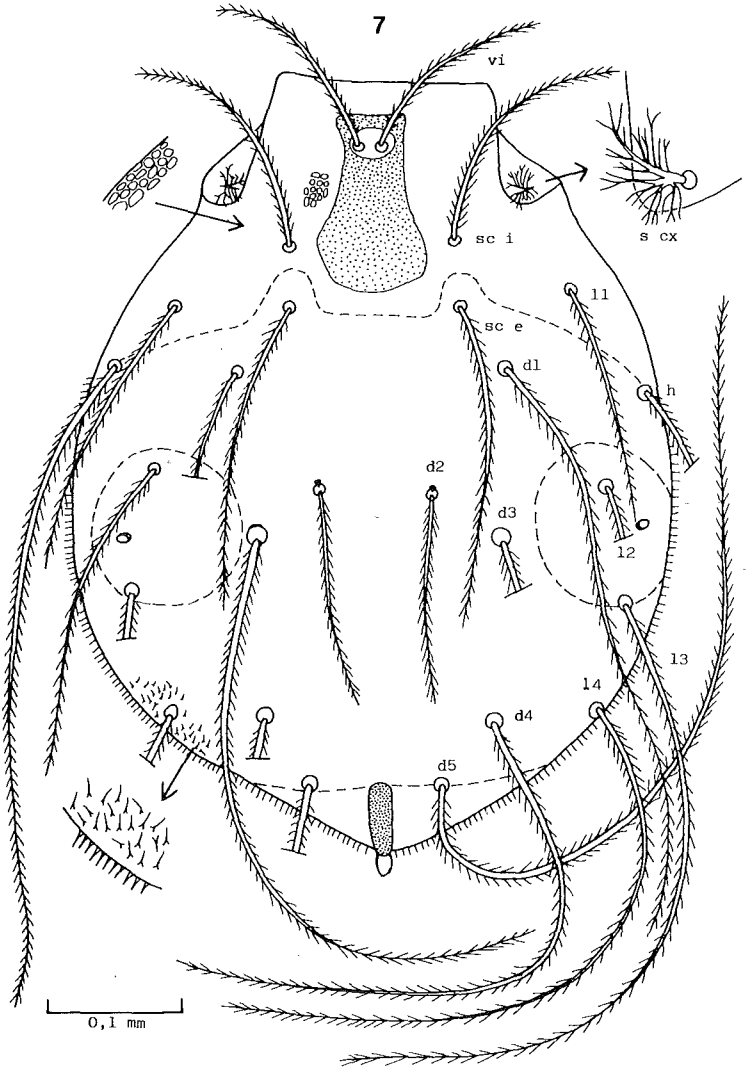

Fig.7 *Prolepidoglyphus oregonensis* sp. n. Female in dorsal view.

dorsum behind the setae *sc i, l 1* and *h*; the part situated in front is covered by shagreen-like pattern. In the male nearly the whole dorsum is covered by shagreen-like pattern except the posterior part which is covered by needle-like projections. On the venter in

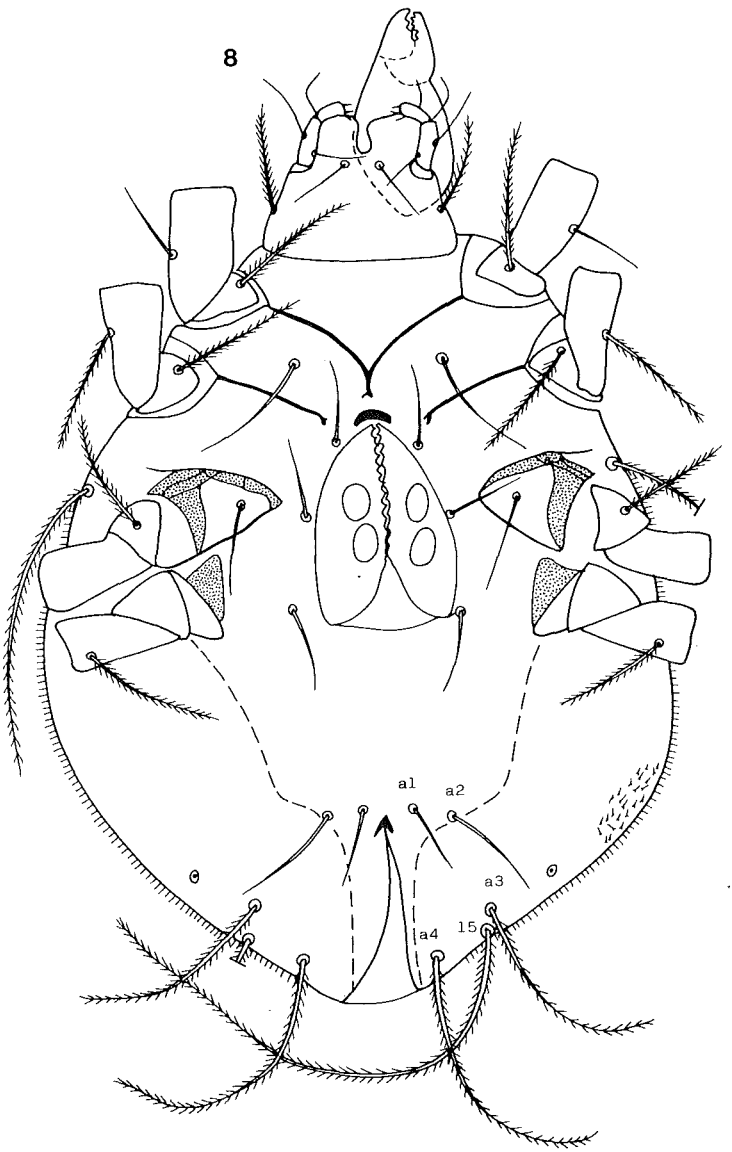

Fig.8 *Prolepidoglyphus oregonensis* sp. n. Female in ventral view.

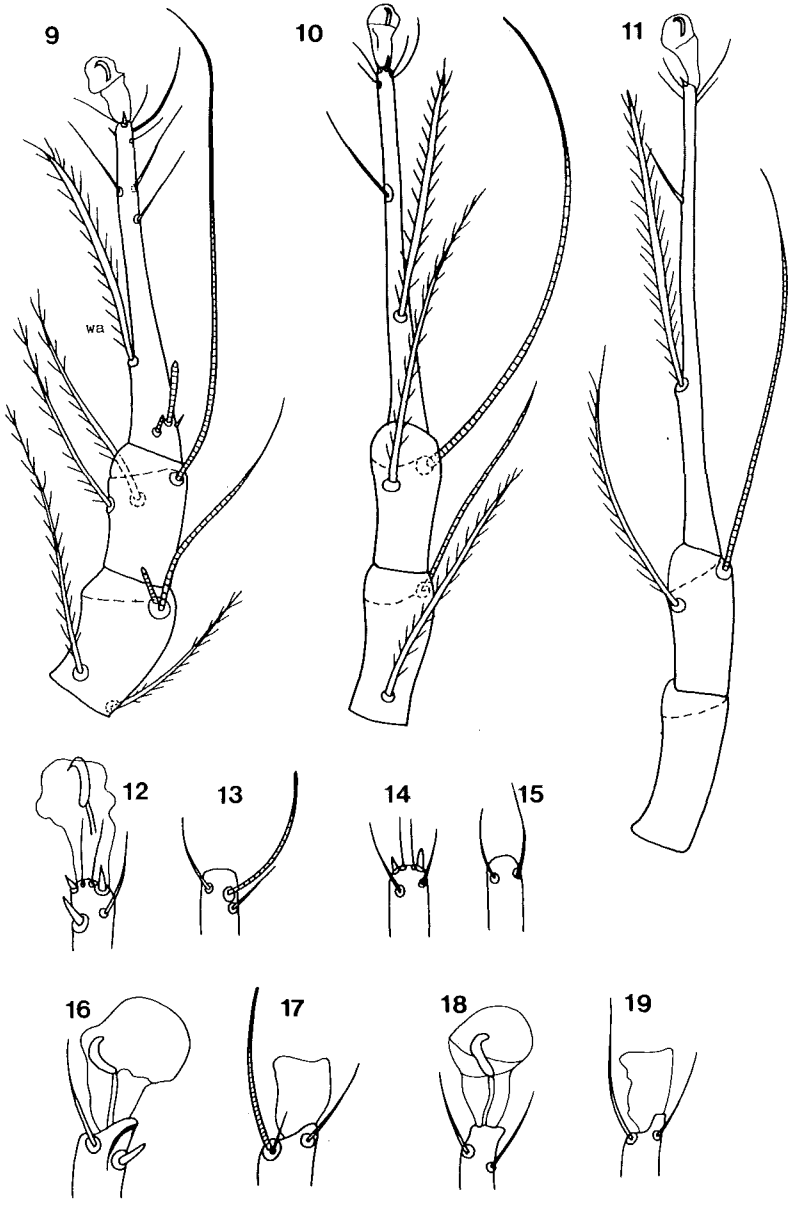

Fig.9-19 *Prolepidoglyphus oregonensis* sp. n.
Figs. 9-15. Female: Apical segments of leg I (9), leg III (10), leg IV (11); apex of legs I (12-13) and III (14-15) ventrally and dorsally.
Figs.16-19. Male: Apex of legs I (16-17) and III (18-19) ventrally and dorsally.

both sexes there are only needle-like projections in the lateral parts of the opisthogaster. Femora I with a simple, non-pilose hair, as in *Lepidoglyphus*. Genua I-IV without pilose scales. Chelicerae and claws well developed and not modified. Male: Tibiae without combs, genital organ strongly developed; tarsi not modified but the apical part is slightly curved ventrally and the ventro-apical extremity is distinctly produced and curved ventrally. Female with large genital suckers and a strongly sclerotized copulatory tube.

Type species: *Prolepidoglyphus oregonensis* sp. n.

Prolepidoglyphus oregonensis sp. n.

Female (figs. 7-15): Holotype 585 long and 480 maximum width (idiosoma). Lenght and width in 4 paratypes: 570 x 440; 600 x 438; 615 x 468; 630 x 495. Dorsum: Propodonotal shield 138 long, its maximum width 90. Setae *s cx* bifid with numerous very thin branches. Length of setae: *vi* 180; *sc i* 210; *sc e* 280; *d 1* 450; *d 2* 190; *d 3* 600; *d 4* 590; *d 5* 750; *l 1* 240; *l 2* 270; *l 3* 630; *l 4* 540; *l 5* (ventral) 460; *h* 480; *sh* (ventral) 240. External copulatory tube strongly sclerotized, subcylindrical, 54 long, 18 wide, situated at 50 from posterior extremity. Venter: Sternum short; epimera II free; coxae III closed. Epigynium well developed, close to the sternum. Vulva large, genital suckers relatively very large. Setae *cx I* and *III* rather long and thin. Anus ventro-terminal. Setae *a1* 72, *a2* 105, *a3* 240 and *a4* 180 long. Legs: Tarsi I-IV thin, 165-165-195 and 245 long. Claws well developed (length 11). Tarsi I-II with 8 apical setae (3 spines and 5 piliform setae); more basally there are 3 thin rather long simple setae and in the basal third the seta *wa*, pilose and flat. Tarsi III and IV with 2 apico-ventral spines and 6 simple apical setae. In apical third there is a short simple seta. In basal third there is a long flat barbed seta as on anterior tarsi (seta *w*). Tibiae I-II with 2, tibiae III and IV with one long pilose seta. Genua I-II with 2, genua III with one long pilose seta. Solenidia: Tarsus I: $\omega 1$ short and narrow; $\omega 2$ very small; $\omega 3$ apical. Tibiae I-IV with long solenidia. Genu I with 2 very unequal solenidia.

Male (figs. 16-20): Length and width of idiosoma in one paratype: 495 x 360. Dorsum as in female. Dorsal shield 96 long and 65 maximum width. Venter: Internal extremities of epimera II united by a large punctate band. Male organ situated between coxae III. Penis 65 long. Genital suckers smaller than in female. There are 3 pairs of anal setae: *a1* 70, *a2* 120, *a3* 180. Length of tarsi: 135-120-160-183. Tarsi I-II slightly curved with apex produced and curved ventrally. Chaetotaxy of legs: Tarsi I-II with 3 thin apical setae and 1 ventro-apical spine: other setae as in female. Apex of tarsi III-IV with 4 thin setae. Setae of tibiae and trochanters I-II relatively shorter than in female.

Type data and habitat

Holotype and 7 paratype females and one paratype male, collected by Chris MASER from a nest of *Clethrionomys gapperi*, cm 7015, Starkey Exp. Forest, Union Co., Oregon, U.S.A. (16 October 1976). Holotype in the US National Museum, Washington. Para-

types in the Institut royal des Sciences naturelles de Belgique.

Remarks:

This new genus is closest to *Lepidoglyphus*. It differs from it by the following characters:

1. Presence of a large propodonotal shield.
2. Shape of seta *wa* or *w* of tarsi I-IV. This seta is narrow, flat and shorter than in *Lepidoglyphus*.
3. Cuticular ornamentation of dorsum different.
4. Claws and chelicerae larger, male organ stronger, vulva larger with larger genital suckers.

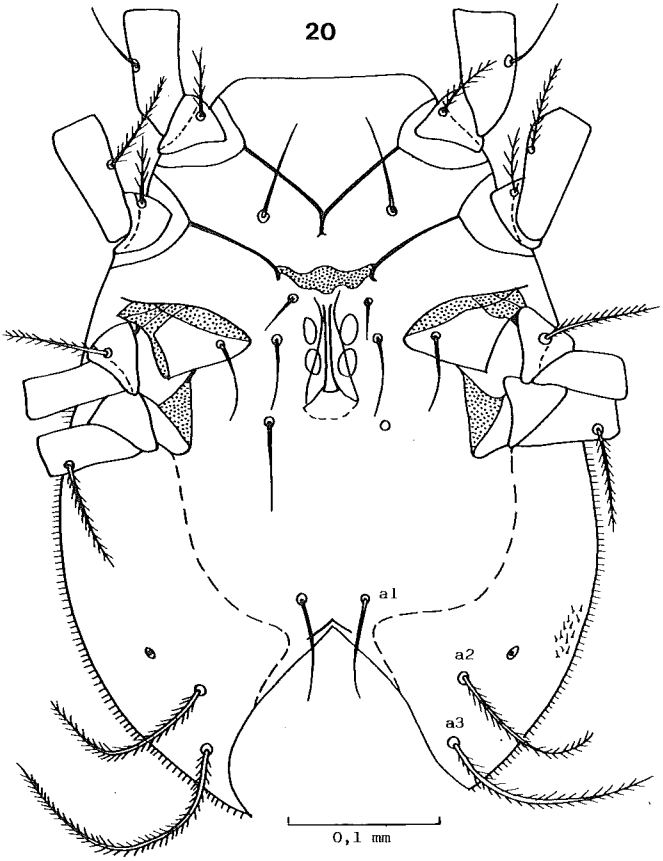

Fig.20 *Prolepidoglyphus oregonensis* sp. n. Male in ventral view.

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