

MITES OF THE GENUS *NOTOEDRES* (ACARINA: SARCOPTIDAE) PARASITIC ON CUBAN BATS

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Abstract. Two new ecological subspecies of *Notoedres* (*Bakeracarus*) *lasionycteris* (Boyd et Bernstein, 1950) are described: *N. (B.) lasionycteris minimus* ssp. n. from *Molossus major tropidorhynchus* Gray as a type host and *N. (B.) lasionycteris intermedius* ssp. n. from *Tadarida (Mormopterus) minuta* (Miller) as a type host. The description of a new species *Notoedres* (*Bakeracarus*) *noctilionis* sp. n. from *Noctilio leporinus mastivus* (Vahl) is also given.

During the investigation of the parasitic mites of Cuban bats some material of sarcoptid mites has been collected. All these mites belong to the subgenus *Bakeracarus* Fain, 1959 of the genus *Notoedres* Railliet, 1893 and only two species were determined. From many bat species *N. (B.) lasionycteris* (Boyd et Bernstein, 1950) was collected and after exact study and measurements it appears that this species forms two distinct subspecies in Cuba. The second species, found on *Noctilio leporinus mastivus* (Vahl) is described as a new species *N. (B.) noctilionis* sp. n.

1. *Notoedres* (*Bakeracarus*) *lasionycteris* (Boyd et Bernstein)

Sarcoptes lasionycteris Boyd et Bernstein, 1950—Proc. Ent. Soc. Wash. 52: 95.

Bakeracarus lasionycteris corynorhini Fain, 1961—Acarologia 3: 73.

This species is known only from the United States and was described from *Lasionycteris noctivagans* (Le Conte). YUNKER (1958) reported it from *Myotis lucifugus lucifugus* (Le Conte) and *Corynorhinus rafinesquii* (Cooper) and pointed out some little differences in specimens studied by him and in the type material. The specimens collected from *Corynorhinus rafinesquii* were later studied by FAIN (1961) and separated as a new subspecies *Bakeracarus lasionycteris corynorhini* Fain, 1961.

Our specimens show little differences from original description of *Sarcoptes lasionycteris* and do not fully agree with the Fain's subspecies. On the basis of the basal measurements it is possible to separate them as two new subspecies. In our opinion they may be regarded as ecological subspecies because *Notoedres* (*Bakera-*

carus) *lasionycteris minimus* ssp. n. was collected mostly from *Molossus major tropidorhynchus* Gray and *N. (B.) lasionycteris intermedius* ssp. n. from *Tadarida minuta* (Miller) and from other host species they were taken only accidentally.

***Notoedres (Bakeracarus) lasionycteris minimus* ssp. n.**

(Fig. 1, 2)

Type host: *Molossus major tropidorhynchus* Gray. Type locality: Santiago de Cuba, Prov. of Oriente, Cuba, 20. 9. 1965, lgt. F. Dusbábek and J. de la Cruz. Material examined: 13 females, 1 male, 3 tritonymphs and 1 larva from type host and locality of the same date; 7 females from the same host, Coco Solo, Marianao, La Habana, 10. 9. 1965; 2 females from *Tadarida (T.) laticaudata yucatanica* (Miller), Yaguajay, Prov. of Las Villas, 10. 6. 1965—all lgt. F. Dusbábek and J. de la Cruz.

Holotype (female) No. PÚ ČSAV 1629, allotype (male) No. PÚ ČSAV 1630 and all paratypes are deposited in the collection of the Institute of Parasitology of the Czechoslovak Academy of Sciences in Prague.

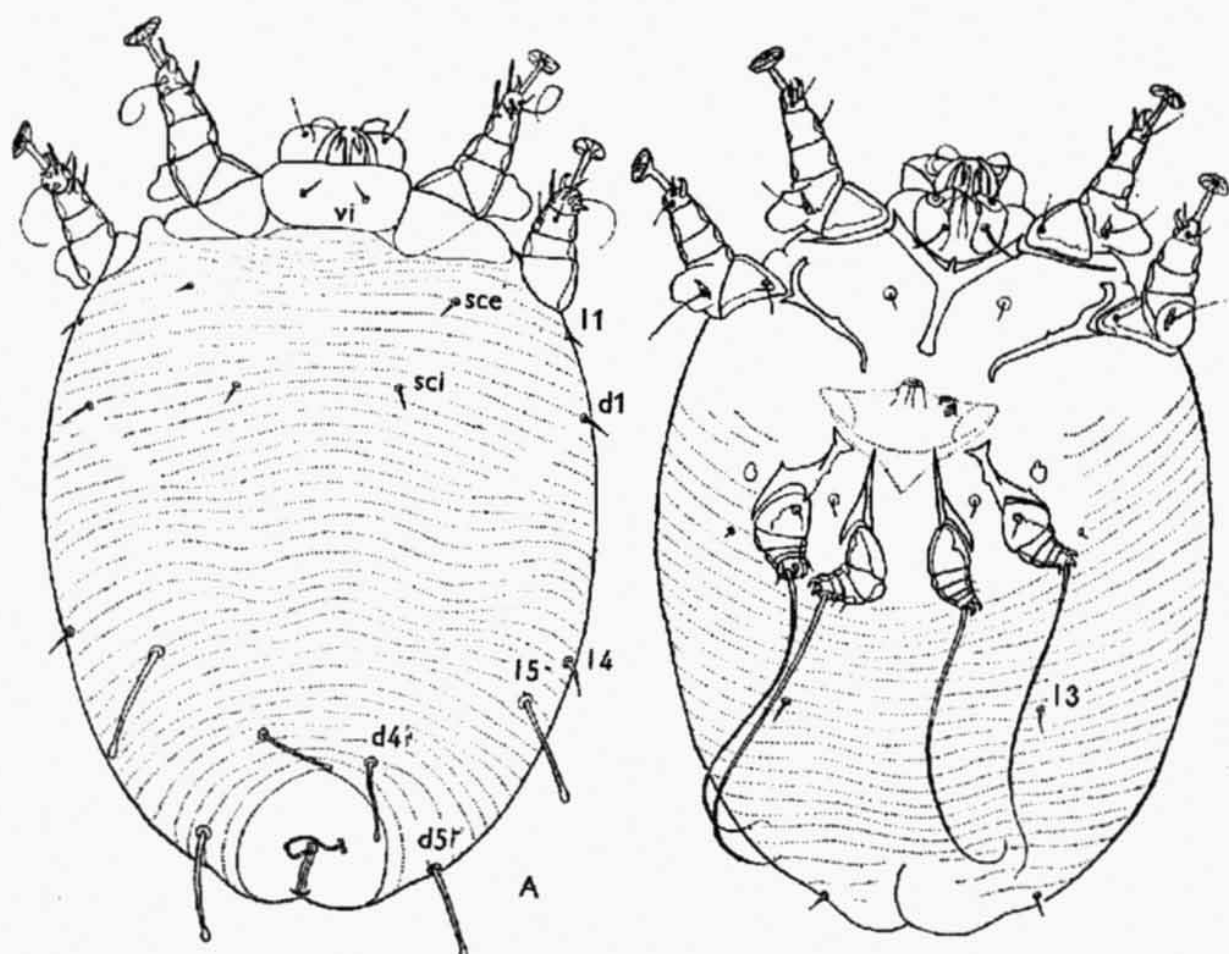


Fig. 1. *Notoedres (Bakeracarus) lasionycteris minimus* ssp. n., female: A—dorsal view, B—ventral view.

Female (Holotype) (Fig. 1A, B): The new subspecies corresponds in many respects with *N. (B.) lasionycteris lasionycteris* but it differs mainly in smaller body length (235—290) and width (164—207) (all measurements in μ). The mutual distance sce—sce [according to FAIN's (1965) re-written setal nomenclature] is only 88, the distance sci—sci 51. The body setae in the paratypes measure as follows:

see 5, sci 6, d4 25—30, d5 28—35, l, 28—37. No unstriated dorsal zones, but the striation appears to be interrupted in the scapula region. The free eggs are very small, only 105—120 long and 62—74 wide.

Because BOYD and BERNSTEIN (1950) described only the female of *N. (B.) lasionycteris* and the male of *N. (B.) lasionycteris corynorhini* is known only from

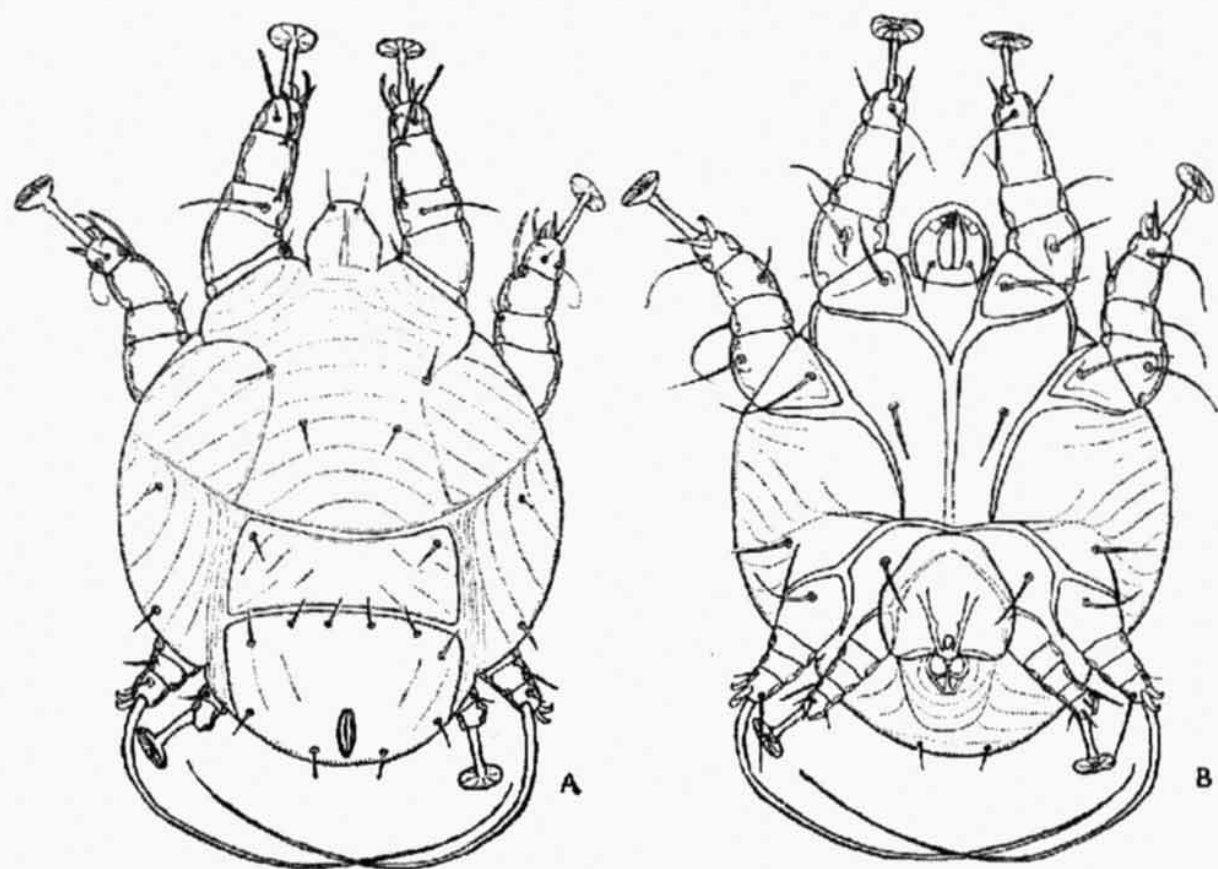


Fig. 2. *Notoedres (Bakeracarus) lasionycteris minimus* ssp. n., male: A—dorsal view; B—ventral view.

incomplete FAIN's (1961) description, I present here the full description and figures of the male of our subspecies:

Male (Allotype): Body length (including gnathosoma) 142, width 177 (all measurements in μ).

Dorsum (Fig. 2A): Only posterior and median dorsal shield strongly chitinized, short and broad, the anterior and lateral ones overlapped by striated integument. Setae sce and sci setiform, 7 long. One pair of setae on the anterior margin of median shield; three pairs of setae on the anterior margin of posterior shield, one pair of posterolateral setae and one pair of anal setae situated inside of the shield. Two pairs of lateral metapodosomal setae. Anal pore situated dorsally at the posterior margin of body.

Venter (Fig. 2B): Epimeres I joined in form of Y forming a sternum. Epimeres II very long, reaching to the transversal posterior sclerit. Epimeres III joined with this sclerit, but epimeres IV do not reach this sclerit. Setae cx I measure 9, cx II and cx III 11. One pair of fine setae on the same posterior margin of body. Genital

organ supplemented by a rounded sucker-like structure, 31 long and 38 wide, overlapping epimeres and basal segments of legs IV.

Legs: Tarsus I, II and IV with suckers, tarsus III with a long terminal seta (130). Legs IV as long as legs III, but more slender. Tarsus I and II with only one claw and one thorn, tarsus III with two claws, tarsus IV without claws. On tarsus III one long subterminal seta (18). Solenidia: tarsus 2—1—0—0; tibia 1—1—1—1.

***Notoedres (Bakeracarus) lasionycteris intermedius* ssp. n.**

Type host: *Tadarida (Mormopterus) minuta* (Miller). Type locality: Yaguajay, Prov. of Las Villas, Cuba, 10. 6. 1965, lgt. F. Dusbábek and J. de la Cruz. Material examined: 15 females from the type host and locality of the same date; 1 female from *Tadarida (T.) brasiliensis muscula* (Gundlach), La Sola, Sierra Cubita, Prov. of Camagüey, 31. 10. 1965; 1 female from *Chilonycteris macleayi macleayi* Gray, Cueva de los Lagos, Cerro de la Guanabana, Isla de Pinos, 15. 1. 1966; 1 female from *Eptesicus fuscus dutertrei* (Gervais), Cueva del Circulo, near Cairije, La Sola, Sierra Cubita, Prov. of Camagüey, 20. 10. 1965—all lgt. F. Dusbábek and J. de la Cruz.

Holotype (female) No. PÚ ČSAV 1631 and all paratypes are deposited in the collection of the Institute of Parasitology of the Czechoslovak Academy of Sciences in Prague.

This new subspecies is closely related to *N. (B.) lasionycteris corynorhini* (Fain, 1961) but differs mainly in the greater length of body setae, especially d4, d5 and l₅. The free eggs are smaller (145—164 × 66—90). Idiosoma (including gnatho-

Table 1. Basal measurements of females and eggs of four subspecies of *N. (B.) lasionycteris*. Designation of setae after re-written nomenclature of FAIN (1965), the dimensions in μ .

Subspecies	<i>minimus</i>	<i>intermedius</i>	<i>corynorhini</i>	<i>lasionycteris</i>
	(paratypes)	(paratypes)	after FAIN (1961)	
Length of idiosoma	235—290	290—445	300—408	480
Width of idiosoma	164—207	184—247	200—250	250
Distance sce—sce	88	—	90—110	116
Distance sci—sci	51	58	60—65	75
Length of sce	5	—	3	7—8
Length of sci	6	5	5—6	9—13
Length of d4	25—30	29—34	18—24	21—25
Length of d5	28—35	40—43	15—20	20—38
Length of l ₅	28—37	34—37	21—26	39—48
Length of eggs	105—120	137—164	195—210	190—230*)
Width of eggs	62—74	67—75	90—100	105—115*)

*) Eggs in uterus.

soma) is 294—445 long and 184—247 wide in the paratypes. Setae d4 measure 29—34, d5 40—43 and l₅ 34—37. Setae sci measure 5 and the mutual distance sci—sci is 58. There are no differences in dimensions between the specimens collected from different hosts. The comparison of dimensions of this subspecies with those of other subspecies is presented in the Tab. 1.

2. *Notoedres (Bakeracarus) noctilionis* sp. n.

(Fig. 3)

Type host: *Noctilio leporinus mastivus* (Vahl). Type locality: Los Almacigos, Isla de Pinos, 24. 1. 1966, lgt. F. Dusbábek and J. de la Cruz. Material examined: 5 females from type host and locality of the same date.

Holotype (female) No. PÚ ČSAV 1631 and all paratypes (females) are deposited in the collection of the Institute of Parasitology of the Czechoslovak Academy of Sciences in Prague.

Female (Holotype): Length of body (including gnathosoma) 436 (436—649), width 240 (235—282) (all measurements in μ). Body with enormously elongated opisthosoma.

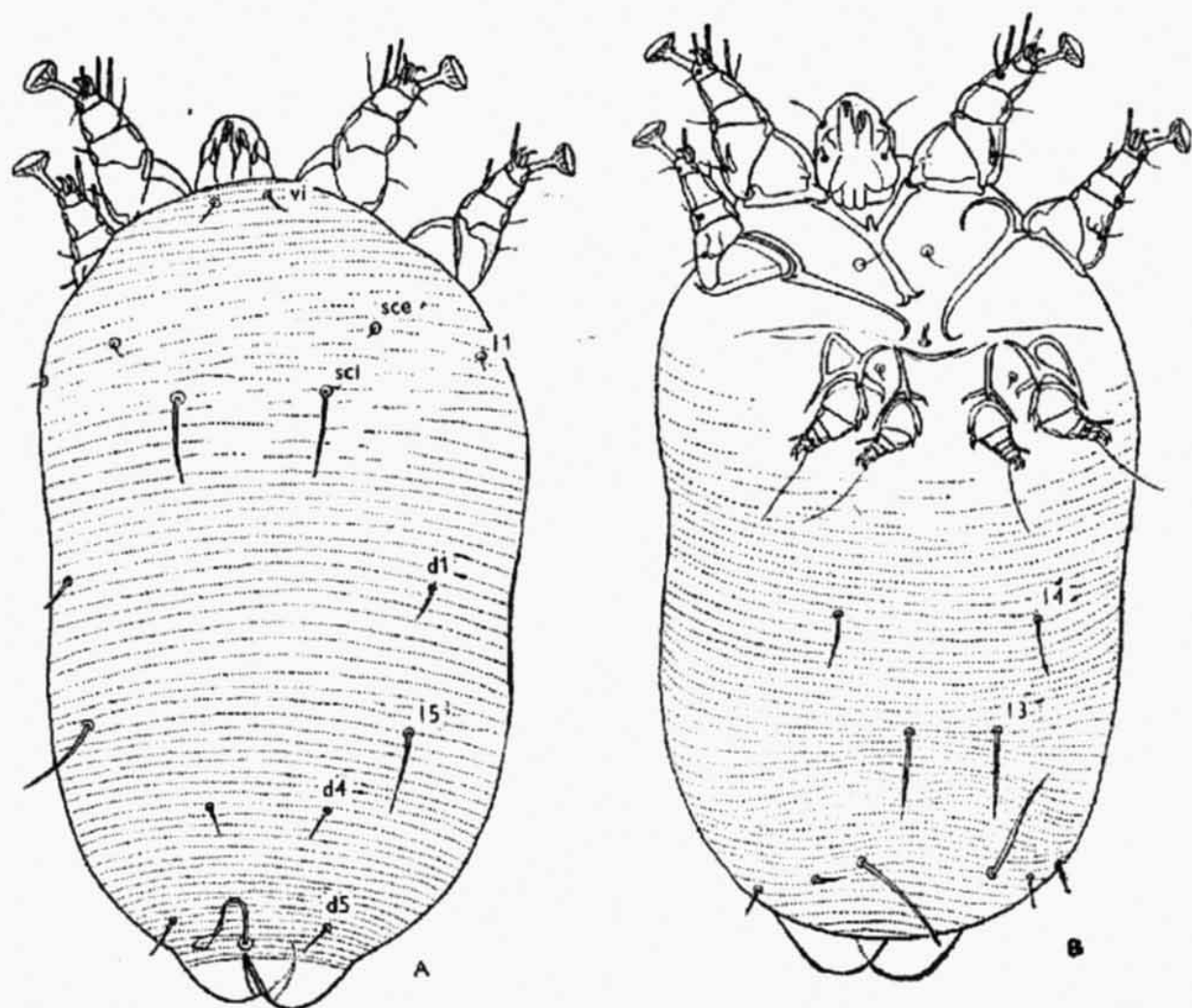


Fig. 3. *Notoedres (Bakeracarus) noctilionis* sp. n., female: A—dorsal view, B—ventral view.

Dorsum (Fig. 3A): Integument with uniform striation. Vertical (vi), scapular external (sce) and first lateral setae (l_1) very short. Scapular internal setae (sci) very long (29) and setiform, setae d_1 short and situated very posteriorly. Seta l_5 setiform and measure 30, setae d_4 only 17 long. Setae d_5 subequal with the d_4 setae and situated near the anal pore. Anal pore situated terminally with two valves overlapping one another. The papilla of bursa copulatrix circular and situated at the same margin of anal pore. The copulative canal terminated by a little membranous sac.

Venter (Fig. 3B): Epimeres I joined in form of Y. Epimeres II very long. Intercoxal setae (cx) I and III present, very short. No setae between coxae IV. Setae l_4 and l_3 situated ventrally, setiform, 21 and 40 long. The mutual distance l_4-l_4 is 78, l_3-l_3 only 31. Three pairs of perianal setae, from which the internal are the longest (48) the median and external shortest (12—15). A little endogynium with finely chitinized lateral genital apodemi present.

Legs: Tarsus III and IV with relatively short terminal setae (35—40). The stem of suckers of tarsus I and II measures 16. Solenidia: tarsus 2—1—0—0; tibia 1—1—1—1.

Eggs: Intrauterine eggs are 160—182 long and 67—78 wide.

The new species differs from *N. (B.) lasionycteris* (Boyd et Bernstein, 1950) in the greater dimensions of body, in having sci setae longer than sce, and in ventral chaetotaxy. From *N. (B.) schoutedeni* (Fain, 1959), in which sci setae are long, the new species differs in posterior situation of setae dl and in ventral chaetotaxy, mainly in the presence of three pairs of ventral perianal setae.

REFERENCES

- BOYD E. M., BERNSTEIN M. H., A new species of Sarcoptic mite from a bat. Proc. Ent. Soc. Wash. 52: 95—99, 1950.
- FAIN A., Les acariens psoriques parasites des chauves-souris XVII. Le genre *Bakeracarus* Fain, 1959 (Sarcoptidae). Acarologia 3: 72—77, 1961.
- , Notes sur le genre *Notoedres* Railliet, 1893 (Sarcoptidae: Sarcoptiformes). Acarologia 7: 321—342, 1965.
- YUNKER C. E., The parasitic mites of *Myotis lucifigus* (Le Conte). Proc. Helminth. Soc. Wash. 25: 31—34, 1958.

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