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Chigger mites (Acari: Trombiculidae) new to the fauna of Cuba, with the description of two new species

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Key words: Acari, chiggers, *Hyponeocula monocoxalae*, *Perates nudosetosus*, taxonomy, parasites, Cuba

Abstract. Two new species of chigger mites, *Hyponeocula monocoxalae* sp. n. from bats and reptiles, and *Perates nudosetosus* sp. n. from bats, are described. The first finding of larvae of *Tectumpilosum negreai* Feider, 1983 in nature is reported from a bat collected at the type locality, and the description of this species is emended. Four species, *Perates monops* (Brennan et Jones, 1960), *Parasecia manueli* (Brennan et Jones, 1960), *Beamerella acutascuta* Brennan, 1958, and *Blankaartia sinnamaryi* (Floch et Fauran, 1956), are recorded for the first time in Cuba and on new host species.

Intensive faunistic study of Cuban chiggers was begun just recently (de la Cruz and Socarrás 1993, de la Cruz and Daniel 1994). It was based on collections made in 1965–1985 by Czechoslovak-Cuban joint expeditions. The present paper continues this work. It includes descriptions of two species new to science, a redescription of one species and data on four species new to the Cuban fauna.

MATERIALS AND METHODS

The chiggers were collected in 1965–1966 by Drs. V. Černý, F. Dusbábek, M. Daniel, J. de la Cruz and other Czech and Cuban zoologists (de la Cruz and Daniel 1994). The individual collectors are not noted in particular collections in the field collector's protocols and therefore, their names are not mentioned below. Hosts were determined by Drs. G. Silva-Taboada (bats) and O.H. Garrido (birds and reptiles). Mites were mounted in Hoyer's medium or in de Faure-Berlese's medium. All measurements are in micrometres (μm). In the tables, "n" indicates sample size for those structures measured. If a structure is unpaired, n coincides with the number of specimens measured (excluding those in which the structure was damaged or distorted and could not be measured). For paired structures n is about twice the number of specimens measured. Terminology follows that of Goff et al. (1982), with some adaptation: "ventral setae" (V) – setae on the ventral surface of idiosoma excluding coxal and sternal setae; VS – number of ventral setae; D – dorsal idiosomal setae; DS – number of dorsal idiosomal and humeral setae; TaIII – length of leg III tarsus; TaW – width of leg III tarsus. The specimens examined are deposited in the Zoological Institute of the Russian Academy of Sciences, Saint-Petersburg (ZIN), the acarological collection of the Institute of Parasitology, Academy of Sciences of the Czech Republic, České Budějovice (PaÚ), and in the collection of the senior author.

RESULTS

Genus *HYPONEOCULA* Vercammen-Grandjean, 1960

Hyponeocula monocoxalae sp. n. Figs. 1–10

Diagnosis: SIF = 6BS-N-2-3111.1000; fPp = B/B/NNN; fCx = 1.1.1; fSt = 2.2; fSc: PL>AM>AL; Ip = 616; fD = 2H-6-6-2-2; fV = 6-2-2-4; DS = 18; VS = 14; NDV = 32.

Description: LARVA. Idiosoma. Eyes 2+2. One pair of humeral setae; 16 dorsal idiosomal setae, weakly barbed, arranged 6-6-2-2; 2 pairs of sternal setae and 14 ventral setae, arranged 6-2-2-4; total idiosomal setae 32. Gnathosoma. Cheliceral blade with tricuspid cap; cheliceral base moderately punctate; gnathobase with few large punctae, bearing a pair of branched setae; galeala nude; palpal claw 2-pronged; setae on palpal femur and genu with 1–2 branches or nude; palpal tibial setae nude; palpal tarsus with 6 branched setae, nude subterminala and tarsala. Scutum. Sparsely punctate with moderate punctae, near trapezoidal, with rounded posterior margin; posterior scutal margin covered with striations, which outlines central angle; AM base at level of AL bases; SB anteriad to level of PL bases; PL>AM>AL; flagelliform sensilla with 6–9 branches in distal half. Legs. All 7-segmented, terminating in a pair of claws and a claw-like empodium. Leg I: coxa with 1 non-specialised branched seta (1B); trochanter 1B; basifemur 1B; telofemur 5B; genu 4B, 3 genualae, microgenuala; tibia 8B, 2 tibialae, microtibiala; tarsus 22B, tarsala, microtarsala, subterminala, parasubterminala, pretarsala. Leg II: coxa 1B; trochanter 1B; basifemur 2B; telofemur 4B; genu 3B, genuala; tibia 6B, 2 tibialae; tarsus 16B, tarsala with somewhat inflated apex, microtarsala, pretarsala. Leg III: coxa 1B; trochanter 1B; basifemur 2B; telofemur 3B; genu 3B,

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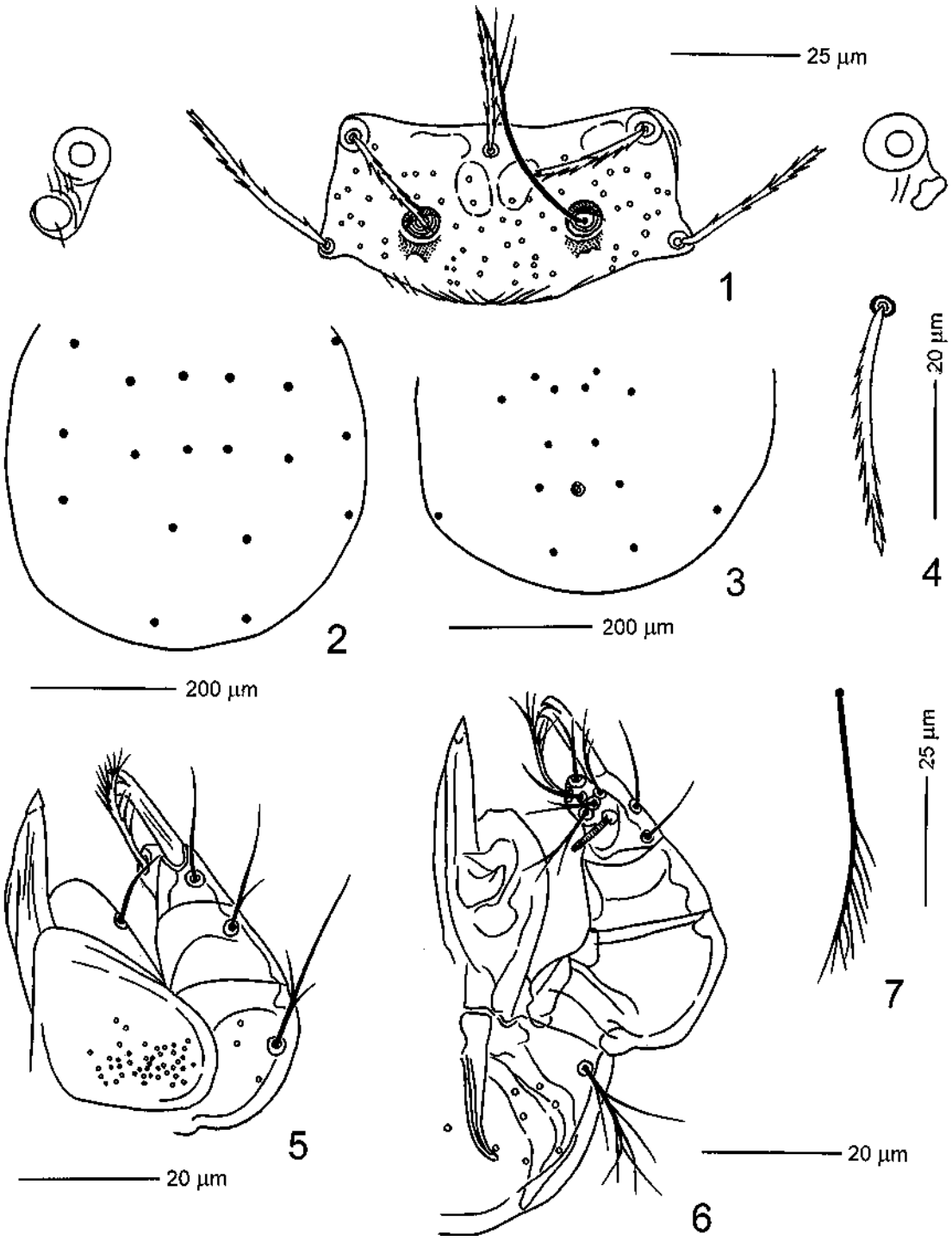
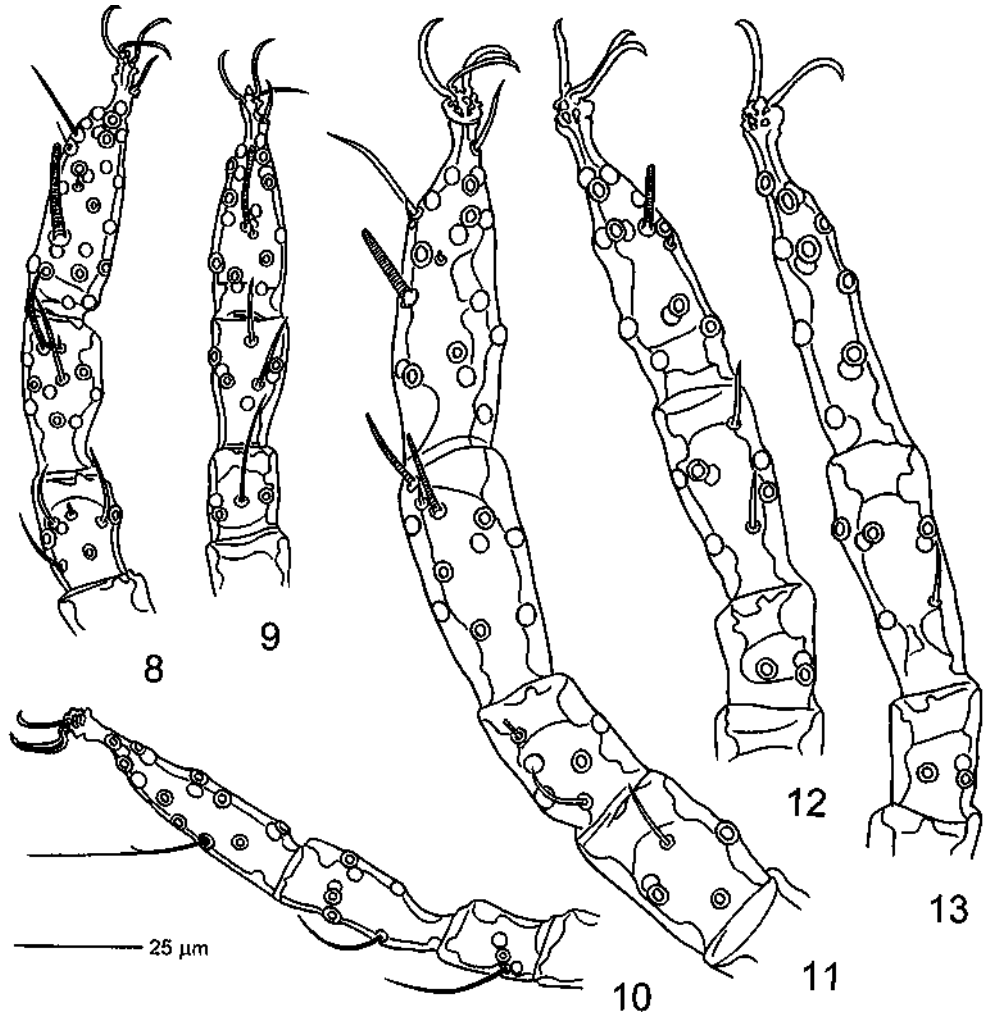


Figs. 1–7. *Hyponeocula monocoxalae* sp. n., larva. **Fig. 1.** Scutum and eyes. **Fig. 2.** Arrangement of dorsal idiosomal setae. **Fig. 3.** Arrangement of ventral idiosomal setae. **Fig. 4.** Dorsal idiosomal seta. **Fig. 5.** Dorsal aspect of gnathosoma. **Fig. 6.** Ventral aspect of gnathosoma. **Fig. 7.** Sensillum.

genuala; tibia 6B, tibiala; tarsus 14B, mastitarsala.

Standard measurements of holotype: AW = 54, PW = 65, SB = 31, ASB = 21, PSB = 15, SD = 36, P-PL = 12, AP = 22, AM = 25, AL = 22, PL = 34, S = 48, H = 36, D = 27–35, V = 23–32, pa = 211, pm = 176, pp = 205, Ip = 592, TaIII = 49, TaW = 12.



Figs. 8–10. *Hyponeocula monocoxalae* sp. n., larva. **Fig. 8.** Leg I. **Fig. 9.** Leg II. **Fig. 10.** Leg III. **Figs. 11–13.** *Perates nudosetosus* sp. n., larva. **Fig. 11**. Leg I. **Fig. 12.** Leg II. **Fig. 13.** Leg III.

Standard measurements of the type series:

	AW	PW	SB	ASB	PSB	SD	P-PL
Min	54	64	29	20	15	36	12
Max	58	69	31	22	17	38	14
m	56	66	30	20	16	36	13
n	7	7	7	7	7	7	7

AP	AM	AL	PL	S	H	D	V
18	25	22	32	45	36	27–35	23–32
23	33	26	39	50	40	29–38	26–32
20	30	24	37	48	38	28–36	25–32
14	6	12	13	8	10	7	3

pa	pm	pp	Ip	TaIII	TaW
211	176	205	592	49	11
225	191	223	639	54	12
218	185	213	616	51	12
3	3	3	3	6	6

H o s t s : *Natalus lepidus* (Gervais, 1837) (Mammalia, Chiroptera, Natalidae), *Pteronotus quadridens* (Gundlach, 1840) (Mammalia, Chiroptera, Mormoopidae), *Anolis bartschi* (Cochran, 1928) (Reptilia, Squamata, Iguanidae).

T y p e d a t a : Holotype larva (C-332, T-Tr.-19), Habana Province, Guanajay, Cueva de William Palmer, 12 Aug. 1965, from *N. lepidus.* 10 paratypes: 5 larvae, same data; 1 larva, Pinar del Rio Province, Vinales, Cueva del Indio, 20 Aug. 1965, from *P. quadridens*; 4 larvae, Pinar del Rio Province, Vinales, Valle de San Vincente, 20 Aug. 1965, from *A. bartschi.* The holotype and six paratypes (C-326, C-333, C-337, C-339, C-340, C-352) are deposited in ZIN; two paratypes (C-324, C-327) are deposited in the Institute of Parasitology, Academy of Sciences of the Czech Republic (coll. No. PaÚ 1988, PaÚ 1989); two paratypes (C-330, C-335) are deposited in the collection of the senior author.

E t y m o l o g y : The species name "*monocoxalae*" refers to the presence of only one seta on each coxa.

Differential diagnosis: *Hyponeocula monocoxalae* differs from all other *Hyponeocula* species in having 1 seta on coxa III (fCx = 1.1.1) against 2–4 and 2-pronged palpal claw (against 3-pronged). It is most similar to *H. spathi* (Loomis et Tanigoshi, 1968) and differs from this

species, in addition to above features, in having nude ventral tibial seta (fPp = B/B/NNN against B/B/NNB), number of idiosomal setae more than two times fewer (NDV = 32 against 82) and in some measured characters (PW = 64–69 against 73–78, SB = 29–31 against 21–24, AP = 18–23 against 26–29).

Genus *PERATES* Brennan et Dalmat, 1960

Perates nudosetosus sp. n. Figs. 11–22

Diagnosis: SIF = 5B?-N-2-1001.0000; fPp = N/N/NNN; fCx = 1.1.1; fSt = 2.2; fSc: PL>AL>AM; Ip = 872; fD = 2H-6-6-2-4-2; fV = 4-4-4-2; DS = 22; VS = 14; NDV = 36.

Description: LARVA. Idiosoma. Eyes absent. One pair of humeral setae; 20 dorsal idiosomal setae, thick and supplied with thick short barbs, arranged 6-6-2-4-2; 2 pairs of sternal setae, anterior nude, posterior with few small barbs in distal part; 13–15 ventral setae with few small barbs, arranged 4-4-4-2; total idiosomal setae 35–37. Gnathosoma. Cheliceral blade with tricuspid cap; cheliceral base moderately punctate, with lateral angle; gnathobase sparsely punctate, significantly wider than long, bearing a pair of nude setae; galeala thick and nude; palpal claw 2-pronged; setae on palpal femur, genu and tibia nude; palpal tarsus with tarsala and about 5 nude setae (palpal tarsus not clearly visible in all specimens examined). Scutum. Moderately punctate, trapezoidal, with biconcave anterior and concave posterior margins; AM base at level of AL bases; AM and AL situated on anterior projections of scutum; SB slightly anteriad to level of PL bases; PL>AL>AM, AM very short and nude, AL similar to ventral setae, PL similar to dorsal setae; sensilla flagelliform and nude. Legs. All 7-segmented, terminating in a pair of claws and a claw-like empodium. Leg I: coxa 1B; trochanter 1B; basifemur 1B; telofemur 4B, short femorala; genu 4B, genuala, microgenuala long and rod-like; tibia 8B, 2 tibialae, microtibiala; tarsus 15B, tarsala, microtarsala, subterminala, parasubterminala, pretarsala. Leg II: coxa 1B; trochanter 1B; basifemur 2B; telofemur 4B; genu 3B, genuala absent; tibia 6B, 2 tibialae; tarsus 13B, distal tarsala, microtarsala; pretarsala absent. Leg III: coxa 1B; trochanter 1B; basifemur 2B; telofemur 3B; genu 3B, genuala absent; tibia 6B, tibiala; tarsus 12B.

Standard measurements of holotype: AW = 68, PW = 85, SB = 29, ASB = 21, PSB = 10, SD = 31, P-PL = 8, AP = 21, AM = 17, AL = 23, PL = 52, H = 45, D = 41–49, V = 27–43, pa = 297, pm = 268, pp = 283, Ip = 848, DS = 22, VS = 14, NDV = 36, TaIII = 70, TaW = 14.

Standard measurements of the type series:

	AW	PW	SB	ASB	PSB	SD	P-PL	AP
Min	68	85	29	21	10	31	7	20
Max	73	86	30	22	12	33	8	23
m	71	85	29	21	11	32	8	21
n	4	4	4	4	4	4	4	8

AM	AL	PL	H	D	V	pa	pm
11	18	52	45	38–47	25–42	297	268
17	23	59	48	44–51	27–43	306	281
14	21	55	47	41–49	26–43	302	276
4	7	5	6	4	2	4	4

pp	Ip	DS	VS	NDV	TaIII	TaW
283	848	22	13	35	70	13
304	886	22	15	37	74	14
294	872	22	14	36	72	14
4	4	4	4	4	4	4

H o s t : *Pteronotus quadridens* (Gundlach, 1840) (Mammalia, Chiroptera, Mormoopidae).

T y p e d a t a : Holotype (C-383, T-Tr.-20) and 5 paratype larvae, Pinar del Rio Province, Vinales, Cueva del Indio, 20 Aug. 1965, from *P. quadridens*. The holotype and three paratypes (C-381, C-382, C-487) are deposited in ZIN; one paratype (C-380) is deposited in the Institute of Parasitology, Academy of Sciences of the Czech Republic (coll. No. PaÚ 1990); one paratype (C-478) is deposited in the collection of the senior author.

E t y m o l o g y : The species name "*nudosetosus*" refers to the fact that many setae in this species are nude (palpal and anterior sternal setae, galeala, AM, setae on gnathocoxa).

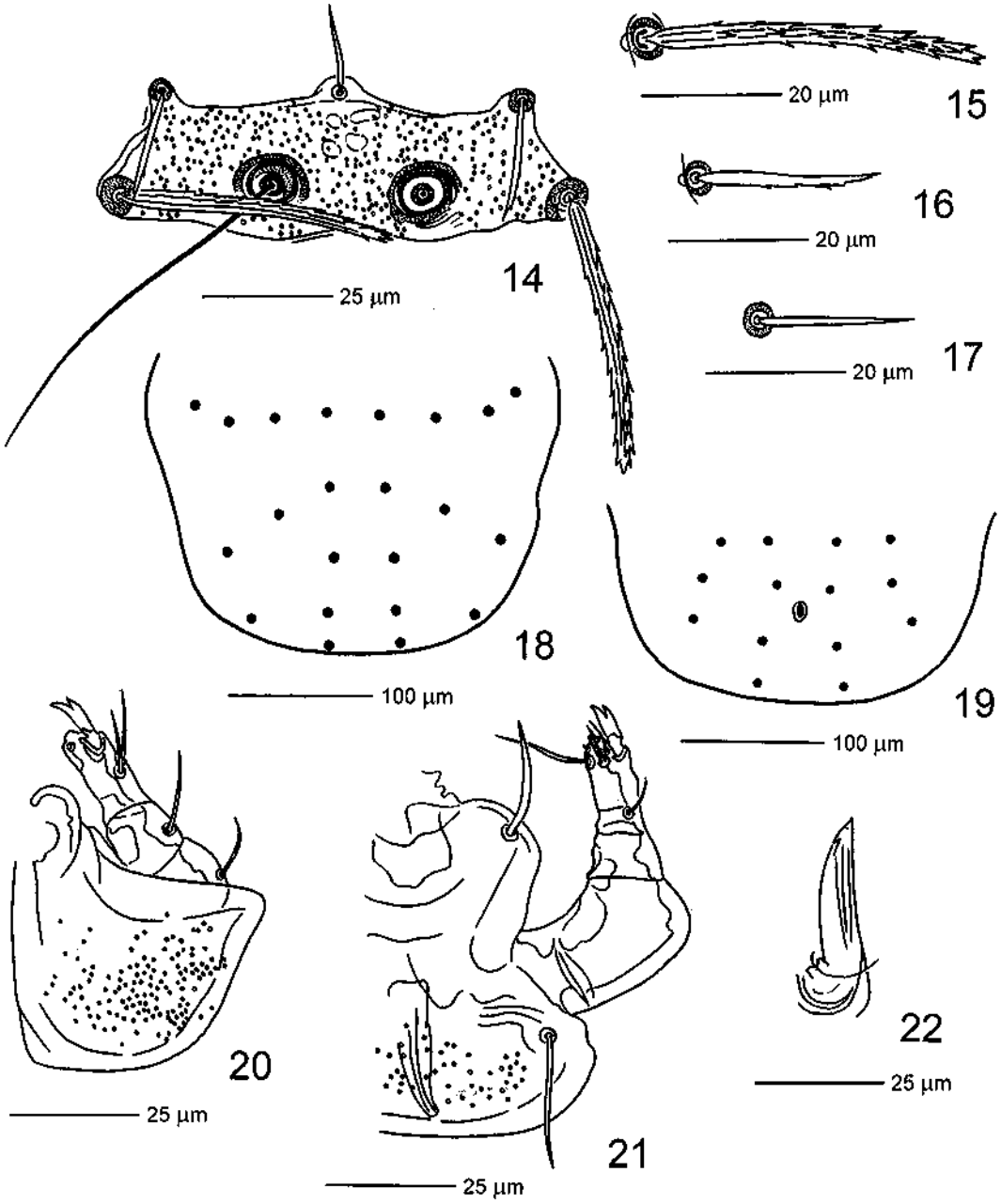
Differential diagnosis: *Perates nudosetosus* is similar to *P. anophthalma* (Hoffmann, 1960) in the shape of scutum, PL much thicker and longer than AL and AM, shape of gnathobase (which is significantly wider than long), thick galeal seta and arrangement of dorsal idiosomal setae (in *P. anophthalma* fD = 2H-6-6-4-2), but differs in leg chaetotaxy (presence of femorala I, 1 genualae I against 2, absence of pretarsala II, absence of genualae II and III, absence of mastitarsala III), many setae nude (anterior sternal setae, setae of palpi and gnathobase, AM and sensilla), palpal femur and genu without lateral angles, more numerous idiosomal setae (NDV = 35–37 against 32), smaller scutum (AW = 68–73 against 82–91, PW = 85–86 against 100–108, SB = 29–30 against 40–46, SD = 31–33 against 37–42) and AM much shorter (11–17 against 40–43).

Remarks: The placing of this species into the genus *Perates* is provisional, as was stated for *P. anophthalma* by Loomis (1969). The pattern of leg chaetotaxy in the new species (presence of femorala I, 1 genualae I, absence of pretarsala II, absence of genualae II and III, decreased numbers of non-specialised tarsal setae) appears to be unique in the subfamily Trombiculinae. But obvious similarities between the both species suggest that the specific features of leg chaetotaxy do not constitute a difference of the generic rank.

Perates monops (Brennan et Jones, 1960)

Brennan and Jones 1960: 524, fig. 17 (*Trombicula*); Vercammen-Grandjean 1968: 71 [*Myotrombicula* (*Perates*)].

Diagnosis: SIF = 7B-N-3-3111.0000; fPp = B/N/NNN; fCx = 1.1.1; fSt = 2.2; fSc: AM>PL>AL; Ip = 730; fD = 2H-[6-6]-[8-8]-8-6-…; DS = 56; VS = 62; NDV = 118.



Figs. 14–22. *Perates nudosetosus* sp. n., larva. **Fig. 14.** Scutum. **Fig. 15.** Dorsal idiosomal seta. **Fig. 16.** Ventral idiosomal seta. **Fig. 17.** Anterior sternal seta. **Fig. 18.** Arrangement of dorsal idiosomal setae. **Fig. 19.** Arrangement of ventral idiosomal setae. **Fig. 20.** Dorsal aspect of gnathosoma. **Fig. 21.** Ventral aspect of gnathosoma. **Fig. 22.** Cheliceral blade.

Standard measurements:

	AW	PW	SB	ASB	PSB	SD
Min	39	59	23	22	11	34
Max	57	68	28	30	16	44
m	52	62	25	25	13	38
n	10	10	10	10	10	10

P-PL	AP	AM	AL	PL	S	H
3	22	34	25	27	54	32
9	29	41	29	33	63	41
5	26	38	26	30	59	37
10	20	10	19	20	5	18

D	V	pa	pm	pp	Ip
23–33	20–34	209	189	207	605
28–38	20–34	281	241	265	785
26–36	20–34	257	226	247	730
10	1	10	10	10	10

DS	VS	NDV	TaIII	TaW
51	55	106	54	13
61	76	132	70	14
56	62	118	65	14
10	10	10	10	10

H o s t s : *Mormoops megalophylla* (Peters, 1864) (Chiroptera, Mormoopidae), *Myotis nigricans* (Schinz, 1821) (Chiroptera, Vespertilionidae), *Pteronotus personatus* (Wagner, 1843) (Chiroptera, Mormoopidae). New host species: *Mormoops blainvillii* Leach, 1821, *P. macleayii* (Gray, 1839), *P. quadridens* (Gundlach, 1840) (Chiroptera, Mormoopidae).

D i s t r i b u t i o n : Panama, Trinidad. Recorded in Cuba for the first time.

M a t e r i a l e x a m i n e d : 40 larvae, Pinar del Rio Province, Vinales, Cueva del Indio, 20–21 Aug. 1965, from *P. quadridens*; 8 larvae, Habana Province, Guanajay, Cueva de William Palmer, 12 Aug. 1965, from *P. quadridens*; 2 larvae, Habana Province, Catalina de Guines, Cueva de Mudo, 4 Feb. 1966, from *P. quadridens*; 2 larvae, Habana Province, Tapaste, Cueva del Indio, 24 May 1965, from *P. quadridens*; 3 larvae, Sancti Spiritus Province, Yaguajay, Cueva Nova Caguane, 11 June 1965, from *P. macleayii* and *P. quadridens*; 4 larvae, Isla de Pinos, Pedernales, Cueva de Murcielagos, 11 Oct. 1965, from *P. macleayii*; 7 larvae, Matanzas Province, Camarioca, Cueva de Santa Catalina, 3 Aug. 1965, from *M. blainvillii*.

Remarks: A comparison of our measurements with those given by Brennan and Jones (1960) and Vercammen-Grandjean (1968) revealed that our specimens have a smaller scutum (PW = 59–68 against 69–72, SD = 34–44 against 51–54) and shorter setae (AM = 34–41 against 45–48, AL = 25–29 against 32–33, PL = 27–33 against 33–35, H = 32–41 against 45–46). Probably it is a case of geographic variability.

Tectumpilosum negreai Feider, 1983 Figs. 23–27

Feider 1983: 120 (adult); de la Cruz and Socarrás 1993: 7, figs. 3–5 (larva).

Diagnosis: SIF = 7B-N-3-3111.0000; fPp = B/B/BBB; fCx = 1.1.1; fSt = 2.2; fSc: PL>>AM>AL; Ip = 1165; fD = [(8–10)-6]-8-6-4-2-…; DS = 39; VS = 43; NDV = 82.

Description: LARVA. Idiosoma. All surface punctate. Eyes absent. Humeral setae not separated from dorsal setae; 37–42 dorsal idiosomal setae, heavily barbed, arranged [10-6]-8-6-4-2-2 with some variations; 2 pairs of sternal setae; 40–48 ventral setae; total idiosomal setae 79–85. Gnathosoma. Cheliceral blade with tricuspid cap; gnathobase bearing a pair of branched setae; galeala nude; palpal claw 3-pronged; setae on palpal femur and genu branched, palpal tibial setae each with 1–2 branches, in some specimens dorsal seta nude; palpal tarsus with tarsala and 7 branched setae: dorsal seta heavily branched, ventral proximal seta moderately branched, other 5 setae each with 1–2 branches or nude. Scutum. Moderately punctate, trapezoidal, with anterolateral shoulders and with concave anterior and slightly concave posterior margins; AM base at level of AL bases; SB very large, slightly posteriad to level of PL bases; PL about twice as long as AL, heavily barbed, situated on posterolateral projections of scutum; AM>AL, AM and AL with very long thin barbs; flagelliform sensilla with few long branches in distal part. Legs. All 7-segmented, terminating in a pair of claws and a claw-like empodium. Onychotriches absent. Specialised setae long, with pointed apices. Leg I: coxa 1B; trochanter 1B; basifemur 1B; telofemur 5B; genu 4B, 3 genualae, microgenuala; tibia 8B, 2 tibialae, microtibiala; tarsus 22B, tarsala (32 long), microtarsala, subterminala, parasubterminala, pretarsala. Leg II: coxa 1B; trochanter 1B; basifemur 2B; telofemur 4B; genu 3B, genuala; tibia 6B, 2 tibialae; tarsus 16B, tarsala (21 long), microtarsala; pretarsala. Leg III: coxa 1B; trochanter 1B; basifemur 2B; telofemur 3B; genu 3B, genuala; tibia 6B, tibiala; tarsus 15B.

Standard measurements:

	AW	PW	SB	ASB	PSB	SD	P-PL
Min	75	95	31	33	16	50	18
Max	81	98	36	34	18	52	21
m	78	96	34	34	17	51	19
n	3	3	3	3	3	3	3

AP	AM	AL	PL	D	V	pa	pm
23	43	38	82	41–85	40–74	391	344
26	49	41	94	52–85	45–79	425	371
24	46	39	88	47–85	42–77	406	356
6	4	5	8	4	4	4	4

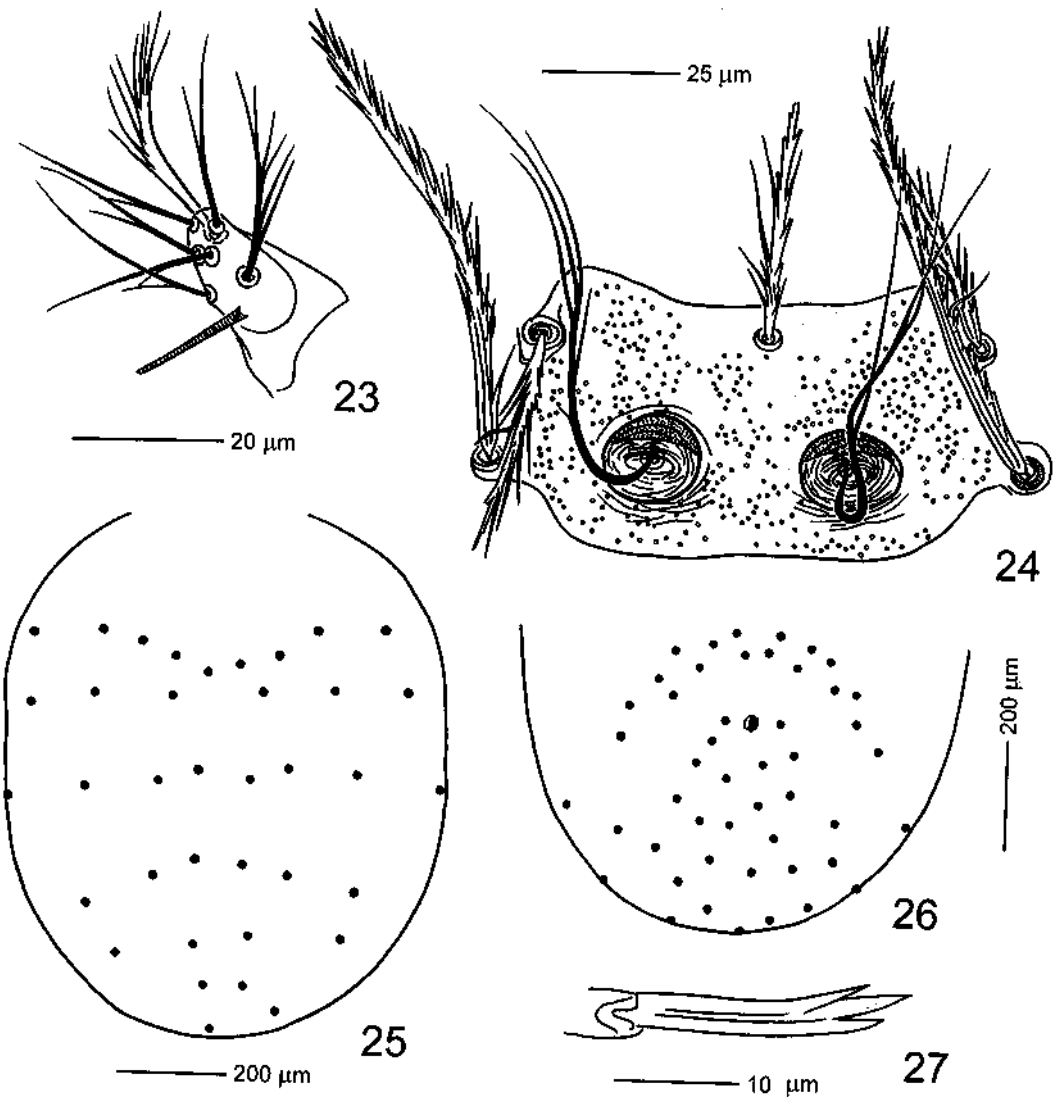
pp	Ip	DS	VS	NDV	TaIII	TaW
394	1129	37	40	79	113	20
410	1199	42	48	85	121	21
403	1165	39	43	82	117	20
4	4	4	4	4	4	4

H o s t : Previously only larvae reared in laboratory were studied. Here the first finding of *T. negreai* larvae in nature is reported. *Phyllonycteris poeyi* Gundlach, 1860 (Chiroptera, Phyllostomidae) is the first known host of this chigger mite.

D i s t r i b u t i o n : Cuba.

M a t e r i a l e x a m i n e d : 5 larvae from the type locality, Sancti Spiritus Province, Yaguajay, Cueva de Colón, 23 Apr. 1965, from *P. poeyi.*

Remarks: The first description of *T. negreai* larvae (de la Cruz and Socarrás 1993) has obvious errors. Namely, the bases of dorsal seta on palpal tarsus and of dorsal seta on palpal tibia in fig. 4 D are mixed up. Consequently, the authors indicated fPp = B/B/BBN for this species. They considered one of palpal tarsal setae as specialised subterminala. On leg I only 2 genualae arranged one after the other are figured (de la Cruz and Socarrás 1993; fig. 4 A), third genuala is omitted. Posterolateral setae, situated on scutal projections, are figured and described as extrascutal (ibid., fig. 3). Palpal claw is figured as having only 2 prongs with unusual shapes (ibid., fig. 4 D). Also very unusual numbers of non-specialised leg setae obviously were caused by incorrect counting and, partly, by considering some of such setae as specialised femoralae. On the other hand, arrangement of idiosomal setae, measurements and general appearance of the mite described in the mentioned paper are in good agreement with our data. Therefore there is no doubt that it is the same species.



Figs. 23–27. *Tectumpilosum negreai* Feider, 1983, larva. **Fig. 23.** Palpal tarsus. **Fig. 24.** Scutum. **Fig. 25.** Arrangement of dorsal idiosomal setae. **Fig. 26.** Arrangement of ventral idiosomal setae. **Fig. 27.** Palpal claw.

Parasecia manueli (Brennan et Jones, 1960)

Brennan and Jones 1960: 520, fig. 15 (*Trombicula*); Vercammen-Grandjean 1965: 38 [*Fonsecia* (*Euneocula*)]; Loomis 1966: 191 [*Fonsecia* (*Parasecia*)]; Brennan 1969: 666 [*Fonsecia* (*Parasecia*)]; Brennan and Lukoschus 1971: 44.

Diagnosis: SIF = 7BS-N-3-3111.0000; fPp = B/B/NNB; fCx = 1.1.1; fSt = 2.2; fSc: PL>AM>AL; Ip = 905; fD = 2H-6-6-4-2-2; DS = 22; VS = 19; NDV = 41.

Standard measurements:

	AW	PW	SB	ASB	PSB	SD	P-PL
Min	76	89	31	28	16	47	9
Max	81	92	35	32	19	49	12
m	79	90	33	30	18	48	10
n	5	5	5	5	5	5	5

AP	AM	AL	PL	H	D	V	pa
25	49	32	63	56	43–61	34–54	315
33	55	38	72	65	54–68	40–56	333
29	51	36	68	60	47–65	37–55	325
10	3	6	10	7	5	3	5

pm	pp	Ip	DS	VS	NDV	TaIII	TaW
268	297	880	22	17	39	81	17
284	319	931	22	20	42	90	19
275	305	905	22	19	41	85	18
5	5	5	5	5	5	5	4

H o s t s : Many species of reptiles, birds, rodents and marsupials. Only one finding on chiropterans (*Molossus* sp., Molossidae) has been previously recorded (Brennan and van Bronswijk 1975). New hosts: *Pteronotus macleayii* (Gray, 1839) (Chiroptera, Mormoopidae) and *Erophylla sezecorni* (Gundlach, 1860) (Chiroptera, Phyllostomidae).

D i s t r i b u t i o n : Panama, Colombia, Peru, Trinidad, Surinam. Recorded in Cuba for the first time.

M a t e r i a l e x a m i n e d : 3 larvae, Isla de Pinos, Cerro de Guanabana, Cueva de los Lagos, 14 Jan. 1966, from *P. macleayii*; 5 larvae, Isla de Pinos, 26 June 1965, from *E. sezecorni.*

Remarks: In comparison with the original description, our measured specimens are characterised by larger scutum (AW = 76–81 against 66, PW = 89–92 against 76, SD = 47–49 against 40). Probably it is a case of geographic variability.

Beamerella acutascuta Brennan, 1958

H o s t s : Many bat species. New host: *Phyllonycteris poeyi* Gundlach, 1860 (Chiroptera, Phyllostomidae).

D i s t r i b u t i o n : Texas, Mexico, Nicaragua, Costa Rica, Panama, Venezuela, Trinidad, Surinam, French Guiana, Bolivia. Recorded in Cuba for the first time.

M a t e r i a l e x a m i n e d : 13 larvae, Matanzas Province, Camarioca, Cueva de Santa Catalina, 3 Aug. 1965, from *P. poeyi*; 1 larva, Habana Province, Guanajay, Cueva de William Palmer, 12 Aug. 1965, from *P. poeyi*.

Blankaartia sinnamaryi (Floch et Fauran, 1956)

D i s t r i b u t i o n : Texas, Florida, Panama, Surinam, French Guiana, Peru, Jamaica, Trinidad. Recorded in Cuba for the first time.

M a t e r i a l e x a m i n e d : 1 larva, Isla de Pinos, Cayo Piedra, 9 Oct. 1965, from *Glaucidium siju* (Orbigny, 1839) (Aves, Strigiformes, Strigidae).

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REFERENCES

BRENNAN J.M. 1969: Three new species of subgenus *Parasecia* Loomis (genus *Fonsecia*) from northeastern Brazil and a key to the included species (Acarina: Trombiculidae). J. Parasitol. 55: 662–666.

BRENNAN J.M., van BRONSWIJK J.E.M.H. 1975: Parasitic mites of Surinam. XXI. New record of Surinam and certain French Guiana chiggers with the description of a new species of *Loomisia* Brennan & Reed, 1972 (Acarina: Trombiculidae). J. Med. Entomol. 12: 243–249.

BRENNAN J.M., JONES E.K. 1960: Chiggers of Trinidad, B.W.I. (Acarina: Trombiculidae). Acarologia 2: 493–540.

BRENNAN J.M., LUKOSCHUS F. 1971: Parasitic mites of Surinam. VIII. A new genus and species of chigger, *Fauranius atecmartus*, and additional records of species (Acarina: Trombiculidae). Bull. South. Calif. Acad. Sci. 70: 42–45.

de la CRUZ J., DANIEL M. 1994: Chigger mites (Acarina: Leeuwenhoekiidae) from Cuba. Folia Parasitol. 41: 71–74.

de la CRUZ J., SOCARRÁS A.A. 1993: Los géneros *Ischnothrombium* y *Tectumpilosum* (Acarina: Trombiculidae) en Cuba. Poeyana 437, 14 pp.

FEIDER Z. 1983: Seconde contribution a la connaissance des Trombiculoidea cavernicoles de Cuba. Resultats des Exped. Biospéol. Cubano-Roumaines á Cuba 4: 115–138.

GOFF M.L., LOOMIS R.B., WELBOURN W.C., WRENN W.J. 1982: A glossary of chigger terminology (Acari: Trombiculidae). J. Med. Entomol. 19: 221–238.

LOOMIS R.B. 1966: A new genus, *Fonsecula*, and a new subgenus (*Parasecia*) of the genus *Fonsecia* (Acarina, Trombiculidae). Bull. South. Calif. Acad. Sci. 65: 190–191.

LOOMIS R.B. 1969: Chiggers (Acarina, Trombiculidae) from vertebrates of the Yucatan Peninsula, Mexico. Univ. Kans. Mus. Nat. Hist., Misc. Publ., 50. 22 pp.

VERCAMMEN-GRANDJEAN P.H. 1965: Trombiculinae of the World. Synopsis with Generic, Subgeneric, and Group Diagnoses (Acarina, Trombiculidae). George Williams Hooper Foundation for Medical Research, University of California Medical Center, San Francisco, 192 pp.

VERCAMMEN-GRANDJEAN P.H. 1968: Revision of the genus *Myotrombicula* Womersley and Heaslip, 1943 (Trombiculidae: Acarina). Acarologia 10: 65–85.

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