

*C. E. MACHADO-ALLISON
and RAFAEL ANTEQUERA*

*Notes on Neotropical
Mesostigmata VI:
Four New Venezuelan
Species of the Genus
Periglischrus
(Acarina: Spinturnicidae)*

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ABSTRACT

C. E. Machado-Allison and Rafael Antequera. Notes on Neotropical Mesostigmata VI: Four New Venezuelan Species of the Genus *Periglischrus* (Acarina : Spinturnicidae). *Smithsonian Contributions to Zoology*, number 93, 16 pages, 1971.—Four new species of *Periglischrus* Kolenati (Acarina, Mesostigmata, Spinturnicidae) are described from Venezuela: *P. ramirezi* sp. n., collected from *Rhinophylla pumilio*; *P. paracutisternus* sp. n., ex *Trachops cirrhosus*; *P. gameroi* sp. n., ex *Lonchorhina aurita* and *P. dusbabeki* sp. n., ex *Mimon crenulatum*. Some corrections related to the date of publication of descriptions of species of *Periglischrus* are made and a discussion on the validity of the genus *Cameronieta* Machado-Allison is given.

RESUMEN

En este trabajo se describen cuatro nuevas especies del género *Periglischrus* Kolenati (Acarina, Mesostigmata, Spinturnicidae) procedentes de Venezuela. *P. ramirezi*, sp. n., colectada sobre *Rhinophylla pumilio*; *P. paracutisternus*, sp. n., sobre *Trachops cirrhosus*; *P. gameroi*, sp. n., sobre *Lonchorhina aurita* y *P. dusbabeki*, sp. n., sobre *Mimon crenulatum*. Algunas correcciones sobre la fecha de publicación de descripciones de algunas especies de *Periglischrus* son efectuadas y se discuten las características del género *Cameronieta* Machado-Allison concluyéndose en sostener la validez del mismo.

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Notes on Neotropical
Mesostigmata VI:
Four New Venezuelan
Species of the Genus
Periglischrus
(Acarina; Spinturnicidae)

In a previous paper one of us (Machado-Allison, 1965b) pointed out that careful collecting of bats and their ectoparasites might possibly lead to the discovery of new species of *Periglischrus* Kolenati. The description of four new mite species parasitic on the bat genera *Trachops*, *Mimon*, *Lonchorina*, and *Rhinophylla*, all belonging to the Phyllostomidae, confirms this prediction. In the present paper we shall also discuss the contention of Furman (1966) that the genus *Cameronieta* Machado-Allison, 1965, is a synonym of *Periglischrus*; the validity of species described by Furman (1966) and by one of us (Machado-Allison, 1964, 1965b); and several existing points of confusion relative to the publication date of some species descriptions. Observations on geographic distribution, host-parasite relationships and intraspecific variation of some forms will be the subject of later communications.

This paper is a contribution of the Smithsonian Venezuelan Project, supported by a contract (DA-49-193-MD-2788) of the Medical Research and Development Command, Office of the Surgeon General, United States Army.

Genus *Cameronieta* Machado-Allison

Cameronieta Machado-Allison, 1965:243.—Dusbabek, 1967:149.
Periglischrus.—Furman, 1966:166.

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Furman (1966) considered *Cameronieta* to be a synonym of *Periglischrus*, stating that the figure and description of *C. thomasi* agrees "with the specimens I have described as heteromorphic females of *Periglischrus elongatus*." In another paragraph, describing *P. elongatus*, Furman referred to the characteristics of both specimens considered as "abnormal females" which are, in effect, similar to those specimens which I have considered adult females of *C. thomasi*. There is no doubt that the material described by him, *Periglischrus strandtmanni* Tibbets and the new species described by Dusbabek (1967) from Cuba (*Cameronieta machadoi*, *C. torrei*, and *C. tibbetsi*), all have been obtained from chilonycterine bats and that all possess morphological characteristics similar to *C. thomasi*. On the other hand it is extremely difficult, with our present state of knowledge of the biology of the Spinturnicidae, to accept the idea that incrustated adult females with developed sclerotized camerostome, pectinated hairs, sternal plate fused to the first pair of coxae and wider than long, etc., are simple heteromorphic forms of a typical *Periglischrus*. To the above, we should add the fact, undoubtedly of biological importance, that the so-called abnormal or heteromorphic forms are precisely those which we have found with larvae inside them. From our point of view, this justifies the selection of these forms as representatives of the species. A negative observation, i.e., failure to find non-incrustated females (which differ from incrustated

Comparison Between *Periglischrus* and the two known forms of *Cameronieta*

Character	<i>Periglischrus</i>	<i>Cameronieta</i> (♀ only)	
		"free"	"incrusted"
Sternal plate	a) Longer than wide b) Separated from coxae	a) Wider than long b) In contact with coxae	a) Wider than long b) Fused to coxae
Sternal setae	On margin of plate	On the surface of plate	
Ventral antero-lateral tegument	Smooth	With many small thorns	
Scutum	Anterior and posterior sections related by two bridges	Anterior and posterior sections fused by a suture or completely separated	
Sclerotized plates	Two lateral pairs and a medial one	Only one pair of lateral plates	
Anus	Ventral and terminal	Dorsal and subterminal	
Camerostome		Present but not very sclerotized	Present and very well sclerotized

females in several significant characteristics) with larvae inside them, would be equally valid if these forms really belong to the same species. Even though the former observations and the host-parasite specificity are sufficient to retain *Cameronieta* as a valid genus, we offer in the tabulation above a further analysis of the morphological characteristics of the "typical *Periglischrus*," and the "incrusted" and "free" forms of *Cameronieta*

The tabulation shows that there is much greater affinity between the non-incrusted and incrusted forms of *Cameronieta* than between either of these and any of the *Periglischrus* species, a circumstance strengthened by the absence of any species which combines intermediate morphological characteristics. But it must also be pointed out that between the males of the two genera, the differences are much less important, for the shape of the ventral plate and the chaetotaxy of the legs and of the posterior intercoxal area is similar in the males of both genera. In general, the main differences are the presence of small thorns on the tegument and a certain dilatation and striation of the ventral plates; these could

indicate a close relationship between *Cameronieta* and *Periglischrus*, and thus we consider them as a taxonomic unit within the family, but at the same time definitely separated from each other. There is also a certain likeness between the males of *Cameronieta* and of *Eyndhovenia*, a genus which parasitizes the bat family and is distributed throughout the Old World.

Finally, it is useful to point out the existence of very peculiar host-parasitic relationships between the genus *Cameronieta* and the Chilonycterinae. In a previous paper one of us (Machado-Allison, 1967) analyzed the relationships between the Spinturnicidae and Phyllostomidae, and concluded that the Desmodidae must be considered as a part of the family Phyllostomidae, while the Chilonycterinae, until now considered as a subfamily of Phyllostomidae, should be considered as a separate family. On the other hand, in their analysis of the host-parasite relationships of the Streblidae (Diptera), Wenzel, Tipton, and Kiewlicz (1966) "supported the view of Dalquest and Werner (1954) and De La Torre (1962) that the Chilonycterinae should be regarded

as a separate family of Vespertilionoidea rather than a subfamily of Phyllostomidae."

Genus *Periglischrus* Kolenati

Periglischrus Kolenati, 1857:60.

Periglischrus acutisternus Machado-Allison

P. caligus Kolenati, 1857:60.—Rudnick, 1960:196.—Furman, 1966:166.

P. tiptoni Furman, 1966:144.

Furman in his "addendum" (1966:166) pointed out that "*P. tiptoni* is a synonym of *P. acutisternus* Machado-Allison." In a previous paper one of us (Machado-Allison, 1965b) gave the year 1965 as publication date for *acutisternus*, referring to a paper then in press; however, the original description of *P. ojastii*, *P. acutisternus*, and *P. parvus* appeared in December 1964 (see Literature Cited), hence this correction.

Periglischrus caligus Kolenati

P. caligus Kolenati, 1857:60.—Rudnick, 1960:196.—Furman, 1966:142.

P. setosus Machado-Allison, 1964:199; 1965:271.

Machado-Allison (1965:271) pointed out "la descripción original de Kolenati no permite la identificación de esta especie y conservamos a *setosus* como una especie válida hasta poder compararla con el tipo de *caligus*." Furman (1966:142) says, without further comment: "I consider *P. setosus* Machado-Allison to be a synonym of *caligus* Kolenati." On the basis of the description and figures given by Furman, and on material identified by Kolenati as *caligus*, we consider this opinion valid; however, there is doubt as to whether *P. vargasi* Hoffmann (a closely related species), which is also collected on *Glossophaga*, might be identical to the type of *caligus*, the location of which has been unknown until now.

Periglischrus ojastii Machado-Allison

P. ojastii Machado-Allison, 1964:197; 1965:268.—Furman, 1966:166.

P. aitheni Furman, 1966:137.

Concerning the date of publication of this species, see comments under *P. acutisternus*.

Periglischrus parvus Machado-Allison

P. parvus Machado-Allison, 1964:195; 1965:268.

The correct date of publication is the same as that for *acutisternus* and *ojastii*. Furman (1966:166) pointed out that "*P. micronycteridis* Furman may be a synonym of *P. parvus* Machado-Allison. Both occur on *Micronycteris* species, but the photomicrographs and key characters given for *P. parvus* are inadequate for certain identification." It is evident, in spite of Furman's comments, that *parvus* and *micronycteridis* have many common characteristics, but the shape of the sternal plate and the medial plate in the females (compare Figures 6 and 23 of Machado-Allison, 1965, and Plate-figures 45:1 and 2 of Furman, 1966) are different in the two species. In addition, the pale band of the scutum of *parvus* is absent in *micronycteridis* and the peculiar sculpture of the fore section of the scutum of *micronycteridis* is absent in *parvus*. We have had the opportunity to compare a paratype of *micronycteridis* from *Micronycteris megalotis*, several specimens from Venezuela collected also on *M. megalotis*, a few others from *M. minuta*, and material collected on *M. nicefori*, all with the type of *parvus*. It is clear to us that these two species are quite different.

Periglischrus torrealbai Machado-Allison

P. torrealbai Machado-Allison, 1965:276.—Furman, 1966:166.
P. inflatiseta Furman, 1966:134.

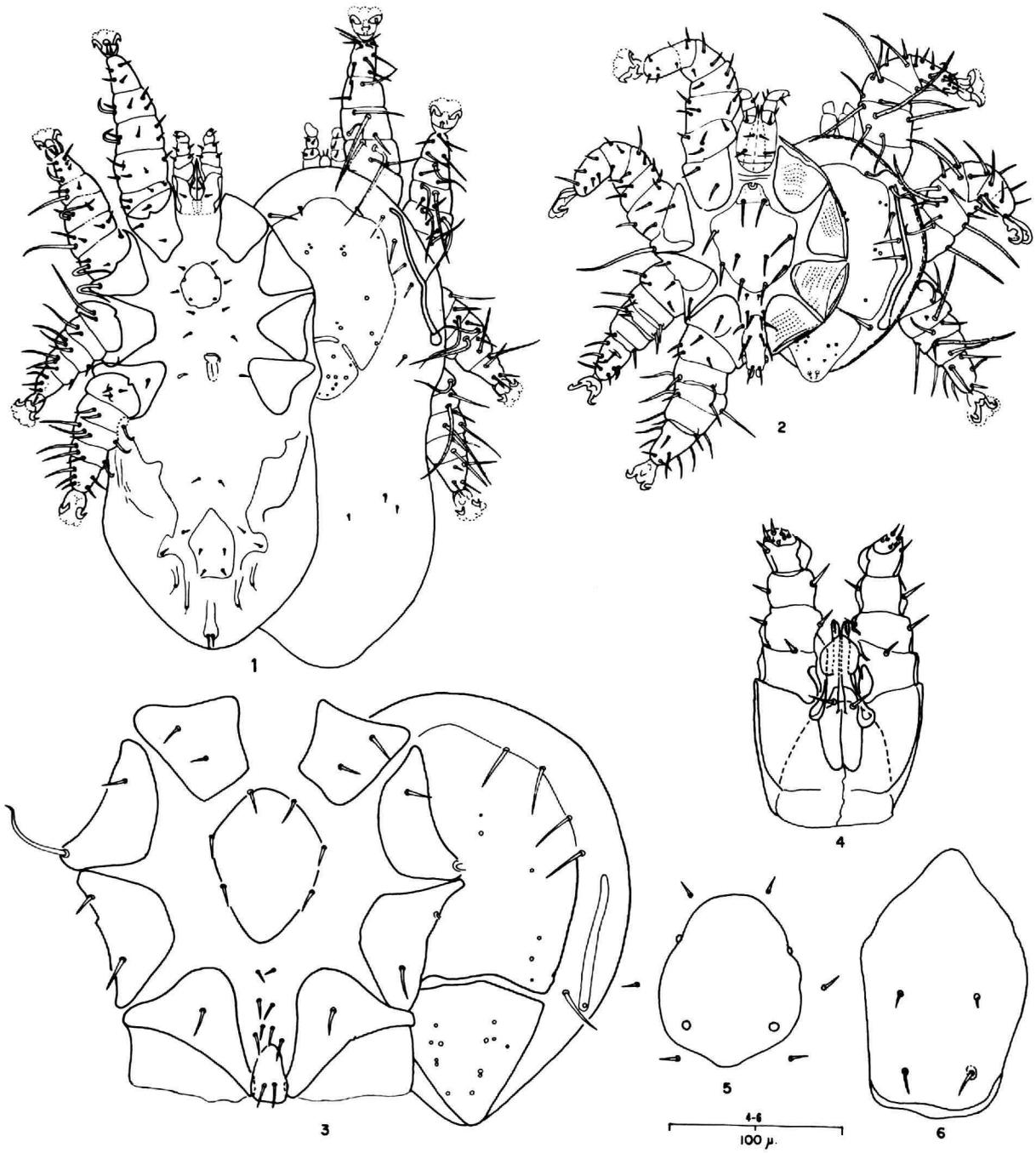
Without a doubt, the synonym of *inflatiseta* with *torrealbai* (Furman, 1966:66) is valid. It is interesting to note that we have observed one female, also collected on *Phyllostomus hastatus*, which differs somewhat in that the setae are acicular instead of inflated as the rest of the known specimens.

Periglischrus ramirezi, new species

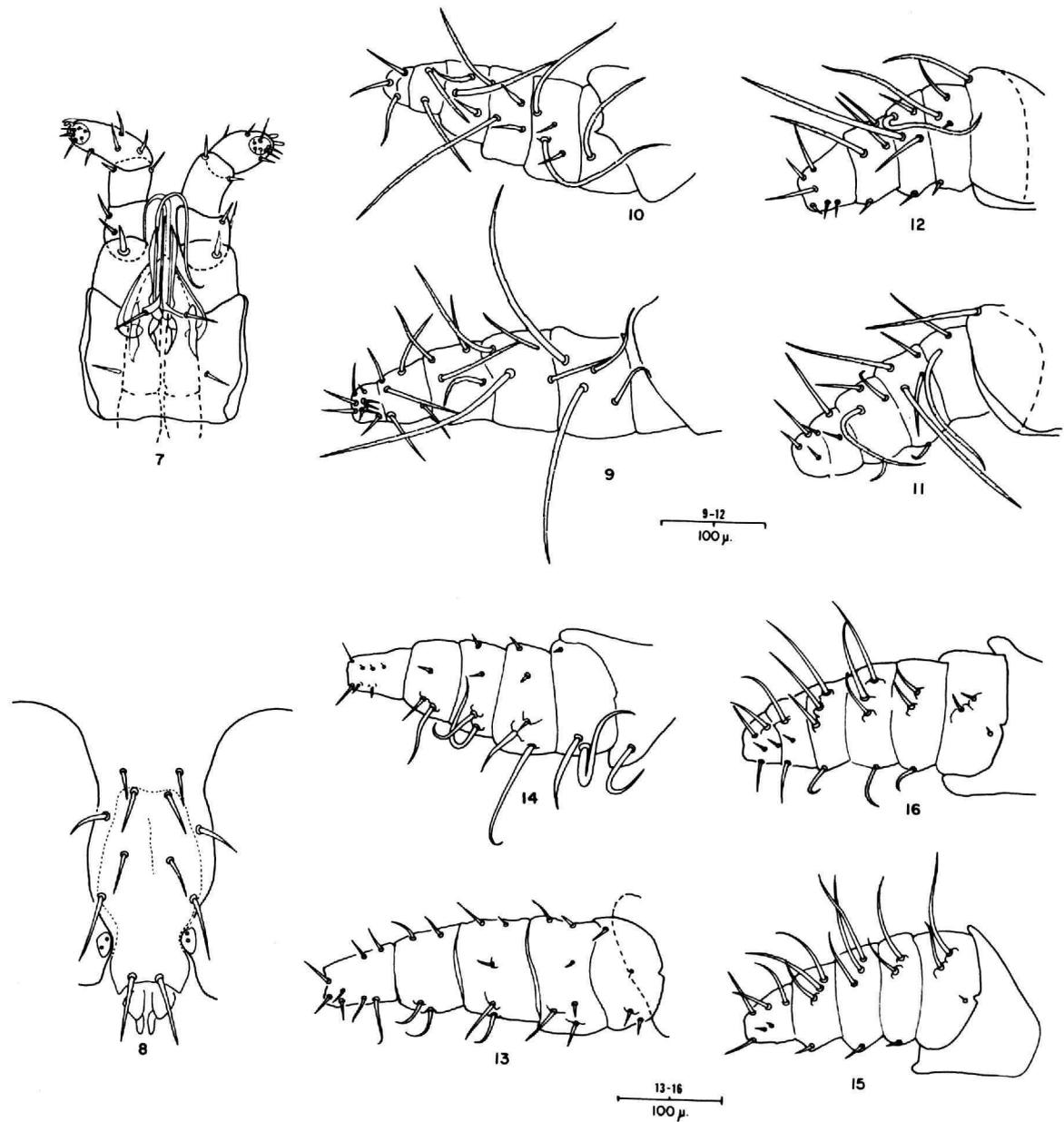
FIGURES 1-16

DESCRIPTION (Female).—Idiosoma $1033 \pm \mu$ (microns) long.

Dorsum: Scutum large, $436 \pm 18 \mu$ in length; sculpturing not clear; lengthwise pale band present and numerous pores in posterior section. Propodosomal setae 16, 49, 49, 33, and 33μ long, respectively (observe reduction in length of first pair as in *iheringi* and *ojastii*). Long and sinuous peritreme. Opistho-



FIGURES 1-6.—*Periglischrus ramirezi*, new species: 1, Female; 2, male; 3, idiosoma of protonymph; 4, gnathosoma of female; 5, sternal plate of female; 6, medial plate of opisthosoma of female.



FIGURES 7-16.—*Periglischrus ramirezi*, new species: 7, Gnathosoma of male; 8, intercoxal posterior area of male; 9-12, legs I to IV, chaetotaxy, dorsal, ♀; 13-16, legs I to IV, chaetotaxy, ventral, ♀.

soma with only three pairs of short, erect setae; well marked striation on tegument.

Venter: Sternal plate $107 \pm 6 \mu$ long, almost quadrangular in shape, $73 \pm 6 \mu$ in width at level of anterior pores and $83 \pm 5 \mu$ at level of posterior pores. Posterior margin with two lateral excavations. Sternal setae small, fine, approximately 12μ in length; metasternal setae similar to the sternal setae. Epigynial plate reduced, slightly sclerotized with very small setae; lateral plate on each side of epigynial plate, present but reduced. Opisthosoma with large, slightly sclerotized plates. Medial plate very wide, relatively short, $107 \pm 2 \mu$ wide, $166 \pm 4 \mu$ long. Posterolateral plate reduced, porous; seven pairs of opisthosomal setae in addition to adanal pair, all short, fine, approximately 15μ in length excepting most posterior ones which may reach 20μ .

Legs: With internal edge of coxa I $73 \pm 3 \mu$ in length; trochanter I $123 \pm 3 \mu$ wide at base, tarsus I reduced to 61μ at base. Chaetotaxy as in figures.

Gnathosoma: With short setae; hypostomal distal setae about 16μ long; inner setae not visible; proximal setae, short, 12μ long. Lobes of segment 4 of palpus relatively reduced.

DESCRIPTION (Male).—Idiosoma 498μ long.

Dorsum: Scutum 461μ long. Propodosomal setae long, first and second pairs sinuose, more or less 5μ long; third to fifth pairs erect, 63μ long. Metapodosomal setae somewhat longer, 66μ long. Peritremes long and robust.

Venter: Holovenral plate 227μ long, by 196μ wide at level of anterolateral setae. Edges slightly sclerotized. Genital region dilated, with setae 62μ long; anterolateral setae 57μ long; medial setae shorter, 43μ long; posterolateral setae slightly longer, 48μ , posterior setae 47μ long. One pair of short setae behind plate. Posterior intercoxal area and anal plate with six pairs of setae besides adanal pair and postanal setae, almost dorsal in position. Tegument of opisthosoma with marked striations.

Legs: Long, with strong coxae and chaetotaxy as in figures.

Gnathosoma: With relatively long setae; gnathosomal basal setae 18μ long; distal hypostomal setae short, 16μ long; external setae 18μ long.

TYPE MATERIAL.—Holotype (9040), female, ex *Rhinophylla pumilio* from Venezuela, Bolívar State, 59 km SE El Dorado (El Mónaco), 150 m alt., 8–VI–1966, Smithsonian Venezuelan Project col.

Paratypes: Ex *Rhinophylla pumilio*: 1 protonymph (9040), same data as holotype; 2 females (8282), 85 km SSE El Dorado, 750 m alt., 17–V–1966; 1 female (9503), same data as holotype but 17–V–1966; 2 females (9334), idem, but 14–V–1966; 2 females (9819), idem, but 24–VI–1966; 1 female and 1 protonymph (8842), 85 km SSE El Dorado (Km 125 on road to El Dorado), 1032 m alt., 26–V–1966; 1 female (8448), idem, but 19–V–1966; 1 female (6424), Apure State, 115 km NW Puerto Paéz (Río Cinaruco), 76 m alt., 20–I–1966; 2 males and 1 female (6438), idem, but 21–I–1966; 3 females (32248), Brazil: Para, Belém, August 1965, Charles O. Handley, Jr. col.

Holotype and paratypes 8282, 9503, and 6424 deposited at the U. S. National Museum; paratypes 9334, 9040, 9819 and 32248 deposited at the Instituto de Zoología Tropical, Universidad Central de Venezuela; paratype 8842 deposited at the British Museum (Natural History); paratype 8448 deposited at the Museo de Historia Natural de la Ciudad de México, México.

This species is named in honor of the late Professor Manuel M. Ramírez from the Instituto de Zoología Tropical, Universidad Central de Venezuela.

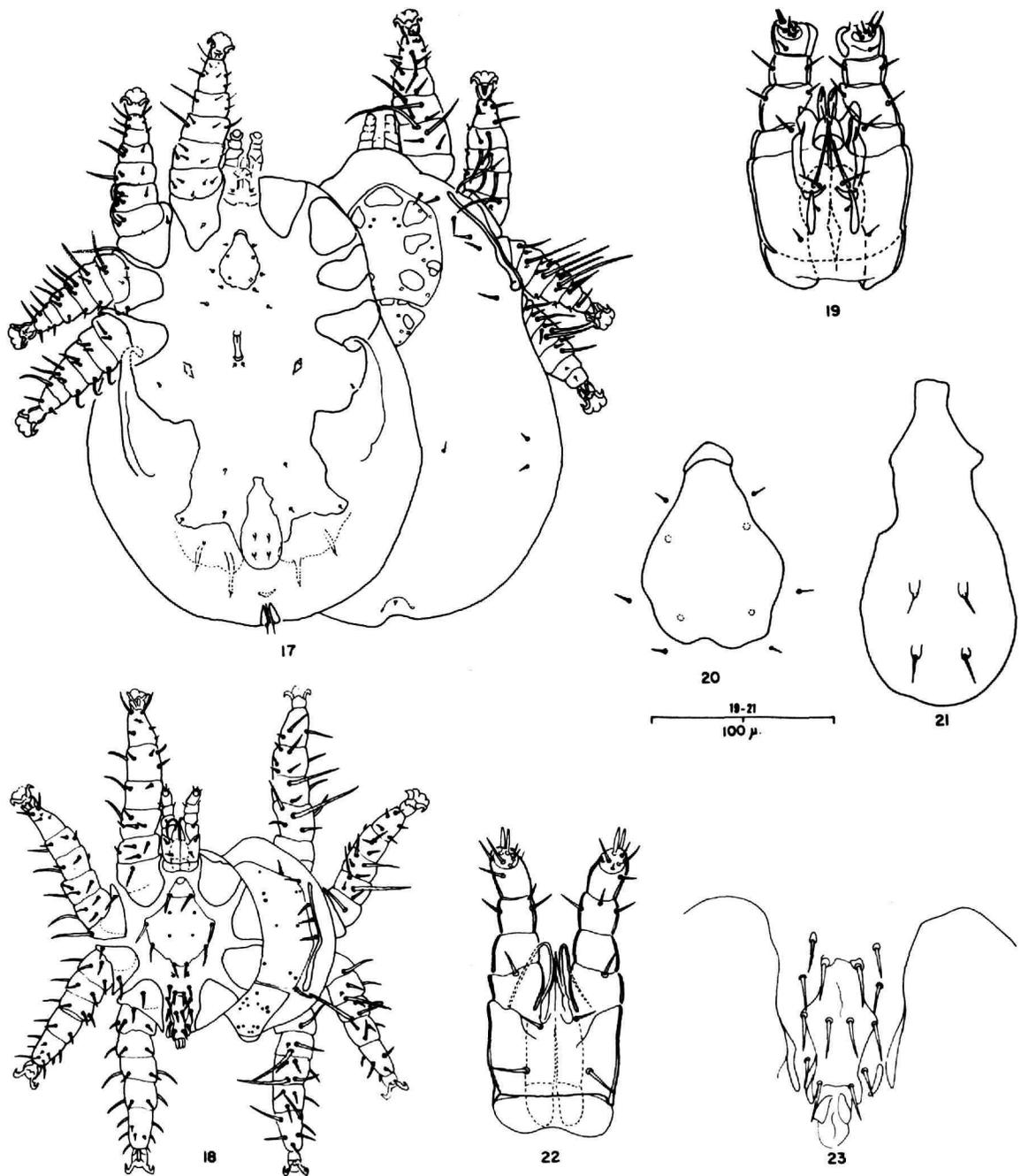
Periglischrus gameroi, new species

FIGURES 17–31

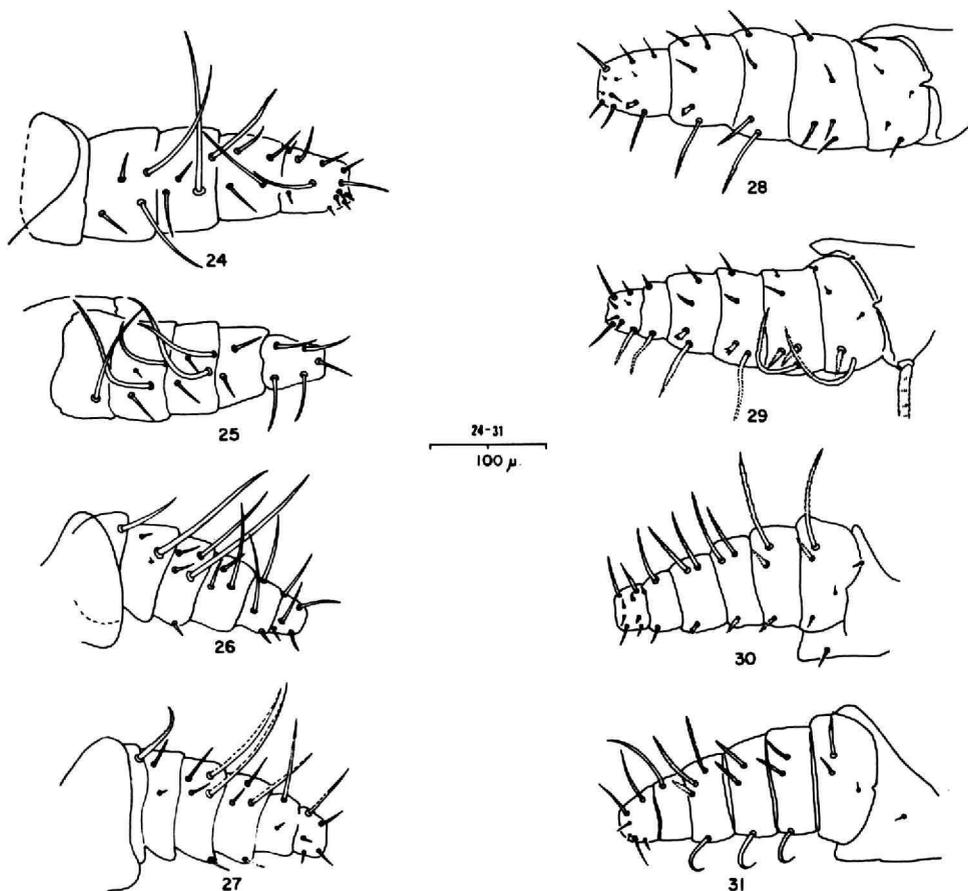
DESCRIPTION (Female).—Idiosoma $890 \pm 34 \mu$ long.

Dorsum: Scutum $329 \pm 15 \mu$ long. Eight pairs of pores on anterior plate, four large pairs on posterior plate with some microsetae. Longitudinal pale band absent; sculpture well marked. Propodosomal setae not very large, 28, 30, 33, 30, and 35μ long, respectively, from the first to the fifth pairs; metapodosomal setae somewhat longer, reaching 39μ . Opisthosoma with three pairs of reduced setae; one very small postanal seta.

Venter: Sternal plate $118 \pm 4 \mu$ long and $67 \pm 1 \mu$ wide at level of first pair of pores, plate somewhat wider at level of second pair of pores, width $71 \pm 4 \mu$; anterior margin with a small projection somewhat more sclerotized than remainder of plate; lateral edges rounded and posterior margin with small medial sinus. Sternal setae very small, less than 15μ long; metasternals alike. Epigynial setae very small, difficult to see in some specimens. Small paraepigynial plates reduced but with characteristic shape.



FIGURES 17-23.—*Periglischrus gameroi*, new species: 17, Female; 18, male; 19, gnathosoma of female; 20, sternal plate of female; 21, medial plate of female; 22, gnathosoma of male; 23, intercoxal posterior area of male.



FIGURES 24-31.—*Periglischrus gameroi*, new species: 24-27, Legs I to IV, chaetotaxy, dorsal, ♀; 28-31, legs I to IV, chaetotaxy, ventral, ♀

Opisthosoma with sclerotized plates well developed. Medial plate long, $176 \pm 12 \mu$ in length and $75 \pm 4 \mu$ wide at level of anterior pair of setae. Opisthosoma with seven pairs of setae in addition to adanal pair.

Legs: Internal margin of coxa I $70 \pm 3 \mu$ long; trochanter $95 \pm 10 \mu$ wide, tarsus $56 \pm 3 \mu$ wide at base. Dorsal and ventral chaetotaxy as in figures.

Gnathosoma: Hypostomal distal setae long, about 25μ in length; internals absent, externals very small, almost vestigial.

DESCRIPTION (Male).—Idiosoma 369μ long.

Dorsum: Scutum 350μ long; propodosomal setae relatively short, first and second pairs about 27μ , third to fifth pairs 33μ , in length. Metapodosomal setae somewhat longer, 36μ . Peritremes reach pos-

terior margin of coxa I.

Venter: Holoventral plate 178μ in length by 135μ wide at level of anterolateral setae. Genital area 57μ long by 42μ wide at level of base. Genital setae 44μ long; anterolateral and posterolateral pairs 46 and 43μ long, respectively; medials 39μ and posteriors 31μ in length. One pair of additional very small setae behind plate. Area between posterior coxae with six pairs of setae in addition to adanal pair.

Legs: Dorsal and ventral chaetotaxy as in figures.

Gnathosoma: Chaetotaxy as in female. Palpal setae somewhat smaller.

This species is named in honor of Professor Alonso Gamero, Dean of the Facultad de Ciencias, Universidad Central de Venezuela.

TYPE MATERIAL.—Holotype (2555) female, ex *Lonchorhina aurita* from Venezuela, Trujillo State, 18 km N Valera (El Cenizo), 64 m alt., 3-IX-1965, Smithsonian Venezuelan Project col.

Paratypes: Ex *Lonchorhina aurita*: 4 females (2555), same data as holotype; 2 females (2502), idem, but 20 km N Valera, 164 m alt., 30-VIII-1965; 5 females and 1 male (2588) and 1 female (2557), idem, but 18 km N Valera, 164 m alt., 3-IX-1965; 1 male (3004), idem, but 23 km NW Valera (Agua Santa), 90 m alt., 18-IX-1965; 1 female (4751), Distrito Federal, 46 km W Caracas (El Limón), 398 m alt., 21-VIII-1965.

Ex *Lonchorhina sp. nov.*: 1 male and 1 protonymph (5565), Apure State, 60 km NE Puerto Paéz (Hato Cariben, Río Cinaruco), 76 m alt., 8-XII-1965; 1 female (5790), idem, but 23-XII-1965; 1 female (6045), idem, but 28-XII-1965; 1 female (6374), idem, but 24-I-1966; 1 female (6377), 2 females (6379), and 3 females (6380), 41 km NE Puerto Paéz (Río Cinaruco), 76 m alt., 24-I-1966.

Holotype and paratypes 2555, 2588, and 6379 deposited at the U. S. National Museum; paratypes 2557, 3004, 4751, 5565, 5790, and 6380 deposited at the Instituto de Zoología Tropical, Universidad Central de Venezuela; paratypes 6045 and 6374 deposited at the British Museum (Natural History); and paratypes 6377 deposited at the Museo de Historia Natural de la Ciudad de México, México.

Periglischrus dusbabeki, new species

FIGURES 32-46

DESCRIPTION (Female).—Idiosoma $1297 \pm 45 \mu$ long (the largest species of the genus), some specimens reach 1371μ in length.

Dorsum: Scutum $476 \pm 10 \mu$ in length with well marked margins, longitudinal pale band well defined. Seven pairs of large pores, two pairs of small pores on anterior plate, six pairs of large pores on posterior plate. Propodosomal setae 41, 43, 51, 51 and 51μ long, respectively, from first to fifth pairs. Metapodosomal setae 53μ in length. Opisthosoma dilated, large, easily deformed in mounting specimens. Three pairs of opisthosomal setae in addition to small postanal setae.

Venter: Sternal plate large, $185 \pm 6 \mu$ long by $123 \pm 1.2 \mu$ wide at level of first pair of pores and $116 \pm 1.2 \mu$ at level of second pair; anterior projection

similar in shape to those of *P. acutisternus* and *P. paracutisternus*. Sternal setae small, 11.5μ in length; metasternal setae about same length. Epigynial plate well sclerotized, reduced, with very small setae. Paraepigynial plates small, very thin but visible. Sclerotized plates of opisthosoma wide, well defined, very dark in color. Medial plate long, thin, $246 \pm 6 \mu$ long and $93 \pm 3 \mu$ wide at level of anterior pair of setae. Seven pairs of opisthosomal setae in addition to adanal pair.

Legs: Internal margin of coxa I almost straight, very long, $100 \pm 3 \mu$ in length; trochanter I robust, $141 \pm 6 \mu$ wide at base; tarsus I $83 \pm 6 \mu$ at base. Dorsal and ventral chaetotaxy as in figures.

Gnathosoma: Palpal segments almost quadrangular in shape. Basal setae 16μ long; distal setae 16μ long; externals 20μ in length.

DESCRIPTION (Male).—Idiosoma 615μ long.

Dorsum: Scutum large, 549μ in length. Propodosomal setae 57, 79, 74, 70 and 70, respectively, from first to fifth pairs; metapodosomal setae very long, 74μ in length.

Venter: Holoventral plate with very well defined margins, long setae. Plate 276μ long by 172μ wide at level of anterolateral setae; genital area 67μ long. Anteroexternal setae 92μ long; posteroexternals 86μ long; medials relatively short, 61μ in length; posteriors 73μ in length. Intercoxal posterior area with six pairs of setae in addition to adanal pair.

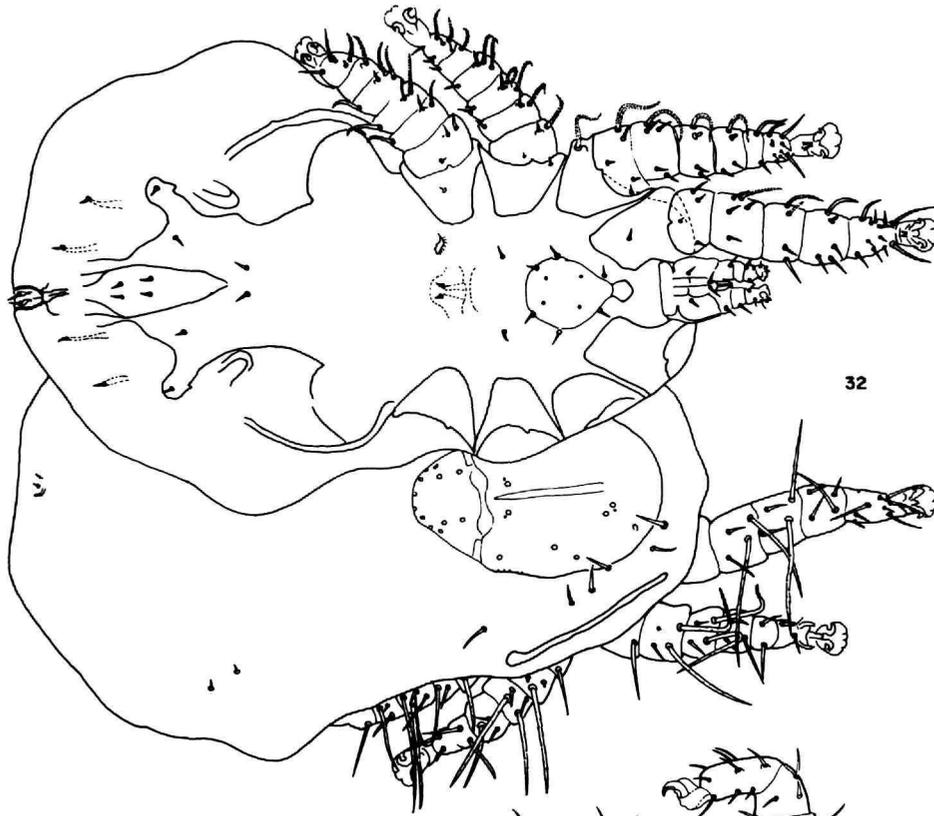
Legs: Very long, robust, chaetotaxy as in figures.

Gnathosoma: Basal setae 34μ long; distal 18μ long.

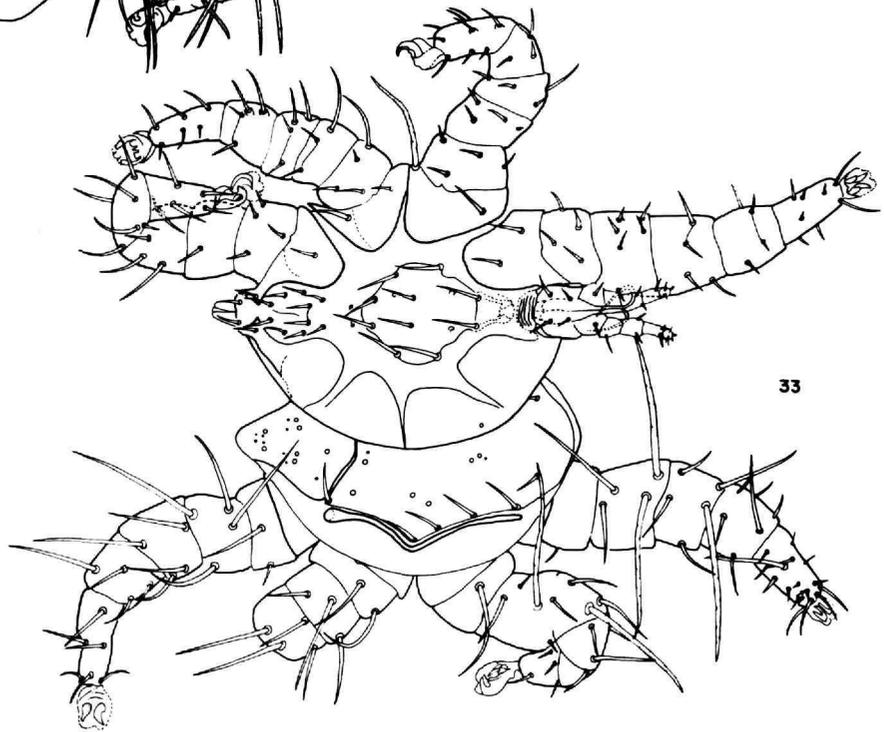
This species is named in honor of Professor F. Dusbabek of the Academy of Sciences of Czechoslovakia because of his comprehensive work on parasitic mites.

TYPE MATERIAL: Holotype (5015), female, ex *Mimon crenulatum* from Venezuela, Yaracuy State, 19 km NW Urama, 5 m alt., 31-X-1965, Smithsonian Venezuelan Project col.

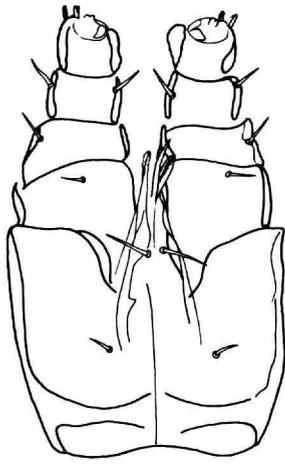
Paratypes: All ex *Mimon crenulatum*: 7 females (5015) same data as for holotype; 1 deutonymph (1729), 10 females and 1 male (1781), 19 km NW Urama, 18-X-1965; 1 female (1794), 1 female (1796), idem, but 20-X-1965; 1 female (1812), 2 females (1913), 3 females (1814), 2 females (1815), idem, but 22-X-1965; 3 females (1968), idem, but 26-X-1965; 2 females (1980), 2 females (1982), 2 females and 1 male (1983), 1 female (1894), 2 females (1895), 4 females and 1 deutonymph (5014),



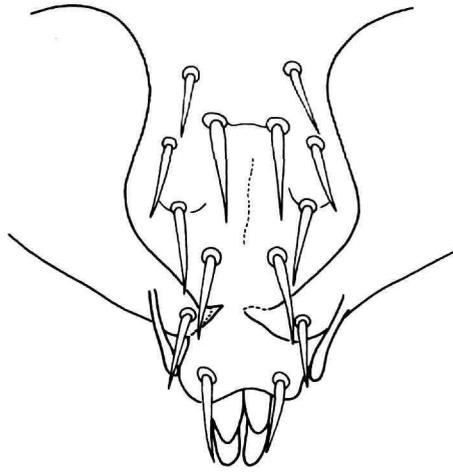
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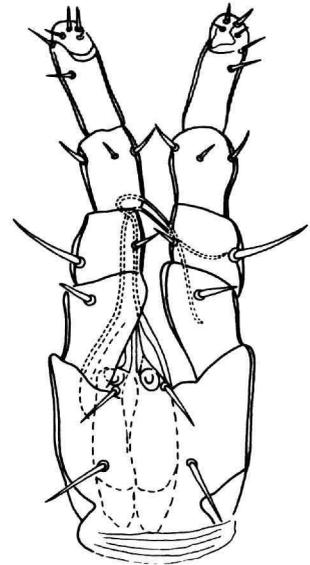
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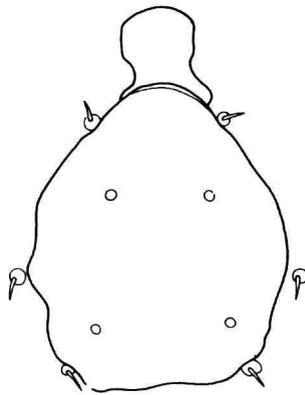
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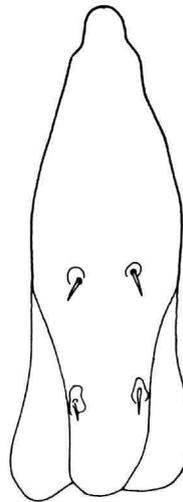
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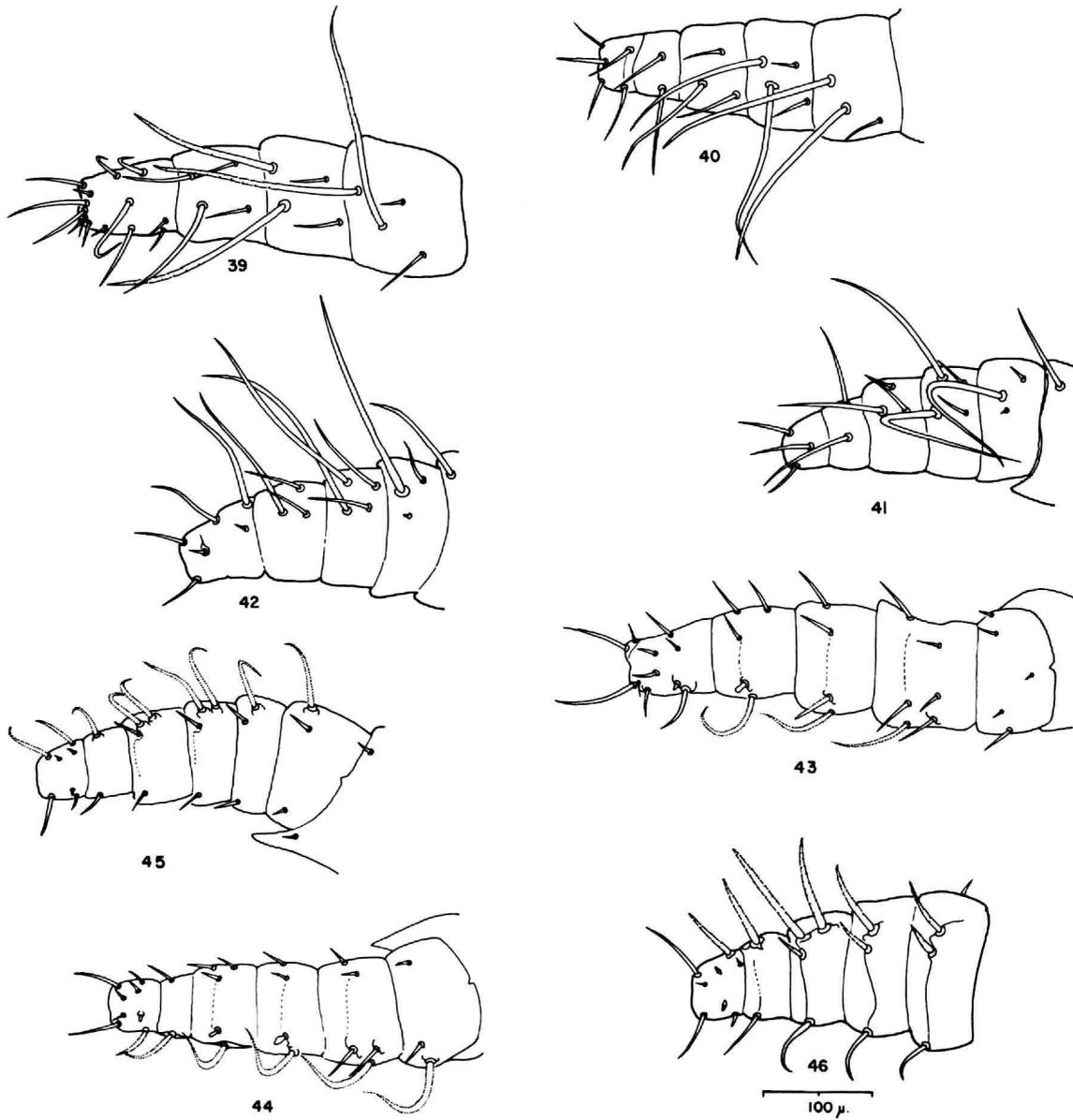


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FIGURES 32-38.—*Periglichrus dusbabeki*, new species: 32, Female; 33, male; 34, gnathosoma of female; 35, sternal plate of female; 36, medial plate of opisthosoma of female; 37, gnathosoma of male; 38, intercoxal posterior area of male.



FIGURES 39-46.—*Periglischrus dubabeki*, new species: 39-42, Legs I to IV, chaetotaxy, dorsal, ♀;
43-46, legs I to IV, chaetotaxy, ventral, ♀.

idem, but 27-X-1965; 1 female (5186), idem, but 31-X-1965; 1 male (5297), idem, but 12-XI-1965.

Holotype 5015 deposited at the U. S. National Museum.

Periglischrus paracutisternus, new species

FIGURES 47-61

Periglischrus tiptoni Furman 1966:144 (part).

Periglischrus acutisternus Machado-Allison.—Furman 1966:166 (part).

On the basis of material collected on *Phyllostomus hastatus* and *Trachops cirrhosus*, Furman described *P. tiptoni*. Paratypes of *P. tiptoni* from *T. cirrhosus* belong to a related but new species of *Periglischrus*. Since *P. tiptoni* (the holotype) was described from specimens collected on *P. hastatus* which are identical to *P. acutisternus* Machado-Allison, the material from *T. cirrhosus* should be described as a new species.

DESCRIPTION (Female).—Idiosoma 935 ± 25 μ long.

Dorsum: Scutum 400 ± 9 μ long, with eleven pairs of pores on anterior plate (six large and five small), eleven on the posterior plate; pale band present but short. Sculpturing poorly defined. Propodosomal setae 20, 28, 25, 25, and 25 μ in length, respectively, from first to fifth pairs. Metapodosomal setae 25 μ long. Opisthosomal setae very small, hard to see at high magnifications; one very small pair of postanal setae, 5 μ long. Peritreme long and thin.

Venter: Sternal plate 134 ± 3 μ long by 82 ± 2 μ wide at level of first and 82 ± 3 μ wide at level of second pair of pores; anterior edge presents subtriangular projection very much like that existing in *P. acutisternus*, but varying in size; sternal setae very thin, 14 μ long; metasternals somewhat shorter, 12 μ long. Epigynial setae very small but somewhat more robust than sternals. Opisthosoma with sclerotized plates well developed with setae longer than dorsals, 16 μ long. Medial plate robust 172 ± 3 μ long, 86 ± 2 μ wide at level of anterior pair of setae. Anterolateral plate with a characteristic postero-external sinuosity. Opisthosoma with eight pairs of setae in addition to adanal pair.

Legs: External edge of coxa 168 ± 0.6 μ long; trochanter 123 μ wide at base; tarsus 168 μ wide at base. Dorsal and ventral chaetotaxy as in figures.

Gnathosoma: Dorsal setae reaching 16 μ , basals shorter, not more than 10 μ long.

DESCRIPTION (Male).—Idiosoma 442 μ long.

Dorsum: Scutum long, 399 μ in length, edges slightly marked; pale band conspicuous. Propodosomal setae erect, the first two pairs groups, 24 and 34 μ long, respectively; third to fifth pairs also grouped, 33, 29 and 29 μ long respectively. Metapodosomal setae 33 μ long.

Venter: Holoventral plate 196 μ long, of which only 37 μ corresponds to the genital area, 160 μ wide at level of anteroexternal setae. Genital setae 55 μ long; anteroexternals and posteroexternals 49 μ long; medials and posteriors 43 μ long. One pair of very small setae behind ventral setae. Area between posterior coxae with six pairs of setae in addition to adanal pair.

Legs with strong erect ventral setae on legs III and IV; chaetotaxy as in figures.

Gnathosoma with thin basal setae, 19 μ long; distals stronger, short, 16.5 μ long.

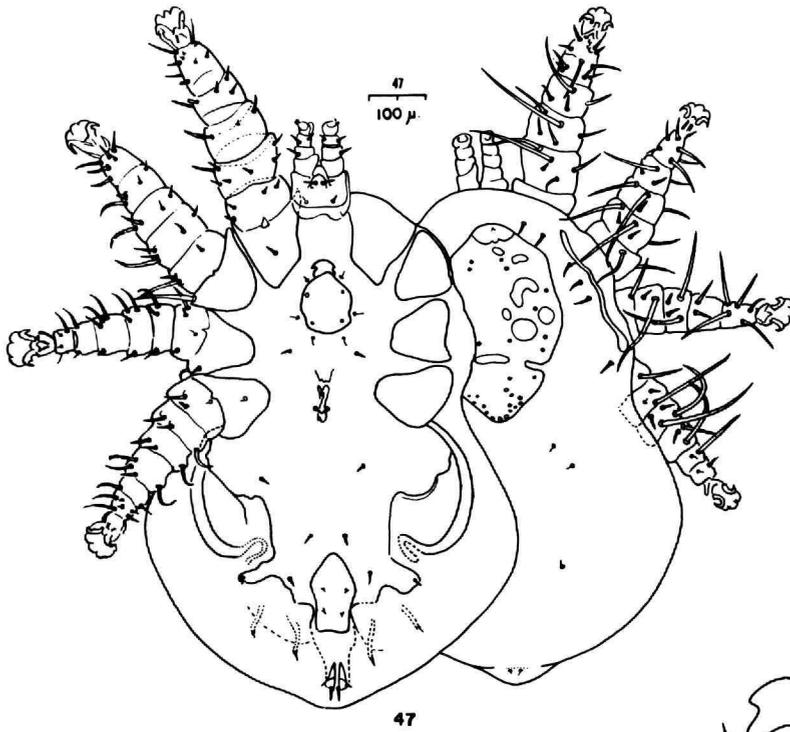
TYPE MATERIAL.—Holotype (1751), female, ex *Trachops cirrhosus* from Venezuela, *Yaracuy State*, 19 km NW Urama, 25 m alt., 20-X-1965, Smithsonian Venezuelan Project col.

Paratypes: Ex *Trachops cirrhosus*: 2 males and 1 female (1751), same data as holotype; 1 male (8441), Bolívar State, 85 km SSE El Dorado, 1032 m alt., 19-V-1966; 3 males, 3 females, and 1 deutonymph (9337), idem, but 59 km SE El Dorado (El Mónaco), 150 m alt.; 1 female (9335), idem, but 14-VII-1966; 1 female (6011), Apure State, 60 km NE Puerto Paéz (Hato Cariben, Río Cinaruco), 76 m alt., 27-XII-1965; 1 female (6012) and 1 female (6040), idem; 1 deutonymph (5807), idem, but 13-XII-1965.

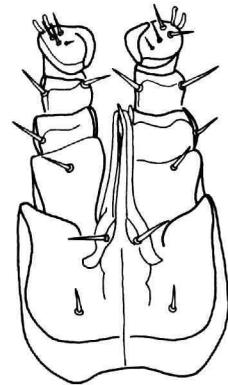
Ex *Anoura geoffroyi*: 4 males and 7 females (8445), Bolívar State, 85 km SSE El Dorado, 1032 m alt., 19-V-1966.

Holotype and paratypes 9335 and 1751 deposited at the U. S. National Museum; paratypes 6040, 6011, 8445, and 5807 deposited at the Instituto de Zoología Tropical, Universidad Central de Venezuela; paratypes 6012 and 9337 (1 male) deposited at the British Museum (Natural History); paratypes 9337 (2 males and 3 females) deposited at the Museo de Historia Natural de la Ciudad de México, México.

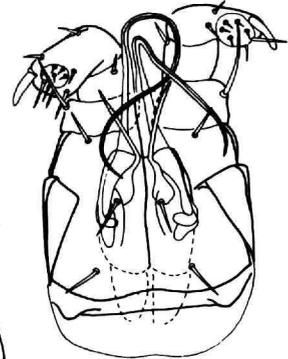
Two females from Panamá, ex *Trachops cirrhosus* (Fort Sherman, Canal Zone) from Furman's collection are also considered as paratypes and are deposited in Furman's collection.



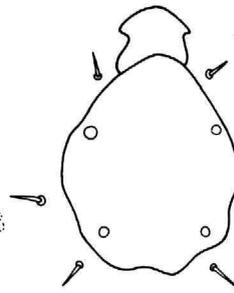
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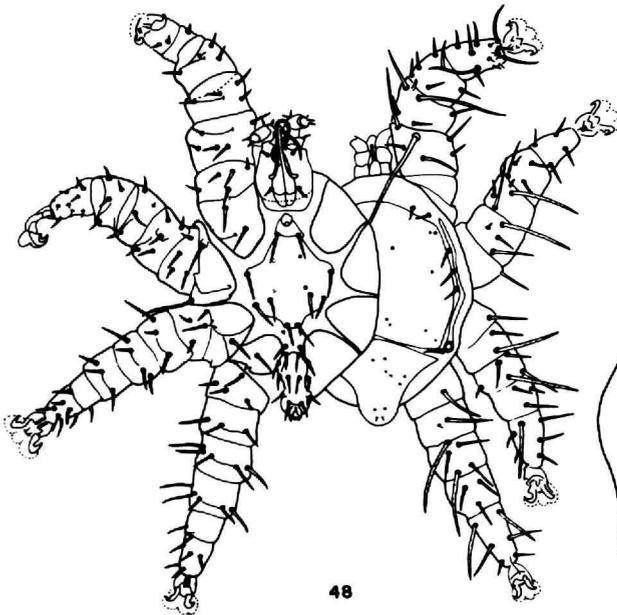
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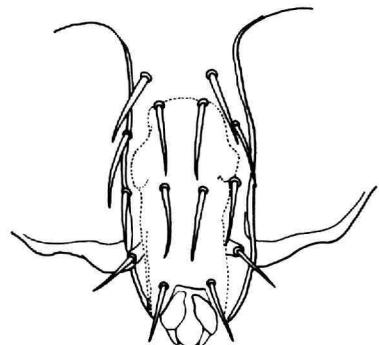
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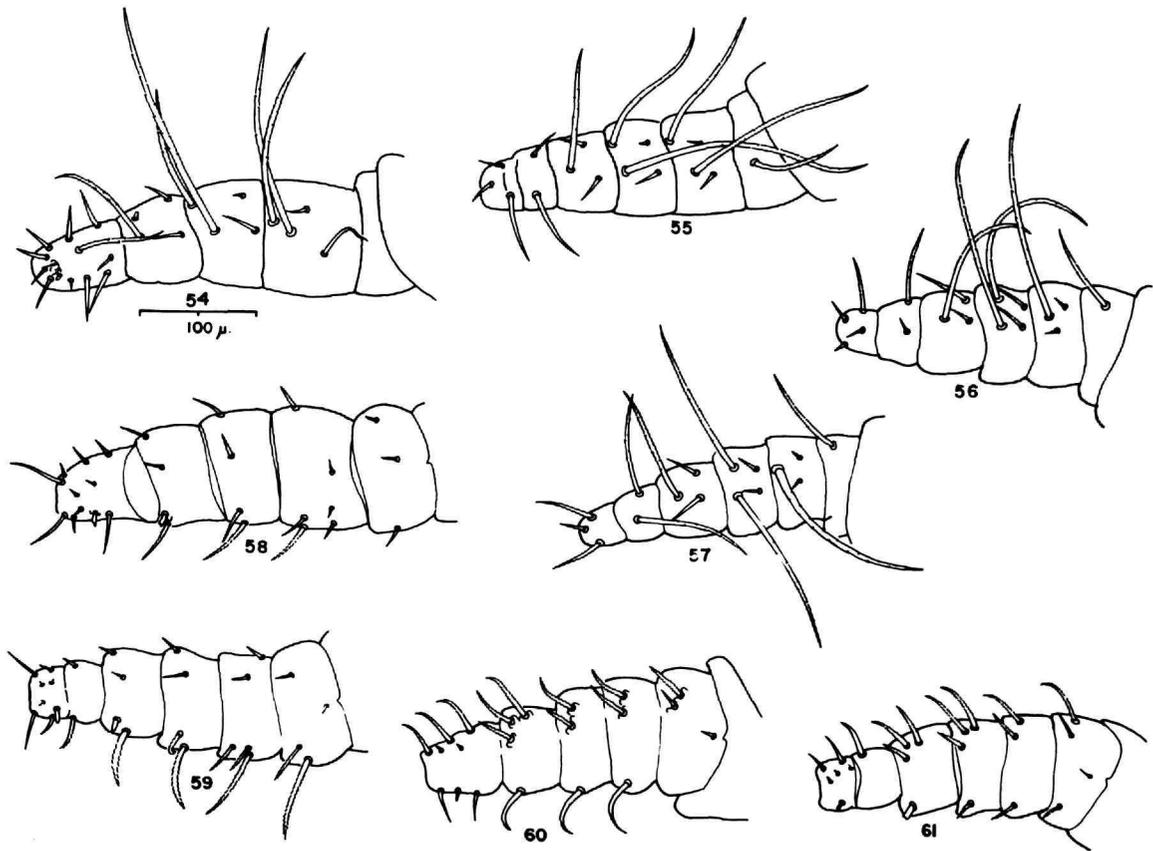
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FIGURES 54-61.—*Periglischrus paracutisternus*, new species: 54-57, Legs I to IV, chaetotaxy, dorsal, ♀; 58-61, legs I to IV, chaetotaxy, ventral, ♀.

FIGURES 47-53.—*Periglischrus paracutisternus*, new species: 47, Female; 48, male; 49, gnathosoma of female; 50, sternal plate of female; 51, medial plate of opisthosoma of female; 52, gnathosoma of male; 53, intercoxal posterior area of male.

Literature Cited

Dusababek, F.

1967. New Species of the Genus *Cameronieta* from Cuba (Acarina: Spinturnicidae). *Folia Parasitologica*, Praha, 14:149-160.

Furman, D. P.

1966. The Spinturnicid Mites of Panama. In *Ectoparasites of Panama*, R. L. Wenzel and V. J. Tipton, editors, pages 125-166, plates 37-45.

Hoffmann, Anita

1944. *Periglischrus vargasi* n. sp. (Acarina: Parasitidae). *Revista del Instituto de Salubridad y Enfermedades Tropicales*, 5 (2) :91-96.

Kolenati, F. A.

1857. Synopsis prodroma der flughaut-Milben (Pteroptida) der Fledermaüse. *Wiener Entomologische Monatsschrift*, 1 (2) :59-61.

Machado-Allison, C. E.

1964. Notas sobre Mesostigmata Neotropicales II. Cuatro nuevas especies de *Periglischrus* Kolenati, 1857 (Acarina, Spinturnicidae). *Revista Sociedad Mexicana de Historia Natural*, 25:193-207, 26 figures.

Machado-Allison, C. E.

1965. Las especies venezolanas del género *Periglischrus* Kolenati 1857 (Acarina, Mesostigmata, Spinturnicidae). *Acta Biologica Venezuelica*, 4 (11) :259-348, 46 figures.

Machado-Allison, C. E.

- 1965b. Notas sobre Mesostigmata Neotropicales III. *Cameronieta thomasi*: nuevo género y nueva especie parásita de Chiroptera (Acarina, Spinturnicidae). *Acta Biologica Venezuelica*, 4 (10) :243-258, 15 figures.

Machado-Allison, C. E.

1967. The Systematic Position of the Bats *Desmodus* and *Chilonycteris*, Based on Host-parasite Relationships (Mammalia, Chiroptera). *Proceedings of the Biological Society of Washington*, 80:223-226.

Rudnick, A.

1960. A Revision of the Mites of the Family Spinturnicidae (Acarina). *University of California Publications in Entomology*, 17 (2) :157-284, plates 18-48.

Wenzel, R. L., V. J. Tipton, and Alicja Kiewlicz

1966. The Streblid Batflies of Panama. In *Ectoparasites of Panama*, R. L. Wenzel and V. J. Tipton, editors, pages 405-675, 146 figures.

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