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55	ENTOMOLOGIE	2

ACARI DOMUM MELIPONINARUM BRASILIENSIIUM HABITANTES

II. — TWO NEW GENERA AND SPECIES OF MITES
(ACARI, ASTIGMATA)
FROM THE NESTS OF BEES IN BRASIL

BY

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(With 17 textfigures)

The unusual mites that are described herein were collected from bees nests in Brasil. They represent two new genera and two new species: *Partamonacoptes brasiliensis* g.n., sp.n. and *Trigonacoptes camargoii* g.n., sp.n. These genera cannot be included in any known family and we erect for them a new family *Partamonacoptidae*.

FAMILY PARTAMONACOPTIDAE FAM. NOV.

Definition: Body flattened, in short oval or diamond-shaped. Cuticle not striated but thick and sclerotized. A small propodonal shield is present in adults of *Trigonacoptes* and in nymphs of *Partamonacoptes*. A rounded tegmen covers the gnathosoma which is either completely or incompletely ventral in non-compressed specimens. Vulva and penis very posterior, situated between the trochanters IV. Genital suckers large, situated laterally. Male with a pair of adanal suckers and two tarsal suckers situated at the base of the tarsus IV. Posterior legs widely separated from anterior legs and inserted almost laterally. All the tarsi much longer

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than the other segments, they are strongly sclerotized and almost cylindrical. Tarsi ending in a sucker without a claw except in the nymphs and the larvae of *Partamonacoptes* whose the legs I and II bear a short and thick claw. Gnathosoma relatively small, trapezoidal. Chelicerae small with two equal poorly toothed chelae. Some or all dorsal setae are very thick and barbed. The *vi* are very strong, and barbed spines. Tarsi I with 3 solenidia, the $\omega 3$ being apical, the $\omega 1$ and $\omega 2$ are basal and very small.

Type genus: *Partamonacoptes* g.n.

Remarks: The family Partamonacoptidae is the most close to the Canestriniidae Berlese, 1884 and the Heterocoptidae Fain, 1967. It differs from these families by the shape of the ambulacra, the posterior situation of the genital organs, the shape, narrow and subcylindrical, of the tarsi. For the setal nomenclature used here see Fain, 1963.

Genus *Partamonacoptes* g. n.

Definition: With the characters given for the family. Body more or less diamondshaped. Dorsal cuticle covered with tubercles. A propodotal shield is absent in the adults, it is present but small in the nymphs. Epimeres I fused in a short sternum, other epimeres free. Vulva large, in an inverted Y, very close to the anus; genital suckers very lateral; copulatory papilla small, terminal. Tarsi narrow, bearing a complicate sucker presenting 2 paramedian processes and no claws. In the nymphs and the larvae the anterior legs bear a thick and short claw. Setae of body: All the dorsal setae (except *sc e* which are microsetae) are very thick (about 30 μ wide) and long cylindro-conical and barbed spines. Are present the following setae: *vi*, *ve*, *sci*, *sc e*, *s cx*, *h*, *d 2*, *d 3*, *d 4*, *d 5*, *l 1*, *l 2*, *l 3*, *l 5*, *sh*, *cx 1*, *cx III*, *ga*, *gm*, *gp*. There are 6 pairs of anal setae. *Leg chaetotaxy* (legs I-IV): Trochanters 1-1-1-0 (simple setae). Femora 1-1-0-1 (all simple setae). Genua 2-2-1-0 (very strong barbed spines). Tibiae 2-2-1-1- (strong barbed spines). Tarsi 10-10-7 (or 8)-8 (simple setae). *Solenidiotaxy*: Tarsi 3-1-0-0. Tibiae 1-1-1-1. Genua 1-1-1-0.

Type species: *Partamonacoptes brasiliensis* spec. nov.

Partamonacoptes brasiliensis sp. n.

Female (figs. 1-6): Holotype 665 μ long, 600 μ wide (maximum). With characters given for the genus. Length of *vi*, *d 5* and *l 5* 135 μ , width 30 μ . On ventral surface between legs III and IV there is a pair of paramedian sclerites. There is a short rounded copulatory papilla in termino-median situation. Bursa short.

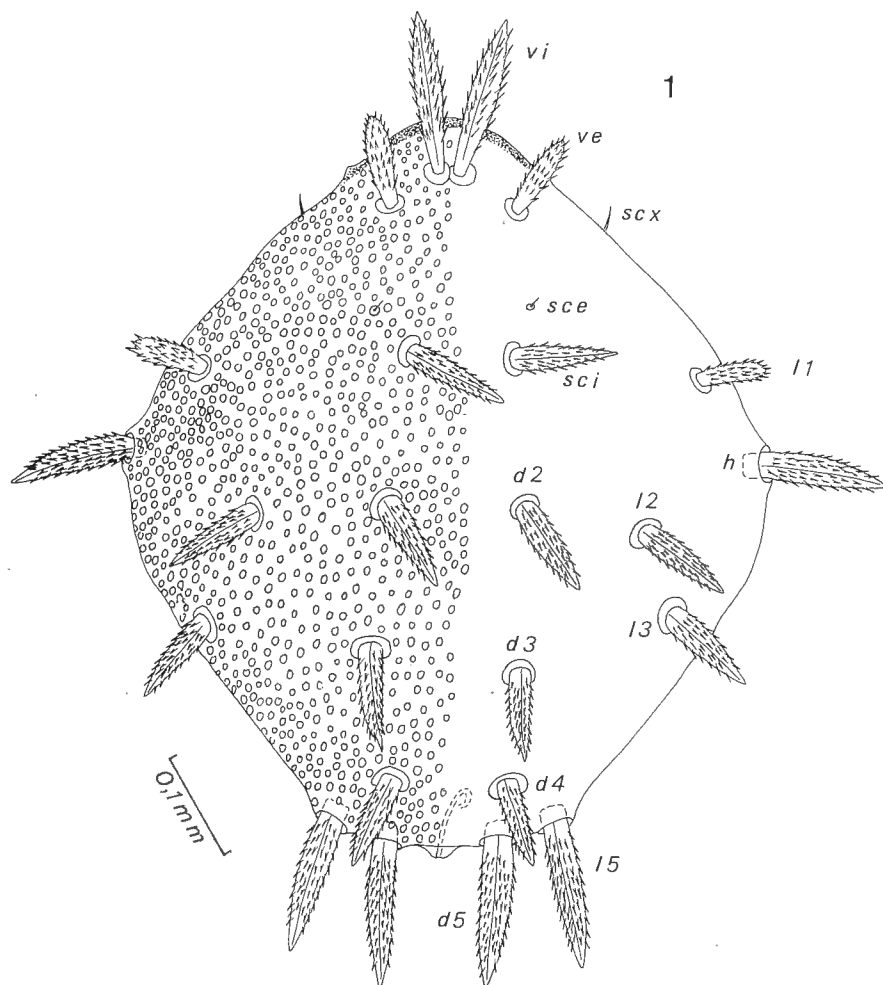


Fig. 1. — *Partamonacoptes brasiliensis* sp. n.
Holotype female in dorsal view.

Male (figs 10-12): Length and width in two paratypes $606\ \mu$ long and $600\ \mu$ wide and $600 \times 585\ \mu$. Dorsum as in female. Epimeres as in female. Penis thick, short, curved. Anus with 2 adanal poorly sclerotized copulatory suckers $18\ \mu$ wide. There are 3 pairs of adanal setae. Legs as in the female. There are 2 relatively large copulatory suckers at the base of tarsus IV, very close to the tibia.

Tritonymph (figs. 7-9): Length $590\ \mu$, width $570\ \mu$. Dorsum as in the female. Venter as in female but without a vulva. In front of the gnathosoma there is a thick sclerotized ring in an inverted U. Chaetotaxy of legs as in female but some spines are longer. Anus postero-ventral with

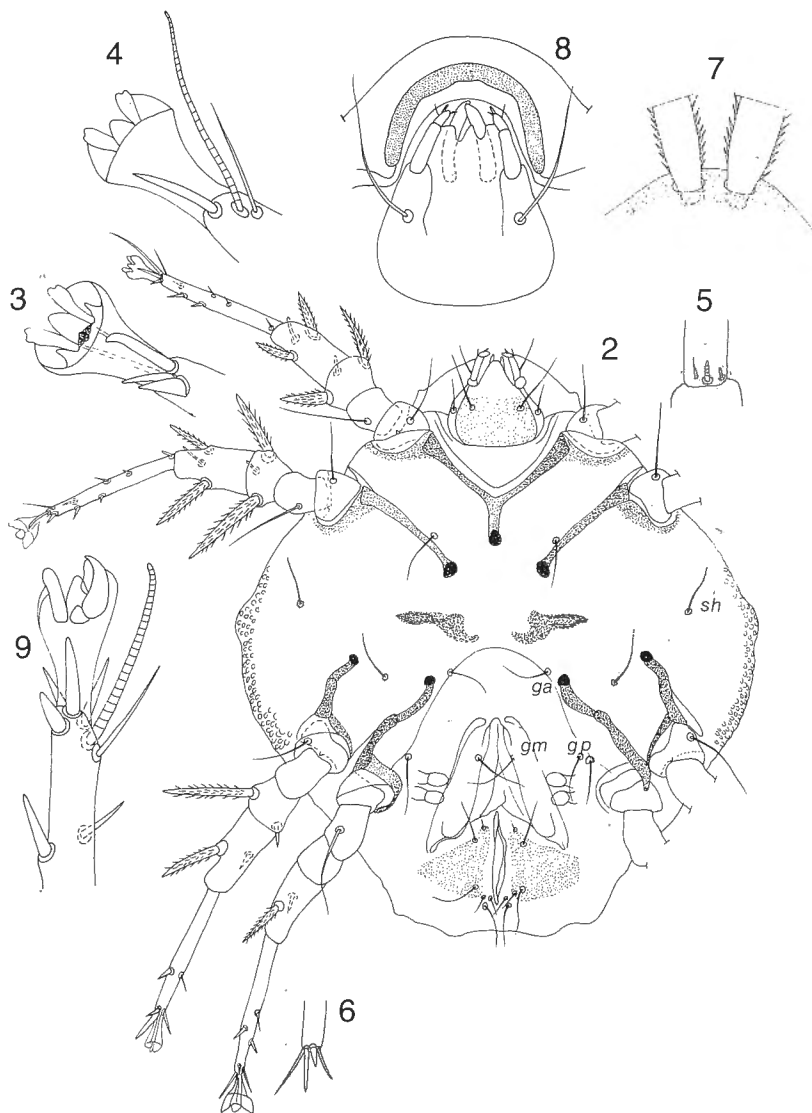


Fig. 2-9. — *Partamonacoptes brasiliensis* sp. n.

Holotype female: ventral view (2); apex of tarsus I in ventral (3) and dorsal (4) view; base of tarsus I dorsally (5); apex of tarsus IV ventrally (6).
Tritonymph: tegmen (7); gnathosoma ventrally (8); apical half of tarsus I ventrally (9).

3 pairs of setae. Tarsi I-II with the same type of sucker but with in addition a thick claw.

Protonymph: Length 500 μ , width 465 μ . Same general aspect as tritonymph but without trochanteral setae and solenidion ω 3, and with only one pair of genital suckers.

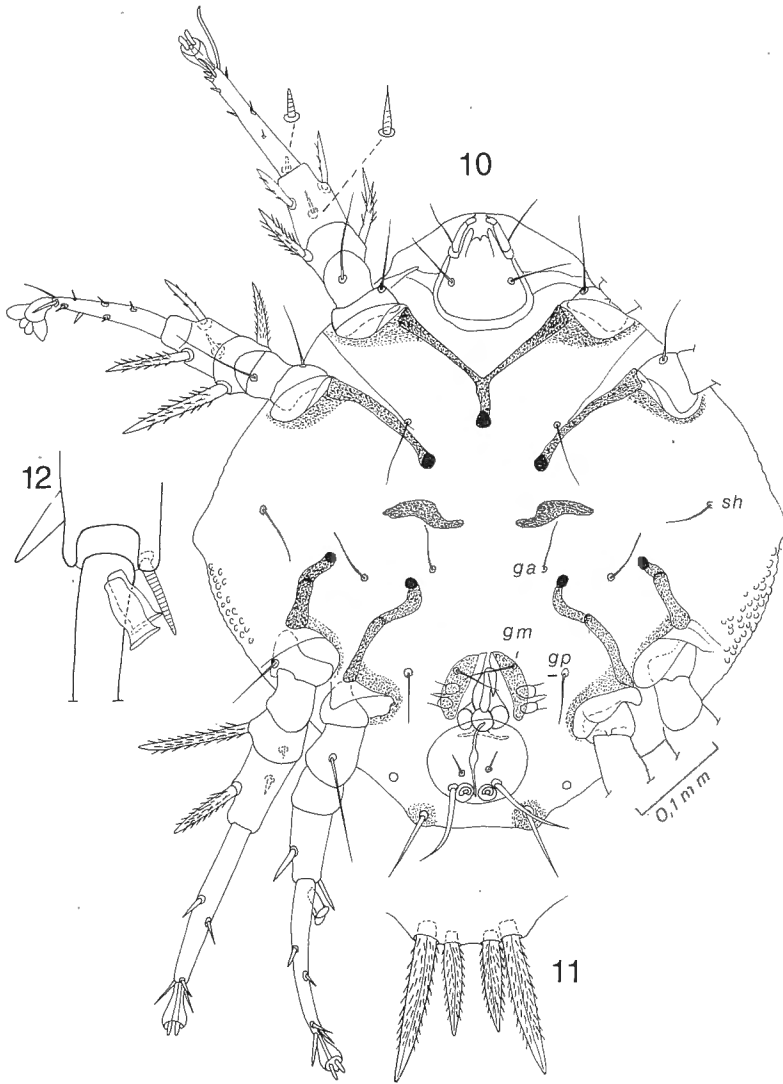


Fig. 10-12. — *Partamonacoptes brasiliensis* sp. n.
 Paratype male in ventral view (10); posterior extremity in dorsal view (11);
 basal part of tarsus IV showing the copulatory suckers (12).

Larva: Length 420 μ , width 390 μ . Same general aspect as for the protonymph but with 3 pairs of legs. There is only one pair of anal setae and no genital suckers. The dorsal setae are very difficult to observe but the *l3*, *d4* and *l5* are probably missing.

Locality: In the nest of a bee *Partamona* sp.n. (Meliponidae), Lago Agua Fria, Brasil, P. A. Coll. J. M. F. Camargo, 15.II.1979 (Holotype female, Paratypes, 7 females, 4 males, 5 tritonymphs, 12 protonymphs and 4 larvae. Holotype à l'Institut royal des Sciences naturelles de Belgique).

Genus *Trigonacoptes* g. n.

Definition: With the characters of the family. Dorsal cuticle thick, sclerotized, without tubercles. A small punctate propodonal shield and a ventral median punctate shield are present in both sexes. Epimeres and genital organs as in *Partamonacoptes* but copulatory papilla is dorsal, between *d3* and *d4*. In adults and nymphs the tarsi are long and cylindrical, only slightly narrower than the tibiae, ending in a small not modified sucker without a claw. *Setae of body:* *Dorsal setae:* *vi* are not-barbed spines, *sci*, *sc e*, *d5 l2* and *l3* are thick (4,5-5 μ wide), barbed in their apical half and 35 to 50 μ long. Other dorsal setae (*ve*, *l1*, *d1* to *d4*) very small. The *l4* and *l5* are ventro-terminal in female and ventral in male and small. The *h* and *sh* setae are ventral. The *ga* setae are situated in the middle of the venter, they did not follow the genital organs in their migration in the posterior region of the body. Orifice of the « oil-gland » close to setae *l1*. *Setae of legs (I-IV):* Trochanters and femora as in *Partamonacoptes*. Genua I-II with one thin seta and one spine, genua III with 1 spine. Tibiae I-II with 2 barbed spines, tibiae III-IV with 1 large barbed spine. Tarsi 10-10-7 (or 8)-7 (or 8). *Solenidiotaxy:* as in *Partamonacoptes*.

Type species: *Trigonacoptes camargoi* spec. nov.

Trigonacoptes camargoi sp. n.

This species is named for Dr. M. Camargo who collected these mites.

Female (figs. 13-14): Holotype 204 μ long (idiosoma), 192 μ wide. In a paratype 190 μ long and 175 μ wide. With the characters given for the genus. In our two specimens strongly flattened and partly crushed the gnathosoma is terminal however in a well-preserved male the gnathosoma is almost completely ventral. There are 3 pairs of anal setae.

Male (figs. 15-17): Length 189 μ , width 141 μ . Dorsum as in female. Epimeres as in female. Genital organ 22 μ long, attenuated apically. Adanal suckers 9 μ diameter. There are 3 pairs of anal setae. The setae *l4* and *l5*

are ventral. Tarsi IV with a pair of suckers situated at the base of the tarsus.

Tritonymph: 175 μ long, 135 μ wide. General aspect and dorsal chaetotaxy as in the adults. Tarsal suckers without a claw. Anal area with 5 pairs of setae.

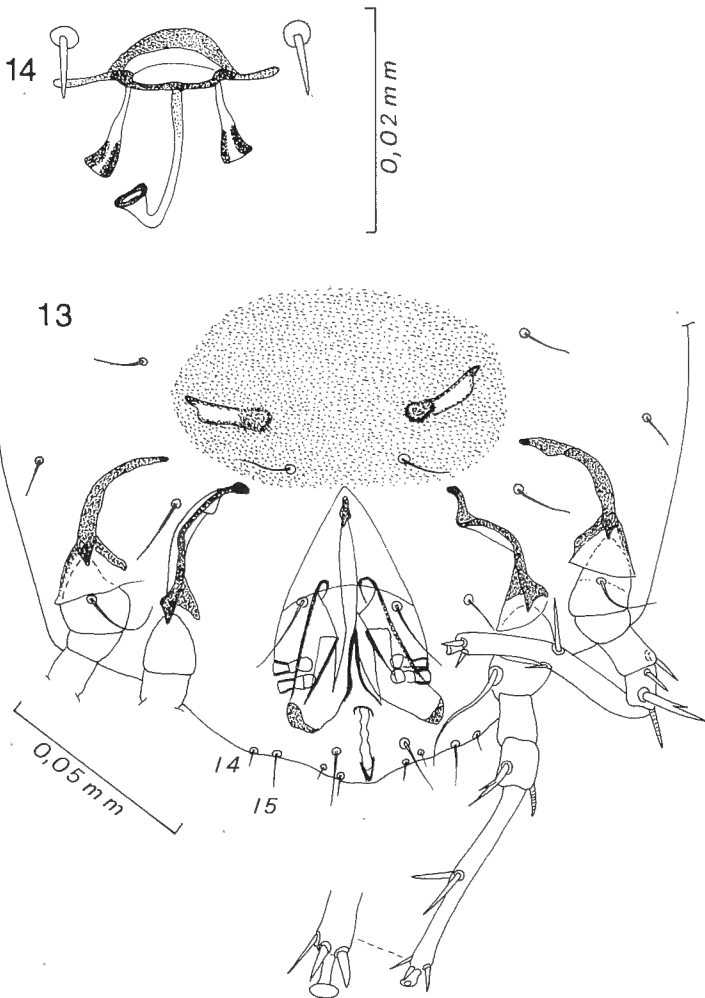


Fig. 13-14. — *Trigonacoptes camargoi* sp. n.

Holotype female : hystero-gaster (13); bursa copulatrix and base of spermatheca (14).

Locality: In the nest of a bee *Trigona (Trigona) chanchamyoensis* Schwarz (Meliponidae), Municipality of Tanari, State of Para, Brasil. (Coll. J. M. F. Camargo, 21.I.1979). Holotype and 3 paratype female, 3 paratypes male, 2 paratypes tritonymph. Holotype à l'Institut royal des Sciences naturelles de Belgique.

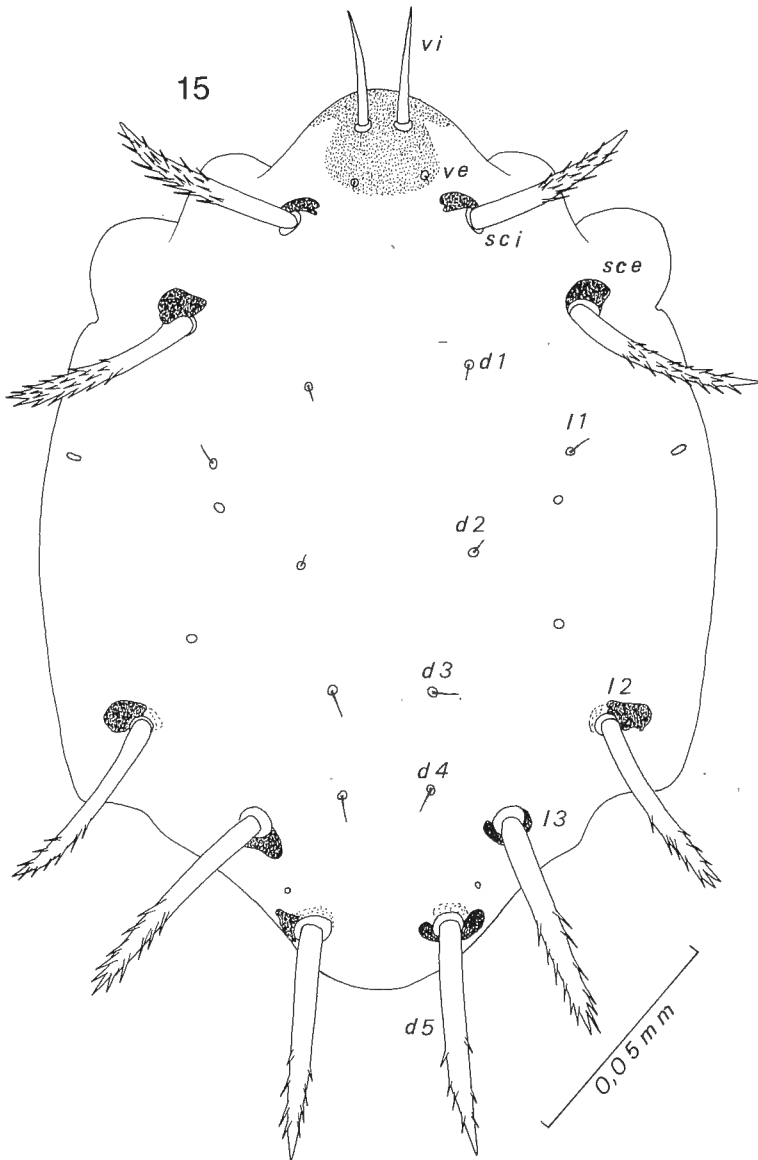


Fig. 15. — *Trigonacoptes camargoi* sp. n.
Paratype male in dorsal view.

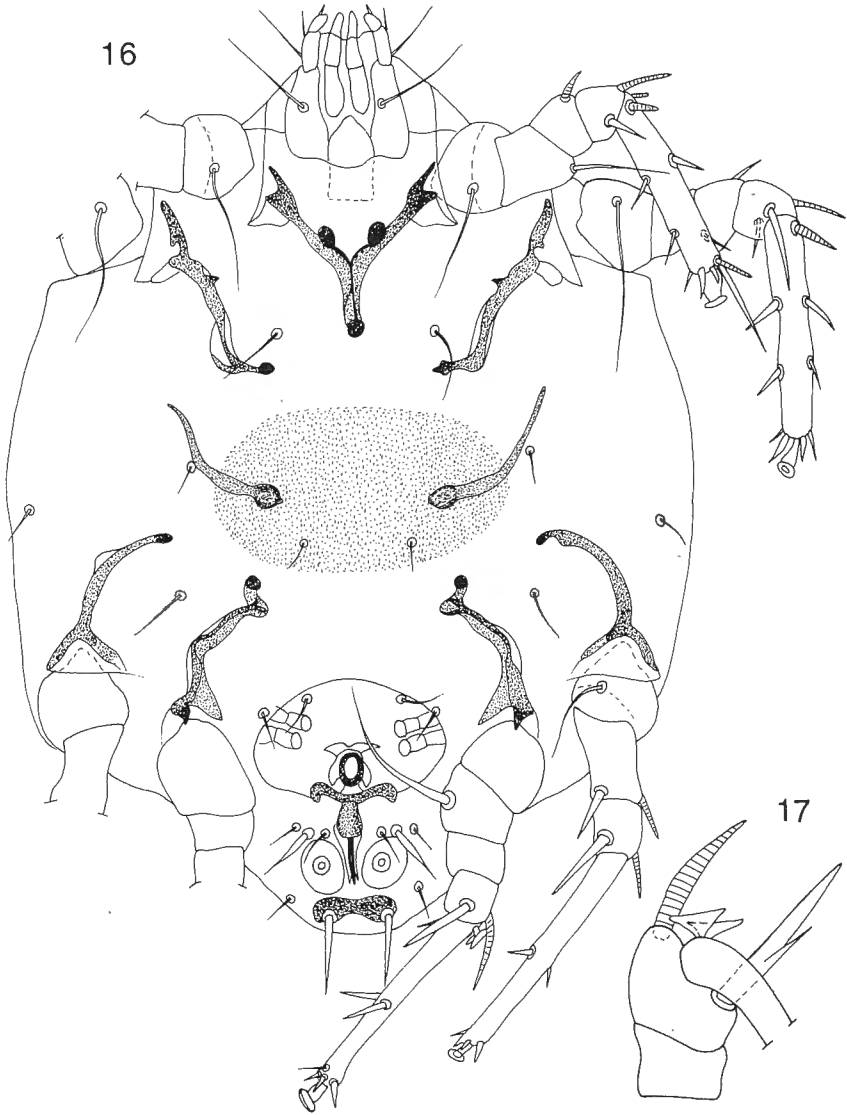


Fig. 16-17. — *Trigonacoptes camargoi* sp. n.
Paratype male in ventral view (16);
apical part of tarsus IV showing the copulatory suckers (17).

SUMMARY

The authors describe two new genera and species *Partamonacoptes brasiliensis* g.n., sp.n. and *Trigonacoptes camargoi* g.n., sp.n. forming a new family Partamonacoptidae of Astigmatic mites, from nests of bees, in Brasil.

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