

ARTÍCULO:

Three new species of the haplogyne spider genus *Coxapopha* Platnick from the Amazon Region (Araneae, Oonopidae)

Ricardo Ott

Museu de Ciências Naturais,
Fundação Zoobotânica do Rio
Grande do Sul, Caixa Postal
1188, CEP 90001-970, Porto
Alegre, RS, Brazil
aracno@fzbr.rs.gov

& Antonio D. Brescovit

Laboratório de Artrópodes,
Instituto Butantan, Av. Vital
Brasil, 1500 CEP 05503-900 São
Paulo, SP, Brazil
adbresc@terra.com.br

Revista Ibérica de Aracnología

ISSN: 1576 - 9518.

Dep. Legal: Z-2656-2000.

Vol. 9, 30-VI-2004

Sección: Artículos y Notas.

Pp: 127-135.

Edita:

Grupo Ibérico de Aracnología (GIA)

Grupo de trabajo en Aracnología
de la Sociedad Entomológica
Aragonesa (SEA)

Avda. Radio Juventud, 37

50012 Zaragoza (ESPAÑA)

Tef. 976 324415

Fax. 976 535697

C-elect.: amelic@telefonica.net

Director: A. Melic

Información sobre suscripción,
índices, resúmenes de artículos *on
line*, normas de publicación, etc. en:

Índice, resúmenes, abstracts vols.
publicados:

[http://entomologia.rediris.es/sea/
publicaciones/ria/index.htm](http://entomologia.rediris.es/sea/publicaciones/ria/index.htm)

Página web GIA:

<http://entomologia.rediris.es/gia>

Página web SEA:

<http://entomologia.rediris.es/sea>

THREE NEW SPECIES OF THE HAPLOGYNE SPIDER GENUS *COXAPOPHA* PLATNICK FROM THE AMAZON REGION (ARANEAE, OONOPIDAE)

Ricardo Ott & Antonio D. Brescovit

Abstract:

Three new species of *Coxapopha* Platnick (Araneae, Oonopidae) from the Amazon Region are described: *C. bare*, known from male and female and *C. carinata*, known only from the male, both from the state of Amazonas, Brazil, and *C. yuyapichis*, known from male and female, from Huánuco, Peru. Female specimens of this genus are described for the first time.

Key words: Araneae, Oonopidae, Haploginae, *Coxapopha*, taxonomy, Amazonian region, Neotropics.

Taxonomy:*Coxapopha bare* sp.n.*C. carinata* sp. n.*C. yuyapichis* sp.n.

Tres nuevas especies de arañas haploginas del género *Coxopopha* Platnick de la región amazónica (Araneae, Oonopidae)

Resumen:

Se describen tres nuevas especies de *Coxapopha* Platnick (Araneae, Oonopidae) de la región amazónica: *C. bare*, macho y hembra y *C. carinata*, macho, ambas del estado de Amazonas, Brasil, y *C. yuyapichis*, macho y hembra, de Huánuco, Perú. Por primera vez se describen hembras de este género.

Palabras clave: Araneae, Oonopidae, *Coxapopha*, haplogyne, taxonomía, región amazónica, Neotrópico.

Taxonomy:*Coxapopha bare* sp.n.*C. carinata* sp. n.*C. yuyapichis* sp.n.**Introduction**

The monotypic genus *Coxapopha* was described by Platnick (2000) based on a single male, collected in leaf litter, from Panamá. This unusual oonopid presents only two eyes, a very elevated and widened pars cephalica, venter of abdomen with two apophyses and a modified spine on each coxa IV.

As stated by Platnick (2000: 403) "publication of a description will also bring some additional specimens to light". Despite being very rare in nature, we were able to find seven specimens of *Coxapopha* from the Amazon region. All specimens were collected in pitfall-traps or Berlese funnels and belong to three different species, one from Peru and two from Amazonas, Brazil, all new to science. In this paper we describe these species and present the females of this genus for the first time, giving details of the morphology of the epigynum.

The material studied was deposited in the collections of the Instituto Butantan, São Paulo (IBSP, I. Knysak); Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (MCN, E.H. Buckup) and Staatliches Museum für Naturkunde, Karlsruhe (SMNK, H. Höfer). Measurements are in millimeters.

Terminology of structures of the female genitalia follows Dumitresco & Georgesco (1983) and Burger *et al.* (2002). The female genitalia was dissected and submerged in clove oil to study internal structures. Micrographs were obtained with a JEOL (JSM 840A) scanning electron microscope from the "Laboratório de Microscopia Eletrônica do Departamento de Física Geral do Instituto de Física da Universidade de São Paulo (USP)" and "Laboratório de Microscopia Eletrônica" of the MCN.

***Coxapopha* Platnick**

Coxapopha Platnick, 2000: 405. Type species: *C. diblemma* Platnick.

DIAGNOSIS. Species of the genus *Coxapopha* differ from the other oonopids by the combination of the following characters: presence of only two eyes, a greatly

elevated and widened pars cephalica, males with pair of ventral abdominal apophysis, a hand-shaped spine on each coxa IV (except in *C. carinata* n.sp.) (Platnick, 2000: 406-407, figs. 1-5) and a lamellar projection at the base of the conductor of the male palp (Figs. 8; Platnick, 2000: 408, fig. 7).

NOTE. The examination of the new specimens enabled the study of structures that were not dealt with in Platnick's original description (2000). We present complementary data on morphology and the first description of the female genitalia.

DESCRIPTION. Legs with set of 5-6 ventral trichobothria on tibia IV. Trichobothria with long and plumose trichoma, bothrium not striated forming a unique plate (Fig. 18). Tarsal organ exposed, slightly raised above surface of tarsus, with internal border presenting 3-4 low ridges and row of three projected receptors, distal one twice as long as others (Fig. 21). Metatarsus I with projected oval glands, with very small central opening (Fig. 20). Tarsal claws with row of four teeth, truncated at base, on short onychium; claw tufts with spatulated hairs (Fig. 19).

Male palp with short distal projection at apex of cymbium (Figs. 3, 8, 16, 25-28; not described for *C. diblemma*). Bulb with tubular embolus and hyaline conductor which presents short laminar projection raising from conductor base (designated "dorsal most element" for *C. diblemma* in Platnick, 2000, where this structure seems to be longer than in the other species and fused to conductor only at base).

Female epigynum externally with M-shaped structure (Figs. 4; 9), very similar to that of *Gamasomorpha m-scripta* Birabén (1954:188, fig. 12). Internally, vulva formed by anterior transversal apodema, with median rounded projection and narrowed extremities linked to legs of posterior M-shaped apodema by muscle fibers. This apodema is united to the leg of a posterior M-shaped apodema. Posterior apodema united at each side, to three different points of ventral abdominal plate by set of lateral muscular fibers (Fig. 11). Small seminal receptaculum inserted medially, between anterior apodema (Figs. 5, 10).

***Coxapopha yuyapichis*, new species**

Figures 1-5; 11; 17-22; 26-28.

TYPES. Male holotype, from Yuyapichis river, 09°37'S/74°S/74°56'W, Panguana Biological Station, Huanuco, Peru, 24.XII-21.I.1984; paratype: female from same locality, 18.II-17.III.1989, M. Verhaagh col., deposited in SMNK.

ETYMOLOGY. The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS. *Coxapopha yuyapichis* differs from the other amazonian *Coxapopha* species by the coxae IV with three peg setae (Fig. 22), elongated distal projection at the apex of cymbium (Figs. 3; 27) and more

developed laminar projection at the base of the conductor (Figs. 2-3, 26-27) in the male and short legs of the M-shaped posterior apodema, not surpassing the epigastric furrow (Figs. 4-5).

DESCRIPTION.

Male (holotype). Total length 2.10. Carapace orange brown, 1.04 long, 0.90 wide, 0.60 high. Thoracic groove absent. Two eyes separated by half their diameter, 0.10. Clypeus 0.12 high. Chelicerae 0.32 long, as in *C. bare* n.sp. Endites elaborated, forming M-shaped plate (Fig. 17). Sternum posteriorly notched. Abdomen 1.20 long, 0.90 wide. Ventral scutum with two ventral apophysis and pair of triangular shaped elevations at epigastric furrow, lateral to gonopore; anterior apophysis with rebordered margin; posterior apophysis procurved, bifid at tip. Legs colored as carapace, covered by few short strong setae; patella I with three ventral spines, tibia I with three pairs of ventral spines, metatarsi I with one pair of ventral spines, tibia II with one retrolateral basal ventral spine. Coxae IV with three peg setae (Fig. 22). Leg measurements: I - femur 0.60/ patella 0.32/ tibia 0.48/ metatarsus 0.44/ tarsus 0.20/ total 2.04; II - 0.60/ 0.32/ 0.48/ 0.44/ 0.20/ 2.04; III - 0.56/ 0.24/ 0.40/ 0.44/ 0.28/ 1.92; IV - 0.68/ 0.40/ 0.48/ 0.64/ 0.28/ 2.48. Palp with apex of embolus with sinuous border (Fig. 3), conductor not involving embolus (Figs. 1-2; 28).

Female (Paratype). Coloration as in male. Total length 2.20. Carapace less elevated than in male, 0.90 long, 0.76 wide, 0.45 high. Thoracic groove absent. Two eyes separated by almost their diameter, 0.08. Clypeus 0.10 high. Chelicerae 0.36 long, as in *C. bare* n. sp. Endites without modifications (Fig. 8). Sternum not posteriorly notched. Abdomen 1.12 long, 0.88 wide. Ventral abdominal scutum without apophysis, strongly sclerotized, reaching spinnerets; conspicuous epigastric furrow, notched elevation at genital plate. Legs as in male, no apophysis on coxa IV. Leg measurements: I - femur 0.62/ patella 0.36/ tibia 0.44/ metatarsus 0.40/ tarsus 0.22/ total 2.04; II - 0.62/ 0.30/ 0.44/ 0.40/ 0.22/ 1.98; III - 0.56/ 0.24/ 0.36/ 0.42/ 0.22/ 1.80; IV - 0.64/ 0.34/ 0.54/ 0.60/ 0.28/ 2.40. Internal genitalia, by transparency, as in figure 4, with narrow anterior apodema and leg extremities of M-shaped posterior apodema rounded (Fig. 5).

NATURAL HISTORY. The specimens were collected with pitfall-traps. According to Verhaagh (1987) the Biological Station of Panguana presents six different physiologies, such as primary forest, secondary forest, grass and kutdu-pastures, small plantations (chacra) and even riverine vegetation

OTHER MATERIAL EXAMINED. Only one male from same locality of the types, 29.X-26.XI.1983, M. Verhaagh col. (IBSP 28271, used for scanning microscopy).

DISTRIBUTION. Known only from the type locality.

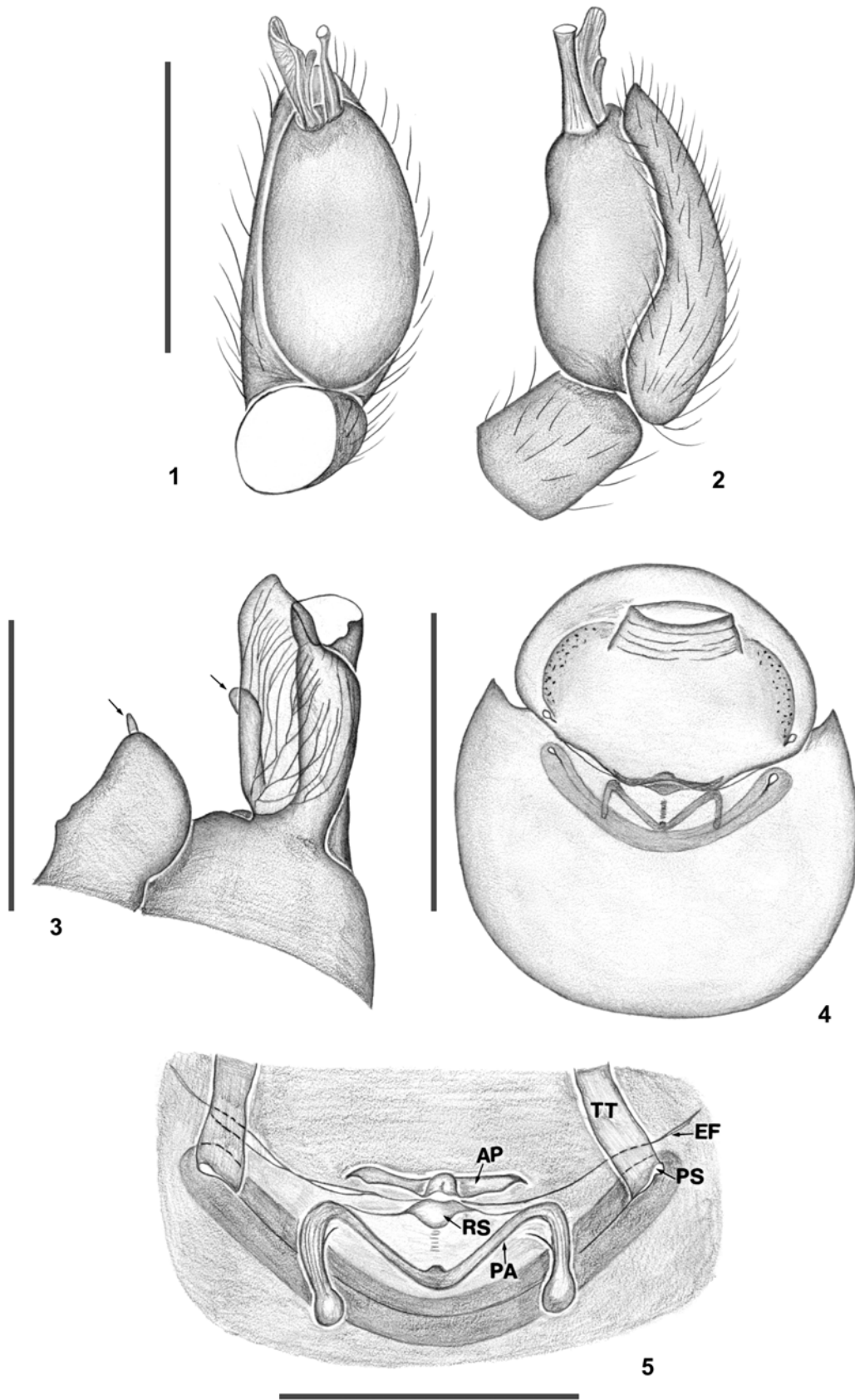


Fig. 1-5. *Coxapopha yuyapichis* sp. n. **1-3:** male palp: **1.** ventral view. **2.** retrolateral view. **3.** detail of distal area, prolateral view. **4-5:** female epigynum: **4.** ventral view by transparency. **5.** dorsal view. Scale bars: 0,25 mm. Arrows point to distal projection of cymbium and laminar projection on the base of the conductor. Abbreviations: AP, anterior apodema; EF, epigastric furrow; PA, posterior apodema; PS, posterior spiracle, opening; RS, receptaculum seminal; TT, tracheal tubes.

***Coxapopha bare*, new species**

Figs. 6-10; 23-25; 29-30.

TYPES. Male holotype, Embrapa-CPAA, Road AM-010, Km 30, Manaus, Amazonas, Brazil, 2001, H. Höfer *et al.* col., deposited in INPA; female paratype, with same data, deposited in INPA.

ETYMOLOGY. The specific name honors the Baré tribe which lived where today stands the city of Manaus, Amazonas and it is a noun in apposition.

DIAGNOSIS. *Coxapopha bare* differs from other *Coxapopha* species by the coxae IV with two peg setae (Fig. 30), male palp with distal projection at the apex of cymbium short (Figs. 8; 25) and less developed laminar projection at the base of the conductor than that of *C. yuyapichis* (Figs. 7-8, 23-24), legs of the M-shaped posterior apodema, long, surpassing the epigastric furrow (Figs. 9-10) in females.

DESCRIPTION.

Male (holotype). Total length 2.32. Carapace orange brown, strongly elevated, setae concentrated on cephalic area and medially on thoracic region, 1.12 long, 0.90 wide, 0.60 high. Thoracic groove absent. Two eyes, separated by approximately their diameter, 0.06. Clypeus 0.20 high. Chelicerae 0.44 long, not projected, without teeth but with promarginal triangular projection. Endites modified as described in Platnick (2000). Sternum posteriorly notched. Abdomen rounded, sclerotized, 1.20 long, 0.86 wide. Ventral scutum with two ventral apophyses and pair of triangular shaped elevations at epigastric furrow, lateral to gonopore; anterior apophysis on ventral scutum rebordered; posterior apophysis situated half-way between anterior apophysis and gonopore, procurve, with bifid tip. Legs colored as body, covered by few short strong setae; patella I with three ventral spines, tibia I with three pairs of ventral spines, metatarsi I with one pair of ventral spines, tibia II with one basal retrolateral ventral spine. Coxae IV with two peg setae (Fig. 30). Leg measurements: I - femur 0.76/ patella 0.36/ tibia 0.60/ metatarsus 0.48/ tarsus 0.24/ total 2.44; II - 0.72/ 0.32/ 0.60/ 0.48/ 0.24/ 2.36; III - 0.66/ 0.32/ 0.48/ 0.48/ 0.24/ 2.18; IV - 0.80/ 0.40/ 0.64/ 0.70/ 0.30/ 2.84. Palp with border of apex of embolus not sinuous (Fig. 8); conductor not involving embolus (Figs. 6-7; 25).

Female (Paratype). Coloration as in male, total length 2.14. Carapace less elevated than in male, 1.10 long, 0.82 wide, 0.44 high. Thoracic groove absent. Two eyes, separated by approximately their diameter, 0.06. Clypeus 0.12 high. Chelicerae 0.40 long, as in male. Endites without modifications. Sternum not posteriorly notched. Abdomen 1.22 long, 0.90 wide. Ventral abdominal scutum without apophysis, strongly sclerotized, reaching spinnerets; conspicuous epigastric furrow, notched elevation at genital plate. Legs as in male, without apophysis on coxa IV. Leg measurements: I - femur 0.74/ patella 0.36/ tibia 0.60/ metatarsus 0.48/ tarsus 0.24/ total 2.42; II - 0.70/ 0.32/ 0.60/ 0.48/ 0.24/ 2.34; III - 0.66/ 0.32/ 0.48/ 0.40/ 0.24/ 2.10; IV - 0.80/ 0.40/ 0.64/ 0.70/ 0.30/ 2.84. Internal genitalia, by transparency, as shown in figure 9, with wide anterior apodema and extremities of M-shaped posterior apodema truncated (Fig. 5).

NATURAL HISTORY. The species was collected in soil and litter with Berlese funnels.

OTHER MATERIAL EXAMINED. Brazil, Amazonas, Manaus, Lago Janauari, 1995-1996, J.

Adis col. (IBSP 15137, used for scanning microscopy).

DISTRIBUTION. Known only from the type locality.

***Coxapopha carinata*, new species**

Figs. 12-16.

TYPES. Male holotype, Fazenda Esteio, Manaus, Amazonas, Brazil, no date or collector, deposited in INPA.

ETYMOLOGY. The specific name is a Latin participle referring to the developed and narrow projections on the male sternum (Fig. 12).

DIAGNOSIS. *Coxapopha carinata* differs from other *Coxapopha* species by the coxae IV without peg setae, developed carina on sternum (Fig. 12) and short laminar projection on the base of the conductor in the male palp (Figs. 15-16).

DESCRIPTION.

Male (holotype). Total length 2.0. Carapace orange brown, setae concentrated on cephalic area, 1.06 long, 0.87 wide, 0.56 high. Thoracic groove absent. Two eyes separated by half their diameter, 0.10. Clypeus 0.16 high. Chelicerae 0.30 long. Endites with short elaborated modifications (Fig. 12). Sternum posteriorly notched (Fig. 12). Abdomen rounded, 0.94 long, 0.76 wide. Anterior apophysis on ventral scutum rebordered; posterior apophysis short, with truncated apex, could be broken at tip (Fig. 13). Legs with same coloration as carapace, covered by few short strong setae; patella I with three ventral spines, tibia I with three pairs of ventral spines, metatarsi I with one pair of ventral spines, tibia II with one ventral basal retrolateral spine. Coxae IV without peg setae. Leg measurements: I - femur 0.74/ patella 0.35/ tibia 0.54/ metatarsus 0.45/ tarsus 0.22/ total 2.30; II - 0.66/ 0.32/ 0.52/ 0.42/ 0.22/ 2.14; III - 0.64/ 0.32/ 0.41/ 0.45/ 0.22/ 2.04; IV - 0.75/ 0.36/ 0.57/ 0.67/ 0.25/ 2.60. Palp: border of apex of embolus not sinuous (Fig. 16), short distal projection on apex of cymbium (Fig. 16); conductor not involving embolus (Figs. 14-15).

Female. Unknown.

NATURAL HISTORY. Unknown.

DISTRIBUTION. Known only for the type locality.

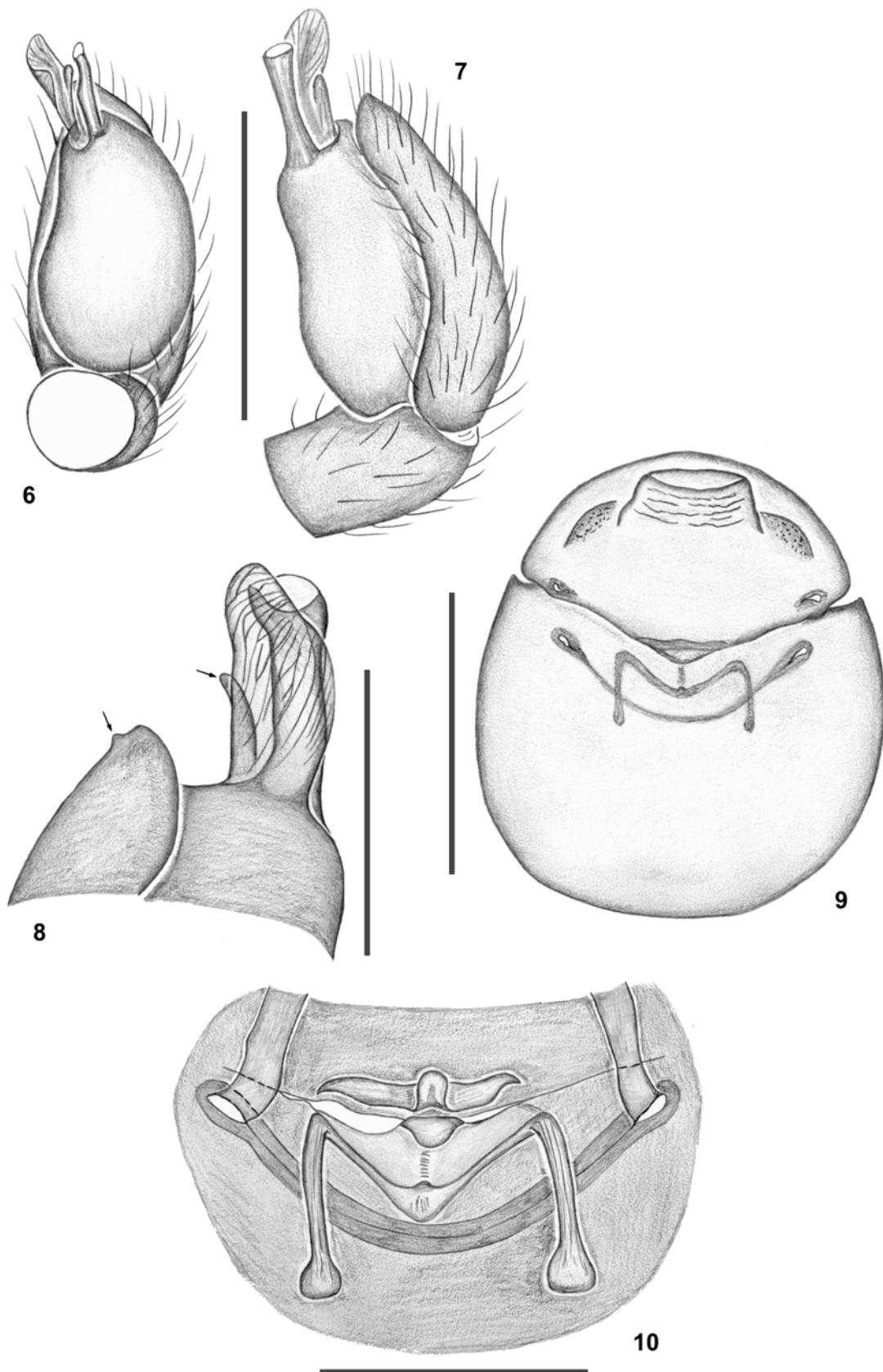


Fig. 6-10. *Coxapopha bare* sp. n. **6-8:** male palp: **6.** ventral view. **7.** retrolateral view. **8.** detail of distal area, prolateral view. **9-10:** female epigynum: **9.** ventral view by transparency. **10.** dorsal view. Scales bars: 0,25 mm. Arrows point to distal projection of cymbium and laminar projection on the base of the conductor.

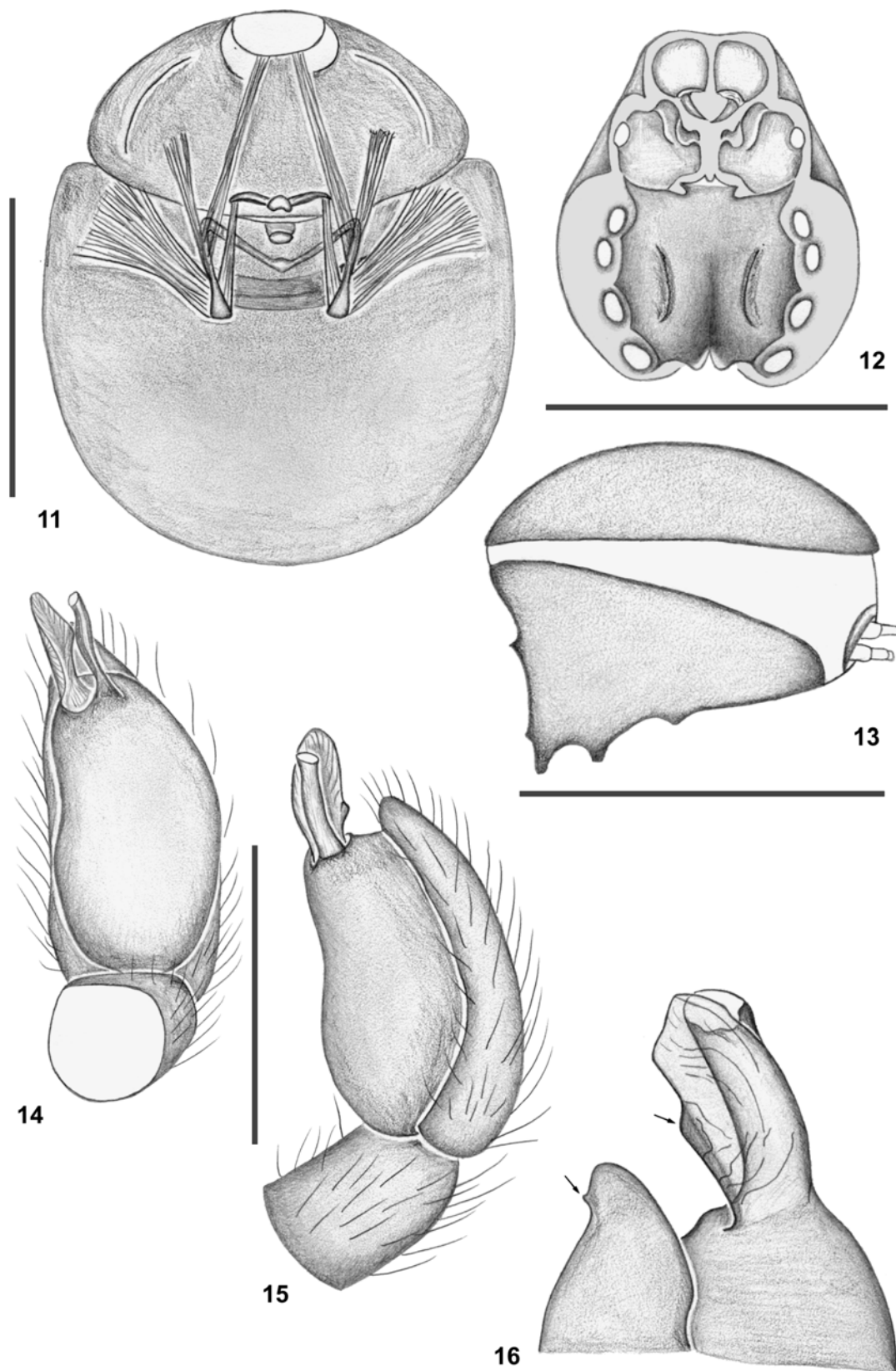


Fig. 11-16. *Coxapopha yuyapichis* sp. n. **11:** internal female epigynum, muscle fibers. **12-16:** *C. carinata* sp. n., male: **12.** carapace, ventral view. **13.** abdomen, lateral view. **14-16.** male palp: **14.** ventral view. **15.** retrolateral view. **16.** detail of distal area, prolateral view. Arrows point to distal projection of cymbium and laminar projection on the base of the conductor. Scales bars: 0,25 mm.

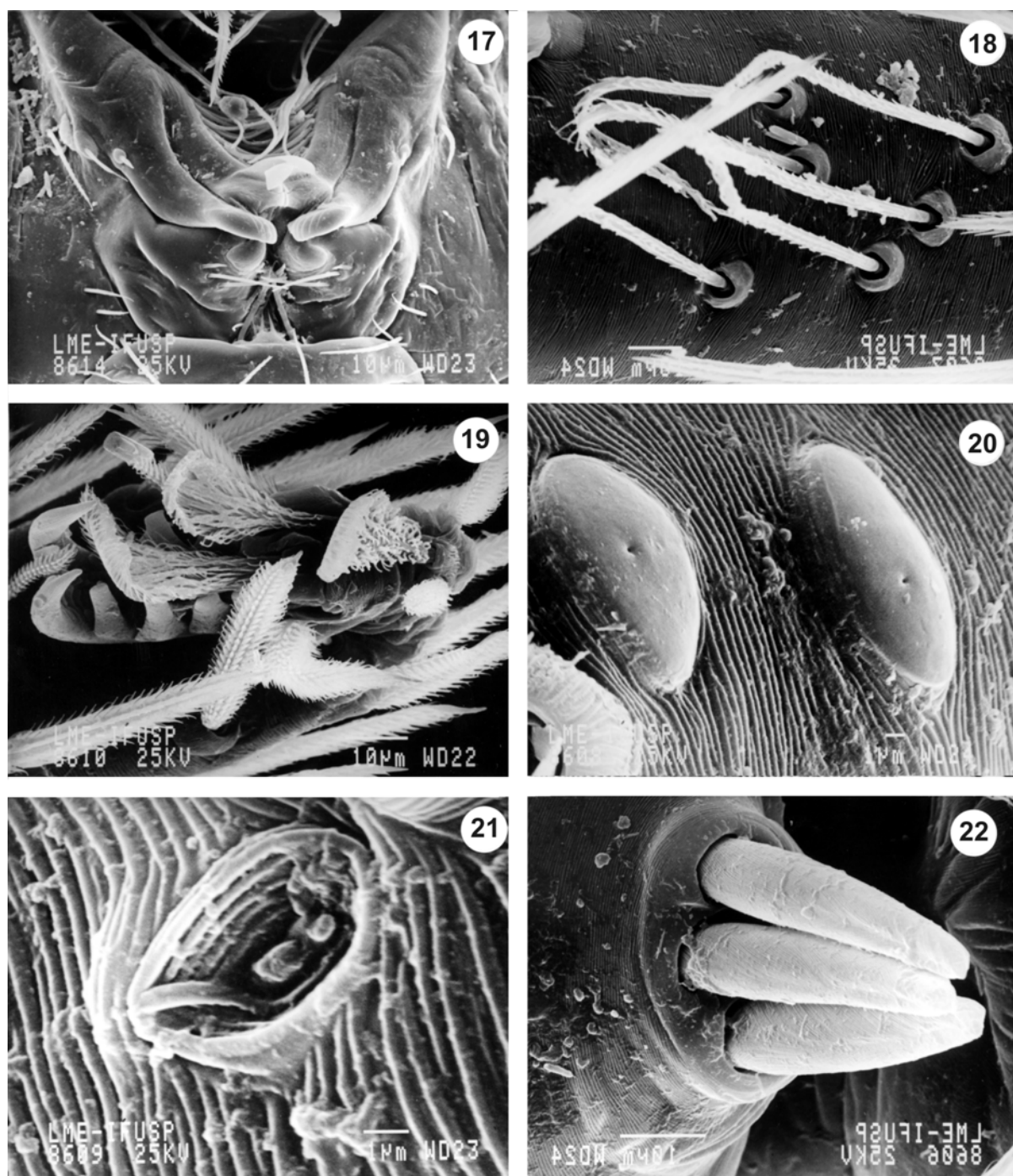


Fig. 17-22. *Coxapopha yuyapichis* sp. n., male: **17.** chelicerae, ventral view. **18.** set of trichobothria on the tibia IV. **19.** tarsal claws, ventral view. **20.** glands on metatarsus I. **21.** tarsal organ, dorsal view. **22.** peg setae on coxae IV, lateral view.

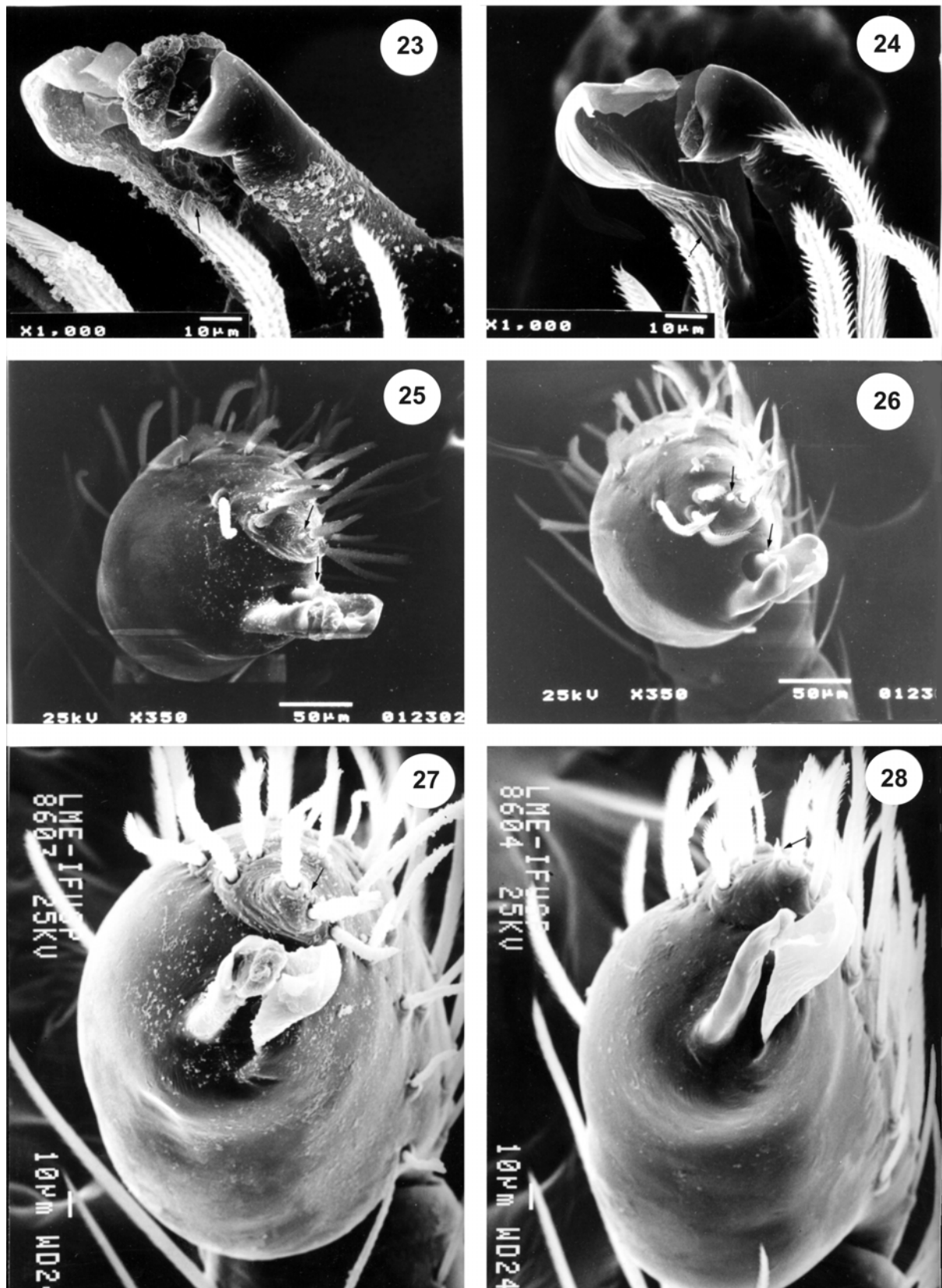


Fig. 23-28. Male palp: 23-25. *Coxapopha bare* sp. n. 23. detail of distal area of embolus and conductor. 24-25. apical view. 26-28. *C. yuyapichis* sp. n. 26. detail of distal area of embolus and conductor. 27-28. apical view. Arrows points to distal projection of cymbium and laminar projection on the basis of the conductor.



Fig. 29-30. *Coxapopha bare* sp. n. 29. abdomen, ventral view. 30. peg setae on coxae IV, lateral view.

Acknowledgements

We thank Dr. Hubert Höfer (Staatliches Museum für Naturkunde Karlsruhe) for making the specimens available. Dr. Alexandre B. Bonaldo (Museu Goeldi), Erica H. Buckup (MCN) and Cristina A. Rheims (IBSP) for revision and suggestions on the manuscript. Prof. Pedro Kiyohara and Miss Simone Perche de Toledo (IF/USP) for making the scanning electron micrographs. This work was supported by CNPq and BIOTA/FAPESP (# 99/05446-8).

References

- BIRABÉN, M. 1954. Nuevas Gamasomorphinae de la Argentina (Araneae, Oonopidae). *Notas del Museu de la Universidad Nacional Eva Perón, Zoología*, Buenos Aires, **17**(152): 181-212.
- BURGER, M., W. NENTWIG & C. KROPF 2002. *Opopaea fosuma*, n. sp. from Sumatra, Indonesia (Araneae, Oonopidae). *Bulletin of the British Arachnological Society*, **12**(5): 244-248.
- DUMITRESCO, M. & M. GEORGESCO 1983. Sur les Oonopidae (Araneae) de Cuba. In: *Résultats des expéditions biospéologiques cubano-roumaines à Cuba*, **4**: 65-114.
- PLATNICK, N. I. 2000. On *Coxapopha*, a New Genus of the Spider Family Oonopidae (Araneae, Haplogynae) from Panamá. *Memorie de la Società Entomologica Italiana*, (1999) **78** (2): 403-410.
- VERHAAGH, M. 1987. Panguana-Traum-Station im Tropenwald. *Kosmos*, **9**: 46-53.