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A Revision of the Spider Genus *Caponina* (Araneae, Caponiidae)

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ABSTRACT

A redescription is provided of the type species of *Caponina*, *C. testacea* Simon, from St. Vincent (Lesser Antilles). Although described by Simon as having only two eyes, the holotype is actually four-eyed. The generic limits have therefore been misconstrued for a century, and none of the six other species that have subsequently been described in *Caponina* actually belong to the genus. The close

relatives of *C. testacea* were instead described in *Bruchnops* Mello-Leitão, which is placed as a junior synonym of *Caponina*; *C. melloi* (Birabén) is newly synonymized with *C. notabilis* (Mello-Leitão). Six new species are described: *C. tijuca* and *C. alegre* from Brazil, *C. chilensis* from Chile, *C. cajabamba* from Peru, and *C. paramo* and *C. chinacota* from Colombia.

INTRODUCTION

Spider systematists, like many of their colleagues, have inherited numerous names of genera and higher taxa that are of uncertain applicability. In some cases, even family-group names are involved. One obvious example is the family Cithaeronidae, based on the genus *Cithaeron* O. P.-Cambridge, the type species of which was based only on du-

biously identifiable juveniles (Platnick, 1991). Equally confusing are cases where the type species is readily identifiable, but is not closely related to the other species that have been associated with it. The genus *Caponina* Simon (1891) is a case in point. Simon described the holotype of its type species, *Caponina testacea* Simon, as having only two eyes. Sub-

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sequent authors, from as early as Simon (1893) to as recent as Zapfe (1962), have assigned six additional species to the genus, although one of them, *C. blanda* Bryant (1942), was later transferred to *Nops* MacLeay by Chickering (1967). It appears that, aside from the case of *C. longipes* Simon (1893), the describers of these species were never able to examine the type species, *C. testacea*. Had they done so, they would have realized that Simon's (1891) description of the type species was significantly erroneous. The specimen involved has four eyes (fig. 21), not two.

Eye number, per se, is not sufficient for generic identifications within the Caponidae, but because the bulk of the family consists of nopines (species with highly modified legs but usually with only two eyes), Simon's (1891) erroneous indication that *C. testacea* has only two eyes set the stage for the subsequent misattribution of various two-eyed taxa to the genus. More significantly, the close relatives of *C. testacea* were not recognized as such when they were first discovered by Mello-Leitão (1939), who established for them the generic name *Bruchnops*, treated as valid by Birabén (1951), Schiapelli and Gerschman (1951), and Brignoli (1977). The last of these authors (Brignoli, 1977), in a survey of the available literature on the family, suggested that *Bruchnops* (and also *Nopsides* Chamberlin) might be synonyms of *Caponina*. With regard to *Nopsides*, Brignoli's speculations were amiss, as those animals are nopines with no close relationship to *Caponina* or *Bruchnops*; as indicated below, however, Brignoli's suggested synonymy of *Bruchnops* with *Caponina* appears to be correct.

Indeed, eye number, per se, seems not to be sufficient even for specific identifications within *Caponina*. Brignoli (1977) reported on a series of specimens collected at Nova Teutonia, Santa Catarina, Brazil, by F. Plauermann, which he attributed to *Bruchnops melloi* Birabén. That series included three adults (two males and a female); the two males were reported to have six and four eyes, respectively, whereas the single female had only two eyes. Juveniles with either two, four, or six eyes appeared in the sample. Although no two-eyed specimens have been found among the material reported on below, the anterior

and posterior lateral eyes can apparently be lost quite easily, even on just the right or left side of the animal. One male of the new species *C. paramo* has five eyes, and one female of the new species *C. tijuca* has only three eyes! Despite these aberrant examples, however, there are two species (*C. testacea* and *C. tijuca*) for which no six-eyed specimens are known, and for which four eyes seems to be the normal complement.

The specimens used are from the American Museum of Natural History (AMNH), the Natural History Museum, London (BMNH, courtesy of P. D. Hillyard), the California Academy of Sciences, San Francisco (CAS, courtesy of C. E. Griswold), the Museo Argentino de Ciencias Naturales (MACN, courtesy of E. A. Maury, M. E. Galiano, and P. A. Goloboff), the Museu de Ciências Naturais, Porto Alegre (MCN, courtesy of E. H. Buckup), the Museu de Ciências da Pontifícia Universidade Católica do Rio Grande do Sul (MCP, courtesy of A. A. Lise), the Museum of Comparative Zoology, Harvard University (MCZ, courtesy of H. W. Levi and L. Leibensperger), the Museo de La Plata (MLP, courtesy of R. Arzopide), the Museu Nacional, Rio de Janeiro (MNR, courtesy of A. Timotheo da Costa and L. N. Garcia-Neto), and the Museo Nacional de Historia Natural, Santiago (MNS, courtesy of A. Camous-seight).

Assistance with illustrations and scanning electron micrographs was supplied by Mohammad Shadab and Peling Fong Melville, respectively. Helpful comments on a draft of the manuscript were received from Ray Forster (Otago Museum, Dunedin), Pablo Goloboff (AMNH), and John Murphy (Hampton, England). All measurements are in millimeters. Fieldwork for this project was supported by National Science Foundation grant BSR-9024566.

SYSTEMATICS

CAPONINA SIMON

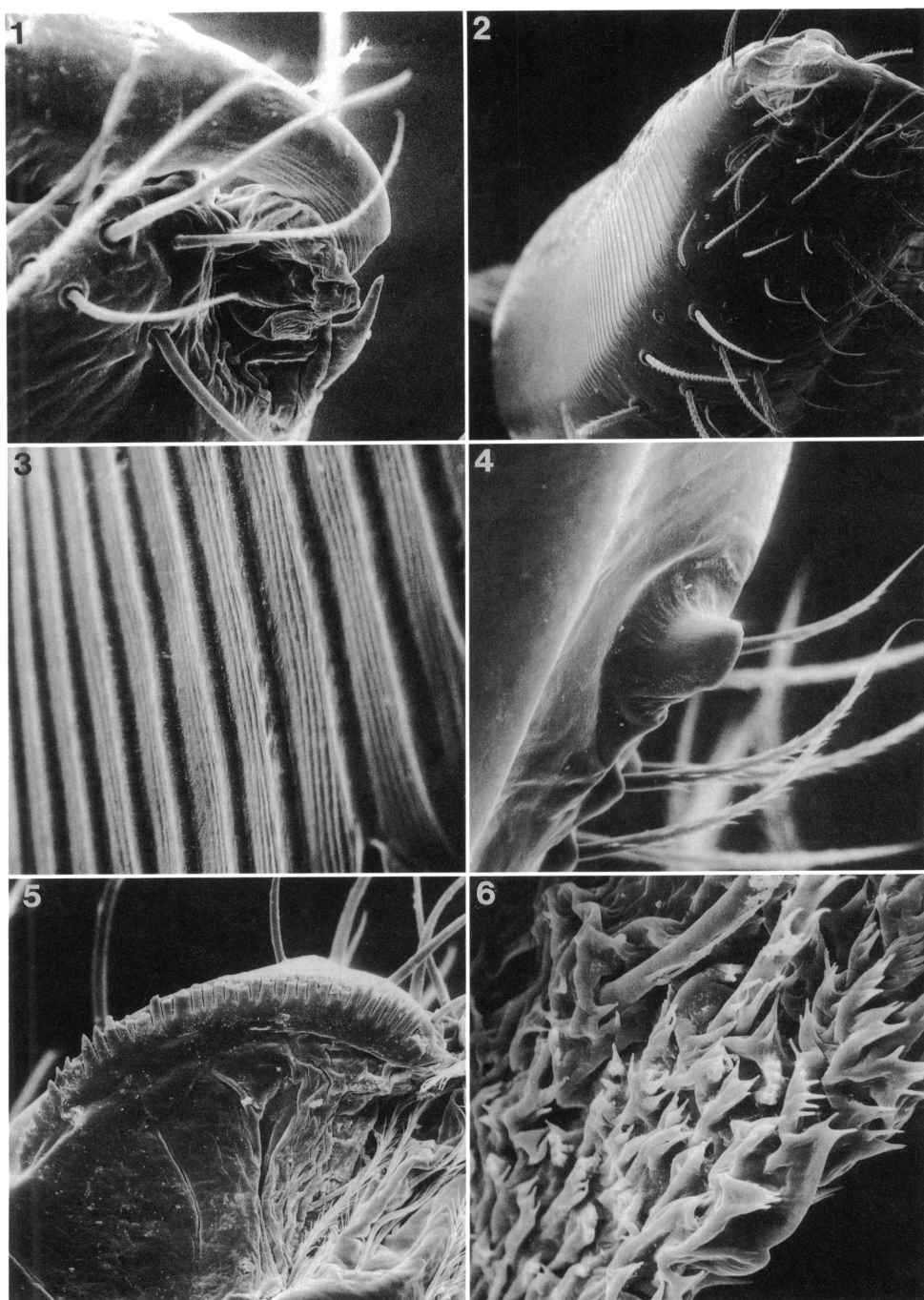
Caponina Simon, 1891: 573 (type species by monotypy *Caponina testacea* Simon).

Bruchnops Mello-Leitão, 1939: 629 (type species by monotypy *Bruchnops notabilis* Mello-Leitão). NEW SYNONYMY.

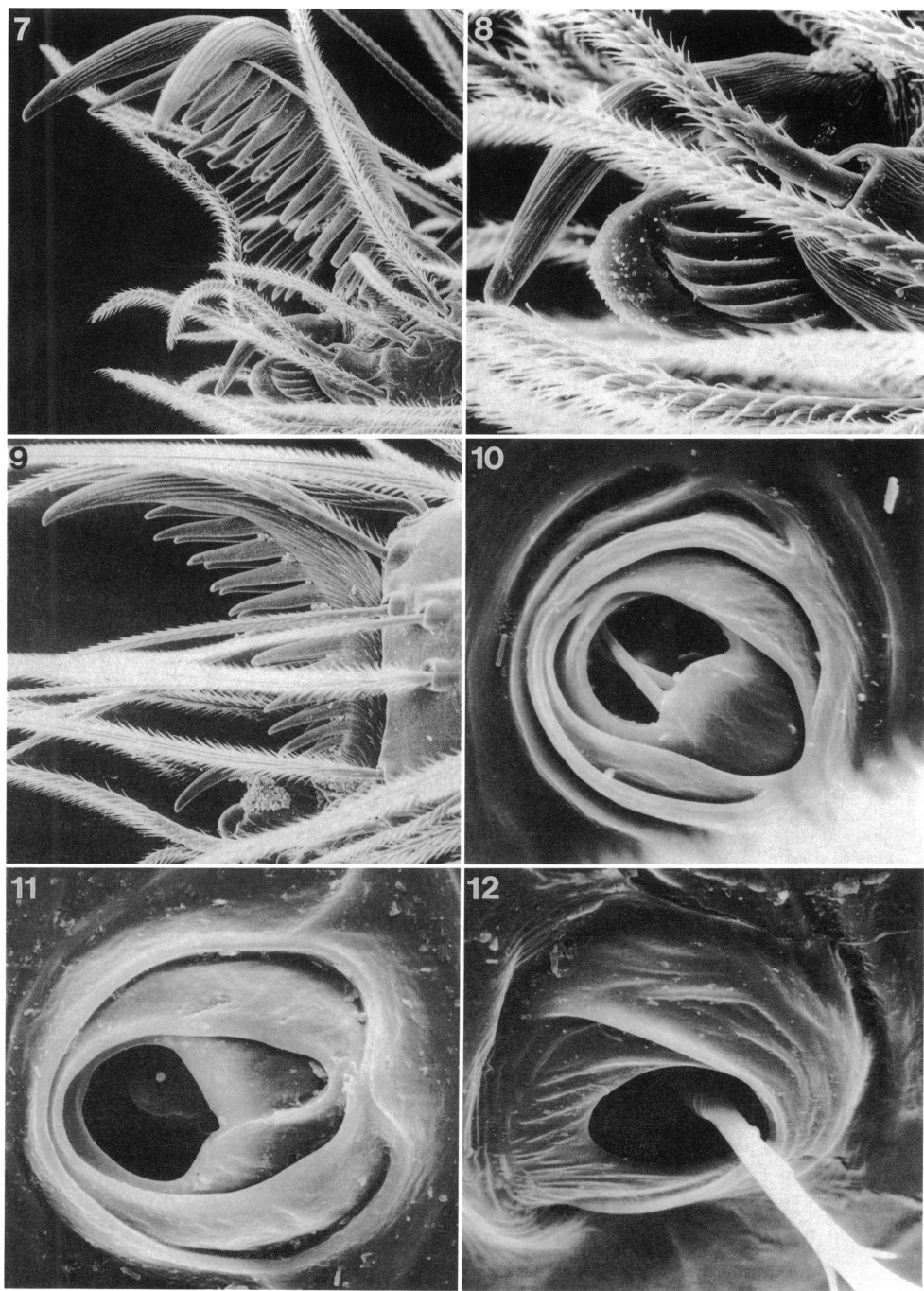
DIAGNOSIS: *Caponina* can be separated from the other known caponiid genera as follows: from *Nops*, *Nopsides*, *Orthonops* Chamberlin, and *Tarsonops* Chamberlin by having the tarsi entire rather than subsegmented, from *Caponia* Simon and *Calponia* Platnick by having fewer than eight eyes, and from *Diploglena* Purcell by the normal (rather than anteriorly expanded) palpal endites. The male palpi have distinctively curled emboli (figs. 26–28), and the internal female genitalia have a distinctive pair of sclerotizations arising from the posterior wall of the bursa copulatrix (figs. 22–25); both are apparently synapomorphic features that support the monophyly of the genus.

DESCRIPTION: Moderate-sized caponiids, usually with six eyes (fig. 19), sometimes with four (fig. 21), rarely with five, three, or (according to observations by Brignoli, 1977) even two. Carapace dark orange, oval, only gradually narrowed opposite palpal coxae; pars cephalica rounded, with elevated ocular tubercle projecting forward of eyes, sometimes in form of sharply defined ridge (fig. 20); pars thoracica steeply sloping posteriorly in males, flatter in females, with submarginal elevations opposite coxal bases, separated by submarginal depressions opposite coxal interspaces; cuticle of males with raised sculpturing consisting of roughly hexagonal cells, of females glabrous, with few scattered long, dark setae; thoracic groove obsolete; clypeus with pair of rounded elevations at lateral corners. Six-eyed species with eyes in characteristic arrangement (fig. 19); anterior median eyes dark, others pale, translucent; anterior medians separated by at least their radius, united by oval ring of black pigment; anterior lateral eyes smaller than anterior medians, set anterior of them, separated from each other by about three times their diameter, by less than their diameter from anterior medians; posterior laterals smaller than anterior laterals, set to sides of anterior medians, separated from each other by about six times their diameter, by less than their diameter from anterior medians; four-eyed species lacking posterior laterals as well as posterior medians, otherwise similar. Chelicerae with median lamina terminating in toothlike tip; most of space between lamina and base of fang occupied by white membranous lobe (fig.

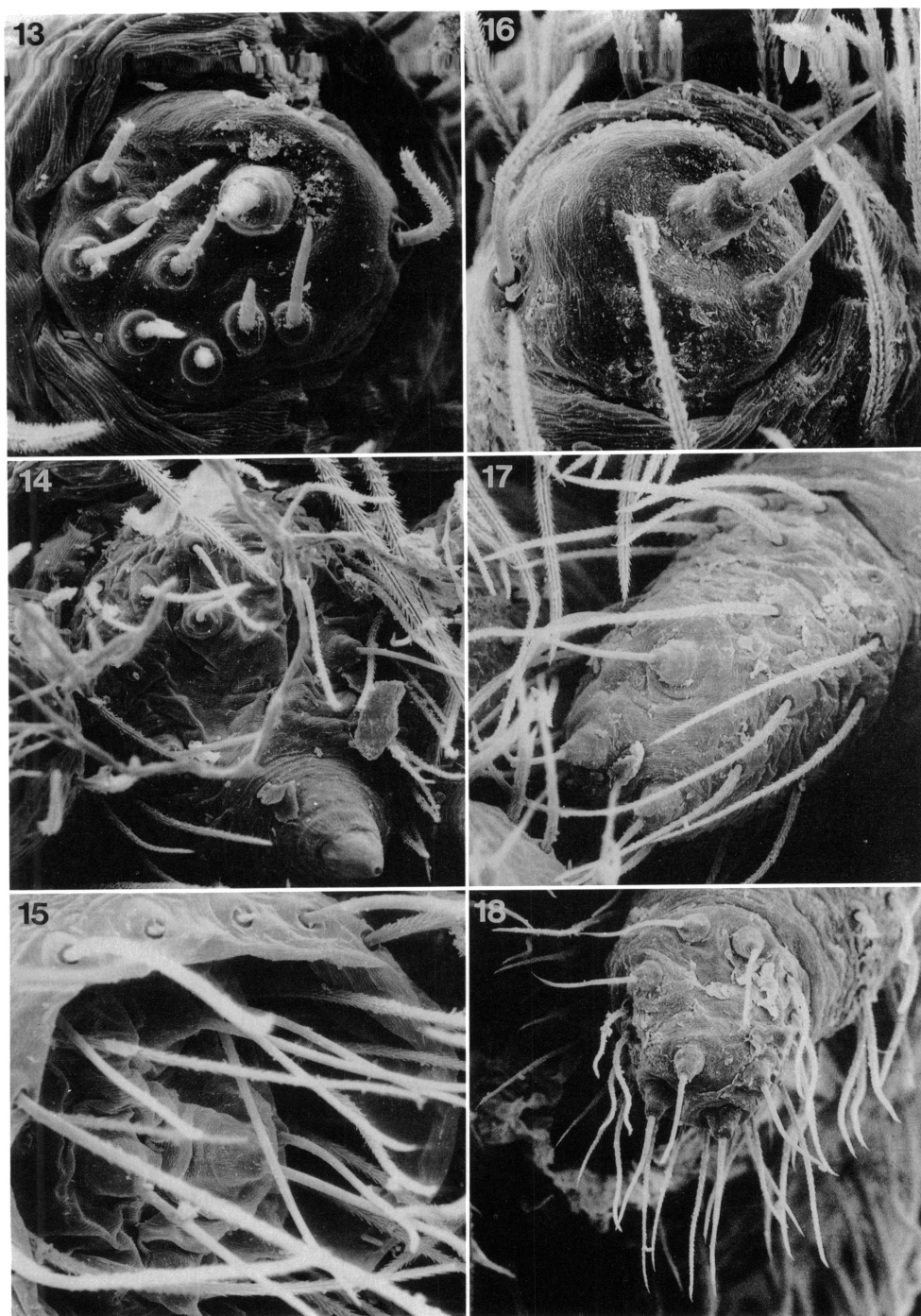
1); lateral surface with long series of stridulatory ridges (fig. 2), spaces between ridges occupied by smaller ridges (fig. 3); pick for stridulatory ridges at base of prolateral side of palpal femur (fig. 4). Endites orange, strongly convergent, not protuberant posteriorly, almost pointed distally, anterior surface distally with strong serrula consisting of single tooth row (fig. 5), proximally with three strong setae originating from enlarged bases (as in *Calponia*; see Platnick, 1993: figs. 3, 4). Labium orange, triangular, fused to sternum along deep posterior groove; anterior surface of labrum bearing irregularly spaced clumps of tiny teeth (fig. 6). Sternum dark orange, oval, cuticle glabrous; cephalothoracic membranes with three epimeric sclerites dorsal of coxae I, II, and III plus IV; epimeric sclerites not fused with triangular sclerites extending from sternal margin to and between coxae. Female palpal tarsus only slightly expanded, without claw, with numerous long setae, including conspicuous, dense patch of setae prolaterally but without dorsal pad of shortened setae. Leg formula 4123; legs orange, without spines; metatarsi and tarsi entire, without subsegmentation or membranous processes; tarsi with three claws; paired claws with up to 13 teeth, most distal of which are largest; unpaired claw without teeth, distinctly protruding from onychium, which bears several transverse ridges (figs. 7–9). Tarsal organ almost capsulate (figs. 10, 11), with marginal ridges much more pronounced than in *Calponia* (cf. Platnick, 1993: fig. 8); trichobothria present on tibiae, metatarsi, and tarsi, their bases with semicircular rim bearing slight longitudinal ridges (fig. 12). Abdomen pale gray, with two pairs of respiratory spiracles clustered around epigastric groove; anterior spiracles leading to numerous tracheoles; posterior spiracles each leading to three large tracheal trunks (two extending anteriorly, one posteriorly); posterior spiracles connected by transverse duct (i.e., as in Platnick, 1993: fig. 17, except that the posterior tracheal trunks are much wider than in *Calponia*). Spinnerets in typical caponiid arrangement; anterior laterals with single large major ampullate gland spigot and eight smaller piriform gland spigots in female (fig. 13), male with only major ampullate and single piriform gland spigot (fig. 16); posterior



Figs. 1–6. *Caponina chilensis*, new species, female, mouthparts. 1. Right chelicera, posterior view, showing fang (end broken off), tip of median lamina, and partially collapsed membranous lobe. 2. Same, oblique lateral view, showing stridulatory file. 3. Same, showing ridges of stridulatory file. 4. Stridulatory pick from base of palpal femur, dorsal view. 5. Right endite, posterior view, showing serrula. 6. Base of labrum, posterior view, showing teeth.



Figs. 7-12. *Caponina chilensis*, new species, female, structure of legs. 7. Claws of tarsus I, oblique lateral view. 8. Same, showing ridges on tarsal onychium. 9. Claws of tarsus IV, lateral view. 10. Tarsal organ from leg I, dorsal view. 11. Tarsal organ from leg IV, dorsal view. 12. Trichobothrial base from metatarsus I, dorsal view.



Figs. 13-18. *Caponina chilensis*, new species, spinnerets, posterior views. 13-15. Female. 16-18. Male. 13, 16. Anterior lateral spinnerets. 14, 17. Posterior median spinnerets. 15, 18. Posterior lateral spinnerets.

medians with 3–5 long-shafted aciniform gland spigots, females with enlarged, posteriorly situated single wide spigot presumed to serve minor ampullate gland (figs. 14, 17); posterior laterals with 4–6 long-shafted aciniform gland spigots (figs. 15, 18). Male palpal femur with basal prolateral pick for cheliceral stridulatory file, sometimes with distinct dorsal tubercle at about half its length; patella and tibia short, tibia excavated ventrally to cup bulb; cymbium globose, without distinct dorsal pad of short setae; embolus long, recurved. Female genitalia with pair of almost boomerang-shaped sclerotized bars, extending from posterior wall of bursa, almost meeting anteriorly.

SYNONYMY: As indicated by Brignoli (1977), Mello-Leitão's establishment of *Bruchnops* was apparently based primarily on the eye number (six) shown by his specimens. Even if Simon (1891) had correctly described *Caponina testacea* as having four eyes, it is unlikely that Mello-Leitão could have detected the relationships between that species and *Bruchnops*, as no illustrations of the female genitalia of any of these species were published prior to the studies of Brignoli (1975, 1977).

MISPLACED SPECIES: Six additional species have been described in *Caponina*: *C. longipes* Simon (1893) from Venezuela; *C. sargi* F. O. P.-Cambridge (1899) from Guatemala (subsequently recorded from Costa Rica by Kritscher, 1957); *C. pelegrina* Bryant (1940) from Cuba; *C. blanda* Bryant (1942) from the Virgin Islands (subsequently transferred to *Nops* by Chickering, 1967); *C. darlingtoni* Bryant (1948) from Hispaniola; and *C. leopoldi* Zapfe (1962) from Chile. None of these six taxa are congeneric with *C. testacea*; they apparently belong to at least five different genera, most of which are undescribed (of the six, only *C. sargi* and *C. pelegrina* are likely to belong to the same genus). Their placement is obviously beyond the scope of this paper and must await continuing revisionary studies of the New World caponiid fauna, which is far more diverse than the current literature indicates.

DISTRIBUTION: The genus is widespread in South America, from Colombia south to Chile, and also occurs at least on St. Vincent in the Lesser Antilles.

SPECIES RELATIONSHIPS: Because only half the species are known from males, it is difficult to say much about the cladistic structure of the genus. However, *C. chilensis* and the high-altitude Colombian species *C. paramo* share a greatly elongated embolus as well as a dorsal tubercle on the palpal femur, and the Peruvian and Colombian species *C. cajabamba* and *C. chinacota* share with *C. chilensis* and *C. paramo* relatively massive epigynal sclerotizations, suggesting that these four Andean species may form a monophyletic group.

Caponina testacea Simon

Figures 21, 22

Caponina testacea Simon, 1891: 573 (female holotype from St. Vincent, in BMNH, examined).

DIAGNOSIS: This (apparently non-teratologically) four-eyed species (fig. 21) resembles *C. tijuca* in having the epigynal sclerotizations relatively narrow, but can be separated by the anterior expansions of those sclerotizations (fig. 22).

MALE: Unknown.

FEMALE: Total length 3.11. Carapace 1.23 long, 1.08 wide. Femur II 1.05 long. Four eyes, anterior medians separated by their radius, about as far from anterior laterals, which are half their size and situated more anteriorly (fig. 21). Carapace relatively flat, with only slight marginal elevations, without ocular ridge. Epigynal sclerotizations long, narrow, anterior ends expanded, with anterolateral projections (fig. 22).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from St. Vincent, Lesser Antilles.

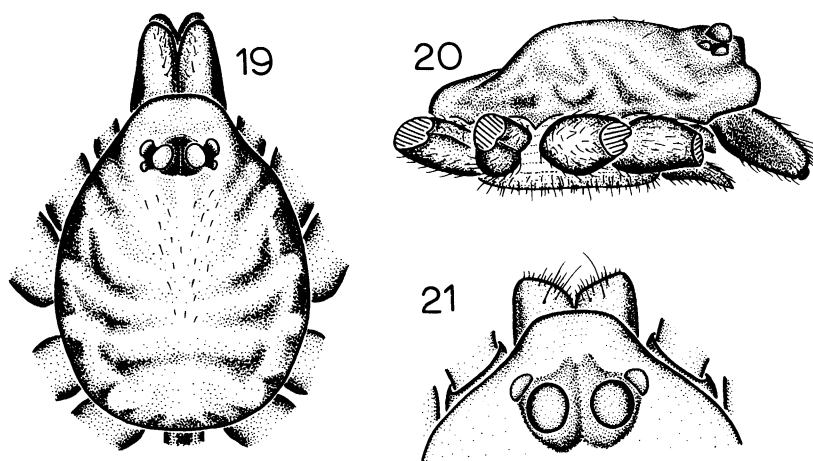
Caponina tijuca, new species

Figure 23

TYPE: Female holotype from pan under Malaise trap in the Tijuca Forest Reserve at Rio de Janeiro, Rio de Janeiro, Brazil (Feb. 1–28, 1990; S. A. Marshall), deposited in MNR.

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

DIAGNOSIS: This species seems normally to be four-eyed (although one of the two available females has only three eyes) and resem-



Figs. 19–21. Carapace and ocular region. 19, 20. *Caponina chilensis*, new species, male, dorsal and lateral views. 21. *C. testacea* Simon, female, dorsal view.

bles *C. testacea* in having the epigynal sclerotizations relatively narrow, but can be separated by the lack of anterior expansions of those sclerotizations (fig. 23).

MALE: Unknown.

FEMALE: Total length 4.61. Carapace 1.58 long, 1.32 wide. Femur II 1.41 long. Four eyes, arranged as in *C. testacea* but with anterior laterals smaller than in that species, only one-third as large as anterior medians. Carapace relatively flat, with only slight marginal elevations, without ocular ridge. Epigynal sclerotizations long, narrow, anterior ends without conspicuous enlargements (fig. 23).

OTHER MATERIAL EXAMINED: One female taken with the holotype (AMNH).

DISTRIBUTION: Known only from Rio de Janeiro, Brazil.

Caponina alegre, new species

Figures 24, 26–28

TYPES: Male holotype and female allotype from Porto Alegre, Rio Grande do Sul, Brazil (Sept. 10, 1942), deposited in MNR.

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

DIAGNOSIS: This species resembles *C. notabilis* in having a relatively short male embolus, but can be distinguished by the details of the embolus, which is longer as well as wider at its base (figs. 26–28), and by the epigynal sclerotizations of females, which

have distinct anterior extensions at their anterolateral edges (fig. 24).

MALE: Total length 3.30. Carapace 1.39 long, 1.23 wide. Femur II 1.11 long. Six eyes, anterior medians separated by almost their diameter, slightly closer to anterior laterals, which are half their width; posterior laterals even smaller, arranged in transverse row with anterior medians. Carapace relatively flat, with only slight marginal elevations, with slight ocular ridge. Palpal femur without dorsal tubercle, embolar base relatively wide, embolus extending beyond ventral edge of bulb (figs. 26–28).

FEMALE: Total length 4.65. Carapace 1.46 long, 1.23 wide. Femur II 1.24 long. Eye pattern and carapace as in male. Epigynal sclerotizations long, wide, anterior ends almost rectangular, with anterolateral projections (fig. 24).

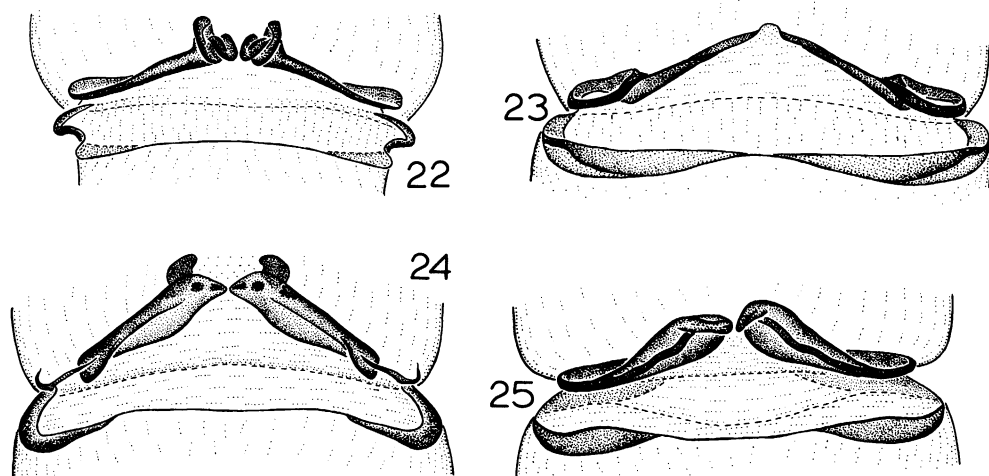
OTHER MATERIAL EXAMINED: One male and five females taken with the types (MNR, AMNH); all are six-eyed but the posterior lateral pair are sometimes very small.

DISTRIBUTION: Known only from Rio Grande do Sul, Brazil.

Caponina notabilis (Mello-Leitão),
new combination

Figures 25, 29–31

Bruchnops notabilis Mello-Leitão, 1939: 629 (male holotype from Alta Gracia, Córdoba, Argentina, in MLP, examined).—Mello-Leitão, 1941: 196,



Figs. 22–25. Internal epigynal sclerotizations, dorsal views. 22. *C. testacea* Simon. 23. *C. tijuca*, new species. 24. *C. alegre*, new species. 25. *C. notabilis* (Mello-Leitão).

figs. 89–91, pl. 12, fig. 59.— Schiapelli and Gerschman, 1951: 333, figs. 1, 2.

Bruchnops melloi Birabén, 1951: 57, figs. 1, 3–5 (male holotype and female allotype from Cabana, Córdoba, Argentina, in MLP, examined).— Brignoli, 1975: 36, fig. 2N.— Brignoli, 1977: 609, figs. 1–7. NEW SYNONYMY.

Bruchnops chacoensis Birabén, 1951: 62, figs. 2, 6 (female holotype from Resistencia, Chaco, Argentina, in MLP, examined). First synonymized with *B. melloi* by Brignoli, 1977: 609.

DIAGNOSIS: This species resembles *C. alegre* in having a relatively short male embolus, but can be distinguished by the details of the embolus, which is shorter as well as narrower at its base (figs. 29–31), and by the epigynal sclerotizations of females, which have no distinct anterior extensions at their triangular anterolateral edges (fig. 25).

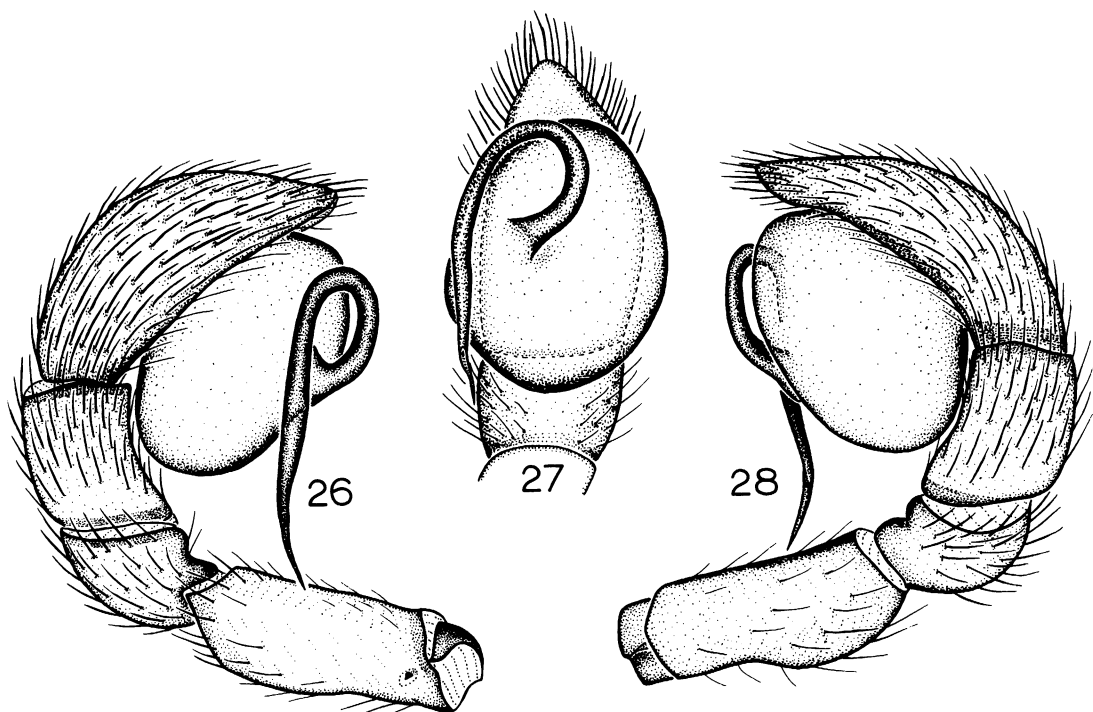
MALE: Total length 3.71. Carapace 1.37 long, 1.13 wide. Femur II 1.01 long. Six eyes, anterior medians separated by their diameter, slightly closer to anterior laterals, which are half their width and situated well anterior of anterior medians; posterior laterals even smaller, arranged in slightly recurved row with anterior medians. Carapace relatively flat, with only slight marginal elevations, with slight ocular ridge. Palpal femur without dorsal tubercle, embolar base relatively narrow, embolus not extending to ventral edge of bulb (figs. 29–31).

FEMALE: Total length 4.39. Carapace 1.46 long, 1.24 wide. Femur II 1.13 long. Eye pattern and carapace as in male. Epigynal sclerotizations long, narrow, anterior ends triangular, without anterolateral projections (fig. 25).

MATERIAL EXAMINED: ARGENTINA: **Buenos Aires:** Cerro Negro, Sierra de la Ventana (C. Césari, MACN), 1♂, 3♀. **Chaco:** Resistencia, Dec. 19, 1949 (M. Birabén, MLP), 1♀ (holotype). **Córdoba:** Alta Gracia (C. Bruch, MLP), 1♂ (holotype); Cabana, July 15, 1950 (M. Birabén, MLP), 1♂ (holotype), Mar. 22, 1951 (M. Birabén, MLP), 1♀ (allotype); Calamuchita, Dec. 1949 (J. M. Viana, MACN), 1♀. **BRAZIL:** **Paraná:** Mata dos Godoy, Londrina, Jan. 28–31, 1990, pan under Malaise trap (S. A. Marshall, AMNH), 1♂. **Rio Grande do Sul:** Estância São Roberto, Quaraí, May 24–28, 1991 (A. D. Brescovit, MCN), 1♂; Rio Uruguai, Itá, May 1988 (Itá-Machadinho, MCP), 1♂. **URUGUAY:** **Colonia:** Colonia Suiza, July 13, 1966 (R. Capocasale, L. Bruno, CAS), 1♀.

DISTRIBUTION: Widespread from northern Paraná through Santa Catarina (records of Brignoli, 1977) and Rio Grande do Sul states in Brazil, and south to Uruguay and Chaco, Córdoba, and Buenos Aires provinces in Argentina.

SYNONYMY: Birabén (1951) distinguished *Bruchnops melloi* from *B. notabilis* primarily



Figs. 26–28. *Caponina alegre*, new species, left male palp. 26. Prolateral view. 27. Ventral view. 28. Retrolateral view.

on the basis of the longer distal segment of the posterior lateral spinnerets of the male holotype of the latter species. Those differences seem not to be structural, representing only different degrees of extension of the relatively soft cuticle involved.

***Caponina chilensis*, new species**

Figures 1–20, 32, 36–38

TYPES: Male holotype and female allotype taken at an elevation of 300 m at a site 79 km N of La Serena (Rt. 5, km 553), Elqui, Región de Coquimbo (IV), Chile (Oct. 15, 1992, N. I. Platnick, P. A. Goloboff, K. M. Catley), deposited in AMNH.

ETYMOLOGY: The specific name refers to the distribution.

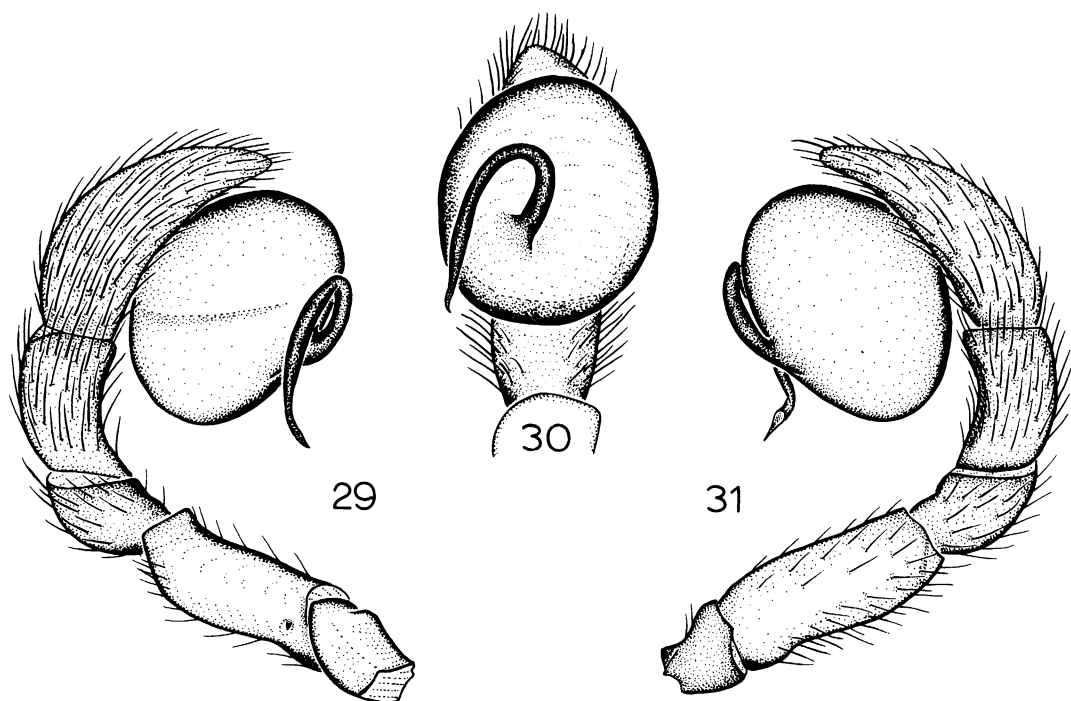
DIAGNOSIS: This six-eyed species resembles *C. cajabamba* in having relatively long epigynal sclerotizations. Females differ from those of that species in having the sclerotizations dorsolaterally folded (fig. 32). Males of *C. cajabamba* are unknown, but those of *C. chilensis* differ from those of the similar

C. paramo in having greatly elevated marginal elevations of the carapace (figs. 19, 20), a more pronounced dorsal tubercle on the palpal femur (figs. 36, 38), and an extremely long, distally straight embolus (fig. 37).

MALE: Total length 4.12. Carapace 1.80 long, 1.35 wide. Femur II 1.35 long. Six eyes, anterior medians separated by their diameter, slightly closer to anterior laterals, which are almost their width and situated slightly anterior of anterior medians; posterior laterals smaller, arranged in slightly recurved row with anterior medians. Carapace deeply excavated posteriorly, with distinct marginal elevations opposite each coxa and pronounced ocular ridge (figs. 19, 20). Palpal femur with dorsal tubercle, embolus extending beyond ventral edge of bulb (figs. 36–38).

FEMALE: Total length 4.99. Carapace 1.60 long, 1.40 wide. Femur II 1.39 long. Eye pattern and carapace as in male. Epigynal sclerotizations very long, wide, dorsoventrally folded at anterior ends (fig. 32).

OTHER MATERIAL EXAMINED: CHILE: **Región de Antofagasta (II):** *Antofagasta*: 4 km



Figs. 29–31. *Caponina notabilis* (Mello-Leitão), left male palp. 29. Prolateral view. 30. Ventral view. 31. Retrolateral view.

N Paposo, Oct. 11, 1992, elev. 20–50 m (N. I. Platnick, P. A. Goloboff, K. M. Catley, AMNH), 1♂. **Región de Coquimbo (IV):** *Choapa*: 8 km S Los Vilos, Oct. 4, 1983 (A. Roig, MACN), 1♂. *Elqui*: 2 km S Coquimbo, Oct. 31–Nov. 4, 1981, pitfall trap in coastal scrub matorral (N. I. Platnick, R. T. Schuh, AMNH), 1♀; 79 km N La Serena (Rt. 5, km 553), Oct. 15, 1992, elev. 300 m (N. I. Platnick, P. A. Goloboff, K. M. Catley, AMNH), 1♀. **Región de Valparaíso (V):** *Quillota*: Cerro de La Campana, Parque Nacional La Campana, Nov. 10, 1976, pitfall trap in beech forest (R. Calderón, AMNH), 1♂; Las Palmas de Ocoa, Parque Nacional La Campana, Dec. 21, 1984–Sept. 27, 1985, pitfall traps in unburned site (R. Calderón, AMNH), 4♂, 9♀; Olmué, Parque Nacional La Campana, Dec. 2, 1984–Feb. 21, 1985, elev. 800–900 m, carrion trap in hygrophilous forest (S., J. Peck, AMNH), 2♂. **Región Metropolitana:** *Santiago*: Quebrada La Plata, fundo La Rinconada de Maipú, Oct. 8, 1958–May 10, 1960, pitfall trap (W. Noodt, MNS), 1♀; Valle del Río Mapocho, between El Arrayán and Farellones,

Oct. 15, 1958–June 8, 1960, pitfall traps (W. Noodt, MNS), 1♂, 1♀.

DISTRIBUTION: Northern Chile, from Santiago north to the coastal foothills along the Atacama desert (regions II through Metropolitana).

***Caponina cajabamba*, new species**

Figure 33

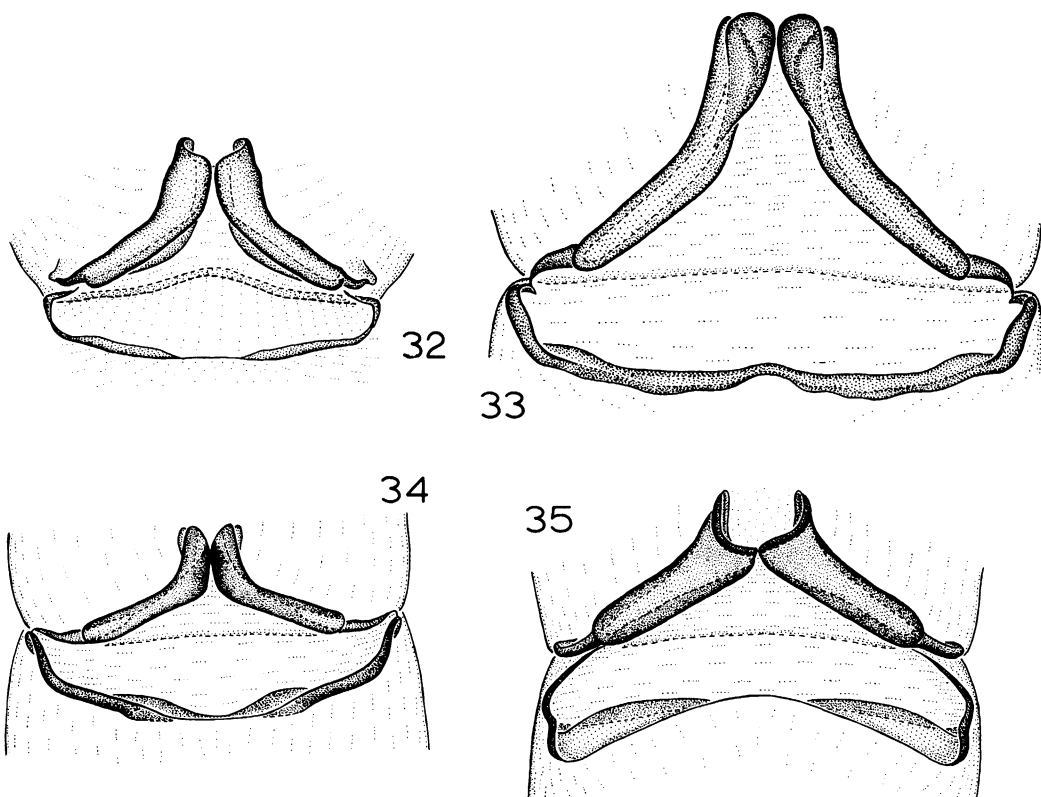
TYPE: Female holotype taken at an elevation of 3000–3100 m above Cajabamba, Cajamarca, Peru (Sept. 25, 1955; W. K. Weyrauch), deposited in CAS.

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

DIAGNOSIS: This species resembles *C. chilensis* in having relatively long epigynal sclerotizations, but can be distinguished by the club-shaped anterior extensions of the sclerotizations, which reach almost to the pedicel (fig. 33).

MALE: Unknown.

FEMALE: Total length 5.40. Carapace 2.02 long, 1.58 wide. Femur II 1.37 long. Six eyes,



Figs. 32–35. Internal epigynal sclerotizations, dorsal views. 32. *Caponina chilensis*, new species. 33. *C. cajabamba*, new species. 34. *C. paramo*, new species. 35. *C. chinacota*, new species.

anterior medians separated by their diameter, slightly closer to anterior laterals, which are almost their width and situated well anterior of anterior medians; posterior laterals smaller, arranged in slightly recurved row with anterior medians. Carapace relatively flat, with marginal elevations scarcely detectable but with distinct ocular ridge. Epigynal sclerotizations massive, reaching virtually to pedicel, with club-shaped anterior extensions (fig. 33).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from a high altitude site in northern Peru.

***Caponina paramo*, new species**

Figures 34, 39–41

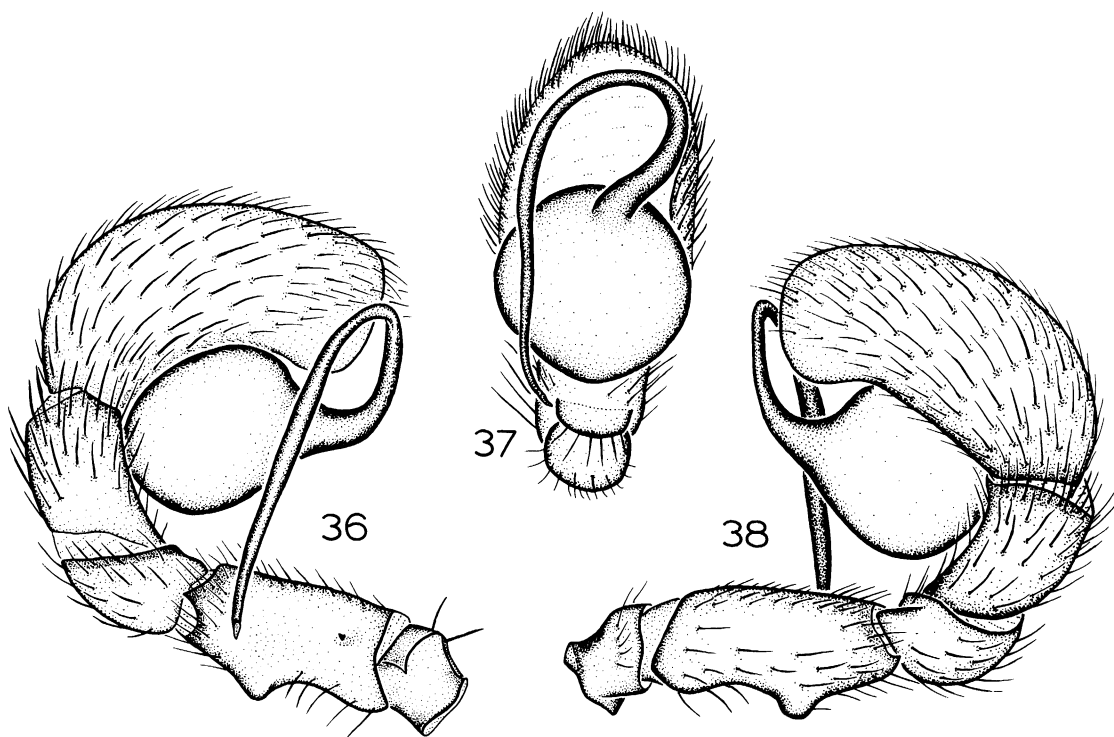
TYPES: Male holotype and female allotype taken in pitfall traps on the Paramo de Monserrate, Bogotá, Cundinamarca, Colombia

(Apr.–Nov. 1968; H. Sturm), deposited in AMNH.

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

DIAGNOSIS: This species resembles *C. chinacota* in having anteriorly convergent epigynal sclerotizations. Females differ from those of that species in having the sclerotizations much narrower anteriorly (fig. 34). Males of *C. chinacota* are unknown, but those of *C. paramo* differ from those of the similar *C. chilensis* by the less pronounced dorsal tubercle on the palpal femur (figs. 39, 41) and the distally more strongly curved embolus (fig. 40).

MALE: Total length 3.08. Carapace 1.35 long, 1.25 wide. Femur II 1.01 long. Six eyes, anterior medians separated by almost their diameter, much closer to anterior laterals, which are only half their width and situated



Figs. 36–38. *Caponina chilensis*, new species, left male palp. 36. Prolateral view. 37. Ventral view. 38. Retrolateral view.

only slightly anterior of anterior medians; posterior laterals even smaller (sometimes lacking on one side), arranged in slightly recurved row with anterior medians. Carapace relatively flat, with marginal elevations scarcely detectable and no ocular ridge. Palpal femur with slight dorsal tubercle, embolus extending beyond ventral edge of bulb (figs. 39–41).

FEMALE: Total length 3.62. Carapace 1.39 long, 1.23 wide. Femur II 1.17 long. Eye pattern and carapace as in male. Epigynal sclerotizations sharply curved, narrowed and almost touching anteriorly (fig. 34).

OTHER MATERIAL EXAMINED: COLOMBIA: **Cundinamarca:** Bogotá, above Calle 82, Dec. 26, 1968, elev. 2750 m, dead leaves of *Espeletopsis corymbosa* (H. Sturm, MCZ), 1♂, 1♀; Paramo de Monserrate, Bogotá, Apr. 1968–Mar. 1969, pitfall traps (H. Sturm, AMNH), 4♂, 3♀.

DISTRIBUTION: Known only from the high

altitude paramos of Cundinamarca, Colombia.

Caponina chinacota, new species

Figure 35

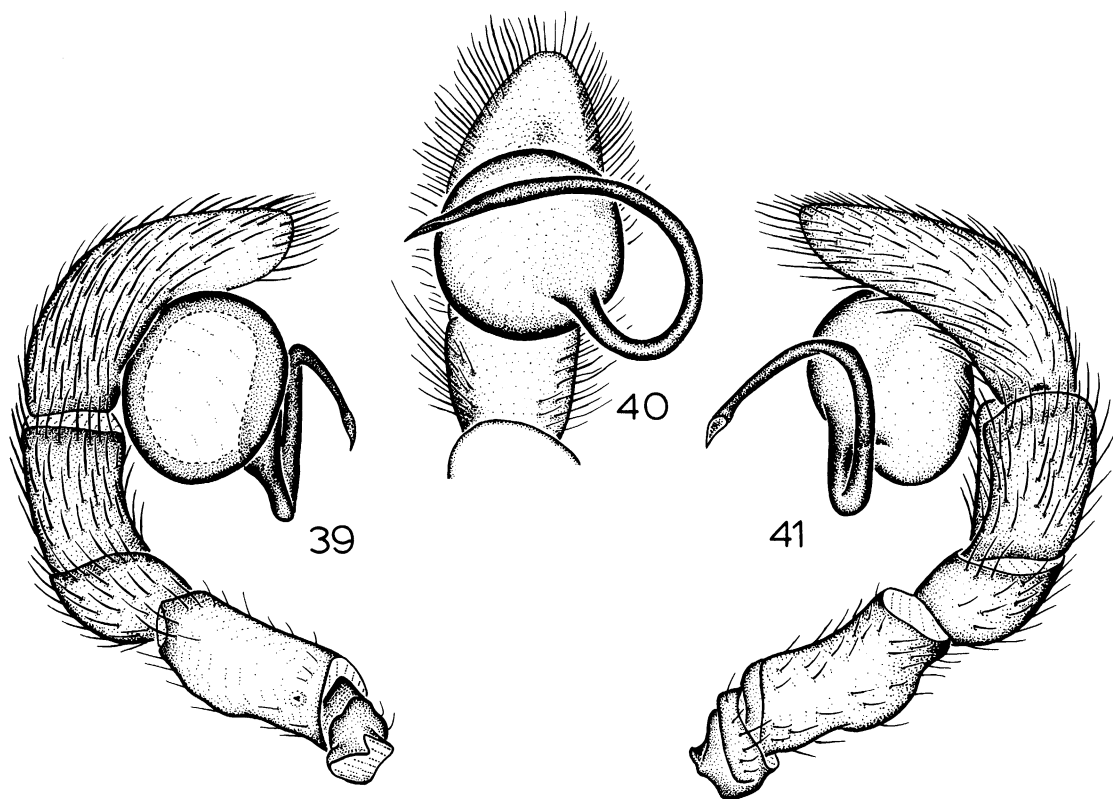
TYPE: Female holotype taken at an elevation of 3000 ft in a coffee plantation 3 mi N Chinácota, Norte de Santander, Colombia (May 8–10, 1974; S. Peck), deposited in MCZ.

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

DIAGNOSIS: This species resembles *C. paramo* in having anteriorly convergent epigynal sclerotizations, but can be distinguished by the long anterolateral extensions on the anteriorly widened sclerotizations (fig. 35).

MALE: Unknown.

FEMALE: Total length 3.83. Carapace 1.48 long, 1.22 wide. Femur II 1.20 long. Six eyes, anterior medians separated by almost their



Figs. 39–41. *Caponina paramo*, new species, left male palp. 39. Prolateral view. 40. Ventral view. 41. Retrolateral view.

diameter, about as far from anterior laterals, which are half their width and situated well anterior of anterior medians; posterior laterals smaller, arranged in slightly recurved row with anterior medians. Carapace relatively flat, with marginal elevations scarcely

detectable, without distinct ocular ridge. Epigynal sclerotizations narrowed anterior into almost c-shaped extensions (fig. 35).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from a relatively low altitude site in northern Colombia.

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