

THE SOUTH AMERICAN CASTIANEIRINAE. I.
THE GENUS *PSELLOCOPTUS*
(ARANEAE: CLUBIONIDAE)*

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The Castianeirinae is a group of ground running spiders many of whom mimic ants or mutillid wasps. The subfamily is world-wide and predominantly tropical with a great abundance of species in the Neotropical Region. The North and Central American representatives were recently studied (Reiskind, 1969) and this paper represents the first portion of a revision of the South American fauna.

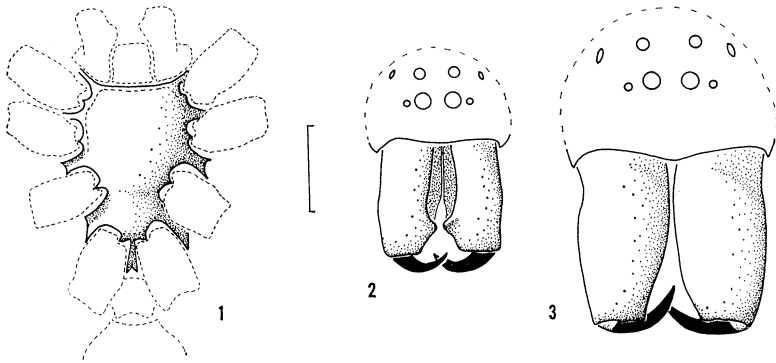
The genus *Psellocoptus* was based on a single species, *Psellocoptus flavostriatus* Simon, found in the Cordillera de la Costa in northern Venezuela. This bizarre and distinct genus has been reported as a "beautiful and large species from the forests of Venezuela which (is) found running rapidly on the trunks on trees" (Simon, 1897). Collections from Rancho Grande reveal two sympatric species and comparison with the type specimens from nearby Colonia Tovar indicate that there exist at least three species of *Psellocoptus*.

The general form and characteristics of this genus make it quite distinct from any other genus whereas the three species are very similar to one another. The genus probably originated as an isolate from the more dominant and widespread genera — *Myrmecium* and *Castianeira* — that has fairly recently speciated in the topographically complex Cordillera de la Costa. No other genus of castianeirine spiders has been reported from this region of Venezuela though it is likely that *Mazax* (found in Trinidad and Panama) and the smaller species of *Castianeira* will be found there. It is also probable that additional species of *Psellocoptus* will be discovered with further field work.

I wish to thank Dr. W. J. Gertsch and Dr. J. A. L. Cooke for making the collections of the American Museum of Natural History available and Dr. M. Hubert and Dr. M. Vachon for the loan of the type material from the Muséum national d'Histoire naturelle in Paris.

*Research supported in part by a University of Florida Biomedical Sciences Grant provided by the National Institutes of Health.

Manuscript received by the editor August 17, 1971.



Figs. 1-2. *Psellocoptus prodontus* n. sp. 1. Male sternum. 2. Male chelicerae and eyes, anterior view.

Fig. 3. *Psellocoptus buchlii* n. sp., male chelicerae and eyes, anterior view.

(Scale line = 1 mm. Setae and sculpturation omitted.)

Psellocoptus Simon, 1896

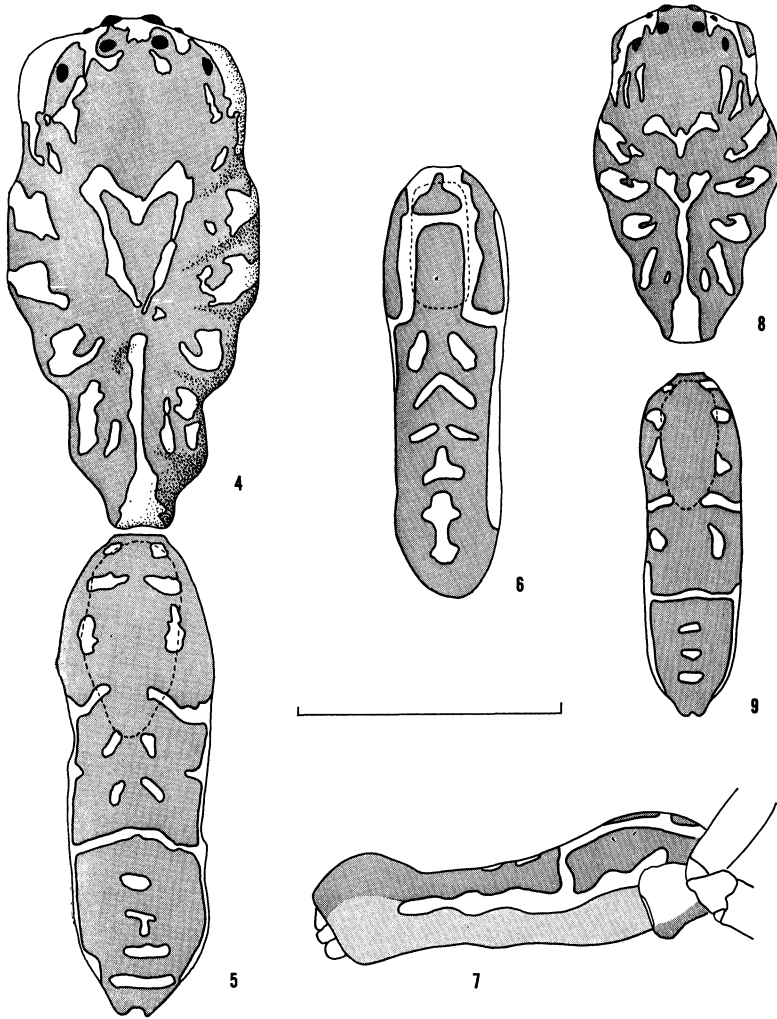
Psellocoptus Simon, 1896, Ann. Soc. Entomol. Belgium 40: 404. ♂, ♀.

Type-species by monotypy. Male lectotype designated from Colonia Tovar, Venezuela (probably in Aragua State); in Muséum national d'Histoire naturelle, Paris, examined.

Although Simon described the genus *Psellocoptus* as new in his *Histoire naturelle des Araignées* (1897), the species bearing the generic name had been described a year earlier and so both genus and species name should be dated "1896."

Generic Characteristics: Moderately large castianeirine ground running spider (7.5 to 11.5 mm. in length). Carapace dark with a wide, domed cephalic region tapering to a flatter thoracic region having moderate depressions and lateral indentations between coxae II and III and coxae III and IV, ending in a short petiole (Fig. 4). A small but distinct thoracic groove. Carapace with a distinct and complex pattern of white plumose hairs (Figs. 4 and 8) and some long thin simple setae on the cephalic region. Eyes arranged in two rows, the posterior row about one and one-half times as wide as the anterior row, the anterior row straight, the posterior row slightly recurved; the posterior eyes equal, the anterior medians slightly larger than the posterior eyes, the anterior laterals much smaller (Figs. 2 and 3).

Abdomen elongate ovoid, generally brown dorsum with some lighter pigmentation markings and an anterior dorsal sclerite. Whole dorsum slightly shiny as if weakly sclerotized. A pattern consisting of



Figs. 4-5. *Psellocoptus buchlii* n. sp. 4. Male carapace, dorsal view. 5. Male abdomen, dorsal view.

Figs. 6-7. *Psellocoptus flavostriatus* Simon. 6. Male abdomen, dorsal view. 7. Male abdomen, right lateral view.

Figs. 8-9. *Psellocoptus prodontus* n. sp. 8. Male carapace, dorsal view. 9. Male abdomen, dorsal view.

(Scale line = 3 mm. Setae and sculpturation omitted; white areas are areas of white plumose hairs, shaded areas darker ground color. Leg, spinnerets and book lung cover unshaded in Fig. 7.)

bands and spots of white plumose hairs extends over the abdominal dorsum (Figs. 5-7 and 9). Venter lighter than dorsum. Epigastric sclerite red-brown with light yellow lung covers. Anterior dorsal abdominal setae absent.

Sternum shield-shaped with extensions between all coxae and extremely narrowed between the fourth pair of coxae (Fig. 1).

Chelicerae with two moderate retromargin teeth and three pro-margin teeth, the distal one much smaller, the median one slightly larger and the proximal slightly smaller than the retromargin teeth.

Trochanter IV notch absent. Pedipalp in female thin and long.

Legs thin and long with long spines and sparse, long thin setae. Tibia I ventral spines very long and moderately thin with spination formulae variable but usually 4 (prolateral)-4 (retrolateral), 5-4 or 5-5.

External epigynum with two moderately large semicircular openings directed laterally (Fig. 13). Internal structure with large anterior and posterior spermathecal bulbs (Fig. 12). Male pedipalp with no tibial apophysis. Tarsus with a small globose genital bulb drawn out into an extremely long neck with a sclerotized embolus; a setae covered cymbium with a long medially directed spine near its base.

Diagnosis: *Psellocoptus* can be distinguished from the two other South American genera in the Castianeirinae having indented carapaces — *Myrmecium* and *Sphécotyplus* — by its rounded anterior end and the relatively “unsegmented” carapace. *Sphécotyplus* has a distinct cephalic region squared off in front whereas the carapace of *Myrmecium* is highly modified with a rounded head region, narrow thoracic region and a long pedicel. Of these three genera only *Myrmecium* has the anterior portion of the abdomen narrowed to form a short, distinct petiole.

Range: Northern South America, apparently restricted to the Cordillera de la Costa of northern Venezuela.

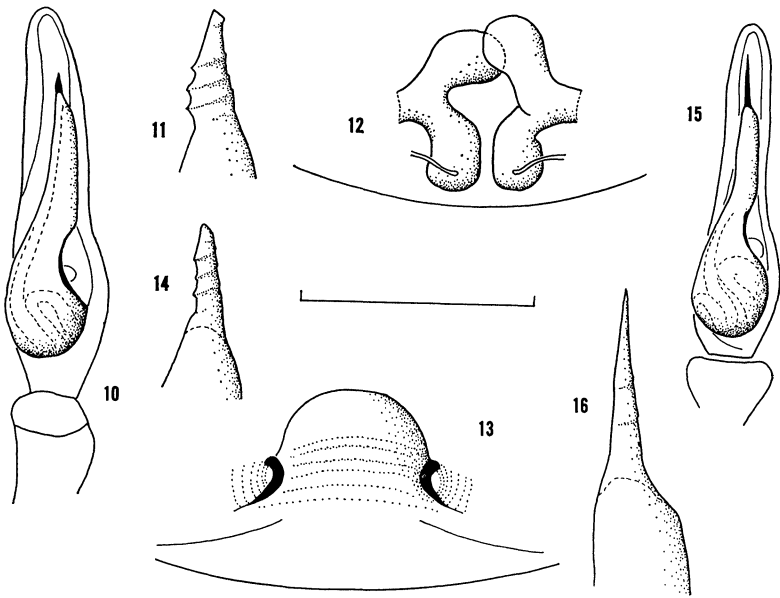
Key to the Males of *Psellocoptus*

- 1a. Front of chelicerae with large, medial outgrowths (Fig. 2); Genital Index (embolus length/bulb length \times 100) greater than 14 *prodontus*
- 1b. Front of chelicerae smooth; Genital Index less than 14 2
- 2a. Tibia I ventral spination 4 (prolateral)-4 (retrolateral); femur IV length equal to or greater than carapace length; carapace length less than 5 mm.; abdominal white hairs in continuous longitudinal bands on sides of dorsal sclerite (Fig. 6) *flavostriatius*

- 2b. Tibia I ventral spination usually 5-4; femur IV length less than carapace length; carapace length greater than 5 mm.; abdominal white hairs a series of spots on sides of dorsal sclerite (Fig. 5)
 *buchlii*

Key to the Females of *Psellocoptus*

- 1a. Tibia I ventral spination 4-4; epigynum surface smooth; abdominal white hairs in continuous longitudinal bands on sides of the dorsal sclerite; carapace length less than 4 mm
 *flavostriatus*
- 1b. Tibia I ventral spination usually 5-4 or 5-5; epigynum surface with horizontal ridges; abdominal white hairs in a series of spots on sides of the dorsal sclerite; carapace length more than 4 mm *buchlii*



Figs. 10-13. *Psellocoptus buchlii* n. sp. 10. Left palpus. 11. Embolus. 12. Internal epigynum, dorsal view. 13. External epigynum.

Fig. 14. *Psellocoptus flavostriatus* Simon, embolus.

Figs. 15-16. *Psellocoptus prodontus* n. sp. 15. Left palpus. 16. Embolus. (Scale line for palpi = 1.0 mm; for epigyna = 0.5 mm; for emboli = 0.25 mm. Setae omitted.)

The species descriptions should be considered in conjunction with the above generic description which applies to each of the three species.

The measurements made are the same as those made in the North and Central American revision (Reiskind, 1969) — all to the nearest 0.05 mm. except genitalic measurements which are to the nearest 0.01 mm.

The white plumose hair patterns (see Figs. 4-9) are often partially rubbed off and should be used diagnostically with special care.

Psellocoptus flavostriatus Simon

Figures 6, 7, 14.

Psellocoptus flavostriatus Simon, 1896, Ann. Soc. Entomol. Belgium 40: 404, ♂, ♀. Syntypes from Colonia Tovar, Venezuela (probably in Aragua State); in the Muséum national d'Histoire naturelle, Paris, examined. Male lectotype chosen.

Male

Measurements. Based on lectotype and one male, lectotype listed first, range of both follows: carapace length 4.45 mm, 4.05-4.45 mm; carapace width 2.35 mm, 2.00-2.35 mm; carapace index (carapace width/carapace length \times 100) 53, 50-53; sternum length 2.00 mm, 1.95-2.00 mm; sternum width 1.30 mm, 1.15-1.30 mm; sternum index (sternum width/sternum length \times 100) 65, 60-65.

Femur IV length 4.55 mm, 4.25-4.55 mm; femur IV width (max. dorso-ventral) 0.50 mm, 0.45-0.50 mm; leg thickness index (femur IV width/femur IV length \times 100) 11.2, 10.5-11.2; leg length index (femur IV length/carapace length \times 100) 103, 103-105.

Abdomen length 4.90 mm, 4.75-4.90 mm; abdomen width 1.65 mm, 1.40-1.65 mm; abdomen index (abdomen width/abdomen length \times 100) 34, 29-34.

Description. Carapace red-brown; surface shiny and slightly granulated. Cephalic region width 81% of maximum carapace width. White plumose hair pattern similar to that in Figure 4 but somewhat more extensive.

Dorsum of abdomen red-brown with some lighter speckling, with a moderate red-brown anterior dorsal sclerite extending about 32% the length of the abdomen. A complex white plumose hair pattern as illustrated in Figures 6 and 7. Area of epigastric sclerite around gonopore light yellow and shiny. A trace of an inframammillary sclerite.

Sternum red-brown, slightly granulated surface with sparse long thin simple hairs.

Chelicerae red-brown. The apices of the endites and chelicerae with heavy scopulae. Face of chelicerae with scattered small tubercles.

Femora, trochanters and coxae of all legs yellow. Rest of legs yellow with light reddish brown pigmentation around the tibia-metatarsus joints. Also some light red-brown pigmentation and dense hairs at the distal ends of the metatarsi of legs III and IV. Legs with thinner and slighter spines than in the female and other members of the genus. Tibia I ventral spination: 4-4.

Pedipalp yellow with orange cymbium. Tarsus with a small globose genital bulb drawn out into an extremely long neck with a moderately small, straight sclerotized embolus with a distinct twist at the tip (Fig. 14).

Female

Measurements. Based on two females: carapace length 3.80-3.90 mm; carapace width 1.85-1.95 mm; carapace index 48-50; sternum length 1.70-1.85 mm; sternum width 1.05-1.15 mm; sternum index 60-62.

Femur IV length 3.55-3.70 mm; femur IV width 0.40-0.45 mm; leg thickness index 11.7-12.1; leg length index 93-96.

Abdomen length 3.65-5.25 mm; abdomen width 1.55-1.95 mm; abdomen index 37-43.

Description. Carapace red-brown; surface shiny and slightly granulated. Cephalic region width 79-80% of maximum carapace width. White plumose hair pattern similar to that of male.

Dorsum of abdomen reddish brown with some lighter speckling, with a small red-brown anterior dorsal sclerite extending about 25% the length of the abdomen. A complex white plumose hair pattern similar to that of the male. A trace of an inframammillary sclerite.

Sternum red-brown, slightly granulated surface with sparse long thin simple hairs.

Chelicerae red-brown. The apices of the endites and chelicerae with heavy scopulae. Face of chelicerae smooth with a slight granulation.

Femora, trochanters and coxae of all legs yellow. Rest of legs yellow with light reddish brown pigmentation around the tibia-metatarsus joints. Also some light red-brown pigmentation and dense hairs at the distal ends of the metatarsi of legs III and IV. Legs with thinner and slighter spines than in *P. buchlii*. Tibia I ventral spination: 4-4.

External epigynum with two semicircular openings directed laterally similar to Fig. 13. Area between openings smooth and shiny. Internal structure with a large anterior and posterior spermathecal bulb on each side, similar to that in Fig. 12.

Records. All the specimens were collected by Simon at "Colonia Tovar" which is probably the city of that name in Aragua State and located at $10^{\circ}25'N$ and $67^{\circ}17'W$.

***Psellocoptus buchlii* new species**

Figures 3-5, 10-13.

Holotype. Male from Rancho Grande, near Maracay, Venezuela, 1946; in the American Museum of Natural History. The species is named after the late Harro Buchli.

Male

Measurements. Based on holotype and 4 males, holotype listed first, range of all follows: carapace length 5.60 mm, 5.20-5.80 mm; carapace width 2.75 mm, 2.55-2.90 mm; carapace index 49, 48-52; sternum length 2.65 mm; 2.30-2.65 mm; sternum width 1.50 mm, 1.35-1.50 mm; sternum index 56, 56-60.

Femur IV length 5.25 mm, 4.75-5.25 mm; femur IV width 0.60 mm, 0.55-0.65 mm; leg thickness index 11.7, 11.3-12.9; leg length index 94, 87-94.

Abdomen length 5.60 mm, 4.35-5.60 mm; abdomen width 1.75 mm, 1.30-1.75 mm; abdomen index 31, 29-32.

Description. Carapace deep reddish-brown; surface shiny and slightly granulated. Cephalic region width 83-89% of maximum carapace width. White plumose hair pattern as in Fig. 4.

Dorsum of abdomen dark brown with some lighter speckling, with a moderate, dark red-brown anterior dorsal sclerite extending 34-43% of the abdomen. A white plumose hair pattern consisting of pairs of spots and horizontal bands — complete and incomplete — extending over the dorsum from thick longitudinal lateral bands (Fig. 5). Scattered long, thin erect hairs on dorsum. Area of epigastic sclerite around gonopore orange and shiny. A trace of an inframmilliar sclerite.

Sternum deep reddish-brown, slightly granulated with sparse long thin simple hairs.

Chelicerae red-brown. The apices of the endites and chelicerae with heavy scopulae. Face of chelicerae with scattered small tubercles.

Femora, trochanters and coxae of all legs yellow. Rest of legs yellow with a thin red-brown retrolateral stripe on the patella-tibiae and metatarsi of all legs and a red-brown area around the tibia-metatarsus joints of legs II, III and IV. Also some red-brown pigmentation and very dense hairs at the distal ends of the metatarsi of legs III and IV. Legs with shorter, slighter and sparcer spines than in female. Tibia I ventral spination: 5-4, but variable.

Pedipalp yellow with red-brown cymbium. Tarsus with a small globose genital bulb drawn out into an extremely long neck with a moderately small, straight sclerotized embolus with a distinct twist at the tip (Fig. 10 and 11).

Female

Measurements. Based on 7 females: carapace length 4.25-4.60 mm; carapace width 2.10-2.20 mm; carapace index 47-49; sternum length 2.00-2.15 mm; sternum width 1.15-1.25 mm; sternum index 52-60.

Femur IV length 3.55-4.00 mm; femur IV width 0.45-0.50 mm; leg thickness index 11.5-13.1; leg length index 83-91.

Abdomen length 4.30-5.15 mm; abdomen width 1.75-2.55 mm; abdomen index 38-52.

Description. Carapace deep maroon-brown surface heavily granulated. Cephalic region width 75-82% of maximum carapace width. White plumose hair pattern as in male.

Dorsum of abdomen brown-black, with a small dark red-brown dorsal sclerite extending 25-29% the length of the abdomen. A white plumose hair pattern consisting of pairs of spots and horizontal bands — complete and incomplete — extending over the dorsum from thick longitudinal lateral bands; similar to the male. Scattered long, thin erect hairs on dorsum, but fewer than in the male. A trace of an inframammillary sclerite.

Sternum deep reddish-brown, slightly granulated with sparse long thin simple hairs.

Chelicerae deep red-brown. The apices of the endites and chelicerae with heavy scopulae. Face of chelicerae shiny with some simple hairs and patches of white plumose hairs near the clypeus.

Leg color and pattern as in the male. Tibia I ventral spination: usually 5-4 (54%) or 5-5 (39%).

External epigynum with two semicircular openings directed laterally (Fig. 13). Area between openings with a series of horizontal ridges. Internal structure with a large anterior and posterior spermathecal bulb on each side (Fig. 12).

Records. All twelve specimens from Rancho Grande, a research station in the Cordillera de la Costa near Maracay, Venezuela.

***Psellocoptus prodontus* new species**

Figures 1, 2, 8, 9, 15, 16.

Holotype. Male from Rancho Grande, Venezuela, 16-XII-1954 (A. M. Nadler); in the American Museum of Natural History. The specific name is from the Greek meaning tooth in front.

Measurements. Based on holotype and one male, holotype listed first, range of both follows: carapace length 3.85 mm, 3.85-4.40 mm; carapace width 2.10 mm, 2.10-2.35 mm; carapace index 54, 53-54; sternum length 1.70 mm, 1.70-2.10 mm; sternum width 1.10 mm, 1.10-1.35 mm; sternum index 66, 64-66.

Femur IV length 3.75 mm, 3.75-4.15 mm; femur IV width 0.45 mm, 0.45-0.55 mm; leg thickness index 12.5, 12.5-13.6; leg length index 97, 94-97.

Abdominal measurements for holotype only: abdomen length 3.90 mm; abdomen width 1.25 mm; abdomen index 32.

Description. Carapace maroon-brown, surface shiny (especially in cephalic region) and slightly granulated. Cephalic region width 75-83% of maximum carapace width. White plumose hair pattern as in Fig. 8.

Dorsum of abdomen brown-black with a moderately small dark red-brown dorsal sclerite extending 35% the length of the abdomen. A white plumose hair pattern consisting of pairs of spots and horizontal bands as in Fig. 9. Scattered long, thin erect simple hairs on dorsum. Area of epigastric sclerite around gonopore dark orange and shiny. A trace of an inframammillary sclerite.

Sternum deep reddish-brown, slightly granulated with sparse long thin simple hairs.

Chelicerae deep red-brown. The apices of the endites and chelicerae with heavy scopulae. Face of chelicerae shiny with horizontal ridges and scattered simple hairs with a large, blunt medial tooth on each (Fig. 2).

Femora, trochanters and coxae of all legs yellow. Rest of legs yellow with a thin red-brown retrolateral stripe on the patella-tibiae and metatarsi of all legs and a red-brown area around the tibia-metatarsus joints of legs II, III and IV. Also some red-brown pigmentation and very dense hairs at the distal ends of the metatarsi of legs III and IV. Tibia I ventral spination: 5-4.

Pedipalp yellow with dark red-brown cymbium which lightens towards distal end. Tarsus with a small globose genital bulb drawn out into an extremely long neck with a moderately long, thin, straight embolus having a distinct twist (Fig. 15 and 16).

Records. Rancho Grande, a research station in the Cordillera de la Costa near Maracay, Venezuela.

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