

SHORT COMMUNICATION

Description of *Toca*, a new neotropical spider genus (Araneae, Ctenidae, Calocteninae)

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Abstract. *Toca* new genus is proposed to include two new species: the type species *T. bossanova* new species from Rio de Janeiro, Brazil, and *T. samba* new species from Paraná and Minas Gerais, Brazil. *Toca* may be related to *Caloctenus* Keyserling and *Gephyroctenus* Mello-Leitão, with which it shares the scales on the abdominal dorsum and the epigynum as a single, slightly sclerotized, fold. The genus can be distinguished among the Calocteninae genera by its unique genital structures.

Keywords: Systematics, taxonomy, Brazil

The subfamily Calocteninae was proposed by Simon (1897) based mainly on the shape of the labium, sternum, and carapace; and by the numerous and elongated spines on the first and second pairs of legs. Currently it contains four genera: *Caloctenus* Keyserling 1877 and *Gephyroctenus* Mello-Leitão 1936, both from South America; *Diallomus* Simon 1897 from Sri Lanka; and *Apolania* Simon 1898 from the Seychelles Islands (Silva 2003; Platnick 2008). The subfamily is characterized by the following synapomorphies: presence of a set of elongated spines on tibia and metatarsus of the first and second pairs of legs, six thickened and elongated setae on the anal tubercle, and a reduced number of cylindrical gland spigots on the posterior median spinnerets (Silva 2003).

In addition to the four Calocteninae genera already described, we propose the new genus *Toca* to include two new species: *T. bossanova* from Rio de Janeiro, Brazil, and *T. samba* from Paraná and Minas Gerais, Brazil. *Toca* may be related to *Caloctenus* and *Gephyroctenus*, with which it shares scales on the abdominal dorsum and epigynum as a single, slightly sclerotized fold (Silva 2003, 2004; Polotow & Brescovit 2008). *Toca* can be distinguished by the unique genital structures within the subfamily, which support the proposal of a new genus. The material examined belongs to Instituto Butantan, São Paulo (IBSP, A. D. Brescovit) and Muséum National d'Histoire Naturelle, Paris (MNHN, C. Rollard). All measurements are in millimeters. Terminology follows Silva (2003).

TAXONOMY

Ctenidae Keyserling 1877

Calocteninae Simon 1897

Toca new genus

Figs. 1–9

Type species.—*Toca bossanova* new species

Etymology.—The generic name is an arbitrary combination of letters. The gender is feminine.

Diagnosis.—*Toca* resembles *Caloctenus* and *Gephyroctenus* by the presence of scales on the abdominal dorsum (Silva 2003; Silva 2004). Males can be distinguished by an embolus with a rounded base (Figs. 4, 8) and large conductor (Figs. 1, 7) with a surrounding groove to accommodate the embolus (Figs. 3, 8). The female of *T. bossanova* resembles the female of *Diallomus fuliginosus* (type

specimen, deposited in MNHN, examined) with the epigynum containing a slightly sclerotized single fold and an anterior hood (Fig. 5). The female can be distinguished from the remaining genera by the elongated copulatory ducts and anterior glandular projection (Fig. 6) of the epigynum. The female of *T. samba* is unknown.

Description.—Ecribellate ctenids. Total body length (males and females) 3.40–4.40. Carapace pale brown with longitudinal lighter stripe from eyes to posterior margin of carapace; chelicerae, labium, endites, sternum, and legs pale brown; posterior median and lateral eyes on black tubercles; legs with dorsal, transverse dark spots. Carapace flattened. Eyes: ctenoid pattern, 2–4–2. Chelicerae: three prolateral teeth and five to six small retrolateral teeth. Labium short, wider than long. Fovea short, positioned in posterior third of carapace. Legs I and II with set of numerous elongated spines on femur, tibia, and metatarsus. Trochanter slightly notched. Abdomen flattened, subpentagonal. Six erect bristles distally positioned on anal tubercle. Palp: tibia short; RTA divided into ventral and dorsal branches (Figs. 1, 2, 7, 9); cymbium with retrolateral basal projection (Figs. 3, 7); subtegulum prolateral; tegulum covered by conductor; median apophysis hook shaped (Figs. 1, 7); embolus surrounding tegulum, supported by conductor; conductor sclerotized ventrally, with retrolateral laminar projection supporting embolus tip (Figs. 2, 8). Epigynum: formed by single plate, slightly sclerotized, with anterior hood (Fig. 5); spermathecae rounded; fertilization ducts short, emerging from spermathecal base (Fig. 6).

Composition.—Two species: *Toca bossanova* new species and *T. samba* new species

Distribution.—Southern and southeastern Brazil.

Toca bossanova new species

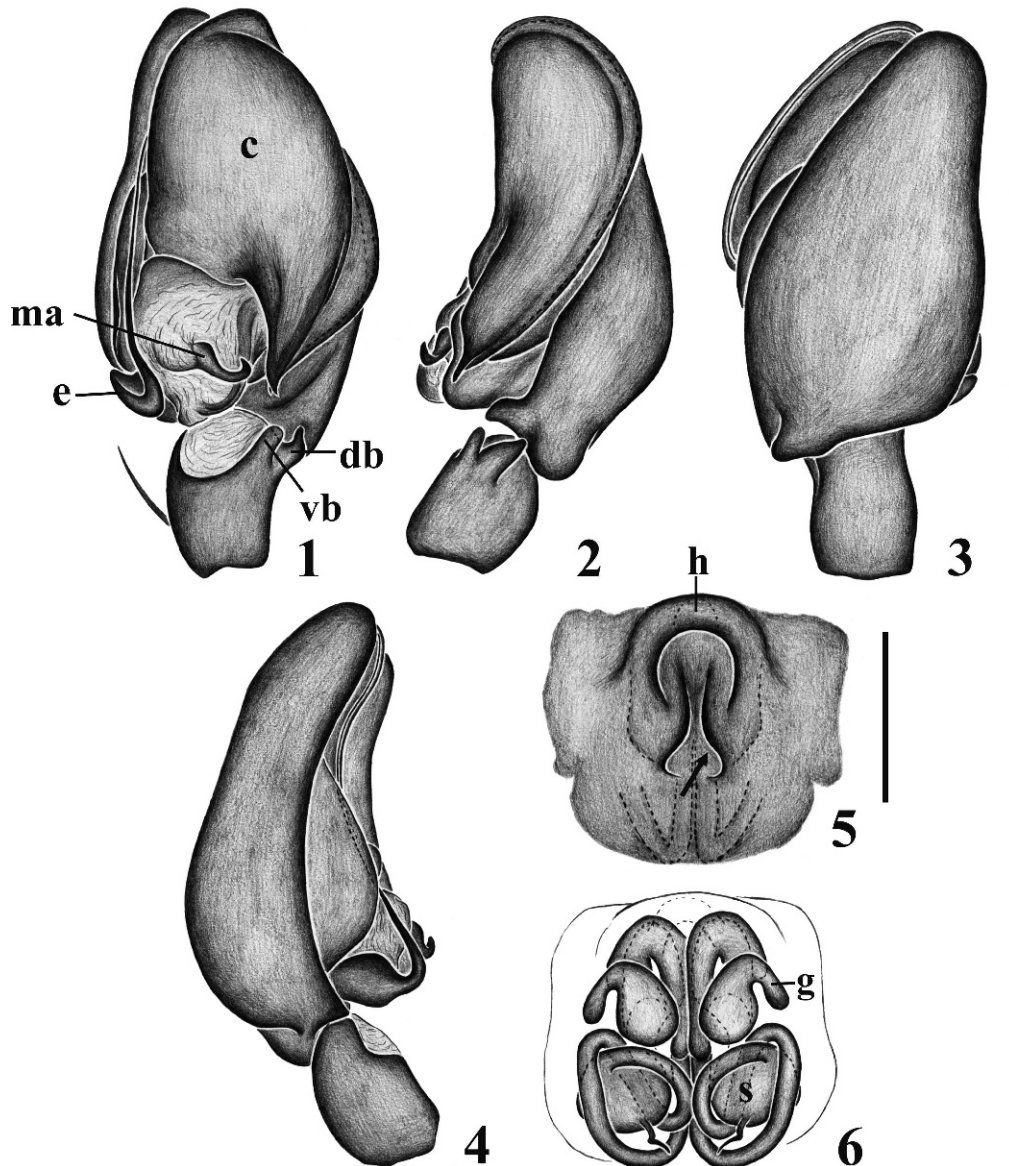
Figs. 1–6

Type material.—Male holotype from Fazenda Ranchinho Porto da Roça, Petrópolis, 22°30'39"S, 43°11'4"W, Rio de Janeiro, Brazil, 12–14 November 1999, deposited in IBSP 62920; female paratype from the same locality, 8–15 February 2000, Equipe Biota, deposited in IBSP 62919; male paratype from the same locality, 15–16 August 2001, Equipe Biota, deposited in IBSP 90669.

Etymology.—The species epithet is a Portuguese noun that refers to a popular rhythm of Brazilian music.

Diagnosis.—*Toca bossanova* can be distinguished from *T. samba* by the elongated cymbium and conductor, the elongated retrolateral projection of the conductor, and the slender and thin median apophysis on the male palp (Figs. 1–4). The females can be recognized by the presence of an anterior epigynal hood (Fig. 5)

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Figures 1–6.—*Toca bossanova*. 1–4 male palp: 1. Ventral view; 2. Retrolateral view; 3. Dorsal view; 4. Prolateral view. 5–6 Epigynum: 5. Ventral view (arrow points to left copulatory opening); 6. Dorsal view. Abbreviations: c, conductor; db, dorsal branch of retrolateral tibial apophysis; e, embolus; g, glandular projection; h, hood; lp, laminar projection of tegulum; ma, median apophysis; s, spermathecae; vb, ventral branch of retrolateral tibial apophysis.

and elongated copulatory ducts, overlaid with small glands (Fig. 6) in the epigynum.

Description.—*Male* (IBSP 62920): Total length 3.40. Carapace 1.50 long and 1.40 wide. Clypeus 0.07 high. Eye diameter: AME 0.10, ALE 0.08, PME 0.10, PLE 0.10. Leg measurements: I: femur 1.60/patella 0.50/tibia 1.80/metatarsus 1.70/tarsus 0.60/total 6.20; II: 1.70/0.45/1.85/1.90/0.60/6.50; III: 1.80/0.40/1.75/1.85/0.70/6.50; IV: 1.90/0.40/1.60/2.10/0.90/6.90. Leg formula: 42=31. Leg spination: tibiae I and II with eight ventral pairs of spines; metatarsi I with six ventral pairs of spines; metatarsi II with five ventral pairs of spines. Abdomen brown with posterior area white. Palp: ventral branch of RTA laminar (Fig. 1); prolateral area of tegulum visible in ventral view, with laminar process (Fig. 4).

Female (IBSP 62919): Total length 4.40. Carapace 1.60 long and 1.60 wide. Clypeus 0.08 high. Eye diameter: AME 0.10, ALE 0.08, PME 0.12, PLE 0.12. Leg measurements: I: femur 1.50/patella 0.50/tibia 1.80/metatarsus 1.60/tarsus 0.50/total 4.90; II: 1.80/0.60/1.80/1.60/0.60/6.40;

III: 1.80/0.50/1.60/1.80/0.70/6.40; IV: 1.80/0.50/1.50/1.80/0.70/6.30. Leg formula: 2=341. Leg spination: tibiae I and II with eight ventral pairs of spines; metatarsi I and II with six ventral pairs of spines. Coloration of the abdomen as in male. Epigynum as in generic description.

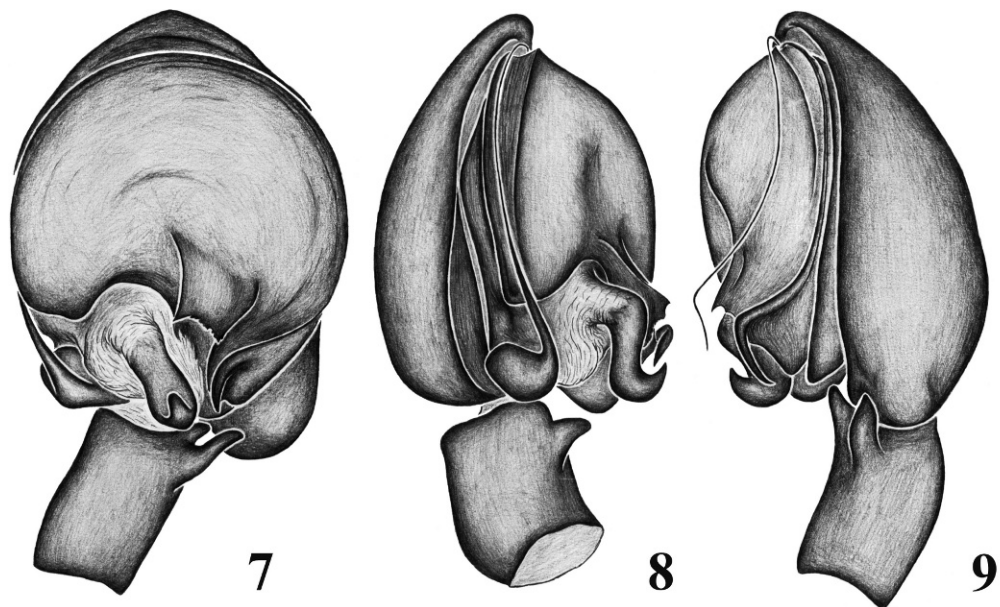
Additional material examined.—None.

Distribution.—State of Rio de Janeiro, Brazil.

Toca samba new species

Figs 7–9

Type material.—Male holotype from Morro do Cabral, Lagoa, Tijucas do Sul, 25°55'37"S, 49°10'44"W, Paraná, Brazil, November 2000, J. Ricetti, deposited in IBSP 39239; male paratype from Parque Estadual de Vila Velha, Ponta Grossa, 25°4'60"S, 50°8'60"W, Paraná, Brazil, 8 December 1986, Profaupar/CIIF, deposited in IBSP 62915; male paratype from Mata Grande, Parque Estadual do Ibitipoca, Lima Duarte, 21°51'10"S, 43°47'60"W, Minas Gerais, Brazil, 27–29 October 1997, B. M. Souza, deposited in IBSP 23812.



Figures 7–9.—*Toca samba*. Male palp: 7. Ventral view; 8. Prolateral view; 9. Retrolateral view.

Etymology.—The species epithet is a Portuguese noun which refers to a popular rhythm of Brazilian music.

Diagnosis.—*Toca samba* can be distinguished from *T. bossanova* by the rounded cymbium and conductor, median laminar projection on the conductor, and robust median apophysis on male palp (Figs 7–9).

Description.—*Male* (IBSP 39239): Total length 4.00. Carapace 1.60 long and 1.50 wide. Clypeus 0.08 high. Eye diameter: AME 0.10, ALE 0.08, PME 0.10, PLE 0.10. Leg measurements: I: femur 1.80/ patella 0.60/ tibia 2.00/ metatarsus 1.80/ tarsus 0.70/ total 6.90; II: 1.90/ 0.60/ 2.00/ 1.80/ 0.80/ 7.10; III: 2.10/ 0.50/ 1.90/ 1.90/ 0.90/ 7.30; IV: 2.20/ 0.50/ 2.00/ 2.20/ 1.00/ 7.90. Leg formula: 4321. Leg spination: tibiae I and II with eight ventral pairs of spines; metatarsi I and II with six ventral pairs of spines. Abdomen medially pale brown, with two anterior white spots, lateral area brown and posterior area white. Palp: ventral branch of RTA elongated (Fig. 9); subtegulum reduced, not visible in ventral view.

Female: Unknown.

Additional material examined.—None.

Distribution.—States of Paraná and Minas Gerais, Brazil.

DISCUSSION

To date, there are only two Calocteninae genera described from South America: *Caloctenus* and *Gephyroctenus*. *Caloctenus* contains four valid species and can be distinguished by leg spination, carapace shape, strongly sclerotized male palpal tibia at apex, and median apophysis with an apical beak. These characters were considered apomorphic by Silva (2004). *Gephyroctenus* contains eight species and can be distinguished by the following synapomorphies: a cymbial retrolateral groove, retrolateral origin of embolus, long and thin embolus, median apophysis with a subdistal hook, hyaline projection close to the embolus base in the male palp, fused median and lateral fields in a single epigynal plate, copulatory opening located dorsally in an atrium, and elongated copulatory ducts surrounding the spermathecae in the female epigynum (Polotow & Brescovit 2008). The two species described in this paper cannot be assigned to these previously described genera. In addition to the unique morphological characters on the male palp and female epigynum, as described above, they lack the apomorphic features that characterize *Caloctenus* and *Gephyroctenus*.

Caloctenus and *Gephyroctenus* are closely related by the presence of four retrolateral teeth in the chelicerae, reduced anterior lateral eye

lenses, and cylindrical glands with an enlarged base on the posterior median spinnerets (Silva 2003). *Toca* also has reduced anterior lateral eye lenses, but five to six retrolateral teeth. The presence of the cylindrical glands with an enlarged base on the posterior median spinnerets in *Toca* should be confirmed in the future with scanning electronic microscopy.

The males of *Toca* share the long and filiform embolus on the male palp with *Gephyroctenus*. The females of *Toca* resemble the type species of *Diallomus*, *D. fulliginosus*, from Sri Lanka (female type specimen deposited in the MNHN, examined), both by the single, slightly sclerotized epigynal fold and the anterior hood on the female epigynum. Therefore, the relationship of *Toca* new genus to other Calocteninae genera awaits cladistic analysis with all the genera assigned to Calocteninae and representatives of the remaining subfamilies of Ctenidae.

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