

## ***Onofre*, a new genus of jumping spider from Brazil (Araneae, Salticidae)**

**Gustavo Rodrigo Sanches Ruiz<sup>1,2</sup> and Antonio Domingos Brescovit<sup>1</sup>**

<sup>1</sup>Laboratório de Artrópodes, Instituto Butantan, Av. Vital Brazil, 1500, 05503-900, São Paulo, SP, Brazil

<sup>2</sup>Departamento de Zoologia, Instituto de Biociências, Universidade de São Paulo, São Paulo, SP, Brazil

### **Summary**

*Onofre* gen. nov. is proposed to include three new Amazonian species: the type species *O. sibilans*, from the states of Mato Grosso and Pará, Brazil, and *O. carnifex* and *O. necator*, both from Pará, Brazil.

### **Introduction**

In this study, we report on a recently found new Amazonian lineage of salticids belonging to the *Freya* group. This group is one of the most well represented in the Neotropical Region, including several genera, such as *Freya* C. L. Koch, 1850, *Chira* Peckham & Peckham, 1896 and *Kalcerrytus* Galiano, 1999. The group seems to be monophyletic and is currently being studied by G. B. Edwards (pers. comm.). Although phylogenetic relationships within the *Freya* group are still poorly understood (see Maddison & Hedin, 2003), the new lineage described here seems to be related to the genus *Chira*, with which it shares a ventro-posteriorly conical tegulum in the male palp (see Galiano, 1961: plate I, figs. 2, 5; plate II, fig. 1; plate III, figs. 1, 5, 9). Conversely, it presents a dorsal colour pattern similar to that of *Kalcerrytus*, with light chevrons on the posterior half of the dark abdomen (see Galiano, 1999: fig. 1). In this study, we propose the new genus *Onofre* to include the species of this lineage and describe three new species from northern Brazil.

### **Material and methods**

The material examined is deposited in the Instituto Butantan, São Paulo (IBSP, A.D. Brescovit) and in the Museu Paraense Emílio Goeldi, Belém (MPEG, A.B. Bonaldo). All measurements are given in millimetres. Abbreviations used in the text: RTA=retrolateral tibial apophysis, pRTA=proximal retrolateral tibial apophysis, d=dorsal, p=prolateral, r=retrolateral, v=ventral, pr=proximal, di=distal.

### ***Onofre* gen. nov.**

*Type species: Onofre sibilans* sp. nov.

*Etymology:* The generic name is a common man's name in Brazil. The gender is masculine.

*Diagnosis:* Species of the genus *Onofre* resemble those of *Kalcerrytus* in the dorsal colour pattern and those of *Chira* in the ventro-posteriorly conical tegulum of the male palp, but can be distinguished from all other salticid genera by the presence of a proximal retrolateral apophysis on the tibia of the male palp

(Figs. 3–4, 7–10) and by the long nose-like medial longitudinal projection on the female epigynal plate (Fig. 5). The species *Phiale bicuspadata* (F. O. P.-Cambridge, 1901) has a structure similar to the proximal RTA of the species of *Onofre*, but this apophysis is rather a well-developed ventral branch of a bifid RTA than a completely independent structure of the palpal tibia, as present in *Onofre*.

*Description:* Moderately small spiders (males 5.55–6.25 long, females 6.90–8.20 long), carapace subrectangular, wider at middle (Fig. 1). Chelicerae small, conical and parallel in both sexes, with two teeth on promargin, one on retromargin, stout proximally and with dorsal proximal condyle. Endites rectangular, with distal retrolateral projection in males (Fig. 2). Labium subrectangular. Sternum oval. Male palp with distal ventral projection on femur bearing a median depression, tibia with a proximal retrolateral apophysis, a bifid RTA and a dorsal stout projection; cymbium with retrolateral proximal excavated projection (Figs. 3, 7, 9); tegulum conical ventro-posteriorly (Figs. 4, 8, 10). Leg III usually longest. General leg spination: Male: femur I d1-1-1, p2di or pldi, II d1-1-1, p2di or pldi, r0-1-2 or r0-1-1, III d1-1-1, p0-1-2 or p2di, r1di, IV d1-1-1, pldi or p0, r2di or r1di; patella I p1, II–IV p1, r1; tibia I p1-1-1, v2-2-2, II p1-1-1, r1-0-0 or r0, v2-2-2 or v1r-2-2, III d1pr, p1-1-1, r1-1-1, v2-2 or v1p-2, IV d1pr, p1-1-1-1 or p1-1, r1-1-1-1 or r1-1-1, v1p-2; metatarsus I v2-2, II pldi, v2-2, III p1-0-2, r1-1-2, v2-2, IV p1-1-2 or p1-0-2, r1-1-2 or r1-0-2, v2-2. Female: femur I–III d1-1-1, p2di, IV d1-1-1, r1di; patella I–II 0, III–IV p1, r1; tibia I p1-0-1, v2-2-2, II p1-0-1, v1r-2-2, III p1-1-1, r1-1-1 or r1-1, v1p-0-2, IV p1-1-1 or p1-1, r1-1-1, v1p-0-2; metatarsus I–II v2-2, III p1-0-2, r1-1-2, v2-2, IV p1-1-2, r1-1-2, v2-2. Abdomen oval (Fig. 1). Female epigynum with pair of anterior lateral copulatory openings, a long longitudinal nose-like median projection and pair of lateral depressions (Fig. 5). Internally with moderately long, wide and sinuous copulatory ducts, small and oval spermathecae and apical fertilisation ducts (Fig. 6).

*Distribution:* Known only from the states of Mato Grosso and Pará, Brazil.

*Composition:* *Onofre sibilans* sp. n.; *O. carnifex* sp. n.; *O. necator* sp. n.

### ***Onofre sibilans* sp. nov. (Figs. 1–6)**

*Types:* Holotype ♂ from Fazenda Buriti, Nova Mutum, Mato Grosso, Brazil, 15 February–4 March 2002, M. F. Mendes leg., deposited in IBSP 62664; 1♂ 2♀ paratypes from Campo de Provas Brigadeiro Velloso (9°16'18.6"S, 54°56'22.9"W), Serra do Cachimbo, Novo Progresso, Pará, Brazil, 7–17 September 2003, Equipe MPEG leg., deposited in IBSP 62665 (ex MPEG 2103), MPEG 2112, MPEG 2133.

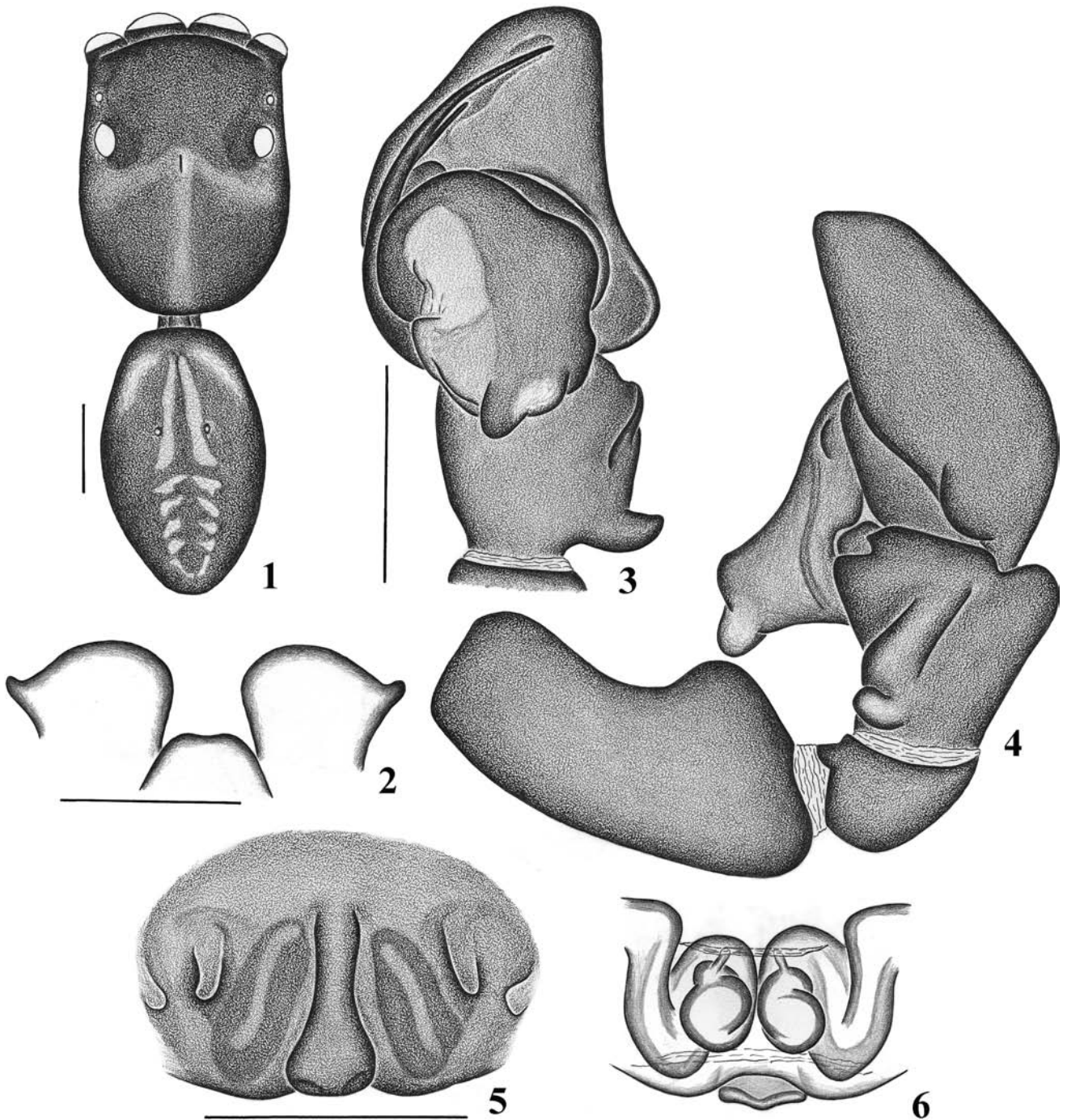
*Etymology:* The specific name is the present participle of the Latin verb “*sibilo*”, meaning “hissing”. It refers to the shape of the male endites (Fig. 2), externally projecting like human lips while hissing.

*Diagnosis:* Males of *Onofre sibilans* sp. n. can be distinguished from the other species of the genus by the

very short pRTA and by the bifid embolus (Fig. 3). Females of the other species are unknown.

*Description: Male* (holotype): Total length 5.75. Carapace dark brown, 3.05 long, 2.15 wide, 1.62 high, with longitudinal median light brown stripe; cephalic region darker, with few white hairs (Fig. 1). Ocular quadrangle 1.57 long. Anterior eye row 2.05 wide, posterior row 1.90 wide. Clypeus glabrous. Endites, labium and sternum light brown. Palp dark brown, with small pRTA, bifid RTA and stout dorsal tibial projection, cymbium with large proximal retrolateral excavated projection, tegulum conical ventro-posteriorly, slightly rotated counterclockwise in left

palp, embolus with smooth base and median retro-lateral long projection (Figs. 3-4). Legs 3412. Coxae and trochanters I-II light brown, III-IV yellow, femora, patellae, tibiae and proximal parts of metatarsi dark brown, tarsi and distal parts of metatarsi yellow. All legs with dorsal longitudinal narrow darker stripe on femur, patella, tibia and metatarsus. Length of femur: I 1.80, II 1.70, III 2.07, IV 1.85; patella+tibia: I 2.32, II 1.90, III 2.10, IV 2.00; metatarsus+tarsus: I 1.85, II 1.57, III 2.07, IV 2.20. Abdomen black, with pair of dorsal longitudinal white stripes on anterior half and five pairs of white spots on posterior half (Fig. 1); white hairs on anterior half; ventrally



Figs. 1-6: *Onofre sibilans* sp. n. **1** Male, dorsal view; **2** Male endites, ventral view; **3** Left male palp, ventral view; **4** Ditto, retrolateral view; **5** Female epigynum, ventral view; **6** Ditto, dorsal view, cleared. Scale lines=1 mm (1), 0.5 mm (2-6).

variegated with white and dark brown. Spinnerets dark brown.

*Female* (paratype): Total length 8.20. General coloration as in male, but lighter. Carapace 3.25 long, 2.25 wide, 1.67 high, with longitudinal light stripe more conspicuous. Ocular quadrangle 1.65 long. Anterior eye row 2.20 wide, posterior row 2.05 wide. Endites, labium, sternum and palp yellow. Legs 3412, yellow. Length of femur: I 1.85, II 1.77, III 2.25, IV 2.00; patella+tibia: I 2.22, II 2.00, III 2.27, IV 2.12; metatarsus+tarsus: I 1.70, II 1.55, III 2.10, IV 2.25. Abdomen as in male, but dorsal pattern less conspicuous. Epigynum as in Figs. 5–6. Spinnerets as in male.

*Variation*: Three males: total length 5.75–6.65; carapace length 2.80–3.05. Five females: total length 6.90–8.20; carapace length 2.90–3.30.

*Additional material examined*: BRAZIL: *Pará*: Novo Progresso, Serra do Cachimbo, Campo de Provas Brigadeiro Velloso, 1♂ 3♀, 7–17 September 2003, Equipe MPEG leg. (MPEG 2041, 2109, 2110, 2136).

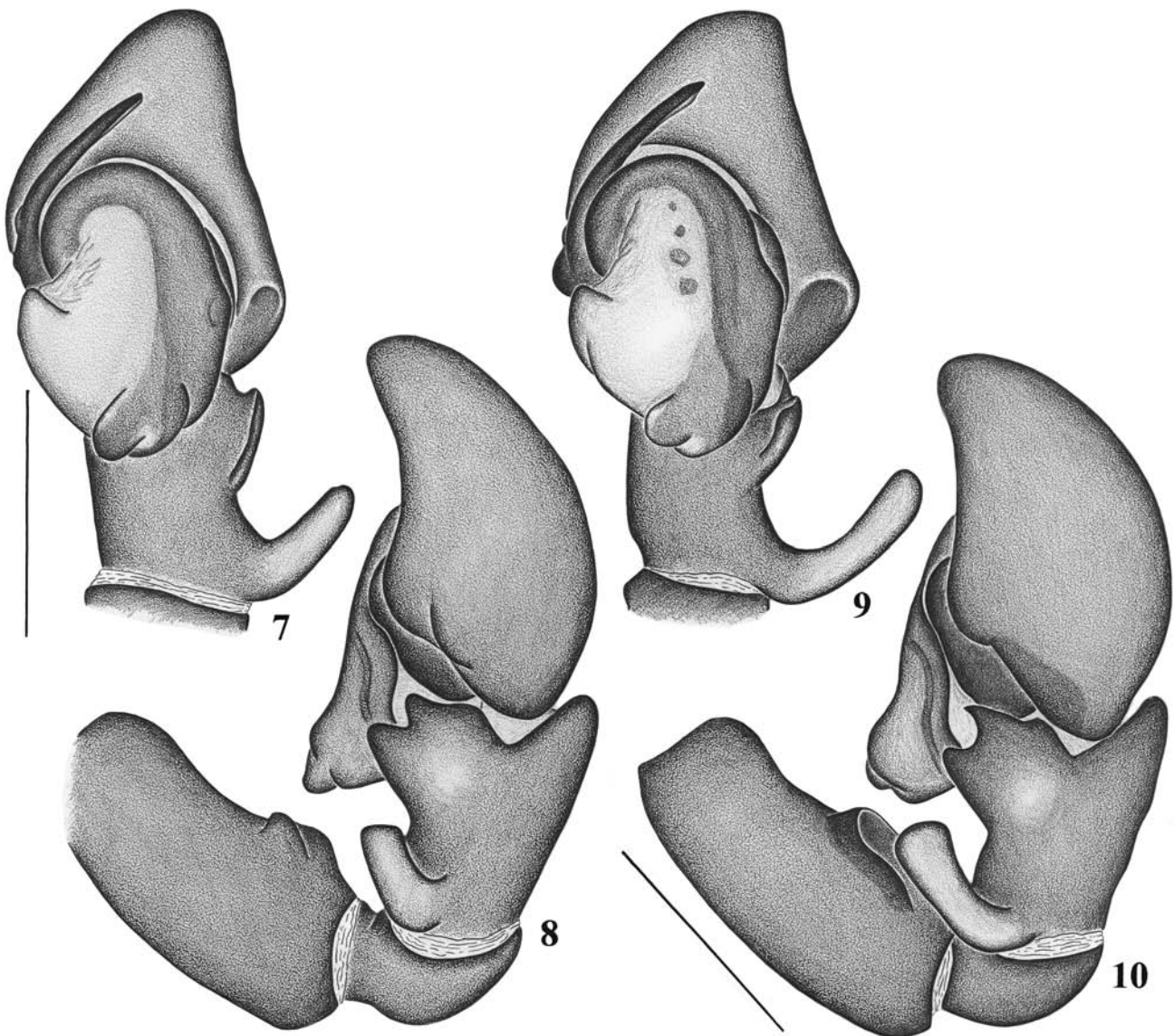
*Distribution*: Known only from the states of *Pará* and *Mato Grosso*, Brazil.

*Onofre carnifex* sp. nov. (Figs. 7–8)

*Types*: Holotype ♂ from Trilha do Acampamento, Margem Direita do Rio Xingu, Senador José Porfírio, *Pará*, Brazil, 25 February 2001, Equipe MPEG leg., deposited in MPEG 506; 1♂ paratype, same data as holotype, except 4 March 2001, deposited in IBSP 62666 (ex MPEG 503).

*Etymology*: The specific name is a Latin noun meaning “hangman”. It is an allusion to the shape of the pRTA on the male palp, reminiscent of a hangman’s weapon.

*Diagnosis*: *Onofre carnifex* sp. n. resembles *O. necator* sp. n. in the shape of the pRTA (cf. Figs. 7, 9), but can be distinguished by the pRTA being shorter and by having a shorter prolateral projection on the embolar base (Fig. 7).



Figs. 7–10: 7–8 *Onofre carnifex* sp. n. 7 Left male palp, ventral view; 8 Ditto, retrolateral view. 9–10 *Onofre necator* sp. n. 9 Left male palp, ventral view; 10 Ditto, retrolateral view. Scale lines=0.5 mm.

*Description: Male* (holotype): Total length 5.60. Coloration as in *O. sibilans*, except carapace with no conspicuous longitudinal light stripe and abdomen with pair of longitudinal white stripes extended to anal tubercle. Carapace 2.80 long, 2.00 wide, 1.45 high. Ocular quadrangle 1.35 long. Anterior eye row 1.90 wide, posterior row 1.75 wide. Clypeus glabrous. Endites light brown. Palp dark brown, with long pRTA, bifid RTA and stout dorsal tibial projection, embolus with two small prolateral projections at base and membranous structure on retrolateral side of tip (Figs. 7–8). Legs 4312. Length of femur: I 1.65, II 1.57, III 1.85, IV 1.75; patella+tibia: I 2.02, II 1.70, III 1.90, IV 1.85; metatarsus+tarsus: I 1.65, II 1.45, III 1.90, IV 2.10.

*Female*: Unknown.

*Variation*: Two males: total length 5.60–6.25; carapace length 2.80–3.00.

*Additional material examined*: None.

*Distribution*: Known only from the state of Pará, Brazil.

#### *Onofre necator* sp. nov. (Figs. 9–10)

*Types*: Holotype ♂ from Estação Científica Ferreira Penna, Floresta Nacional Caxiuanã, Melgaço, Pará, Brazil, 7 March 1998, Equipe MPEG leg., deposited in MPEG 1802; 1♂ paratype from Igarapé do Laranjal, Estação Científica Ferreira Penna, Floresta Nacional Caxiuanã, Melgaço, Pará, Brazil, 7 March 1998, J. A. R. Bernardi & R. A. J. Rocha leg., deposited in IBSP 62667 (ex MPEG 518).

*Etymology*: The specific name is a Latin noun meaning “killer”. It is an allusion to the shape of the pRTA on the male palp, reminiscent of a weapon.

*Diagnosis*: *Onofre necator* sp. n. resembles *O. carnifex* sp. n. in the shape of the pRTA (cf. Figs. 9, 7), but can be distinguished by the pRTA being longer and by having a larger prolateral projection on the embolar base (Fig. 9).

*Description: Male* (holotype): Total length 5.55. Coloration as in *O. sibilans*. Carapace 2.90 long, 2.05 wide, 1.50 high. Ocular quadrangle 1.45 long. Anterior eye row 1.95 wide, posterior row 1.80 wide. Clypeus glabrous. Endites light brown. Palp dark brown, with very long pRTA, bifid RTA and stout dorsal tibial projection, cymbium with large proximal retrolateral excavated projection, tegulum conical ventro-posteriorly, embolus with two prolateral projections at base, most proximal strongly developed, and membranous structure on retrolateral side of tip (Figs. 9–10). Legs 3412. Length of femur: I 1.60, II 1.52, III 2.00, IV 1.75; patella+tibia: I 1.95, II 1.77, III 1.97, IV 1.87; metatarsus+tarsus: I 1.60, II 1.50, III 1.95, IV 2.07.

*Female*: Unknown.

*Variation*: Three males: total length 5.55–6.25; carapace length 2.87–2.90.

*Additional material examined*: BRAZIL: Pará: Melgaço, Floresta Nacional Caxiuanã, Estação Científica Ferreira Penna, Igarapé do Laranjal, 1♂, 7 March 1998, J. A. R. Bernardi & R. A. J. Rocha leg. (MPEG 518).

*Distribution*: Known only from the state of Pará, Brazil.

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