

A NEW COLONIAL *ANELOSIMUS* SPIDER FROM
SURINAME (ARANEAE: THERIDIIDAE)

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Until recently, only a few colonial spiders were known. The recent increase in field work in the tropics revealed a number of new colonial species (Buskirk, 1981). Some of these colonial spiders belong to the theridiid genera *Anelosimus* and *Achaearanea*. The genus *Anelosimus* in America was revised by Levi, 1956, and the knowledge updated in 1963 and 1972, with new species described in 1967 and 1979. Those *Anelosimus* species known to be colonial are: *A. studiosus*, *A. eximius*, *A. rupununi* and *A. lorenzo*. Another species has now been found in Suriname. While reexamining some of the related species in preparation for this description, it was found that the synonymy of *A. jabaquara* Levi 1956 with *A. dubiosus* (Keyserling, 1891) in Levi (1963) was in error. While *A. jabaquara* was illustrated in 1956, *A. dubiosus* is here illustrated for the first time since its description in 1891 (Fig. 4).

***Anelosimus saramacca* new species**

Figures 1–3

Type. Male holotype from Voltzberg-Raleighvallen Nature Reserve, Saramacca Province, Suriname [lat. 04° 40'N, long. 56° 10'W], Feb. 1982 (D. Smith Trail), with 1♂, 5♀ paratypes in the Museum of Comparative Zoology; 1♂, 2♀ paratypes in the Cornell University collection kept at the American Museum of Natural History; 2♀ paratypes in the British Museum, Natural History.

Description. Female. Carapace orange, lighter on sides. Sternum orange with some black pigment. Legs yellow-white with distal part of articles darker. Dorsum of abdomen with some black and white pigment, sides orange-white. Venter of abdomen with some black and white pigment, black patch anteriorly and behind genital groove, and black patch in front of spinnerets. Eyes subequal in size.

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Anterior median eyes their diameter apart, 0.3 diameters from laterals. Posterior median eyes slightly more than their diameter apart, their diameter from laterals. Total length, 3.2 mm. Carapace, 1.3 mm long, 0.9 mm wide. First femur, 1.7 mm; patella and tibia, 1.7 mm; metatarsus, 1.3 mm; tarsus, 0.8 mm. Second patella and tibia, 1.4 mm; third, 1.1 mm; fourth, 1.5 mm.

Male. Carapace, sternum orange. Legs yellow-white. Abdomen orange to black. Eyes subequal in size, spacing as in female. Total length, 2.3 mm. Carapace, 0.9 mm long, 0.6 mm wide. First femur, 1.2 mm; patella and tibia, 1.3 mm; metatarsus, 0.8 mm; tarsus, 0.6 mm. Second patella and tibia, 1.0 mm; third, 0.8 mm; fourth, 1.0 mm.

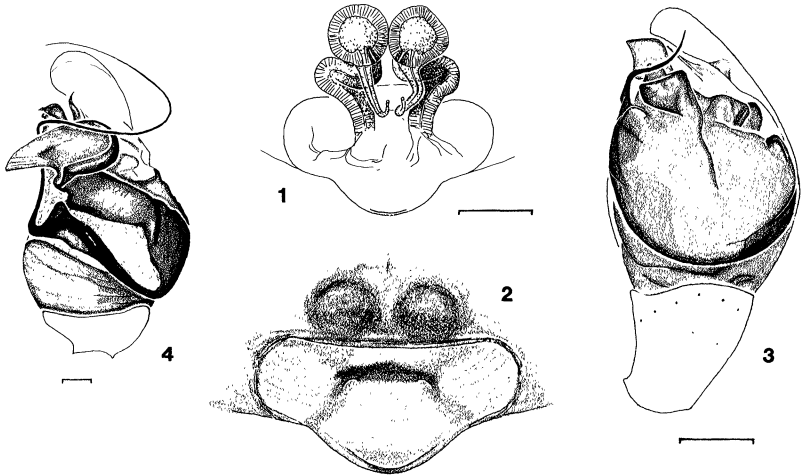
Diagnosis. Unlike *A. jabaquara* and *A. dubiosus*, *Anelosimus saramacca* has a short terminal embolus (Fig. 3). The female has an epigynum with a subtriangular depression enclosing a transverse mark; the openings appear posteriorly at the ends of the mark (Figs. 1, 2).

Natural History. A single colony of *A. saramacca* was found in an area of swampy lowland rainforest, approximately midway between Voltz Berg and Van Stockum Berg. The web was similar to that of *Anelosimus eximius*, but much smaller. It was located in a small sapling, about 30 cm above the ground. The web consisted of a nearly circular hammock or sheet of silk about 80 cm in diameter, and a pyramid shaped barrier web about 1 m tall. In the center of the hammock were retreats consisting of green leaves, some of which were curled.

The colony contained at least 1000 individuals, including males, females and immatures. There were many more adult females than adult males. Large numbers of females with egg cases were found in the leaf retreats. A quick inspection revealed at least 140 females with egg cases.

The egg cases closely resemble those of *A. eximius* and *A. studiosus*—they are pale brown, nearly spherical, and 1.5 mm in diameter. Several egg cases were collected, but many later proved to be empty or hatched out. Six egg cases containing eggs or embryos had a clutch size of 15.2 ± 1.8 eggs.

Like *A. eximius*, *A. saramacca* shows cooperative behavior. Several adults and immatures were seen feeding together on large prey items, and the web appears to be a product of cooperative effort.



Figs. 1-3. *Anelosimus saramacca* new species. 1, 2. Epigynum. 1. Dorsal, cleared. 2. Ventral. 3. Left male palpus.

Fig. 4. *Anelosimus dubiosus* (Keyserling). Left male palpus. Scale lines, 0.1 mm.

Anelosimus dubiosus (Keyserling)

Figure 4

Theridium dubiosum Keyserling, 1891, 3: 187, pl. 6, fig. 133, ♂. Male holotype from N. Freiburg (Nova Friburgo, Est. Rio de Janeiro), Brazil in the British Museum, Natural History, reexamined.

Description. Carapace, legs orange. Abdomen white with a dorsal gray band. Total length, 3.4 mm. Carapace, 1.7 mm long, 1.2 mm wide. First femur, 2.2 mm; patella and tibia, 2.5 mm; metatarsus, 1.5 mm; tarsus, 0.8 mm. Second patella and tibia, 1.9 mm; third, 1.3 mm; fourth, 1.8 mm.

Note. *Anelosimus jabaquara* Levi, 1956 is not a synonym of this species as thought in 1963. *Anelosimus dubiosus* differs by having a much longer filamentous embolus (Fig. 4) than *A. jabaquara* (Levi, 1956, fig. 18) and *A. saramacca* (Fig. 3).

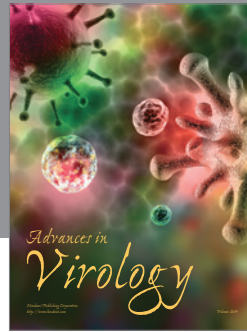
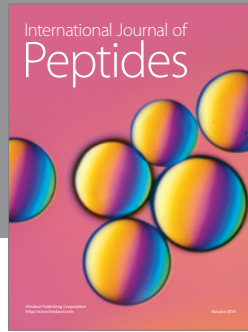
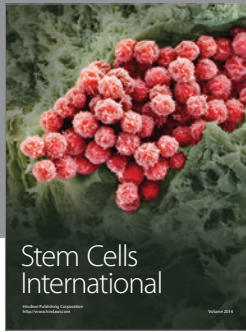
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REFERENCES CITED

- BUSKIRK, R. 1978. Sociability in the Arachnida. in H. R. Hermann, ed., SOCIAL INSECTS, Academic Press, 2: 282-367.
- KEYSERLING, E. 1891. DIE SPINNEN AMERIKAS, Nürnberg, vol. 3.
- LEVI, H. W. 1956. The spider genera *Neottiura* and *Anelosimus* in America (Araneae, Theridiidae). *Trans. Amer. Microscop. Soc.* 75:333-422.
- . 1963. The American spiders of the genus *Anelosimus* (Araneae, Theridiidae). *Trans. Amer. Microscop. Soc.* 82: 30-48.
- . 1967. The theridiid spider fauna of Chile. *Bull. Mus. Comp. Zool.* 136: 1-20.
- . 1972. Taxonomic-nomenclatural notes on misplaced theridiid spiders (Araneae, Theridiidae) with observations on *Anelosimus*. *Trans. Amer. Microscop. Soc.* 91: 533-538.
- . 1979. in Fowler, H. G. and H. W. Levi, A new quasisocial *Anelosimus* spider (Araneae, Theridiidae) from Paraguay. *Psyche* 86: 11-18.



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