

Cisneros-Heredia and Carrazco | *Bertrana striolata* in Amazonian Ecuador

First record of *Bertrana striolata* (Arachnida: Araneae: Araneidae) in Amazonian Ecuador

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Abstract: We present the first record of the orb-weaver spider *Bertrana striolata* from Amazonian lowlands (east of the Andes) in Ecuador, based on a specimen collected at the Tiputini Biodiversity Station, province of Orellana, Ecuador. Previously the species was known in the country from only one locality on the Pacific lowlands (west of the Andes).

Key words: Distribution, Neotropical, orb-weaver spider, Orellana, rainforest, Tiputini, Yasuni

Bertrana Keyserling, 1884 is a Neotropical genus of spiders that includes some of the smallest known araneid orb-weavers (Levi 1989, 1994). Up to date, 12 species of *Bertrana* have been described, but due to their small size, they are less often collected and much remains to be discovered about its diversity and distribution (Levi 1989, 1994). *Bertrana striolata* Keyserling, 1884 has the broadest geographic range among all

species of the genus, with records in Costa Rica, Panama, Colombia, Ecuador, Peru, Guyana, Brazil, Bolivia, and Argentina (Levi 1989). Despite its large range, *B. striolata* is known from broadly scattered localities, and most records come from Panama or Brasil (Keyserling 1884, 1893; Petrunkevitch 1925; Caporiacco 1948; Chickering 1963; Levi 1989; Podgaiski et al. 2007; Lanhas 2011; Chavari et al. 2014). In western Amazonia, *B. striolata* remains known from just four localities, one in Colombia (Bueva Vista) and three in Peru (Tingo María, Dantas La Molina, Atalaya-Río Carbón) (Levi 1989). We present the first record of *B. striolata* from the Amazonian lowlands of Ecuador (Fig. 1).

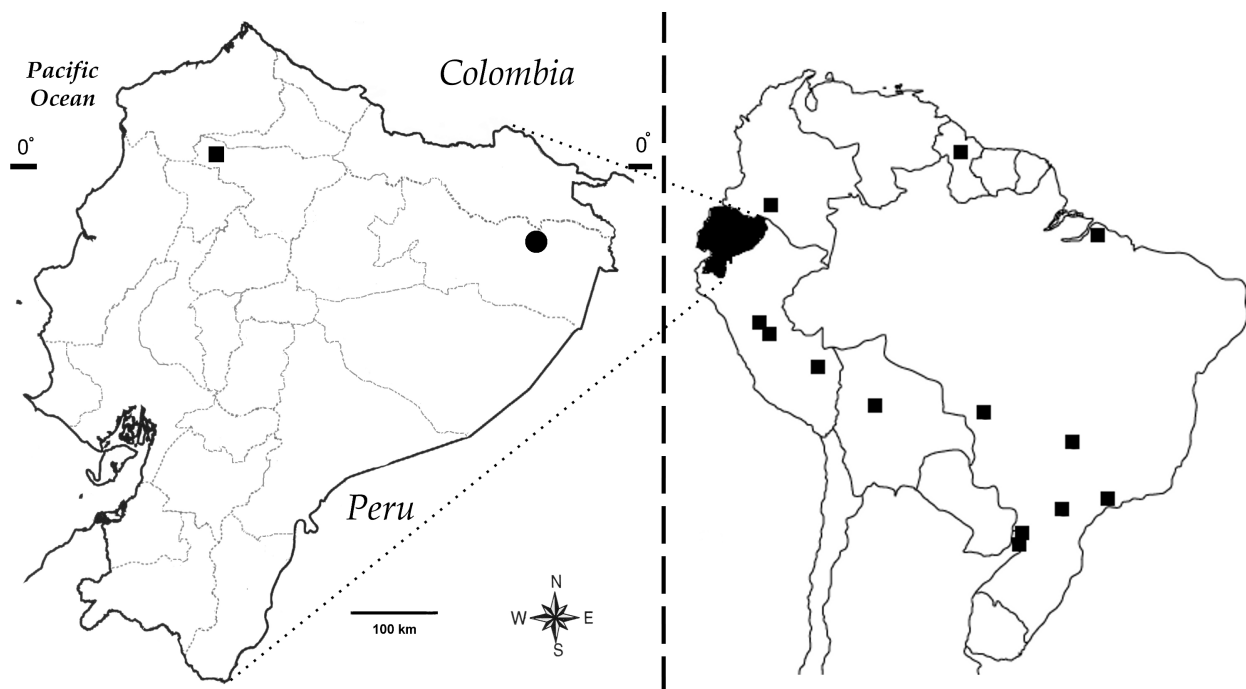
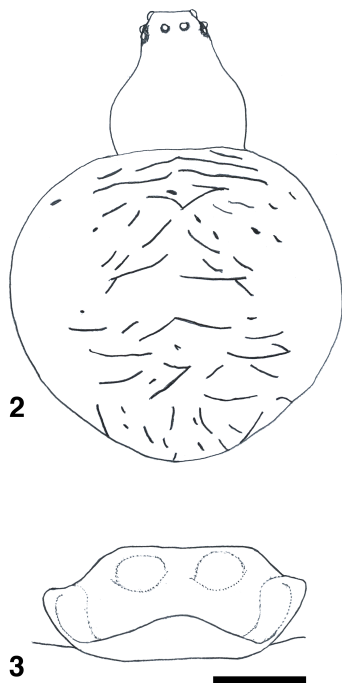


Figure 1. Map depicting known point localities of *Bertrana striolata* in Ecuador (left), and in South America (right, modified from Levi 1989). Circle = new locality in Amazonian Ecuador (Tiputini Biodiversity Station, province of Orellana); squares = literature records (Levi 1989; Podgaiski et al. 2007; Lanhas 2011; Chavari et al. 2014).

The voucher specimen is deposited in the collection of spiders of the Museo de Zoología (ZSFQ), Colegio de Ciencias Biológicas y Ambientales, Universidad San Francisco de Quito, Quito, Ecuador (patent No. 006-2015-FAU-DPAP-MA). It is preserved in 70% ethanol with glycerine, and was examined and measured under an Olympus SZX16 research stereomicroscope.

The specimen herein reported (Fig. 2–3) is identified as a member of the genus *Bertrana* by having sparse black pigment in the eye region, low soft carapace, wider-than-long abdomen, and small size (<5 mm total length) (Levi 1989). It clearly shows all diagnostic characters of female *Bertrana striolata*, including: carapace with black lines on a white dorsal background (without dusky marks), epigynum wider than long with a wider than long median plate in posterior view. No significant differences are found in coloration and genital morphology between our specimen and populations of other regions (Levi 1989). Our specimen is slightly larger (4.3 mm total length) than those reported by Levi (1989, up to 3.8 mm in total length), but we regard this as intraspecific variation.

A female *Bertrana striolata* (ZSFQ-Q053, Fig. 2–3) was collected at Tiputini Biodiversity Station TBS (0.618056° S, 76.171944° W, 250 m, Fig. 1) on 24 June 2009. TBS is a scientific station located in the province of Orellana, Republic of Ecuador, ca.



280 km ESE from Quito, in the northern bank of the Tiputini River, part of the Napo and Amazonas rivers basins. Universidad San Francisco de Quito (Ecuador) established it in 1995, in collaboration with Boston University (USA), as a centre of education, research and conservation. TBS is adjacent to the Yasuní National Park and it is part of the Yasuní Biosphere Reserve. TBS preserved ca. 650 hectares of primary forest, mostly Non-Flooded Lowland Evergreen forests, but narrow belts of Varzea (Lowland Evergreen forests seasonally flooded by white-water rivers) and Igapó (Lowland Evergreen forests seasonally flooded by black-water rivers) extend along the borders of the river, streams, and oxbow lake.

Figures 2–3. *Bertrana striolata* (ZSFQ-Q053, female, 4.3 mm total length) collected at the Tiputini Biodiversity Station TBS, province of Orellana, Ecuador. **2:** Dorsal view (scale line = 1 mm). **3:** Epigynum in ventral view (scale line = 0,1 mm).

Field data indicate that the specimen was found on a vertical two-dimensional orb web (0,26 m diameter; 0,99 m above ground) on a bush at a gap in primary Varzea forest, sitting in the hub at about 17h30. TBS is at ca. 148 km ENE from the closest known Amazonian locality of *Bertrana striolata* (Buena Vista, department of Putumayo, Colombia; Levi 1989); and ca. 950 km N from the closest known Amazonian locality in Peru (Tingo María, department of Huánuco; Levi 1989). This specimen corresponds to the first record of *B. striolata* in Amazonian Ecuador, filling the gap between localities in the Amazonian lowlands of Colombia and Peru (Fig. 1).

In Ecuador, *Bertrana striolata* was previously known from a single locality on the Pacific lowlands (4 km NE of the town of Pedro Vicente Maldonado, 550 m, province of Pichincha) based on two specimens collected in July 1988 (Levi 1989). To the best of our knowledge, our record also corresponds to the second locality of the species in the country, and the first record for the province of Orellana.

Five species of *Bertrana* have been recorded in Ecuador: *Bertrana elinguis*, *B. planada*, *B. striolata*, *B. poa*, and *B. urahua* (Levi 1989, 1994; WSCA 2016). Unfortunately, nothing has been published about any of these spiders in Ecuador since their original descriptions. In general, knowledge on the diversity and natural history of the spider fauna of Ecuador is deficient.

ACKNOWLEDGEMENTS

We are grateful to Pablo Riera and Gabriel Muñoz for assistance during our work, and to two reviewers that commented on the manuscript of this paper. Universidad San Francisco de Quito, María Elena Heredia, and Laura Heredia provided financial support for our studies. This study is the first contribution of the research programme “Diversity of Orb-Weaver Spiders (Araneidae) in Ecuador”, which aims to increase our knowledge on the diversity and biogeography of Ecuadorian araneids.

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