

## New records of the genus *Xanthofreya* Edwards from Colombia (Salticidae: Freyina)

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**Abstract.** A first record of the jumping spider genus *Xanthofreya* Edwards, 2015 (Salticidae: Freyina) from Colombia is given, with new records of *X. albosignata* (F. O. Pickard-Cambridge, 1901) from the Bolívar and Choco Departments and *X. arraijanica* (Chickering, 1946) from the Sucre Department, in tropical low and dry forest ecosystems. A map is included to show the known distribution of *Xanthofreya* species in Colombia.

**Keywords.** Bolívar, Caribbean coast, Choco, new faunistics data, Sucre

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### Introduction

The tribe Aelurillini Simon, 1901, currently includes at least 500 species, 51 genera and 3 subtribes (Maddison 2015). Of these subtribes, Freyina Edwards, 2015, is most diverse with 26 genera, distributed exclusively in the Neotropical region. The Freyina has been a focus of study by Galiano (1961, 1968, 1970, 1978, 1979a, b, c, 1981a, b, c, 1982, 1983, 1984, 1994, 1995, 2000, 2001) and was reviewed and expanded by Edwards (2015). One of the newer genera in this subtribe is *Xanthofreya* Edwards, 2015, a genus that includes five species, all described for both sexes and ranging from Guatemala to Costa Rica, Panama, Venezuela, Guyana and Brazil (Edwards, 2015; World Spider Catalog, 2017).

The species of the genus *Xanthofreya* can be identified by the presence of a flat embolus, broad, and largely membranous on the edges, and a flattened prolateral ramus associated with the embolus tip in males. This is a synapomorphy for the genus. *Xanthofreya* females, except for *X. albosignata*, have narrow, oblique copulatory openings without atria. In *X. albosignata*, the copulatory openings are turned ventrally and rounded (Edwards, 2015). Herein I report new records for two species of *Xanthofreya*, *X. albosignata* (F. O. Pickard-Cambridge, 1901) and *X. arraijanica* (Chickering, 1946). Edwards (2015) designated three species groups within *Xanthofreya*: the *albosignata* group, the *chionopogon* group and the *rustica* group. *X. albosignata* and *X. arraijanica* are included in the *albosignata* and *chionopogon* groups, respectively. Here I report the presence of both species in semi-conserved tropical forest near the Caribbean coast of Colombia, from the Bolívar and Choco Departments (*X. albosignata*), and from the Sucre Department (*X. arraijanica*).

## Materials and methods

The specimens described here are deposited in the Arachnological Collection of the Instituto de Ciencias Naturales, Universidad Nacional de Colombia (ICN-Ar, Eduardo Flórez), Bogotá, Colombia. Photographs of the epigyna and pedipalps were taken with a Leica MC-170 HD digital camera attached to a Leica M125A stereomicroscope. These photographs were composited with image stacking software (Leica Application Suite version 4.9.0). Each epigynal plate was dissected and cleared in a 10% KOH solution, for better visualization of internal structures following the guidelines published by Platnick et al. (1999).

### *Xanthofreya* Edwards, 2015

*Type species.* *Xanthofreya rustica* (Peckham & Peckham, 1896).

*Note.* For diagnosis and further taxonomic information, see Edwards (2015: 71, 73-76, figs. 34A-K, 35A-K, 36A-I).

### *Xanthofreya albosignata* (F. O. Pickard-Cambridge, 1901)

Figures 1-7, 15-16

*Cyrene albosignata* F. O. Pickard-Cambridge, 1901: 235 pl. 19, figs 16 (female holotype from Guatemala, deposited in BNHM, not examined).

*Freya albosignata* (F. O. Pickard-Cambridge, 1901); Petrunkevitch, 1911:651.

*Freya demarcata* Chamberlin & Ivie, 1936: 23, pl. 7, f. 47-48 = *Xanthofreya albosignata* (F. O. Pickard-Cambridge, 1901), synonymized by Edwards, 2015: 76.

*Xanthofreya albosignata* (F. O. Pickard-Cambridge, 1901); Edwards, 2015: 76, fig. 34A-K, new combination; World Spider Catalog, 2017.

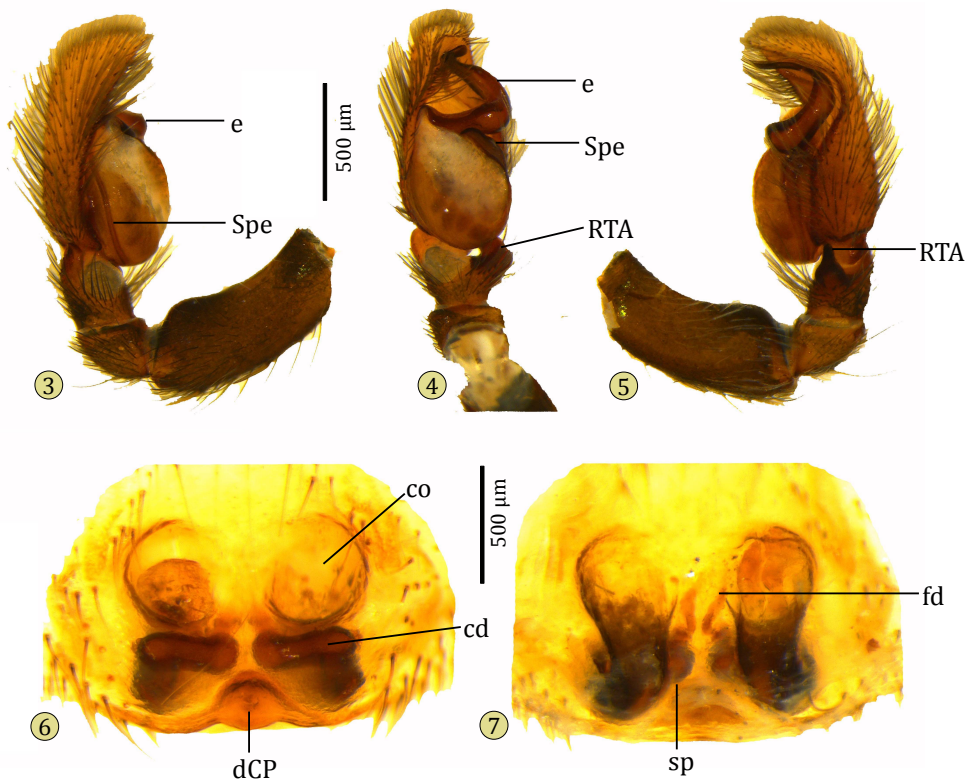
*Material examined.* 32♂, 1♀ and 2 juveniles, from Colombia, Bolívar, San Jacinto, Reserva Campesina La Flecha, 9.852705°N, 75.175644°W, 324m above sea level, 9 October 2016, L. Martínez (ICN-Ar 9722). 1♂, from Colombia, Choco, Acandí, Sapzurro, Tacarcuna Nature Reserve, 8.65°N, 77.34°W, 13m above sea level, June 2015, W. Galvis & CARBIO team (ICN-Ar 8097). 1♂, 2♀, same data (ICN-Ar 8099).

*Distribution and natural history.* Known from Panama (Canal Zone Biological Area), Colombia (Bolívar and Choco, Figures 15-16), and Guatemala. In Colombia this species was collected by beating low vegetation in a tropical low-dry ecosystem, in a fragment of secondary forest with an average yearly precipitation close to 1790 millimeters, average temperature of 28°C, and average relative humidity of 83.5%.

*Note.* For diagnosis and further taxonomic information see F. O. Pickard-Cambridge, 1901: 235, pl. 19, figs 16 and Edwards, 2015: 76, fig 34A-K.



Figures 1-2. *Xanthofreya albosignata* from Bolivar. 1, Male, habitus. 2, Female, habitus.



Figures 3-7. *Xanthofreya albosignata* from Bolivar. 3-5, Left pedipalp of male. 3, Prolateral view. 4, Ventral view. 5, Retrolateral view. 6-7, Cleared epigynum of female. 6, Dorsal view. 7, Ventral view. Abbreviations: dCP= dorsal coupling pocket, cd= copulatory duct, co= copulatory opening, e= embolus, fd= fertilization duct, RTA= retrolateral tibial apophysis, sp= spermatheca, Spe= spermophore.

***Xanthofreya arraijanica*** (Chickering, 1946)

Figures 8-16

*Freya arraijanica* Chickering, 1946: 170, figs. 145-148 (male holotype and female allotype from Arraijan, deposited in MCZ, not examined).

*Xanthofreya arraijanica* (Chickering, 1946); Edwards, 2015: 76, new combination; World Spider Catalog, 2017.

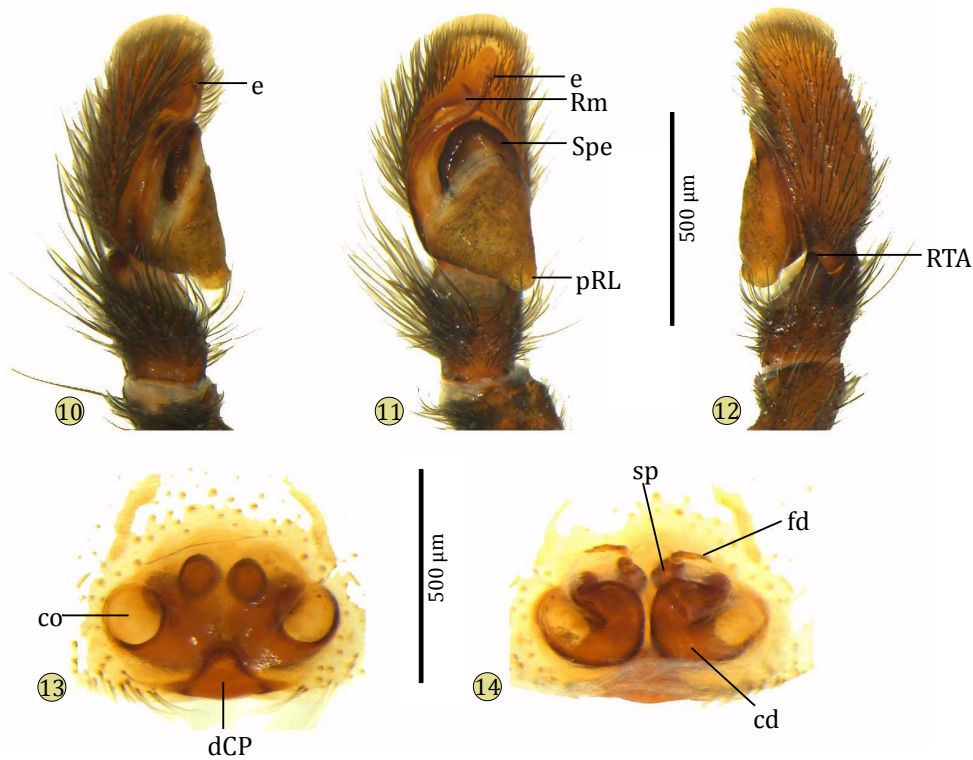
**Material examined.** 1♂ and 1♀ from Colombia, Sucre, Colosó, Reserva Primatológica Municipal, 9.545138889°N, 75.34016667°W, 390 m above sea level, 6 May 2016, R. Torres (ICN-Ar 9723).

**Distribution and natural history.** Known from Panama (Distrito de Arraijan) and Colombia (Sucre, Figures 15-16). This species was collected by beating low vegetation in a tropical low-dry ecosystem, in a fragment of primary forest with an average annual precipitation close to 1990 millimeters, average temperature 27°C, and average relative humidity of 87.6% .

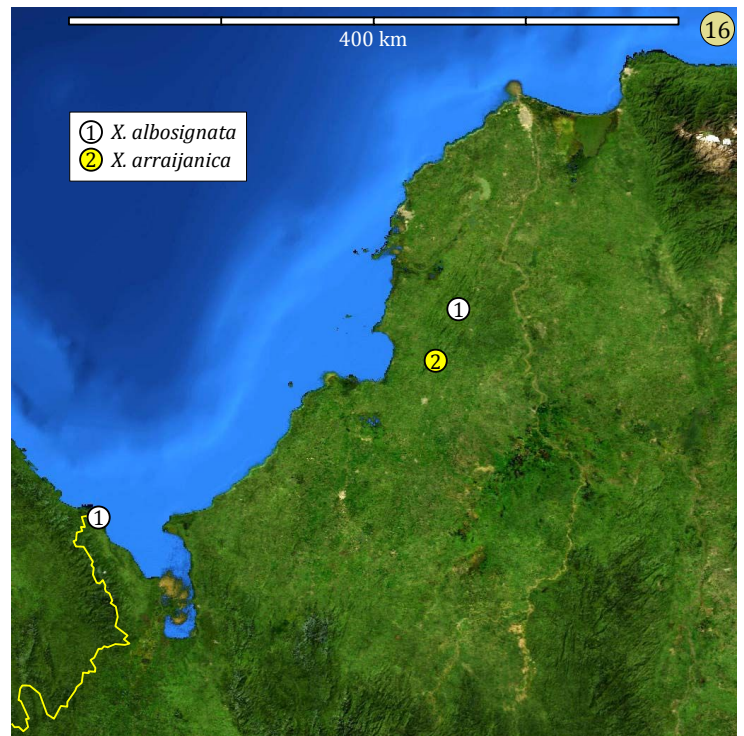
**Note.** For diagnosis and further taxonomic information see Chickering, 1946: 170-171, figs. 145-148 and Edwards, 2015: 78.



**Figures 8-9.** *Xanthofreya arraijanica*. **8**, Male, habitus. **9**, Female, habitus.



**Figures 10-14.** *Xanthofreya arraijanica*. **10-12**, Left pedipalp of male. **10**, Prolateral view. **11**, Ventral view. **12**, Retrolateral view. **13-14**, Cleared epigynum of female. **13**, Dorsal view. **14**, Ventral view. Abbreviations: dCP= dorsal coupling pocket, cd= copulatory duct, co= copulatory opening, e= embolus, fd= fertilization duct, pRL= Proximal retrolateral lobe, Rm= ramus, RTA= retrolateral tibial apophysis, sp= spermatheca, Spe= spermophore.



**Figures 15-16.** Known distribution of the species of the genus *Xanthofreya* in Colombia. **15**, Localities near the Caribbean coast of Colombia. **16**, Detail of white inset rectangle in (15). Background satellite images (OCT 2004) courtesy of the NASA Blue Marble Next Generation project.

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