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A new species of *Trechalea* Thorell, 1869 (Araneae: Lycosoidea: Trechaleidae: Trechaleinae) from Costa Rica, with notes on its natural history and ecology

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The genus *Trechalea* Thorell, 1869 was revised by Carico (1993), who redescribed the eight species known at that time and described two new species, *Trechalea boliviensis* Carico, 1993 and *Trechalea lomalinda* Carico, 1993, which were recently transferred to *Syntrechalea* F.O. Pickard-Cambridge, 1902 by Silva *et al.* (2012). Presently, the genus comprises eight species, distributed from Southern Arizona, USA to Northern Argentina (Platnick 2012). Other taxonomic papers on *Trechalea* were made by Carico (2008b), who described male of *T. trinidadensis* Carico, 1993, and Carico & Silva (2010) who described a new species, *T. rothi* Carico & Silva, 2010, from Colombia. Both species were synonymized by Silva & Lise (2010) with *T. amazonica* F.O. Pickard-Cambridge, 1903.

The spiders described here were found during an ecological study on coexistence patterns of large wandering spiders in a lowland rainforest of Costa Rica. Lapinski & Tschapka (2009) reported on the use of nuptial gifts in this species.

This new species is included in the subfamily Trechaleinae, recently diagnosed by Silva & Carico (2010) by the presence of a conspicuous retrolateral tibial apophysis (RTA) (Figs 8, 9, 11–13).

The material examined is deposited in Instituto Nacional de Biodiversidad, Costa Rica (INBio) and Museu de Ciências e Tecnologia da Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil (MCTP).

Specimens were examined using a Zeiss Stemi SV 6 stereomicroscope equipped with a camera lucida. For scanning electron microscopy (SEM), structures were excised, air-dried and mounted on stubs with double-sided adhesive tape. Specimens were sputter coated with gold and examined using a Philips XL 30. To study the excised epigyna, the soft tissue was removed by a combination of dissection with a small surgical blade and immersion in the enzyme trypsin for 48 hours at 25°C (Silva *et al.*, 2012). All measurements are in millimeters. The nomenclature of the male palpi and epigynum structures follows Carico (1993). Field photographs were made using a DSLR Sony α 100. Distributional maps were made with the programs Google Earth 6.2 and Croizat version 1.16 (Cavalcanti 2009).

Abbreviations

Eye measurements:

ALE = diameter of anterior lateral eye.

ALE—AME = interdistance between anterior lateral eye and anterior median eye.

AME = diameter of anterior median eye.

AME—AME = interdistances between anterior median eyes).

OQA = width of ocular quadrangle anteriorly or width of anterior median eyes.

OQH = height of ocular quadrangle or height of anterior median eye and posterior median eye.

OQP = width of ocular quadrangle posteriorly or width of posterior median eyes.

PLE = diameter of posterior lateral eye.

PLE—PME = interdistance between posterior lateral eye and posterior median eye.

PME = diameter of posterior median eye.

PME—PME = interdistance between posterior median eyes.