



Predation on a Gliding Leaf Frog, *Agalychnis spurrelli* (Hylidae: Phyllomedusinae), by a Red-Thighed Bromeliad Spider, *Cupiennius coccineus* (Trechaleidae), in Costa Rica

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Amphibians, characterized by small size, soft skin, and abundance, are common prey of a wide range of vertebrate and invertebrate predators (e.g., Youngquist and Sitvarin 2015; Valdez 2020; Fulgence et al. 2021; Meneses et al. 2021; Prémel and Torres 2021; Cambronero et al. 2022). Among arthropods, spiders are leading predators of amphibians (e.g., Menin et al. 2005; Luría-Manzano et al. 2020). Spiders in the family Trechaleidae likely are among the most frequent predators of amphibians in Neotropical forests (Prémel and Torres 2021; Cambronero et al. 2022; Nyffeler and Gibbons 2022).

The Gliding Leaf Frog (*Agalychnis spurrelli*), which occurs in southeastern and southwestern Costa Rica at elevations from sea level to 750 m asl, is a nocturnal, gliding species that dwells in the canopy of humid lowland forests, where it breeds explosively in temporary pools following heavy rainfall (Bland 2013; IUCN SSC Amphibian Specialist Group 2020; Gomez et al. 2021; Escalante et al. 2022b). The Bare-throated Tiger Heron (*Tigrisoma mexicanum*), Spectacled Caiman (*Caiman crocodilus*), Savage's Thin-toed Frog (*Leptodactylus savagei*), and Tailless Whip Scorpion (*Paraphrynus laevisfrons*) have been reported as predators of *A. spurrelli* (Güell et al. 2019; Escalante and Acuña 2021; Escalante et al. 2022a). At 1941 h on 23 January 2023, we observed a *C. coccineus* eating a juvenile *A. spurrelli* in Sierpe de Osa, Puntarenas, Costa Rica (8.86635, -83.46923; WGS 84) (Fig. 1). To the best of our knowledge, this is the first report of a Red-thighed Bromeliad Spider preying on *A. spurrelli*.

The Red-thighed Bromeliad Spider (*Cupiennius coccineus*), one of the largest species in the family Trechaleidae, is found in rainforests, with a broad distribution ranging from Guatemala to Colombia, and has also been recorded in Cuba and Haiti (Barth et al. 1988). In Costa Rica, the species has



Figure 1. A Red-thighed Bromeliad Spider (*Cupiennius coccineus*) eating a juvenile Gliding Leaf Frog (*Agalychnis spurrelli*) in Sierpe de Osa, Puntarenas, Costa Rica. Photograph by Raby Nuñez Escalante.

been recorded from lowland areas near sea level to elevations exceeding 1,100 m asl in the Central Valley (Barth et al. 1988; Cambronero et al. 2022; Mora et al. 2023). Many species of amphibians and reptiles have been documented as prey of *C. coccineus* in Costa Rica (Table 1).

Table 1. Vertebrate prey reported for Red-thighed Bromeliad Spiders (*Cupiennius coccineus*) in Costa Rica.

Species (Family)	Locality	Reference
<i>Dendropsophus ebraccatus</i> (Hylidae)	Finca La Selva Research Station	Szelistowski 1985
<i>Eleutherodactylus</i> spp. (Eleutherodactylidae)	Finca La Selva Research Station	Szelistowski 1985
<i>Scinax elaeochroa</i> (Hylidae)	Finca La Selva Research Station	Szelistowski 1985
<i>Craugastor stejnegerianus</i> (Craugastoridae)	La Merced National Wildlife Refuge	Ervin et al. 2007
<i>Craugastor stejnegerianus</i> (Craugastoridae)	Oro Verde Biological Reserve	Ervin et al. 2007
<i>Agalychnis callidryas</i> (Hylidae: Phyllomedusinae)	La Selva Biological Station	Stynoski et al. 2014
<i>Oophaga pumilio</i> (Dendrobatidae)	La Selva Biological Station	Stynoski et al. 2014
<i>Craugastor fitzingeri</i> (Craugastoridae)	La Selva Biological Research Station	Hantak et al. 2016
<i>Dendrobates auratus</i> (Dendrobatidae)	La Selva Biological Research Station	Hantak et al. 2016
<i>Rhaebo haematiticus</i> (Bufonidae)	La Selva Biological Research Station	Hantak et al. 2016
<i>Craugastor bransfordii</i> (Craugastoridae)	La Selva Biological Research Station	Murray et al. 2016
<i>Oophaga pumilio</i> (Dendrobatidae)	La Selva Biological Research Station	Murray et al. 2016
<i>Duellmanohyla ruficulis</i> (Hylidae)	Rara Avis Rainforest Reserve	Folt and Lapinski 2017
<i>Pristimantis ridens</i> (Strabomantidae)	Tirimina Biological Reserve	Folt and Lapinski 2017
<i>Agalychnis annae</i> (Hylidae: Phyllomedusinae)	Santo Domingo de Heredia	Abarca et al. 2018
<i>Smilisca sordida</i> (Hylidae)	Sierra Zapote Reserve	Cambronero et al. 2022
<i>Dendropsophus microcephalus</i> (Hylidae)	Tumbas of Barú, Pérez Zeledón	Cubas-Rodríguez and Teruel 2022
<i>Anolis polylepis</i> (Anolidae)	Sierpe de Osa	Escalante et al. 2021
<i>Gonatodes albogularis</i> (Sphaerodactylidae)	Selva Verde Lodge, Sarapiquí	Mora et al. 2023

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