
Discovery of an extant population of the critically endangered treefrog *Plectrohyla chrysopleura* (Anura, Hylidae) in Refugio de Vida Silvestre Texiguat, Honduras

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ABSTRACT - We report the discovery of *Plectrohyla chrysopleura* at a locality in Refugio de Vida Silvestre Texiguat, Departamento de Atlántida, Honduras. This critically endangered treefrog was previously known only from a single site, 55 km to the east-northeast in Parque Nacional Pico Bonito, where it had not been documented since 1996.

RESUMEN - Se reporta el descubrimiento de *Plectrohyla chrysopleura* de la localidad del Refugio de Vida Silvestre Texiguat, Departamento de Atlántida, Honduras. Esta rana en peligro crítico estaba reportada anteriormente para un único sitio, 55 km en dirección noreste en el Parque Nacional Pico Bonito, donde no ha sido encontrada desde 1996.

PLECTROHYLA *chrysopleura* McCranie, Wilson, and Cruz, 1994 is a large, critically endangered spikethumb frog only known from the vicinity of its type locality in Parque Nacional Pico Bonito (Cruz et al., 2004). This locality, Quebrada de Oro, is among the most remarkable sites of amphibian endemism and, unfortunately, one of the best documented cases of catastrophic amphibian decline in Central America (McCranie & Wilson, 2002; McCranie & Castañeda, 2005, 2007; Townsend & Wilson, 2010). Quebrada de Oro is a premontane rainforest locality that has been under study since 1980 (McCranie & Castañeda, 2005). It is the type locality for six species of amphibians (*Craugastor aurilegulus*, *C. chrysozetetes*, *C.*

fecundus, *Duellmanohyla salvavida*, *Plectrohyla chrysopleura* and *Rhinella chrysophora*). In addition, two other species (*Craugastor cruzi* and *C. saltuarius*) were described on the basis of material collected on the slope of Cerro Búfalo above Quebrada de Oro. Almost all of these species are considered to be in decline, with some even considered to be extinct or close to extinction. McCranie & Castañeda (2007) discussed this disastrous situation.

Like other species from Quebrada de Oro that have declined or disappeared, *P. chrysopleura* is apparently extirpated from that locality, and given that Quebrada de Oro is the only locality where this species has been found, despite consistent focused

work in the area (McCranie & Castañeda, 2005, 2007), it raised the concern that the species may be near extinction, if not already extinct. The last time *P. chrysopleura* was documented as extant was in May 1996, when two metamorphs and two tadpoles were collected along Quebrada de Oro (McCranie & Wilson 2002; McCranie & Castañeda 2005). At that time, one of two tadpoles collected had deformed mouthparts (McCranie & Wilson, 2002). A return visit to Quebrada de Oro in May 2010 by one of us (CCM) found the area around the locality to be heavily disturbed and impacted by cattle ranching and illegal logging.

Based on these data and additional considerations, Cruz et al. (2004), IUCN (2008), and Townsend & Wilson (2010) all judged *P. chrysopleura* to be Critically Endangered based on IUCN criteria (IUCN, 2001). For *P. chrysopleura*, the criteria were A2ace and B1ab(iii,v)+2ab(iii,v), meaning that a reduction in population size of $\geq 80\%$ was observed, estimated, inferred, or suspected over the last 10 years based on direct observation, a decline in area of occupancy, extent of occurrence and quality of habitat and the suspected impact and susceptibility to decline from chytridiomycosis.

In June 2010, we undertook the first herpetological survey work in a large area of premontane wet forest (Holdridge, 1967) on the northeastern side of Refugio de Vida Silvestre Texiguat known as 'La Liberación.' As with Parque Nacional Pico Bonito, Refugio de Vida Silvestre (RVS) Texiguat has been documented as having a high degree of herpetofaunal endemism that is at risk of being lost, in this case due to persistent deforestation in the leeward portions of the reserve (Townsend & Wilson 2010; Townsend et al., 2010). Parque Nacional Pico Bonito and RVS Texiguat share a number of endemic species, being found at opposite ends of the Cordillera Nombre de Dios (Wilson & McCranie, 2004). During this survey, we collected a series of *Plectrohyla chrysopleura* that provide us with 1) the first evidence of this species' survival in 14 years, 2) the second known locality for this species, approximately 55 km west-southwest of the type locality, and 3) an indication that this, and perhaps other Quebrada de Oro endemics, might inhabit areas of suitable premontane wet forest habitat in other parts of the

Cordillera Nombre de Dios.

We collected vouchers of two adult males (USNM 573995 [Fig. 1B], SVL = 58.6 mm; USNM 573996, SVL = 62.5 mm; sex determined by presence of vocal slits), one adult female (USNM 573993 [Fig. 1A], SVL = 65.8 mm) and four recently metamorphed froglets (USNM 573994 [Fig. 1D], USNM 573997). All three adult specimens agree with the descriptions of *P. chrysopleura* provided by McCranie et al. (1994) and McCranie & Wilson (2002), in having 1) an enlarged prepollex with a flat and blunt distal end, 2) uniform pale brown to bronze dorsal coloration (Fig. 1A) or pale brown ground coloration with dark mottling (Fig. 1B) in life with bright yellow flash marks around the portions of the legs and body hidden when the legs are along the body, 3) large size (SVL 58.6-65.8 mm in three adults) and 4) spatulate maxillary teeth.

One adult female (Fig. 1A; USNM 573993) was collected on 14 June 2010 while sitting on a branch at night 2 m above a small tributary of the Río Jilamito (1,030 m elevation). A second, noticeably larger individual (presumably another female) that was not collected was seen less than 5 m upstream as it sat approximately 4 m high in vegetation overhanging a pool (Fig. 1C). Two adult males (USNM 573995 [Fig. 1B], USNM 573996) were collected on June 19 2010, on the ridge above a lagoon at the top of Cerro El Chino (1,420 m elevation). Both frogs were on branches of the same small tree above a small, but apparently permanent, pool; (USNM 573995 was approximately 1.5 m above ground level, and USNM 573996 was approximately 1 m directly above it. Recently metamorphed froglets of *Plectrohyla*, all herein assigned to *P. chrysopleura*, given we found no other species of *Plectrohyla* in the area), were collected on low (0.5-1 m above ground-level) vegetation near two small tributaries of the Río Jilamito (1,020-1,030 m elevation).

Of the six endemic species of premontane forest amphibians described from the Quebrada de Oro area, we now know that two of them (*Duellmanohyla salvavida* and *Plectrohyla chrysopleura*) occur at La Liberación. Given the robust nature of the populations of these two treefrogs and the intactness of the premontane

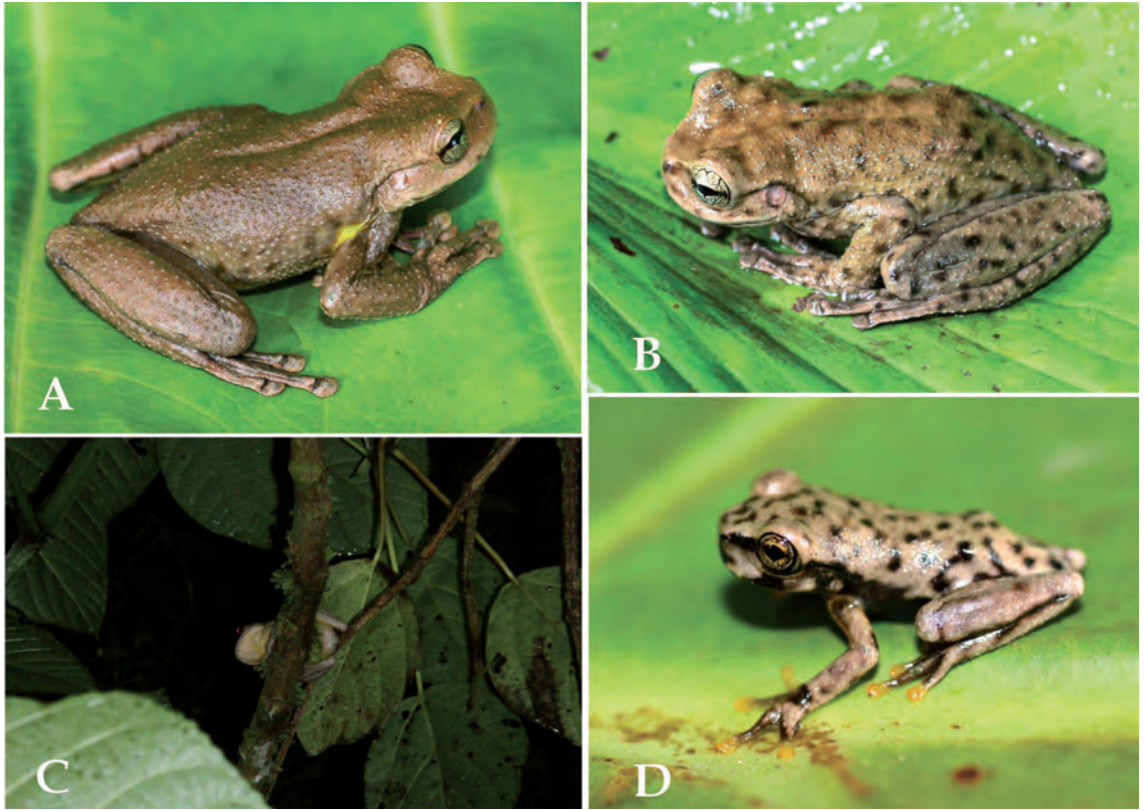


Figure 1. A) Adult female *Plectrohyla chrysopleura* (USNM 573993) from La Liberación, 1,030 m elevation, Refugio de Vida Silvestre Texiguat, Honduras. B) Adult male *P. chrysopleura* (USNM 573995) from Cerro El Chino, 1,420 m elevation, Refugio de Vida Silvestre Texiguat, Honduras. C) Large adult *P. chrysopleura* (not collected) from La Liberación; even at this distance, yellow flash marks are visible around the throat and hind legs. D) Recently metamorphosed *P. chrysopleura* (USNM 573994) from La Liberación.

rainforest in this area, we are hopeful that perhaps other endemic anurans that have undergone decline at Quebrada de Oro will be discovered residing at La Liberación.

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