

Rediscovery of *Gastrotheca chrysostricta* Laurent, 1976 (Anura: Hemiphractidae) in Baritú National Park, Salta, Argentina

Mauricio S. Akmentins¹, Martín Boullhesen^{1,2}, Sofía Bardavid¹, Clemente J. Espinoza, Fernando Falke³

¹ Instituto de Ecorregiones Andinas (INECOA), Universidad Nacional de Jujuy – CONICET. San Salvador de Jujuy, Jujuy, Argentina.

² Programa de Investigaciones de Biodiversidad Argentina (PIDBA) – Facultad de Ciencias Naturales e Instituto Miguel Lillo. San Miguel de Tucumán, Tucumán, Argentina.

³ Parque Nacional Baritú – Administración de Parques Nacionales. Los Toldos, Salta, Argentina.

Recibida: 09 Agosto 2018

Revisada: 18 Agosto 2018

Aceptada: 19 Septiembre 2018

Editor Asociado: D. Baldo

ABSTRACT

We report the rediscovery of the Marsupial Frog *Gastrotheca chrysostricta*, 25 years after the last record of this species in Baritú National Park, Salta Province, Argentina.

Key Words: Marsupial Frog; Yungas Andean Forests; Threatened Species

doi: 10.31017/CdH.2018.(2018-021)

Gastrotheca chrysostricta Laurent, 1976, is one of three endemic species of marsupial frogs that inhabit the Yungas Andean forests of northwestern Argentina (Akmentins *et al.*, 2012). This species was known only from a few localities in this country, with a disjunct distribution in northern and southern areas of the Salta Province (Laurent *et al.*, 1986). The last record of this species was a male specimen collected in Baritú National Park in 1993 and deposited in the Museo Argentino de Ciencias Naturales as MACN 34666. There is a report on the finding of this species in 2002, by Lavilla *et al.* (2004) but these authors do not refer it to any voucher specimen or bibliographic source. Since the last record in 1993, the species has not been collected nor observed in Baritú National Park for about 25 years, despite recent search efforts (Vaira *et al.*, 2012).

During a field survey in Baritú National Park on August 31, 2018, we heard several males of *G. chrysostricta* calling from rock crevices, tree hollows and epiphytic bromeliads during midday hours. Observations were made at the site known by local people as “Camino a Sidras”, located near the western limits of the Baritú National Park (22°33'46.8” S; 64°45'7.8” W; 1468 m asl.), and characterized by a well preserved primary Montane Yungas forest (Burkart *et al.*, 1999). Calling activity of males was sporadic during the day but a full chorus was heard from 19:00 hrs, after an abrupt drop in temperature and the onset of intense drizzle. The vocal activity

was continuous until 04:00 hrs of the following day.

We collected one voucher specimen housed in the Herpetological Collection of Fundación Miguel Lillo, Tucumán, Argentina (FML 30266). We assigned it to *G. chrysostricta* based on external morphological characters, particularly the dorsal coloration pattern that refers to its specific epithet “golden spotted” due to the presence of yellowish spots irregularly distributed over the head, back and legs (Fig. 1). The species is also easily distinguishable from the other two *Gastrotheca* known from Argentina by the ventral coloration pattern, which is creamy-white with dense dark spots in *G. chrysostricta* (Fig. 2), uniformly cream white-colored in *G. christiani* and *G. gracilis* (Duellman, 2015). This new record is about 10 km southwest (airline) from the type locality of *G. chrysostricta*, “Placa de San Martín” in Serranía del Porongal (Laurent, 1976).

The next steps towards the conservation of this threatened species would consider: 1) design of long-term monitoring of the rediscovered species using passive monitoring techniques, such as automated recording devices (ARDs), in order to minimize human intervention; 2) perform a rapid assessment of the possible ongoing threats; 3) obtain complementary natural history data of *G. chrysostricta*; 4) develop a predictive model of calling activity to improve the success of active searches for marsupial frogs; and 5) expand search efforts for *G. chrysostricta* to all historical localities in order to up-



Figure 1. Adult male of *Gastrotheca chrysosticta* (FML 30266) registered in Baritú National Park, Salta, Argentina.

date its extent of occurrence. Fortunately, the newly discovered population is located inside the core area of Baritú National Park, which would account for a high degree of habitat protection.

The three endemic Argentinean species of marsupial frogs are categorized as of high risk of extinction, both nationally (Vaira *et al.*, 2012) and globally (IUCN, 2018), which is undoubtedly associated with the Yungas forests being one of the most highly threatened ecoregions of Argentina (Vaira *et al.*, 2017). This report provides a new insight into the need for increased field survey efforts in less explored natural protected areas to obtain updated information on the conservation status of amphibians, particularly in the Yungas Andean forests.

Acknowledgements

We thank Delegación Regional Noroeste of National Park Administration, specially to Baritú National Park intendant Oscar Braslavsky for logistic support.

Permits for scientific work and sample collection were provided by National Park Administration, DRNOA 134/2018. MSA and MB also thanks to partner organizations of the conservation program of Argentinean Marsupial Frogs for their continuous support: Amphibian Ark, Amphibian Specialist Group, CONICET, Conservation Leadership Programme, Global Wildlife Conservation, Mohamed bin Zayed Species Conservation Fund, and The Rufford Foundation. We also thank to Kelsey Neam for his revision of the manuscript.

Literature cited

- Akmentins, M.S.; Pereyra, L.C. & Vaira, M. 2012. Using sighting records to infer extinction in three endemic Argentinean marsupial frogs. *Animal Conservation* 15: 142-151.
- Burkart, R.; Bárbaro, N.O.; Sánchez, R.O. & Gómez, D.A. 1999. Eco-regiones de la Argentina. Presidencia de la Nación Secretaría de Recursos Naturales y Desarrollo Sustentable. Administración de Parques Nacionales.
- Duellman, W.E. 2015. Marsupial Frogs. *Gastrotheca* & allied



Figure 2. Detail of the ventral coloration pattern of the adult male of *Gastrotheca chrysostricta* (FML 30266) registered in Baritú National Park, Salta, Argentina.

- genera. Johns Hopkins University Press. Baltimore.
- Laurent, R.F. 1976. Nuevas notas sobre el género *Gastrotheca* Fitzinger. *Acta Zoológica Lilloana* 32: 31-66.
- Laurent, R.F.; Lavilla, E.O. & Terán, E.M. 1986. Contribución al conocimiento del género *Gastrotheca* Fitzinger (Amphibia: Anura: Hylidae) en Argentina. *Acta Zoológica Lilloana* 38: 17-210.
- Lavilla, E.; de la Riva, I. & Reichle, S. 2004. *Gastrotheca chrysostricta*. The IUCN Red List of Threatened Species 2004: e.T55328A11293908. <http://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T55328A11293908.en>. Downloaded on 18 September 2018.
- IUCN. 2018. The IUCN Red List of Threatened Species. Version 2018-1. <<http://www.iucnredlist.org>>. Downloaded on 05 September 2018.
- Vaira, M.; Akmentins, M.; Attademo, A.; Baldo, D.; Barrasso, D.; Barrionuevo, S.; Basso, N.; Blotto, B.; Cairo, S.; Cajade, R.; Céspedes, J.; Corbalán, V.; Chilote, P.; Duré, M.; Falcione, C.; Ferraro, D.; Gutiérrez, F.; Ingaramo, M.R.; Junges, C.; Lajmanovich, R.; Lescano, J.N.; Marangoni, F.; Martinazzo, L.; Marti, R.; Moreno, L.; Natale, G.S.; Pérez Iglesias, J.; Peltzer, P.; Quiroga, L.; Rosset, S.; Sanabria, E.; Sánchez, L.; Schaefer, E.; Úbeda, C.; Zaracho, V. 2012. Categorización del estado de conservación de los Anfibios de la República Argentina. *Cuadernos de Herpetología* 26: 131-159.
- Vaira, M.; Pereyra, L.C.; Akmentins, M.S. & Bielby, J. 2017. Conservation status of amphibians of Argentina: An update and evaluation of national assessments. *Amphibian & Reptile Conservation* 11: 36-44.

