

Recent findings of the declining frog *Pleurodema bibroni* Tschudi, 1838 (Anura: Leiuperidae) in Uruguay

Francisco Kolenc^{1*}, Claudio Borteiro¹, Enrique M. González¹, Diego A. Barrasso², and Carlos Prigioni¹

Pleurodema bibroni (Fig. 1) was formerly widespread and abundant in Uruguay, being a frog commonly collected by the naturalists of the 19th century who visited the northern shore of the River Plate. For example, A. d'Orbigny, C. Darwin, and M. Jiménez de la Espada brought specimens to Europe which resulted in multiple descriptions of it (Tschudi, 1838; Bell, 1843; Jiménez de la Espada, 1875).

The species was common in much of southern Uruguay at least until the mid-1970s or early 1980s, when it seems to have suffered a sudden, severe and widespread decline (for a historical review and a defence of the case for a recent decline, see Kolenc et al., 2009). Apart from Uruguay, *P. bibroni* is known from north-eastern Rio Grande do Sul state, Brazil, where no findings were reported after 1973 (Braun, 1973), although some specimens preserved in natural history collections were collected in 1976 (Kolenc et al., 2009). Recently, some specimens collected in north-eastern Paraguay in 1893-1894 and previously confused with *Physalaemus fuscomaculatus* (Ceí, 1990) were identified as *P. bibroni* (Kolenc et al., 2011). There are no later records of this species in Paraguay (Brusquetti and Lavilla, 2006). Assessments of the conservation status of *P. bibroni* considered this species as “near threatened” globally (Silvano et al., 2004) and “vulnerable” in Uruguay (Canavero et al., 2010). The cause of the decline of many populations is unknown: habitat destruction may be associated with vanished populations in some coastal areas, but the species also disappeared from relatively

unaltered habitats (Kolenc et al., 2009). Other possible causes are climate change and chytrid infection. Although the presence of chytrids was demonstrated in sites where the species was extirpated, it was also detected in one of the few remaining populations (Borteiro et al., 2009; Bardier et al., 2011).

Intensive fieldwork recently led to the finding of some remnant populations of this species in Uruguay (Natale and Maneyro, 2008; Kolenc et al., 2009). Since the last review in 2009, some new localities inhabited by *Pleurodema bibroni* were found. In this paper we report these localities and present an updated map of the places where this species is known to occur at present. We include in this last category those records since 2000, which except for one are posterior to 2007. Voucher specimens are housed in the herpetological collection of the Museo Nacional de Historia Natural de Montevideo, Uruguay (MNHN).

The new localities of *Pleurodema bibroni* are the following:

Uruguay, Departamento de Canelones, Balneario Jaureguiberry, 34.77° S; 55.41° W; altitude 5 m a.s.l.; MNHN 9455: Many males were calling at night on 20



Figure 1. Male of *Pleurodema bibroni* from Valentines, Departamento de Treinta y Tres, Uruguay.

1 Museo Nacional de Historia Natural de Montevideo, 25 de Mayo 582, Montevideo, Uruguay;
e-mail: fkolenc@gmail.com

2 Laboratorio de Ecología Molecular, Centro Regional de Estudios Genómicos, Universidad Nacional de La Plata, and CONICET, Av. Calchaquí km 23.5, Piso 4, 1888 Florencio Varela, Buenos Aires, Argentina.

* Corresponding author

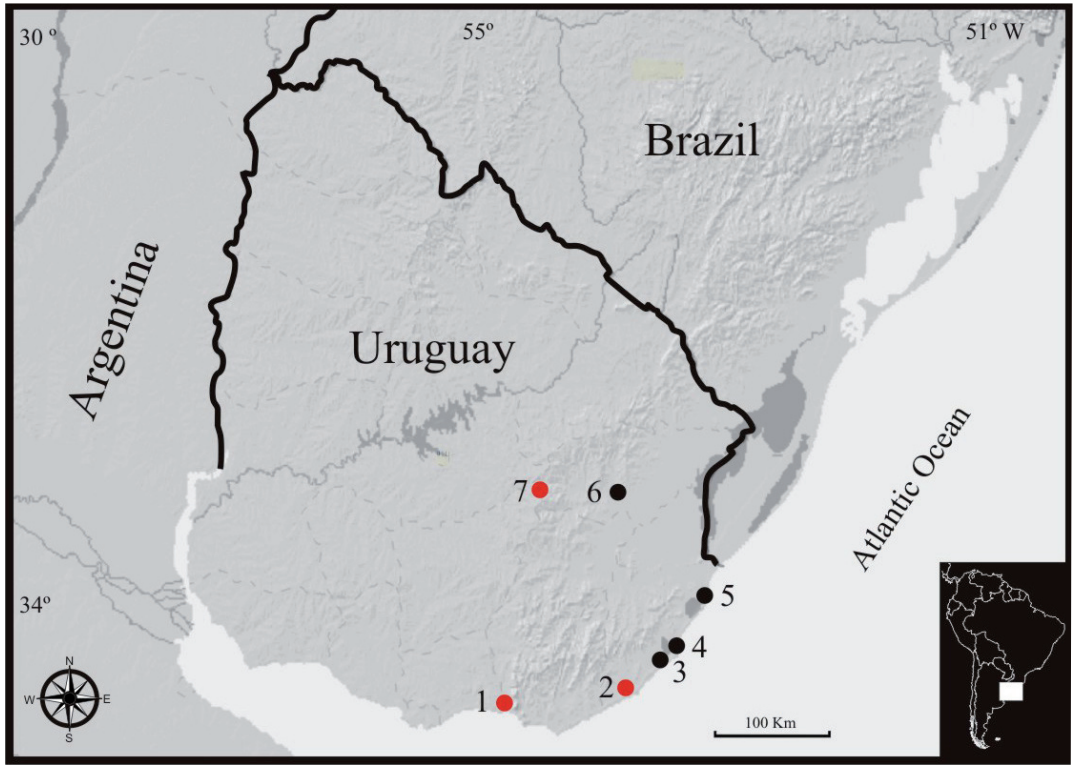


Figure 2. Updated map with the localities where *Pleurodema bibroni* is currently known to occur in Uruguay. Black dots represent records based on Kolenc *et al.* (2009) and red dots represent the new records. 1) Jaureguiberry, Canelones; 2) Laguna de las Nutrias, Rocha; 3) km 248-255 Route 10, Rocha; 4) several localities in the surroundings of Barra de Valizas and Refugio de Fauna Laguna de Castillos, Rocha; 5) Cerro Verde, Rocha; 6) Ciudad de Treinta y Tres, Treinta y Tres (recorded call, not vouchered); and 7) Valentines, Treinta y Tres.

June 2011 from a temporary pond, close to the shore of the Solis Grande Stream. Two amplexant pairs were observed.

Uruguay, Departamento de Rocha, Laguna de las Nutrias, 34.68° S; 54.28° W; altitude 9 m a.s.l.; MNHN 9457, 9458: Two specimens were collected with pit-fall traps on 20 December 2011 as a result of faunal surveys. No additional specimens were observed.

Uruguay, Departamento de Treinta y Tres, Valentines, 33.25° S; 55.11° W; altitude 280 m a.s.l.; MNHN 9456: Some males were calling at night on 5 July 2009, on a temporary pond on a prairie on hilly landscapes. Two clutches were observed. We found tadpoles of this species on later visits to this pond, on 17 August 2009 and 5 September 2009.

The new localities presented herein significantly extend the known current presence of the species (Fig. 2), although all of them fall within its historical

geographic range. These new findings may correspond to remnant populations, since they appear isolated. Intensive searches in areas close to the ponds at Valentines and Jaureguiberry on repeated occasions resulted in no additional findings, and previous surveys in surrounding areas were negative (see comments in Kolenc *et al.*, 2009). The pond at Valentines occurs in a prairie with cattle, with no remarkable differences with the landscapes of surrounding areas. On the contrary, the pond at Jaureguiberry occurs on a relic of riparian plains, next to urbanized zones. Historical records before 1975 close to both localities are common (Núñez *et al.*, 2004; Kolenc *et al.*, 2009; Prigioni, Borteiro and Kolenc, 2011). The finding at Laguna de las Nutrias, at the southwestern shore of Laguna de Rocha is very interesting, since the eastern and south-eastern shores of this last lagoon (only eight km distant) were intensively and repeatedly searched for the last ten years with negative

results, and chytrid fungus infection is widespread in the amphibians of this place (Borteiro et al., 2009; Borteiro and Kolenc, unpublished results). The last documented finding of *Pleurodema bibroni* close to Laguna de las Nutrias dates from 1991, at La Paloma Resort, 12 km to the north-east (Kolenc et al., 2009).

The new findings of *Pleurodema bibroni* in Uruguay highlight the value of intensive surveys, as more remnant populations are likely to occur. Additional studies are needed to assess the current status of extant populations of this species and to identify the causes of its historical decline.

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