

NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Anura, Leptodactylidae, *Leptodactylus labyrinthicus*: rediscovery and distribution extension in the state of Rio Grande do Sul, Brazil

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Leptodactylus labyrinthicus (Spix 1824) (Figure 1) is a frog species that belongs to the *Leptodactylus pentadactylus* group (*sensu* Heyer 1979). According to Heyer's (2005) recent revision, this species is restricted to subtropical and tropical open habitats, including much of the Cerrado Morphoclimatic Domain, as defined by Ab'Sáber (1977), and cerrado-like enclaves in tropical rain forests of Brazil, Paraguay, and also northeastern Argentina (Cei 1980, Álvares et al. 2002). According to Heyer (2005), the occurrence of this species in disturbed areas suggests that it is a good colonizer of man-made open areas that were former closed-forest habitats. *Leptodactylus labyrinthicus* is one of the largest edible Brazilian frogs, being intensively hunted in some parts of the country used as food. In the state of Rio Grande do Sul, *L. labyrinthicus* was recorded only for the municipality of Santa Maria, central state, in the 30's and 70's (Lutz 1930; Heyer 1979; Braun and Braun 1987), totalizing six specimens collected. Since then, no other specimen was found (Garcia and Vinciprova 2003). During the evaluation of the conservation status of the anuran species in the state of Rio Grande do Sul, Garcia and Vinciprova (2003) included *L. labyrinthicus* in the "insufficient data" category. They suggested that this species may be naturally rare in that area because it is close to its southern distribution limits, or because its distribution and abundance have been underestimated due to lack of field studies. We rediscovered the species in the state of Rio Grande do Sul 26 years after its

last record and we are extending its distribution range in 200 km beyond Santa Maria municipality.



Figure 1. Adult *Leptodactylus labyrinthicus*, Municipality of Rio Claro, State of São Paulo, Brazil. Photo: C. F. B. Haddad.

A gravid female was found dead in Cerro Largo, northwestern Rio Grande do Sul (Vila Santo Antonio, at the side of the Route 392, km 666: 28°07'12.7" S, 54°47'36.7" W, 255 m), on 17 October 2005. The specimen was deposited in the Coleção Célio F. B. Haddad (CFBH 11107), Universidade Estadual Paulista, Rio Claro, São Paulo, Brazil. Local residents told us that the frogs could be found in great numbers, but they were intensively hunted in the swamps and dams in that area some years ago and now they can not be found anymore. In the last two years (June and December, 2004; December, 2005), three field surveys carried out in Cerro Largo, where local residents used to hunt them, were unsuccessful in locating populations of *L. labyrinthicus*. There is no record of this species in Santa Maria and its surroundings, despite the intense surveys in the last 10 years (S.Z. Cechin, pers. comm.). In January 2006, the site where the species was recorded by Braun and Braun (1987) (Fazenda Casabranca, Distrito de Santa Flora, Santa Maria, RS) was visited and no individual was found. In Venezuela, Péfaur and Sierra (1995) suggested that *L. labyrinthicus* populations may be susceptible to decimation because the species is economically attractive, since adults are large, easily captured, and distributed only in a small area of the country. The hunting pressure exerted by humans also was considered by Zina and Haddad (2005) as the most likely hypothesis to

NOTES ON GEOGRAPHIC DISTRIBUTION

explain the significant difference recorded in body size of males *L. labyrinthicus* between two populations compared in the state of São Paulo, Brazil. According to these authors, the frog-hunting probably eliminated the larger individuals from the population inhabiting a non protected area. Thus, considering their sparse distribution and as long as this species is unusual in the areas mentioned here for the state of Rio Grande Sul, we emphasize the importance of further studies to find and monitor the remaining populations of *L. labyrinthicus* in the region, as well as to investigate the effect of hunting on the populations. These studies are essential to evaluate the species conservation status in the state of Rio Grande do Sul, Brazil.

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Literature cited

- Ab'Saber, A. N. 1977. Os domínios morfoclimáticos na América do Sul. Primeira aproximação. *Geomorfologia* 52: 1-23.
- Álvares, B. B., R. H. Aguirre, J. A. Céspedes, A. B. Hernando, and M. A. Tedesco. 2002. Atlas de anfibios y reptiles de las provincias de Corrientes, Chaco y Formosa (Argentina): anuros, cecílicos, saurios, anfisbénidos y serpientes. Corrientes. Universidad Nacional del Nordeste. 156 p.
- Braun, P. C. and C. A. S. Braun. 1987. Observações sobre o comportamento da rã *Leptodactylus labyrinthicus* (Spix 1824) em cativeiro (Anura: Leptodactylidae). *Comunicações do Museu de Ciências da PUCRS* 45: 167-172.
- Cei, J. M. 1980. Amphibians of Argentina. *Italian Journal of Zoology, Monografia* 2: 1-609.
- Garcia, P. C. de A. and G. Vinciprova. 2003. Anfíbios. Pp. 147-164. In C. S. Fontana, G. A. Bencke and R. E. Reis (eds.), *Livro vermelho da fauna ameaçada de extinção no Rio Grande do Sul*. Porto Alegre. EDIPUCRS.
- Heyer, W. R. 1979. Systematics of the *pentadactylus* species group of the frog genus *Leptodactylus* (Amphibia: Leptodactylidae). *Smithsonian Contributions to Zoology* 301: 1-43.
- Heyer, W. R. 2005. Variation and taxonomic clarification of the large species of the *Leptodactylus pentadactylus* species group (Amphibia: Leptodactylidae) from Middle America, northern South America, and Amazonia. *Arquivos de Zoologia* 37(3): 269-348.
- Lutz, A. 1930. Segunda memória sobre espécies brasileiras de gênero *Leptodactylus*, incluindo outras aliadas. *Memórias do Instituto Oswaldo Cruz* 23(1): 1-20.
- Péfaur, J. E. and N. Sierra. 1995. Status of *Leptodactylus labyrinthicus* (Call Frog, Rana Ternero) in Venezuela. *Herpetological Review* 26(3): 124-127.
- Zina, J. and C. F. B. Haddad. 2005. Reproductive activity and vocalizations of *Leptodactylus labyrinthicus* (Anura: Leptodactylidae) in southeastern Brazil. *Biota Neotropica* 5(2): <http://www.biotaneotropica.org.br/v5n2/pt/abstract?article+BN00605022005>

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