

## New records and distribution of *Aplastodiscus arildae* (Cruz & Peixoto, 1985) (Amphibia, Anura, Hylidae) in the southeast of Brazil

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The former *Hyla albofrenata* group (Cruz and Peixoto, “1985” 1987), currently included by Faivovich et al. (2005) in the genus *Aplastodiscus* Lutz in Lutz 1950, is composed of six species: *Aplastodiscus albofrenatus* (A. Lutz, 1942); *Aplastodiscus arildae* (Cruz and Peixoto, “1985” 1987), *Aplastodiscus ehrhardti* (Müller, 1924); *Aplastodiscus musicus* (B. Lutz, 1948); *Aplastodiscus weygoldti* (Cruz and Peixoto, “1985” 1987) (Faivovich et al., 2005; Frost, 2010).

Regarding *Aplastodiscus arildae*, according to Cruz et al. (2004), the species is classified as “Least Concern”, due to its presumed large population, wide distribution, and because it is unlikely to be declining fast enough to qualify for a more threatened category. Furthermore, the authors stated that more research into the species’ extent of occurrence is necessary.

*Aplastodiscus arildae* is known from Serra do Mar and Serra da Mantiqueira through the states of São Paulo, Rio de Janeiro, and Minas Gerais in southeastern Brazil. Elevation varied from 800 m to 1500 m above sea level (Cruz and Peixoto, 1985). This report is the first to explore the population of *A. arildae* in the State of Espírito Santo.

We carried out field expeditions from May to December

2009 at Parque Estadual do Forno Grande, municipality of Castelo (PEFG; 730 ha; 20°31’6.67”S, 41°5’9.52”W; 1128 to 2039 m a.s.l.) and Parque Estadual de Pedra Azul, municipality of Domingos Martins (PEPA; 1,240ha; 20°23’59.27”S, 41°1’24.37”W; 1200 to 1910 m a.s.l.), both located in the state of Espírito Santo, southeastern Brazil. These natural reserves are covered by different types of vegetation inserted in the Atlantic Rainforest domain (Ab’Saber, 1977). Both reserves are located at the highland portion of Espírito Santo, where average annual rainfall is 1200 mm, and the temperature ranged from 7.3 to 27.8°C (MRS Estudos Ambientais, 2000).

Additionally, we surveyed for specimens of *A. arildae* in the amphibian collection of the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ); Coleção Herpetológica Eugênio Izecksohn/UFRRJ (EI); Museu de Biologia Mello Leitão (MBML); Museu de Zoologia, Universidade Federal de Viçosa (MZUFV); Célio F.B. Haddad/UNESP-RC (CFBH). Vouchers are listed in Appendix 1.

During our studies we observed several specimens of *A. arildae* (Figure 1) calling perched on branches, leaves, or bromeliads as also found by Haddad and Sazima (1992), Carvalho Jr. et al. (2006), Zina and Haddad (2007a; 2007b; 2007c), Feio et al. (2008). The specimens were around two to three meters height along streams at both PEFG and PEPA. Several tadpoles were observed in natural dams in those streams (identified according to Leite et al., 2007), which indicates that this species has been breeding into these reserves. Voucher specimens from our sampling surveys are housed at the amphibian collection of the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ 64773-76).

Surveys in the herpetological collections provided several additional records. At the MBML belonging to municipality of Castelo an unique exemplar of *A. arildae* was found. The specimens housed at the MNRJ and EI

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**Figure 1.** Specimens of *Aplastodiscus arildae*. Note the yellow strip along the canthus rostralis overcoming the post-tympanic portion. Photos: (left) T. Silva-Soares, PEFG, October 2009; (right) Diogo Koski, PEFG, November 2009.

belong to some of the municipalities of Rio de Janeiro state: Itatiaia, Nova Friburgo, Resende, and Teresópolis. At the MNRJ there are also specimens from Serra do Caraça and the municipality of Lima Duarte, both in the state of Minas Gerais (MG). The CFBH amphibian collection houses a single specimen from Domingos Martins in the vicinity of PEPA. The MZUFV also houses several specimens of *A. arildae*; the majority collected through municipalities of MG.

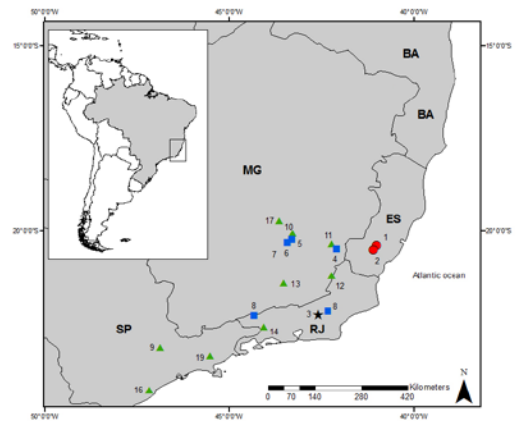
The new records—specimens collected by the authors—together with the available data of scientifically collections and literature: records from the municipalities of Itatiaia and Teresópolis were reported by Cruz and Peixoto (1985) in the species description; from Estação Ecológica da Boraceia by Heyer *et al.* (1990); from Parque das Mangabeiras by Carvalho Jr. *et al.* (2006); from Serra do Caraça by Canelas and Bertoluci (2007); from Serra do Japi by Zina and Haddad (2007a; 2007b); from Reserva Natural do Rio das Pedras by Carvalho-Silva *et al.* (2008); from Serra do Brigadeiro by Feio *et al.* (2008); from Parque Estadual do Ibitipoca by Cruz *et al.* (2009); from E.E. Juréia-Itatins by Narvaes *et al.* (2009); from High Muriaé River by Santana *et al.* (2010), provide an updated distribution map for *A. arildae* (Figure 2).

The new record at PEFG is ca. 290 km SW straight line from the type locality in the Teresópolis municipality (RJ). PEFG record is ca. 255 km NE from the northernmost record of the species, in Serra do Caraça (MG), and ca. 773 km SW from the southernmost record at Estação Ecológica Juréia-Itatins (SP). The distance between the northernmost and southernmost records is ca. 620 km.

In the state of Espírito Santo, the only species of the *albofrenatus* group reported to occur is *A. weygoldti* (Cruz and Peixoto, 1985; Orrico *et al.*, 2006). *Aplastodiscus*

*arildae* can be differentiated from the latter for its main distinguishing feature, a yellow or white line that goes along the canthus rostralis through the upper eyelid margin to the supra-tympanic fold (a post-orbital line; Figure 1); *A. weygoldti* lacks this character (Cruz and Peixoto, 1985).

Despite having its recorded altitudinal variation between 600 and 1500 m a.s.l. at the Reserva Natural



**Figure 2.** Distribution of *Aplastodiscus arildae*. Red circles – Records of the present work; Star – Type locality; Blue squares – Vouchers from scientific collection (\*municipality coordinates); Green triangles – Records from scientific literature. Localities: 1. PEPA, Domingos Martins, ES; 2. PEFG, Castelo, ES; 3. Teresópolis, RJ; 4. APA P.D., Pedra Dourada, MG; 5. Ouro Preto, MG\*; 6. Ouro Branco, MG\*; 7. Nova Friburgo, RJ\*; 8. Itatiaia, RJ; 9. Serra do Japi, Jundiá, SP; 10. Serra do Caraça, MG; 11. Serra do Brigadeiro, MG; 12. Muriaé, MG; 13. P.E. do Ibitipoca, MG; 14. ReRP, Mangaratiba, RJ; 15. Estação Ecológica da Boraceia, Salesópolis, SP; 16. E.E. Juréia-Itatins, SP; 17. Parque das Mangabeiras, Belo Horizonte, MG.

do Rio das Pedras (ReRP) (Cruz and Peixoto, 1985; Orrico et al., 2006), young individuals have been found ca. 60 m a.s.l. (Carvalho-e-Silva et al., 2008). However, according to the authors, the specimens were probably carried down through the river from higher altitudes by torrential rains. The specimens from PEFG were record at ca. 1300 m a.s.l., and at PEPA, the species was also observed at ca. 1000 m high. The treefrog *Aplastodiscus arildae* is more widely distributed than previously known, and expected to be found in further locations around the states of the southeast of Brazil.

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**Appendix 1.**

Voucher specimens of *Aplastodiscus arildae* – **MBML** 1623 – Parque Estadual do Forno Grande; **CFBH** – Entorno do Parque Estadual de Pedra Azul 10842.0; **E.I** – Itatiaia 913; Teresópolis 7535-37; **MZUFV** – APA Pedra Dourada 6696, 7360-62; Fazenda

Limoeiro, Almenara 4883; Muriaé 7925; Ouro Preto (Ajudinha de Minas) 6027-30; Parque Estadual de Pedra Azul 5219; Serra do Ouro Branco 7285-86, 7562, 7662; **MNRJ** – Domingos Martins 26147-49; Itatiaia 24997; 46362-65; Nova Friburgo 23387, 51867 53879, 60199; PEFG 64773-76; Resende 61051-55; Serra do Caraça 51004-06, 55006, 60479-80; Teresópolis 37440, 48629.