

# Amphibia, Anura, Brachycephalidae, *Ischnocnema verrucosa* Reinhardt and Lütken, 1862: Distribution extension to northeastern Brazil

Victor Goyannes Dill Orrico

Universidade Estadual Paulista, Instituto de Biociências, Laboratório de Herpetologia. Avenida 24 A, 1515, Bairro Bela Vista. CEP 13506-900. Rio Claro, SP, Brazil.  
E-mail: [victordill@gmail.com](mailto:victordill@gmail.com)

**ABSTRACT:** Herein I present a new geographical record of *Ischnocnema verrucosa* Reinhardt and Lütken, 1862 for northeastern Brazil and briefly discuss the new record with a previous record of similar characteristics.

Recently, the speciose genus *Eleutherodactylus* Duméril and Bibron, 1841 was subject to various large molecular phylogenetic analyses (Frost *et al.* 2006; Heinicke *et al.* 2007; Hedges *et al.* 2008), being split into several taxa. Among these, *Ischnocnema* Reinhardt and Lütken, 1862 was redefined to accommodate 30 species divided in five series. According to Hedges *et al.* (2008), the series of *Ischnocnema verrucosa* contains only *I. juipoca* (Sazima and Cardoso, 1978) and *I. verrucosa* Reinhardt and Lütken, 1862. Probably the most conspicuous characteristic distinguishing these from other species of *Ischnocnema* is the densely tuberculate dorsum. Species of this group have been reported only for southeastern and central Brazil in Atlantic rainforest and/or Cerrado domains (Nascimento *et al.* 2004; Bastos *et al.* 2008).

During field work in July, 12<sup>th</sup> of 2009 in Reserva Particular do Patrimônio Natural (RPPN) Serra Bonita (Serra Bonita Natural Patrimony Particular Reserve), municipality of Camacan, state of Bahia (ca. 15°23'30" S, 39°33'55" W, 850 m. a.s.l.), a single specimen of *I. verrucosa* (CFBH 23685) was collected (Figure 1). Collecting permit was granted by Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA (#12920-3).

According to Caramaschi and Canedo (2006), the species type locality ("Rio Mutum", municipality of Colatina, state of Espírito Santo) was the northernmost known record for *I. verrucosa*. Therefore, the record herein provided extends the known distribution of this species approximately 480 km north. *Bokermannohyla caramaschii* (Napoli, 2005), a hyloid, had its distribution extended recently for the same locality (Orrico and Solé 2008). Both species had their northernmost record in Santa Teresa, located in the state of Espírito Santo, and were recorded for RPPN Serra Bonita. Therefore, it would be no surprise if more species are found to be common to both areas (for a list of Santa Teresa's species see Rödder *et al.* 2007).

A possible explanation to this distribution pattern with a large gap in northern portion of the state of Espírito



**FIGURE 1.** *Ischnocnema verrucosa* (CFBH 23685) from Serra Bonita Natural Patrimony Particular Reserve, municipality of Camacan, state of Bahia, Brazil.



**FIGURE 2.** Hill top of Serra Bonita Natural Patrimony Particular Reserve, municipality of Camacan, state of Bahia, Brazil.

Santo is that while lowland forest was replaced by cacao plantations in southern Bahia (Napoli and Pimenta 2003; Canedo *et al.* 2004; Pimenta *et al.* 2005), the highland forests of Camacan are constituted mainly by highly regenerated secondary forests with primary areas similar to the ones found in Reserva Santa Lúcia in Santa Teresa and surroundings (Rödder *et al.* 2007) (Figure 2).

However, relationships between the anuran composition of Santa Teresa and areas in southern Bahia were not found to be as strong as with more southern areas (Rödder *et al.* 2007). The list elaborated by Rödder *et al.* (2007) contains a number of species with no conclusive assignation. Maybe, under the light of a better taxonomic scenario the relationships between those areas must be revised.

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#### LITERATURE CITED

- Bastos, R., G. Colli, D. Silvano and A.A. Giarretta. 2008. *Ischnocnema juipoca*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.1. Version. Electronic database accessible at: <www.globalamphibians.org>. Captured on: Downloaded on 24 August 2009.
- Canedo, C., M. Dixo and J.P. Pombal, Jr. 2004. A new species of *Chiasmocleis* Méhely, 1904 (Anura, Microhylidae) from the atlantic rainforest of Bahia, Brazil. *Herpetologica* 60 (4):495–501.
- Caramaschi, U. and C. Canedo. 2006. Reassessment of the taxonomic status of the genera *Ischnocnema* Reinhardt and Lütken, 1862 and *Oreobates* Jiménez-de-la-Espada, 1872, with notes on the synonymy of *Leiuperus verrucosus* Reinhardt and Lütken, 1862 (Anura: Leptodactylidae) *Zootaxa* 1116: 43–54.
- Frost, D.R., T. Grant, J. Faivovich, R. Bain, A. Haas, C.F.B. Haddad, R.O. de Sá, A. Channing, M. Wilkinson, S.C. Donnellan, C.J. Raxworthy, J.A. Campbell, B.L. Blotto, P. Moler, R.C. Drewes, R.A. Nussbaum, J.D. Lynch, D. Green and W.C. Wheeler. 2006. The amphibian tree of life. *Bulletin of the American Museum of Natural History* 297: 1-370.
- Hedges, S., W.E. Duellman and M.P. Heinicke. 2008. New World direct-developing frogs (Anura: Terrarana): Molecular phylogeny, classification, biogeography, and conservation. *Zootaxa* 1737: 1-182.
- Heinicke, M.P., W.E. Duellman and S.B. Hedges. 2007. Major Caribbean and Central American frog faunas originated by ancient oceanic dispersal. *Proceedings of the National Academy of Sciences of the United States of America* 104 (24): 10092–10097.
- Napoli, M. F. and B.V.S. Pimenta. 2003. Nova espécie do grupo de *Hyla circumdata* (Cope, 1870) do sul da Bahia, Brasil (Amphibia, Anura, Hylidae). *Arquivos do Museu Nacional - Nova Série, Zoologia* 61 (3): 189-194.
- Nascimento, L.B., R. Bastos and D. Silvano. 2004. *Ischnocnema verrucosa*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.1. Version. Electronic database accessible at: <www.globalamphibians.org>. Captured on: Downloaded on 24 August 2009.
- Orrico, V.G.D. and M. Solé. 2008. *Bokermannohyla caramaschii* - range extension. *Herpetological Review* 39 (3): 361-362.
- Pimenta, B.V.S., C.A.G. Cruz and D.L. Silvano. 2005. A new species of the genus *Physalaemus* Fitzinger, 1826 (Anura, Leptodactylidae) from the Atlantic Rain Forest of southern Bahia, Brazil. *Amphibia-Reptilia* 26: 201-210.
- Rödder, D., R.D. Teixeira, R.B. Ferreira, R.B. Dantas, W. Pertel and G.J. Guarneiri. 2007. Anuran hotspots: the municipality of Santa Teresa, Espírito Santo, southeastern Brazil. *Salamandra* 43 (2): 91-110.

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