

NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Anura, Brachycephalidae, *Brachycephalus hermogenesi*: Filling gap and geographic distribution map.

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Brachycephalus hermogenesi (Giaretta and Sawaya 1998) is a minute leaf-litter frog described from coastal and montane localities (0-700 m) in Picinguaba (23°22' S, 44°50' W), Fazenda Capricórnio, and Corcovado localities, municipality of Ubatuba, state of São Paulo, but it is also known to occur in the municipality of Paraty (23°13' S, 44°43' W), state of Rio de Janeiro, southeastern Brazil (Giaretta and Sawaya 1998). These are adjacent localities only ca. 20 airline km distant from each other. Dixó and Verdade (2006) later recorded the species at the Reserva Florestal Morro Grande (23°39' to 23°48' S, 47°01' to 46°55' W; coordinates taken from Metzger et al. 2006), a protected area in the municipality of Cotia, state of São Paulo, ca. 215 km SW-W from Picinguaba. They also stated that other records of *B. hermogenesi* were made for the highlands of the state of São Paulo, but no additional data were presented for these other localities.

The Global Amphibian Assessment (GAA) categorizes the species as Vulnerable (VU), due to "extent of occurrence estimated to be less than 20000 km², severely fragmented or known to exist at no more than 10 locations, and continuing decline, observed, inferred or projected, in the area extent and/or quality of habitat" (IUCN et al. 2006). The inclusion of *B. hermogenesi* in the GAA list was made after a "consistency check" performed by non-specialists, which did not respect the opinion of Brazilian herpetologists of categorizing the species as "Least Concern" (LC;

for a discussion about the disagreement between the GAA coordinators and Brazilian specialists, see Pimenta et al. 2005). Brazilian specialists considered the facts that the species is abundant in the localities where it was known to occur and that it probably had a wider range given the existence of similar habitats along the southern coast of Rio de Janeiro and the northern coast of São Paulo. Moreover, the short time passed since species' description hindered a safe evaluation of its geographic range.

Recently, specimens of *B. hermogenesi* entered the collection of Museu Nacional, Rio de Janeiro (MNRJ). Specimens' identification was made after comparison with paratopotypes of *B. hermogenesi* (MNRJ 18662-18663; Parque Estadual da Serra do Mar, Núcleo Picinguaba, municipality of Ubatuba, state of São Paulo, Brazil). Three specimens of *B. hermogenesi* (MNRJ 47932-47934) were accidentally collected when researchers were searching for arthropods by sweeping leaf-litter at the Estação Biológica de Boracéia, municipality of Salesópolis, state of São Paulo. The specimens were detached from superficial leaf-litter collected near a large fallen trunk (23°39'11" S, 45°53'21" W; ca. 900 m), on a trail lining the left bank of the main local tributary of the Claro River, not far from the visitors/researchers' lodges. The area is completely covered by moist riparian vegetation of modified and/or secondary Atlantic Forest, more than 60 years without deforestation in the reserve (Travassos-Filho and Camargo 1958).

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Boracéia is one of the most sampled sites for anurans in the Brazilian Atlantic Forest. Studies with frogs at Boracéia began in the 1940's and many field activities were conducted there in the following decades (Heyer et al. 1990; Bertoluci and Heyer 1995). Boracéia is located at ca. 110 airline km from Picinguaba and ca. 105 km from Cotia, in the middle of the known species range (Figure 1), and is noteworthy because it is a new record on a long-term sampled site. It is a very important site for Brazilian Herpetology, since it was the first locality where fluctuations and declines of anurans populations were detected in Brazil (Heyer et al. 1988; for the most recent published update see Bertoluci and Heyer 1995), based on a comparison between data collected in the 1940's-1970's and the 1980's.

The many available records in field notes and museums of specimens from Boracéia made Heyer

et al. (1988) consider this long-term data set robust enough for an evaluation of frog populations' trends. The discovery of *Brachycephalus hermogenesi* in Boracéia shows that new records of Brazilian frogs may occur even on well sampled places.

As noted by Pimenta et al. (2005), the current unsatisfactory knowledge on geographic range and taxonomy of Brazilian amphibians do not allow correct evaluations of the conservation status of many of them. Although the categorization made by the GAA may still apply to *Brachycephalus hermogenesi* if the IUCN Red List criteria are strictly followed (mainly those concerning geographic range thresholds), we consider that this species can not be categorized as threatened, since it occurs in protected areas and data on its geographic range is still being improved.

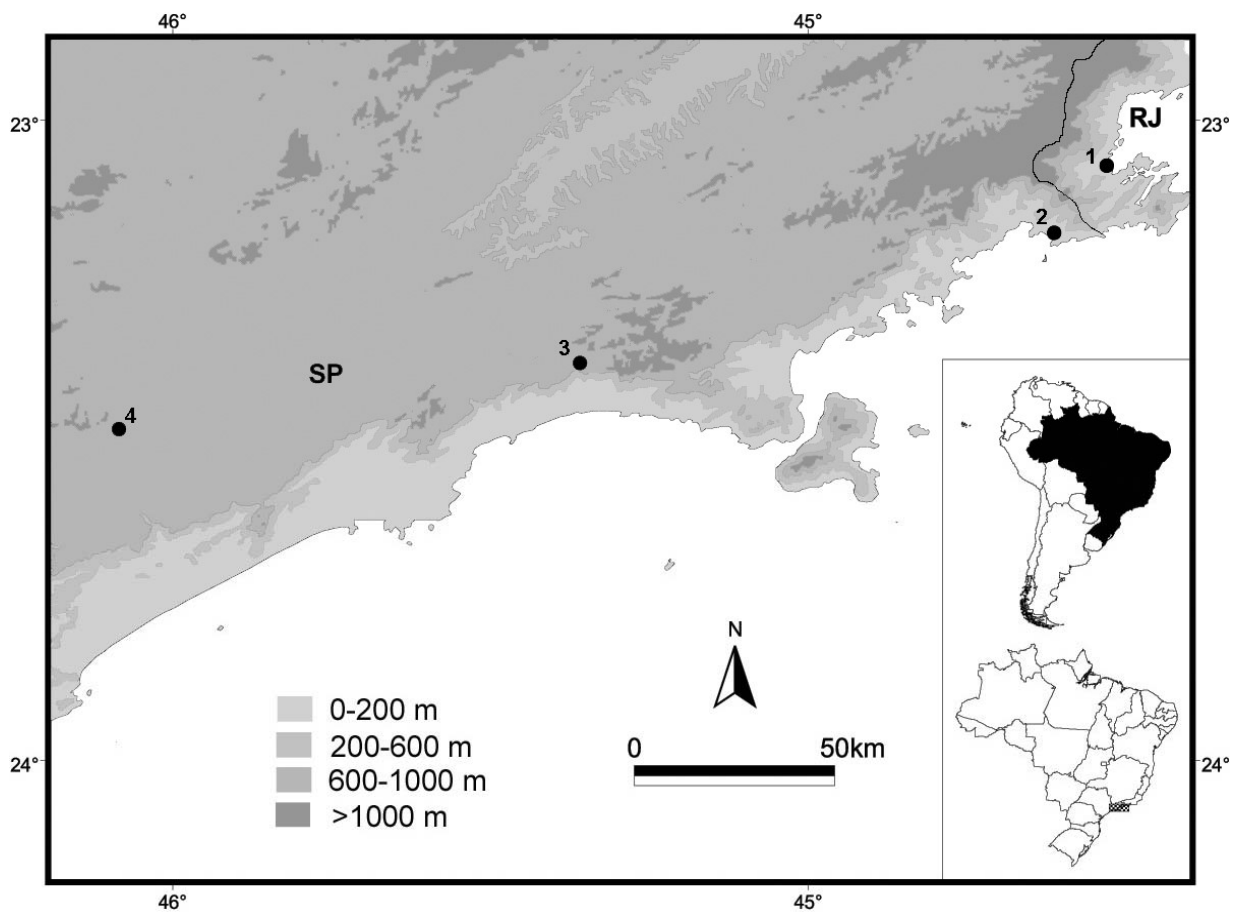


Figure 1. Known distribution of *Brachycephalus hermogenesi*. RJ, state of Rio de Janeiro; SP, state of São Paulo, Brazil. Dots represents localities cited in the text: 1, municipality of Paraty; 2, Picinguaba, municipality of Ubatuba; 3, Boracéia, municipality of Salesópolis; and Reserva Florestal Morro Grande, municipality of Cotia.

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Literature cited

- Bertoluci, J. and W. R. Heyer. 1995. Boracéia Update. *Froglog* 14: 2-3.
- Dixo, M. and V. K. Verdade. 2006. Herpetofauna de serrapilheira da Reserva Florestal de Morro Grande, Cotia (SP). *Biota Neotropica* 6. Electronic database accessible at <http://www.biotaneotropica.org.br/v6n2/pt/abstract?article+bn00806022006>. Captured on June 2007.
- Frost, D. R. 2007. Amphibian Species of the World: an online reference. Version 5.0. Electronic database accessible at <http://research.amnh.org/herpetology/amphibia/index.html>. American Museum of Natural History, New York, USA. Captured on June 2007.
- Giaretta, A. A. and R. J. Sawaya. 1998. Second species of *Psyllophryne* (Anura: Brachycephalidae). *Copeia* 1998: 985-987.
- Heyer, W. R., A. S. Rand, C. A. G. Cruz, and O. L. Peixoto. 1988. Decimations, extinctions, and colonizations of frog populations in Southeast Brazil and their evolutionary implications. *Biotropica* 20: 230-235.
- Heyer, W. R., A. S. Rand, C. A. G. Cruz, O. L. Peixoto, and C. E. Nelson. 1990. Frogs of Boracéia. *Arquivos de Zoologia* 31: 231-410.
- IUCN, Conservation International, and NatureServe. 2006. Global Amphibian Assessment, GAA. Electronic database accessible at <http://www.globalamphibians.org>. Captured on June 2007.
- Metzger, J. P., L. F. Alves, W. Goulart, A. M. G. Teixeira, S. J. C. Simões, and E. L. Catharino. Uma área de relevante interesse biológico, porém pouco conhecida: a Reserva Florestal do Morro Grande. *Biota Neotropica* 6. Electronic database accessible at <http://www.biotaneotropica.org.br/v6n2/pt/abstract?article+bn00206022006>.
- Pimenta, B., C. F. B. Haddad, L. B. Nascimento, C. A. G. Cruz, and J. P. Pombal Jr. 2005. Comment on "status and trends of amphibian declines and extinctions worldwide". *Science* 309: 1999. Electronic database accessible at <http://www.sciencemag.org/cgi/content/full/309/5743/1999b>.
- Travassos-Filho, L. and H. F. A. Camargo. 1958. A estação biológica de Boracéia. *Arquivos de Zoologia* 11: 1-21.

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