

## Correspondence

### New record of *Corallus cropanii* (Boidae, Boinae): a rare snake from the Vale do Ribeira, State of São Paulo, Brazil

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The boid genus *Corallus* DAUDIN, 1803 is comprised of nine Neotropical species (HENDERSON et al. 2009): *Corallus annulatus* (COPE, 1876), *Corallus batesii* (GRAY, 1860), *Corallus blomeri* (RENDahl & VESTERGREN, 1941), *Corallus caninus* (LINNAEUS, 1758), *Corallus cookii* GRAY, 1842, *Corallus cropanii* (HOGE, 1954), *Corallus grenadensis* (BARBOUR, 1914), *Corallus hortulanus* (LINNAEUS, 1758), and *Corallus ruschenbergerii* (COPE, 1876). The most conspicuous morphological attributes of representatives of these species are the laterally compressed body, robust head, slim neck, and the presence of deep pits in some of the labial scales (HENDERSON 1993a, 1997). Species of *Corallus* are distributed from northern Central American to southern Brazil, including Trinidad and Tobago and islands of the south Caribbean. Four species occur in Brazil: *Corallus batesii*, *C. caninus*, *C. cropanii*, and *C. hortulanus*.

HOGE (1954) originally described *Corallus cropanii* as *Xenoboa cropanii* based on a single specimen (adult male, IBSP 15.200, snout–vent length (SVL) = 1080 mm; tail length (TL) = 195 mm; head length (HL) = 60.6 mm; Figure 1) from Miracatu, Vale do Ribeira, State of São Paulo, Brazil (24°17' S, 47°28' W, 51 m elevation) (Figure 2). Unfortunately, this holotype was probably lost in the recent fire in the herpetological collection of Institute Butantan (KUMAR 2010) on March 15<sup>th</sup>, 2010. Based on osteological characters, KLUGE (1991) regarded *Xenoboa* as a junior synonym of *Corallus*, and *C. cropanii* as a sister species of *C. caninus*. According to the literature, this species is viviparous, semi-arboreal, and preys upon small mammals, similar to other members of the genus (HENDERSON 1993b, MARQUES & CAVALHEIRO 1998, MARQUES et al. 2004). *Corallus cropanii* shows *in vivo* an olive-beige dorsal coloration, with dark brown rhomboidal spots that appear from the neck as far as the tail (HOGE 1954). The ventral shields are yellow with the borders being stained with dark brown; these stains progressively become larger, darkening the abdomen, towards the tail.

Until recently, only four specimens (including the above mentioned holotype) of *C. cropanii* were deposited in herpetological collections: three in the Coleção Herpetológica “Alphonse Richard Hoge”, Instituto Butantan, São Paulo,



Figure 1. Holotype of *Corallus cropanii* (adult, male, IBSP 15.200) from the Miracatu municipality, State of São Paulo, Brazil. Photo: ALPHONSE R. HOGE.

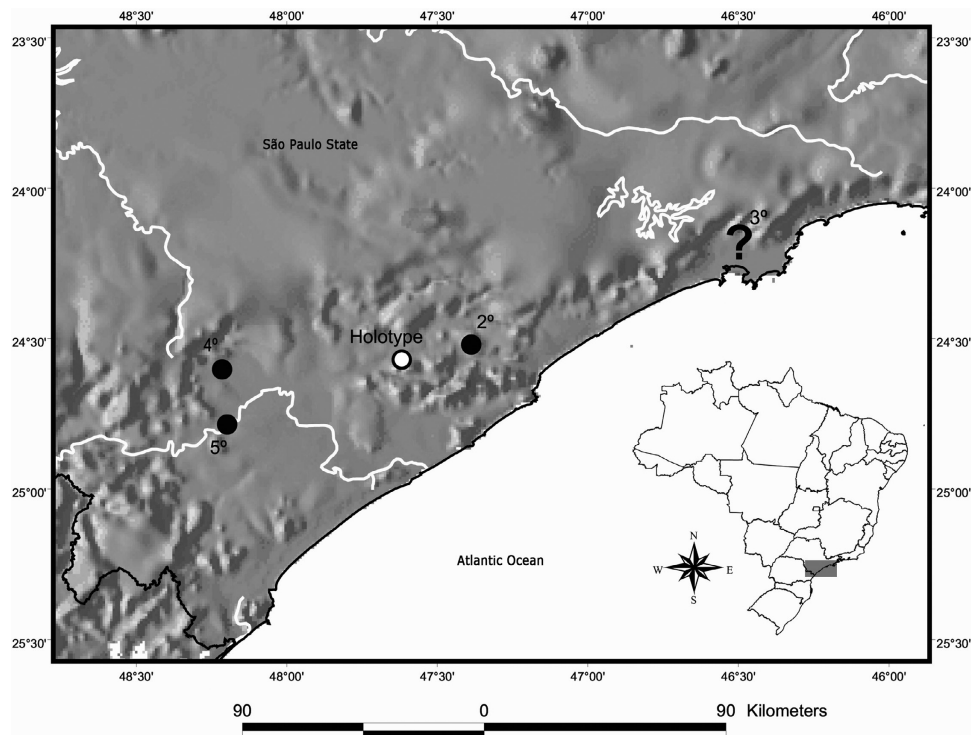


Figure 2. All known records of *Corallus cropanii* – Holotype: Miracatu; 2nd specimen: Pedro de Toledo, Padre Anchieta railway station; 3rd specimen: Santos railway station (doubtful locality); 4th specimen: Eldorado, Aboboral district; and 5th specimen: Sete Barras, Guapiruvu district.

Brazil (IBSP), and one in the American Museum of Natural History, New York, United States of America (AMNH).

All specimens of *Corallus cropanii* in both collections are from the Atlantic Forest domain, a bioma that has by now been reduced to just 7% of its original expanse, and its remnants are very fragmented. Nevertheless, it still accommodates a high degree of biodiversity and is considered a conservation hotspot (GALINDO-LEAL & CÂMARA 2005). The Ribeira de Iguape River basin and the Estuary Complex Lagoon of Iguape, Cananéia and Paranaguá, also known as Vale do Ribeira, has an area of 28.306 km<sup>2</sup> covered by well-preserved Atlantic Forest (EPM 2010) (Figure 2).

The second known specimen (adult male, AMNH 92997, ex IBSP 19663, SVL = 1348 mm; TL = 202 mm; HL = 62 mm; Figure 3) came from Padre Anchieta Railway Station (24°14' S, 47°14' W, 57 m elevation) (Figure 2), Pedro de Toledo municipality, State of São Paulo. A doubtful collection locality is attributed to the third specimen (adult male, IBSP 41.510, SVL = 1177 mm; TL = 184 mm; HL = 57.3 mm; Figure 4), received from the Santos railway station (Figure 2) in the state of São Paulo. Due to its being a central economic covered hub of importance, Santos City used to receive a lot of snakes from the southern coast of São Paulo, including the Vale do Ribeira, and sent them on as parcels to IBSP via the railway. Given that all other specimens were from Vale do Ribeira, it is more likely this specimen was originally from that area and only shipped from Santos. This specimen was saved from the fire and is still in the IBSP collection.

After thirty years without records of this species, a fourth specimen (head, tail and body's skin – adult female,



Figure 3. Second specimen of *Corallus cropanii* (AMNH 92997, ex IBSP 19.663) from the Padre Anchieta Railway Station, Pedro de Toledo municipality, State of São Paulo, Brazil. Photo: LÍGIA PIZZATTO.



Figure 4. Third specimen of *Corallus cropanii* (adult, male IBSP 41.510) allegedly from the Santos railway station, State of São Paulo, Brazil (doubtful locality).

IBSP 68.958, SVL = 1510 mm; TL = 212 mm; HL = 65.4 mm; Figure 4) (MARQUES et al. 2004) was found on 12 May 2003 in the Eldorado municipality, Aboboral district (24°30' S, 48°03' W, 59 m elevation, Figure 2), at the base of a mountain ridge called Serra do Aboboral, near the Ribeira de Iguape River. The snake was crossing an unpaved road between a preserved forest area and a banana plantation, at





Figure 5. Fourth specimen of *Corallus cropanii* (IBSP 68.958) from the Eldorado municipality, Aboboral district, State of São Paulo, Brazil. Photo: OTÁVIO A.V. MARQUES.



Figure 6. Fifth specimen of *Corallus cropanii* from Guapiruvu, a district of Sete Barras, State of São Paulo, Brazil. Photo: GILBERTO OTTA.

09 30 h. Unfortunately, this specimen was also lost in the fire, although the skull is still preserved.

In January 2009, ca. 18:00 h, a fifth specimen of *Corallus cropanii* was killed by farm workers, but fortunately recorded by them with a photograph (Figure 6). This adult snake (ca. 1 m in total length and of indeterminate gender) is from Guapiruvu (approximately 24°19' S, 48°04' W, 52 m, Figure 2), a district of Sete Barras, close to the Eldorado municipality, located in Eta River basin, a tributary of the middle portion of the Ribeira de Iguape River. The snake was crossing an unpaved road near a small unnamed stream, close to a forest reserve and cultivated fields (banana-nanica *Musa cavendishii* (LAMBERT ex PAXTON, 1836), papaya *Carica papaya* (LINNAEUS, 1753), and juçara palm tree *Euterpe edulis* (MARTIUS, 1824)). These crops grow under the forest canopy (cabruca). This system is apparently not so hard on the environment, since cultivation is done among existing native trees and preserves the canopy. The same system is also used in cocoa plantations in southern Bahia (northeastern Brazil), where diversity is apparently not affected (ARGÔLO 2004).

Today, *Corallus cropanii* is included in the Red List of the State of São Paulo (SMA 2010) and regarded as endangered, according to the International Union for Conservation of Nature (IUCN 2010, MMA 2010). The rarity of this species, the rapidly advancing deforestation of the Brazilian Atlantic Forest, and the fire tragedy that destroyed about 80% of snake specimens, including two *C. cropanii*, housed in one of the largest snake collections in the world (with more than 80,000 specimens), made explicit the need of this scientific publication reviewing all the data and knowledge available for this species. Not surprisingly, this threatened species inhabits the most representative preserved area of Atlantic Forest in southeastern Brazil, and we strongly recommend that efforts to preserve and interconnect the remaining natural areas of the Vale do Ribeira be stepped up.

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#### References

- ARGÔLO, A. J. S. (2004): As serpentes dos cacauais do sudeste da Bahia. – Ilhéus: Editus. 259 pp.
- EPM (2010): Elaboração de planos de manejo espeleológico dos Parques Estaduais Intervalles, turísticos do Alto Ribeira e Mosaico de Ucs de Jacupiranga. – <http://www.ekosbrasil.org/cavernas/default.asp?siteAcao=mostraPagina&paginaId=21>, 14 October 2010.
- GALINDO-LEAL, C. & I. G. CÂMARA (2005): Status do hotspot Mata Atlântica: uma síntese. 3–11 in GALINDO-LEAL, C. & I. G. CÂMARA (eds.): Mata Atlântica Biodiversidade, ameaças e perspectivas. – Belo Horizonte: Fundação SOS Mata Atlântica/ São Paulo: Conservação Internacional: 3–11.
- HENDERSON, R. W. (1993): *Corallus*. – Catalogue of American Amphibians and Reptiles. – Reptilia, 572.1–572.2.
- HENDERSON, R. W. & G. PUERTO (1993): *Corallus cropanii*. – Catalogue of American Amphibians and Reptiles. – Reptilia, 575.1–575.2.
- HENDERSON, R. W. (1997): A taxonomic review of the *Corallus hortulanus* complex of Neotropical tree boas. – Caribbean Journal of Science, 33: 198–221.
- HENDERSON, R. W., P. PASSOS & D. FEITOSA (2009): Geographic variation in the Emerald Treeboa, *Corallus caninus* (Squamata: Boidae). – Copeia, 2009: 572–582.
- HOGE, A. R. (1954 “1953”): A new genus and species of Boinae from Brazil. *Xenoboa cropanii*, gen. nov., sp. nov. – São Paulo, Memórias do Instituto Butantan, 25: 27–34.

- KLUGE, A. G. (1991): Boine snake phylogeny and research cycles.  
– *Miscellaneous Publications Museum of Zoology*, **178**: 1–58.
- KUMAR, A. (2010): A tragic loss: fire at Instituto Butantan, Brazil.  
– *Toxicon*, **56**: 1528–1529.
- MARQUES, O. A. V. & J. CAVALHEIRO (1998): *Corallus cropanii* (NCN). Habitat and diet. – *Herpetological Review*, **29**: 170.
- MARQUES, O. A. V., A. ETEROVIC & I. SAZIMA (2004): Snakes of the Brazilian Atlantic Forest – An illustrated field guide of the Serra do Mar range. – Ribeirão Preto, Holos. 205 pp.
- MMA (2010): Ministérios do Meio Ambiente. – <http://www.mma.gov.br/sitio/>, 14 October 2010.
- SMA (2010): Secretaria do Meio Ambiente do Estado de São Paulo. – <http://www.ambiente.sp.gov.br/>, 14 October 2010.