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A new species of *Allobates* (Anura: Aromobatidae) from the Tapajós River basin, Pará State, Brazil

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Abstract

We describe a new species of *Allobates* from the south of eastern Amazonia, Brazil. This species inhabits fluvial springs and the banks of small streams in *terra-firme* forests along the Tapajós River basin. Average snout-to-vent length is 17.78 mm (range 16.09–19.59 mm) among males and 19.50 mm (range 17.97–20.84 mm) among females. Surface of dorsum is marked by a distinct dark color pattern, with three convex areas, triangle and diamond-shaped. The species has a diffuse pale dorsolateral line (absent in some specimens), while the oblique lateral bar is defined. Dark-brown transversal stripes are present on femoral and tibial dorsal surfaces, which align with each other in live specimens when at rest. Tadpoles have short papillae on anterior (8–10 papillae on each side) and posterior labium (>30 papillae). Posterior labium is projected to the front, hiding posterior tooth rows. Eggs are deposited in nests on rolled or cranked dead leaves on the forest floor. Egg membranes and jelly-nests are transparent. Advertisement calls are mainly characterized by the continuous emission of single notes that might shift sporadically to note-pairs, emitted during short periods. Notes are split by regular silent intervals, with peak frequency ranging between 4273–4867 Hz.

Key words: Amazon, *Allobates brunneus*, *Allobates flaviventris*, Aromobatidae, bioacoustics, cryptic diversity, Dendrobatidae, mtDNA

Resumo

Descrevemos uma nova espécie de *Allobates* do sul da Amazônia oriental, Brasil. Esta espécie habita nascentes e margens de pequenos riachos em florestas de terra-firme na bacia do rio Tapajós. O comprimento rostro-uróstilo médio de machos é de 17.78 mm (amplitude 16.09–19.59 mm) e das fêmeas, 19.50 mm (amplitude 17.97–20.84 mm). A espécie possui a superfície do dorso marcada por um desenho escuro distinto, com três áreas convexas com formato de triângulos e diamantes. A espécie possui uma linha dorsolateral clara difusa (ausente em alguns espécimes), enquanto a faixa lateral oblíqua é definida. Faixas transversais marrons escuras aparecem nas superfícies dorsais das regiões femoral e tibial, alinhando-se em espécimes vivos em posição de repouso. Os girinos possuem papilas curtas no lábio anterior (8–10 papilas em cada lado) e posterior (> 30 papilas). O lábio posterior é projetado para a frente, escondendo as três fileiras posteriores de dentes. Os ovos são depositados em ninhos sobre folhas dobradas ou enroladas no chão da floresta. As membranas dos ovos e a gelatina que constitui os ninhos são transparentes. Suas vocalizações são caracterizadas principalmente pela emissão contínua de notas simples, que podem alternar-se esporadicamente e por períodos curtos com pares de notas. As notas são separadas por intervalos silenciosos regulares, com frequência de pico variando entre 4273–4867 Hz.

Palavras-chave: Amazônia, *Allobates brunneus*, *Allobates flaviventris*, Aromobatidae, bioacústica, diversidade críptica, Dendrobatidae, DNAm

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APPENDIX I. Specimens examined.

Allobates brunneus. Brazil: Mato Grosso: NE of Chapada dos Guimarães. Females, INPA-H 10111, 10114, 10116–19, 10121, 10123, 10125, 10127–29, 10131, 10133, 10140, 10143–44, 10146. Males, INPA-H 10112–13, 10115, 10120, 10122, 10124, 10126, 10130, 10132, 10134–39, 10141–42, 10145, 10147–48. Tadpoles, INPA-H 10025–10027, 10029–10030, 10032–10037, 10039, 10041, 10043, and 10044.

Allobates caeruleodactylus. Brazil: Amazonas: Km 12 on the road to Autazes. INPA-H 7238, Holotype, male. Females, INPA-H 7236–37, OMNH 35841, 35844. Males, INPA-H 7229–32, 7234–35, OMNH 35837–40, 35842–43. Tadpoles, INPA-H 8037–42, 8042–46, INPA-H 8085.

Allobates grillisimilis. Brazil: Amazonas: Borba. INPA-H 30779–30808. Brazil: Amazonas: Nova Olinda do Norte. INPA-H 30809–30823.

Allobates hodli. Brazil: Rondônia: Cachoeira do Jirau. INPA-H 16541–16569. Brazil: Rondônia: Near Fortaleza do Abunã. INPA-H 16578, 16584–16587, 16589, 16591–16592, 16597, 16602–16603, 16605–16607, 16611–16614, 16620–16624, 16626, 16628, 16631, 16633, 16636–16637, 16639–16641, 16643, 16645–16646, 16648. Brazil: Rondônia: Near Mutum-Paraná. INPA-H 16596, 16730, 16739, 16756, 16758, 16767, 16771, 16777–16778, 16788, 16805, 16818–16819. Brazil: Acre: Fazenda Experimental Catuaba. INPA-H 11621–11640.

Allobates marchesianus. Brazil: Amazonas: Missão Taracuá. Females, INPA-H 7959, 7963, 7972, 7980–90. Males, INPA-H 7960–62, 7964–71, 7973–79, Tadpoles, INPA-H 7943–46, 7947–50, 7992, 7998, 8084. São Gabriel da Cachoeira, 175 km E Missão Taracuá. Females, INPA-H 7991, 8001–02, 8004. Males, INPA-H 7993, 8000, 8003, 8005–07).

Allobates nidicola. Brazil: Amazonas: Km 12 on road to Autazes. INPA-H 8093, Holotype, male. Females, INPA-H 8094, MPEG 13819–21, OMNH 37419–20, 37422. Males, INPA-H 7253–59, 7261–62, MPEG 13818, 13822–25, OMNH 37421, 37423–26. Tadpoles, INPA-H 8021–33, 8137–39.

Allobates paleovarzensis. Brazil: Amazonas: Careiro da Várzea. INPA-H 20904–20905, INPA-H 20876–20903. Females, INPA-H 20861–20875.

Allobates subfolionidificans. Brazil: Acre: Rio Branco: Parque Zoobotânico of the University of Acre. INPA-H 13760, Holotype, male. Females, INPA-H 11958, 11964, 11967–11969, 11971, 13752–13753, 13762. Males, INPA-H 11959–11963, 11965–66, 11970, 11972–11974, 13749–13751, 13754, 13756–13759, 13761.

Allobates vanzolinius. Brazil: Amazonas: Vai-Quem-Quer and Jaiú, Rio Juruá. INPA-H 4896, Holotype, male. Females, INPA-H 4905, 4912. Males, INPA-H 4903–4904, 3381, 3413.