



FIG. 1. Habitat in Oaxaca, Mexico, where the *Exerodonta sumichrasti* tadpole observations were made in June 2021.



FIG. 2. *Exerodonta sumichrasti* tadpole from Oaxaca, Mexico, exhibiting semiterrestrial behavior.

Mexico (Figs. 1, 2). The observations occurred near El Aguacate (16.70592°N, 96.25883°W; 16.70593°N, 96.26083°W; WGS 84; 1271–1299 m elev.), 4.22 km NNE of San Juan Guegoyachi. Original videos are accessioned at the Los Angeles County Museum of Natural History (LACM PC 3133–3139). A variety of terrestrial movements in multiple damp-to-dry contexts were observed. Some individuals were seen moving up against a thin film of water trickling down a textured rock wall; another individual was lying against a dry rock and used its mouth to slowly inch upward. Some tadpoles were not actively moving at all, but instead simply sat on a dry or damp rock. This inactivity lasted for at least several minutes in some cases, exposing the tadpoles to possible predators. Other tadpoles retreated to pools while LC-M was recording the activity. Individual tadpoles were also capable of moving vertically or horizontally on steeper than vertical rock faces. This behavior appeared to be unaffected whether the tadpoles were on the dry or wet surface of the rocks.

Semiterrestrial tadpole behavior is rare in anurans, having been documented in other species in the families Dic平glossidae (*Nannophrys* sp.), Ranidae (*Indirana* sp.), Bufonidae (*Sclerophrys perreti*), and Cycloramphidae (Sabbag et al. 2022. *Biol. J. Linn. Soc.* 136:92–110). One *E. sumichrasti* observation where a tadpole emerged from the water source in quick, short movements, was very similar to behavior previously documented in *Nannophrys* (Sabbag et al. 2022, *op. cit.*). *Exerodonta sumichrasti* can be added

to the list of frog tadpoles that exhibit semiterrestrial behavior, but it is unknown whether they share many traits found in other species that behave similarly (Dias et al. 2021. *J. Zool. Syst. Evol. Res.* 59:1297–1321) or if the behavior is as extreme as species known to spend most of their time out of water. All observations took place in seasonally dry forest in seasonal streams with intermittent pools of water formed during the onset of the rainy season (Fig. 1). The microhabitat was generally steep and rocky with waterfalls and trickles. We note that *E. sumichrasti* and several other species in the genus are broadly distributed in seasonally dry regions in Mexico where the ability to vacate drying pools in ephemeral streams might be beneficial. Further investigation is needed to confirm the extent of the behavior observed in this population in Oaxaca and, more broadly, in the genus *Exerodonta*.

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HADDADUS BINOTATUS (Clay Robber Frog). DEFENSIVE BEHAVIOR. *Haddadus binotatus* is a cragastorid frog endemic to the Atlantic Forest, distributed throughout coastal Brazil, ranging from the northeastern state of Bahia to the southern state of Rio Grande do Sul (Carvalho and Dias 2012. *Herpetol. Notes* 5:419–422). *Haddadus binotatus* has direct development, with eggs laid in terrestrial sites, and is found in the leaf litter mainly at dusk and at night (Canedo and Rickli 2006. *Herpetol. Rev.* 37:149–151; Rocha et al. 2007. *Trop. Zool.* 20:99–108). Several studies have focused on its ecological and taxonomic aspects (e.g., Moura et al. 2012. *Zootaxa* 3224:67–68; Rebouças et al. 2013. *North-West. J. Zool.* 9:293–299), and in recent years information has been published about its behavioral repertoire (Rojas-Padilla et al. 2019. *Herpetol. Rev.* 50:113–114; Souza et al. 2024. *Acta Ethol.* 27:135–139).

At 2115 h on 27 February 2015, we found a juvenile *H. binotatus* (23 mm SVL) on a trail between a fragment of Atlantic Forest and a eucalyptus plantation in the Reserva Particular do Patrimônio Natural (RPPN) Fazenda Macedônia, located



FIG. 1. Juvenile *Haddadus binotatus* performing legs interweaving behavior (A) and normal position (B) in the RPPN Fazenda Macedônia, Ipaba Municipality, Minas Gerais, Brazil.

on the right bank of the Rio Doce, Ipaba Municipality, Minas Gerais, Brazil (19.35971°S, 42.39593°W; WGS 84; 263 m elev.). The individual was temporarily collected and stored in a plastic bag containing moist leaves. The next day at 0900 h, when handled in the dorsolateral region for a photography session, the juvenile *H. binotatus* crouched, keeping its ventral region of the body glued to the substrate, stretched and intertwined its legs for ca. 7 s, and then returned to its normal position (Fig. 1).

The behavior performed by the *H. binotatus* is described as “legs interweaving” or “limbs interweave” and characterized by the interlacing of fore or hind limbs (Toledo et al. 2011. Ethol. Ecol. Evol. 23:1–25; Ferreira et al. 2019. Behav. Ecol. Sociobiol. 73:69), performed dorsally or ventrally (Ramos et al. 2021. Phyllomedusa 20:209–213; Mathiolo et al. 2022. Herpetol. Rev. 53:291), with legs intertwined over or away from the body (Souza et al. 2020. Herpetol. Notes 13:667–669; Mathiolo et al. 2022. Herpetol. Rev. 53:291). This behavior has been reported for some species, mostly hylids (e.g., Ferreira et al. 2019, *op. cit.*; Vieira et al. 2022. Herpetol. Rev. 53:110–111), and is related to the display of disruptive or aposematic color patterns, facilitating the spread of skin secretions, feigning injury to promote disinterest in the predator, providing camouflage by changing the general shape of the animal or hindering swallowing (Ferreira et al. 2019. *op. cit.*; Santiago et al. 2021. Herpetol. Notes 14:1151–1153; Campos and Silva-Soares 2023. Herpetol. Rev. 54:262–263).

Legs interweaving behavior has been recorded for *H. binotatus*; however, we found some differences from the previous record (Rojas-Padilla et al. 2019, *op. cit.*). Here we demonstrate for the first time a juvenile of this species displaying this defensive tactic. Additionally, in our observation, the juvenile *H. binotatus* kept its ventral body region glued to the substrate and its legs almost fully stretched during the legs interweaving behavior, unlike the previous record by Rojas-Padilla et al. (2019, *op. cit.*), where the adult kept its body partially elevated and its legs dorsally intertwined close to the body. Our observations reinforce that both juveniles and adults of *H. binotatus* exhibit legs interweaving behavior probably to provide camouflage or to hinder swallowing, and there may be variations in body and leg positions during the performance of this behavior.

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HYLA ARBOREA (European Treefrog. ABNORMAL COLORATION. *Hyla arborea* is a small hylid distributed from France through middle Europe, the Balkans, and Greece. In central Poland, the species range abuts that of *Hyla orientalis* (Dufresnes 2019. Amphibians of Europe, North Africa & the Middle East: a Photographic Guide. Bloomsbury Wildlife, London, UK. 224 pp.). Its dorsal coloration is usually a uniform bright green but may vary from yellow to blotchy dark brown. They are able to rapidly change their coloration. A dark stripe extends from the nares across the eyes, the tympanic membranes, and along the flanks to the groin. In the groin, it usually turns upwards. The stripe is flanked by a white line. *Hyla arborea* is most similar to *Hyla orientalis*. *Hyla meridionalis* and *Hyla sarda* have no upward branch of the dark stripe in the groin (Speybroeck et al. 2016.



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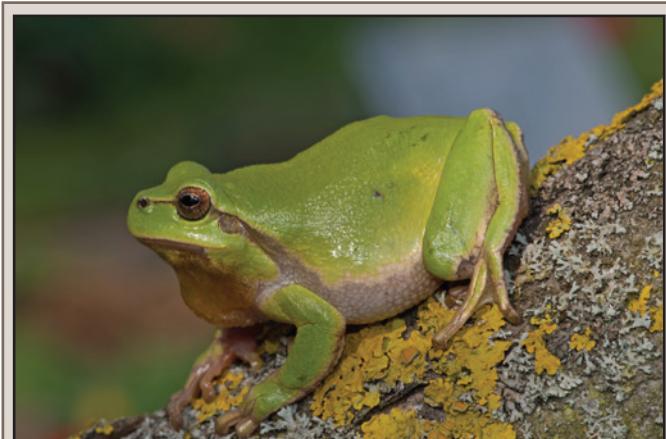


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FIG. 1. Habitat of the abnormal adult male *Hyla arborea* at the Dreba-Plotzner Teichgebiet Nature Conservation Area, Thuringia, Germany.

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FIG. 2. Adult male *Hyla arborea* with abnormal lateral stripe.FIG. 3. Groin of the adult male *Hyla arborea* with an abnormal lateral stripe.

Field Guide to the Amphibians & Reptiles of Britain and Europe. Bloomsbury Natural History, London, UK. 432 pp.).

Albinism, flavism, blue instead of a green dorsum, and melanism have been reported for *H. arborea* (e.g., Hinz 1976. Mitt. Zool. Ges. Braunschweig 2:231–232; Sauer 1978. Aquar. Mag. 12:4–6; Bitz and Schader 1996. In Bitz et al. [eds.], Die Amphibien und Reptilien in Rheinland-Pfalz, pp. 231–248. Landau (GNOR),