



## The tadpole of the Brazilian torrent frog *Hylodes heyeri* (Anura; Hylodidae)

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*Hylodes heyeri* Haddad, Pombal & Bastos is allocated in the *H. lateristrigatus* group (Heyer, 1982), together with other 17 species. The tadpole of *H. heyeri* is still unknown and our aim here is to describe the tadpole and compare it with other *Hylodes* species for which tadpole descriptions are available.

Thirteen tadpoles in the stage 25 (Gosner 1960) were collected in a torrent stream in Morretes (25°26'59"S 48°52'09"W), Paraná, south Brazil and PEIC (Parque Estadual Ilha do Cardoso) (25° 03'05"S 47°53'48"), São Paulo, southeast Brazil. Voucher tadpoles were deposited at Célio F. B. Haddad collection, Departamento de Zoologia, Universidade Estadual Paulista, Rio Claro, São Paulo (CFBH 19248, 21995, 21996). Measurements of morphology follows nomenclature of Altig & McDiarmid (1999) and are reported as mean ± SD, min - max. The dental formula follows Altig (1970). In both Morretes and PEIC there were no other species of *Hylodes* during our field activities.

**Measurements:** Total length (42.9 ± 5.2 mm; 34.8–54.5), body length (16.0 ± 3.0 mm; 10.4–21.7), tail length (27.0 ± 2.8 mm; 21.4–32.8), maximum tail muscle height (6.8 ± 1.6 mm; 4.9–9.4), maximum tail height (8.8 ± 1.8 mm; 6.7–12.5), maximum tail muscle width (4.5 ± 0.6 mm; 3.9–6.1), interorbital distance (4.6 ± 0.9 mm; 3.4–6.1), internarial distance (3.4 ± 1.3 mm; 0.3–5.0), maximum dorsal fin height (2.6 ± 0.9 mm; 0.2–3.9), maximum ventral fin height (2.1 ± 0.6 mm; 0.2–2.7), eye diameter (1.0 ± 0.5 mm; 0.1–2.0), narial diameter (0.4 ± 0.1 mm; 0.03–0.6), snout-eye distance (4.6 ± 1.5 mm; 0.3–6.6), snout-nostril distance (2.3 ± 0.6 mm; 1.4–3.4), body width (9.8 ± 1.6 mm; 7.4–12.7), oral disc width (4.4 ± 0.9 mm; 3.3–5.8; n = 12), dorsal gap on marginal papillae (3.0 ± 0.9 mm; 1.7–4.6; n = 9). Dental formula is 2(2)/3(1).

**External morphology:** Body ovoid in lateral and dorsal views. In lateral view the front is depressed with the tail 73 % longer than body. In dorsal view, the widest body portion is in the middle, just before the spiracle, which is sinistral and with a tube directed slightly to the posterior portion of the dorsum. In ventral view there is a depression anterior to the coiled intestine. Dorsal fin begins just after end of the body, and is narrow in all its extent. Ventral fin is narrower than the dorsal fin in all its extension. Both fins have the widest portion on the middle third. Nostrils with well defined edges, directed dorsolaterally, nearly equidistant between the eyes and the point of the snout. Eyes small (10 % of the body width). Two pairs of lateral lines on the first half of the body, and one pair on the posterior half.

Mouth ventral, directed forward. Oral disc is 41 % of body width, laterally with a row of marginal papillae. The bases of the row of marginal papillae are in one series but alternate papillae project in different directions, emulating a double row. On the anterior labium there is a dorsal gap without papillae with 60 % of the oral disc width. Both jaws sheaths serrated, upper and lower jaw sheaths V-shaped. There are additional papillae on the posterior labium and lateral edges.

**Coloration in preservative.** In dorsal view the body is beige translucent with brown spots between the eyes and between eyes and nostrils. Between nostrils there are two short longitudinal dark brown stripes. In ventral view transparent and lack the dark spots. Denticles and eyes are black. Some individuals present mouthparts depigmentation (unkeratinized). Tail transparent with brown dots uniformly dispersed. Spiracle and opening of cloacal tube transparent.

**Habits.** Tadpoles of *H. heyeri* were found generally in backwaters of mountainous streams and rivulets, where males could be found calling and reproducing. Larvae could be found in the backwaters in all months of the year, indicating that the larvae development could be very slow (as the adults are not reproducing all over the year).