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# The tadpole of the hylodid frog *Hylodes charadranaetes* Heyer and Cocroft, 1986

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The genus *Hylodes* Fitzinger, 1826 is restricted to eastern Brazil, occurring from the states of Espírito Santo to Rio Grande do Sul (Lingnau *et al.* 2008, Frost 2010). Except for *Hylodes otavioi*, which inhabits riparian forests in rocky fields ("campos rupestres") habitats within the Cerrado domain in Minas Gerais State (Sazima & Bokermann 1982), all other species in the genus are endemic to the Atlantic Rainforest domain (Lingnau *et al.* 2008). The genus currently comprises 24 species (Frost 2010) of small to medium-sized diurnal frogs that live associated to lotic streams in forests (e.g. Lingnau *et al.* 2008; Silva & Benmaman 2008). Heyer (1982) proposed four species groups for *Hylodes*, which are still recognized today (but see Haddad *et al.* 1996; Canedo & Pombal 2007): the *glaber* (formerly *pulcher*), *lateristrigatus*, *mertensi*, and *nasus* species groups. The *Hylodes lateristrigatus* species group is the most specious, being currently composed by 18 species: *H. amnicola* Pombal, Feio, and Haddad, 2002, *H. babax* Heyer, 1982, *H. charadranaetes* Heyer and Cocroft, 1986, *H. fredi* Canedo and Pombal, 2007, *H. heyeri* Haddad, Pombal, and Bastos, 1996, *H. lateristrigatus* (Baumann, 1912), *H. magalhaesi* (Bokermann, 1964), *H. meridionalis* (Mertens, 1927), *H. ornatus* (Bokermann, 1967), *H. otavioi* Sazima and Bokermann, 1983, *H. perere* Silva & Benmaman, 2008, *H. perplicatus* (Miranda-Ribeiro, 1926), *H. pipilans* Canedo and Pombal, 2007, *H. phyllodes* Heyer and Cocroft, 1986, *H. regius* Gouvêa, 1979, *H. sazimai* Haddad and Pombal, 1995, *H. uai* Nascimento, Pombal, and Haddad, 2001, and *H. vanzolinii* Heyer, 1982 (Silva & Benmaman 2008; Frost 2010).

Of the 24 species in the genus *Hylodes* only 12 (nine of which belonging to the *H. lateristrigatus* species group) had its larvae described so far (Lutz 1930; Bokermann 1963; Sazima & Bokermann 1982; Heyer *et al.* 1990; Haddad & Pombal 1995; Nascimento *et al.* 2001; Pavan *et al.* 2001; Pombal *et al.* 2002; Haddad *et al.* 2003; Wogel *et al.* 2004; Costa *et al.* 2009; Costa *et al.* 2010; Laia *et al.* 2010). Regarding the internal oral anatomy of tadpoles, only two studies have provided data for *Hylodes*. Wassersug and Heyer (1988) described the internal oral anatomy of larvae of a species identified by them as *Hylodes* cf. *asper* based on specimens collected at a stream in Tijuca, municipality of Rio de Janeiro, southeastern Brazil. However, their identification is apparently erroneous, as the only species of the genus *Hylodes* known to occur in that region is *Hylodes nasus* (Izecksohn & Carvalho-e-Silva, 2001). Wassersug and Heyer (1988) comment that the tadpoles they examined "differ in details of shape and coloration from those described and figured by Bokermann (1963)", which further suggests that they do not belong to *H. asper*. More recently, Costa *et al.* (2010) described the internal oral anatomy of tadpoles of *Hylodes asper* based on specimens from the municipality of Guapimirim, State of Rio de Janeiro, an area near the type locality of that species.

Herein we describe the tadpole of *H. charadranaetes* and its internal oral features. The species is currently known only from the region of the Serra dos Órgãos and from Morro São João, in the state of Rio de Janeiro, southeastern Brazil, occurring from ca. 300 m to 1500 m above sea level (Weber *et al.* 2007; Vrcibradic *et al.* 2008).

Tadpoles of *H. charadranaetes* were collected with a dip-net in March 2010 in a torrent stream at ca. 1100 m altitude (22º 22' S, 42º 33' W) in the region of Theodoro de Oliveira, municipality of Nova Friburgo, state of Rio de Janeiro, southeastern Brazil. The area is currently within the Parque Estadual dos Três Picos, the largest protected area in the State, encompassing an area of ca. 46,000 ha along the eastern portion of the Serra dos Órgãos mountain range. Eleven tadpoles were anesthetized with 5% lidocaine and then fixed and preserved in 5% formaline.

Although no specimens were kept until metamorphosis to ascertain their specific identity, we find it unlikely that they may belong to another species of *Hylodes*. Two of us (CCS and DV) have worked at the study area for three years (March 2008-September 2010) inventorying the local anuran community. Total sampling effort consisted of 300 hours of visual searches (carried out during both summer and winter months) and all 60 adult specimens of *Hylodes* recorded during fieldwork were identified as *H. charadranaetes* (some of them were collected and deposited as vouchers at the Museu Nacional, Rio de Janeiro; see below). Also, several adults of *H. charadranaetes*, including some calling males, were observed along the same stream where the tadpoles were collected (calls of one male were recorded, which helped to confirm the species' identity).

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