Amphibian’s health is directly related to the environment where they live. For this reason, these animals have been considered as indicators of significant changes in the quality of the environment (Roy, 2002). Although abnormalities have been recorded for natural populations of amphibians since the 19th century (Púgener and Maglia, 2009), the high rates observed today have been associated with population declines (Cohen, 2001). Many causes have been pointed as responsible for these abnormalities, ranging from parasitic infections (Johnson et al., 2002; Johnson and Sutherland, 2003), chemical contamination, and UV radiation (Ankley et al., 2004) to viral infections (Burton et al., 2008).

The Neotropical genus *Proceratophrys* Miranda-Ribeiro, 1920, comprises 25 species distributed in Argentina, Brazil and Paraguay (Ávila et al., 2011; Frost, 2011; Martins and Giarreta, 2011; Napoli et al., 2011). *Proceratophrys appendiculata* (Günther, 1873) is an endemic species of the Atlantic Rain Forest of southeastern Brazil, occurring amidst the leaf litter (Izecksohn et al., 1998). They are cryptic animals (Sazima, 1978), scattered on the forest floor, and breed in small streams inside the forest (Peixoto et al., 1981).

Tadpoles and froglets of *P. appendiculata*, in different developmental stages, were collected in the Parque Nacional da Serra dos Órgãos, Teresópolis Municipality, Rio de Janeiro State. They were collected in a small stream, about 1200 m above sea level (22°27’16.0”S, 42°59’59.1”W) in April 2004 (two froglets) and July 2011 (three tadpoles). Species identification was made by comparison with the original tadpole description (Peixoto & Cruz, 1981). Developmental stages follow Gosner (1960).

We recorded two types of abnormalities in these individuals. Two tadpoles (Gosner stage 25) presented ocular and oral abnormalities. One of them (UNIRIO 4073-A: total length 29.0 mm) did not have the right eye (anophthalmia, Fig. 1a), and the other (UNIRIO 4073-B: total length 31.4 mm) had its right eye internalized in the cephalic region (like microphthalmia, Fig. 1b).

Both did not have any keratinous features of the oral disc (keratinized denticles) (Fig. 2). A third specimen, a froglet (Gosner stage 46: SVL = 10.6 mm), had a third forelimb (polymelia, Fig. 3).

Future ecotoxicological and epidemiological studies of *P. appendiculata* populations in the Serra dos Órgãos are necessary to establish the real causes of abnormalities in this species.

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**References**


**Figure 1.** Tadpoles with eyes abnormalities. (A) Tadpole without the right eye, anophthalmia; (B) tadpole with the right eye internalized in the cephalic region, like microphthalmia. Scale bar = 1.0 mm.

**Figure 2.** Tadpole without any keratinous features of the oral disc. Scale bar = 1.0 mm
Figure 3. Froglet with polymelia. (A) Dorsal and (B) ventral view. Scale bar = 1.0 mm