NATURAL HISTORY NOTES

***CHIOGLOSSA LUSITANICA* (Golden-striped Salamander): DICEPHALIC LARVA.** The Golden-striped Salamander is an endemic species from northwestern Iberia, listed in the IUCN Red Data Book. It is a streamside salamander that occurs in mountainous areas not higher than 1200 m, with high precipitation and humidity levels (Sequeira et al., 1996; Arntzen, 1999; Teixeira et al., 2001). This species usually lays eggs in small clusters in submerged holes along stream margins, attached to the undersides of stones or against rocks in slow flowing water and in subterranean water channels (Arntzen, 1981; Sequeira et al., 2001). In some mine galleries, such as those at Serra de Santa Justa near Porto, Portugal, it is common to see hundreds of eggs on the walls. Due to their importance as reproduction sites, three mines have been monitored since 1994. In October 2003, during egg counting, a living two-headed larva of *C. lusitanica* was found and kept in captivity until its death on 29th November, apparently due to a fungus infection in the gills. External macro- and microscopic analysis shows two well-formed heads (Figure 1), but in the absence of thorough anatomical analysis it is not possible to draw conclusions regarding their development. The vertebral column is bifurcated in the cervical region, a condition known as derodidymus (Frye, 1991). In this region, the larva presents a hunched back appearance, and although it swims normally its resting position is not usually linear. Usually, the external bifurcation does not match that of the internal organs, such as the oesophagus or trachea (Sánchez-Garcia & Martínez-Silvestre, 1999). The ability of the larva to feed is therefore unknown.

Dicephalism is common in reptiles, mainly in ophidians and chelonians (Boyer & Baldwin, 1997), and although other kinds of morphological malformations have been reported (Dubois, 1977, 1979a, 1979b, 1982; Dubois & Fischer, 1979; Dubois & Vachard: 1969, 1971a, 1971b; D'Alte, 1941), dicephalism appears to be very rare in amphibians with only one known case in *Alytes* sp. (Crespo, pers. com.). In *Chioglossa lusitanica*, cases of polymely (D'Alte, 1945), polydactyly (Dubois & Thireau, 1972) and albinism (Brame & Freytag, 1963; Arntzen, 1999; Teixeira et al., 1999) have been reported, including in this same study-population, where Sequeira et al. (1999) found several pigmentary and anatomical abnormalities (polymely, polydactyly, missing toes, bifid tail and missing eye). However, this is the first time that dicephalism has been described in this species.

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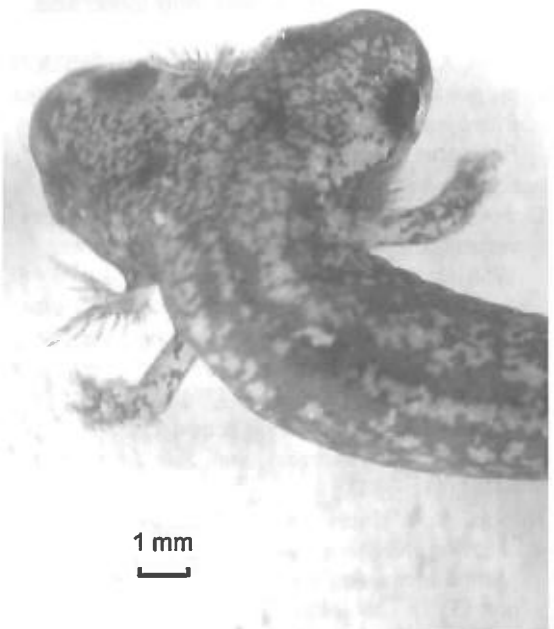
Figure 1. Two-headed larva of *Chioglossa lusitanica*. Photograph by Raquel Ribeiro.



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