



## The tadpole of *Hylorina sylvatica* (Anura: Cycloramphidae) in southern Chile

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### Abstract

The tadpole of *Hylorina sylvatica* is redescribed. The current description includes larval external morphology, internal oral features examined by SEM, and description of the chondrocranium and hyobranchial apparatus. The external and internal characteristics of the tadpoles of *H. sylvatica* are compared with others members of the subfamily Alsodinae (family Cycloramphidae) and used to improve the generic diagnosis which until now has been based on adult morphology.

**Key words:** Chondrocranium, internal oral anatomy, larval morphology, systematics

### Introduction

*Hylorina sylvatica* Bell is a monotypic cycloramphid frog endemic to the *Nothofagus* forests of temperate South America (southern Chile and Argentina). Formas and Pugín (1978) described the external morphology of *H. sylvatica* tadpoles based on two specimens (IZUA 1383-A; stages 36 and 38) from Pargua, Llanquihue Province, Chile, and Wassersug and Heyer (1988) described the larval internal oral features of this species based on a single specimen. The external and internal morphology of tadpoles has been successfully used to improve generic diagnosis and to infer phylogenetic relationships among anurans (Larson & de Sá 1998; Haas 1995, 2001, 2003; Maglia *et al.* 2001; Púgener *et al.* 2003; Grosjean *et al.* 2004).

Herein, the tadpoles of *H. sylvatica* are redescribed based on 87 specimens (stages 25–43) from three different localities in southern Chile (Volcán Osorno, Llanquihue, and Puyuhuapi). We include a redescription of the external morphology and internal oral features, and provide new characters derived from the analysis of the chondrocranium and hyobranchial apparatus. We use the larval characters to complement the generic diagnosis of *Hylorina* within the family Cycloramphidae.

### Material and methods

Eighty-seven tadpoles of *Hylorina sylvatica* (Instituto de Zoología, Universidad Austral de Chile; IZUA) were collected at: La Picada, Volcán Osorno (Provincia de Osorno) 41°04'S, 72°26'W, on December 1977 (IZUA 1808); Puyuhuapi (Provincia de Aysén) 44°15'S, 72°31'W, on 27th February 1990 (IZUA 2898 – 2899); Lenca (Provincia de Llanquihue) 41°14'S, 73°1'W (IZUA 2963), on 27th June 1995.

Tadpoles were fixed in 10% buffered commercial formaldehyde solution. Most of the larvae were preserved shortly after collection, but some were reared in the laboratory to verify species identification. Tadpoles were staged following the Gosner's table of normal development (Gosner 1960). Description is based on Gosner's Stage 35 and illustrated tadpole is at Gosner's Stage 36 (IZUA 2898).