

The internal oral morphology of some anuran larvae from south India: a scanning electron microscopic study

Indraneil Das¹

Animal Ecology Research Group, Department of Zoology, University of Oxford, South Parks Road, Oxford OX1 3PS, UK

¹ Present address: Centre for Herpetology, Madras Crocodile Bank Trust, Post Bag 4, Mamallapuram, Tamil Nadu 603 104, India

Abstract. The internal oral morphology of the larvae of four species of sympatric anuran amphibians from a locality in south India was examined by scanning electron microscopy. A close fit between diet and oral structures was found. The mouthparts are considered as adaptive for a variety of feeding modes, including filter-feeding, algal-scraping and macrophyte-snipping.

Introduction

The larvae of a great many anuran amphibians are suspension-feeders which produce a current by the pulsed depressions of the buccal floor to draw in food particles that are filtered at various sites inside the oral cavity (review: Sanderson and Wassersug, 1990). The principle organ for creating suspensions, by either snipping macrophytes or scraping algae is the buccal rasp, comprising a pair of horny jaws, labial teeth and soft papillae surrounding the opening of the oral cavity. However, filter-feeding forms (e.g. the larvae of the microhylids; see Parker, 1934) lack keratinised structures. Eight species of anuran amphibians occur sympatrically at Chengai Anna District, Tamil Nadu State, south India. Fieldwork was conducted on the ecology of the larvae and metamorphosed individuals of these eight species (including *Rana hexadactyla*, *R. crassa*, *R. cyanophlyctis*, *Tomopterna rolandae*, *Polypedates maculatus*, *Uperodon systoma*, *Microhyla rubra* and *M. ornata*). In this communication, I deal solely with the premetamorphic (larval) stages, examining the oral morphology and diet. No larvae of *U. systoma*, *P. maculatus* and *M. ornata* were found, and only a single specimen of *T. rolandae* was collected.

Material and methods

Tadpoles were collected with dip-nets from a variety of small and large waterbodies and preserved within an hour of capture in a 4% solution of formaldehyde. Tadpoles