

FIRST OBSERVATIONS ON THE LARVAL CHARACTERISTICS OF GÜNTHER'S TOAD *DUTTAPHRYNUS HOLOLIUS* (GÜNTHER, 1876)

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Abstract: We for the first time describe the larval morphology of Günther's toad, *Duttaphrynus hololius* (Günther, 1876) from shallow rainwater puddles on rocks in Gingee hills, Eastern Ghats, India. We observed 123 metamorphosing tadpoles of various stages on 14 puddles surveyed. A few samples from each stage were examined for morphological characterization. No other amphibian species was seen syntopically in or around these rocky puddles.

Key words: Amphibia, Anura, India, Gingee hills, gregarious tadpoles, rocky puddles, tadpole morphology.

Resumen: S.R. Ganesh, A. Kalaimani, A. Nath y R.B. Kumar. "Primeras observaciones sobre las características larvales del sapo de Günther, *Duttaphrynus hololius* (Günther, 1876)". Describimos por primera vez la morfología larval del sapo de Günther, *Duttaphrynus hololius* (Günther, 1876) encontrado en charcos rocosos de poca profundidad de agua de lluvia en Gingee hills, Eastern Ghats. Se observaron 123 renacuajos en varias etapas de metamorfosis en 14 charcos muestreados. Examinamos ejemplares en diferentes estadios para la caracterización morfológica de estos. No hallamos otras especies de anfibios sintópicos en los alrededores de estos charcos de rocas.

Palabras Clave: Amphibia, Anura, India, Gingee hills, renacuajos gregarios, charcos rocosos, morfología de renacuajo.

INTRODUCTION

Larval characters are a vital part of an amphibian's life history trait, but remain poorly understood and documented for most species (Duellman and Trueb 1994). This is particularly true for Indian amphibians, where only information on larval characters exists for only a handful of common and widespread species and virtually no information exist for the vast majority of the endemic forms (Das and Dutta 2007).

Günther's toad *Duttaphrynus hololius* (Günther, 1876) is one of the most poorly known Indian toad (Biju 2001, Biju *et al.* 2004). Recent field studies in the dry, rocky hillocks of the Southern Eastern Ghats landscape have shed light on its adult-morphology, geographic range, and habitat associations (Adimallaiah *et al.* 2012, Chandramouli *et al.* 2011, Kalaimani *et al.* 2012). Our visual surveys revealed the existence of breeding population of *D. hololius* in several rocky, ephemeral, rainwater puddles all over the hills

and foothills in rocky hillocks of Gingee, Southern Eastern Ghats, Tamilnadu, India. Based on these data, we, for the first time, provide an account on the larvae of *D. hololius*.

MATERIALS AND METHODS

During the northeast monsoon season, between the months of July and November, we undertook herpetological surveys at Rajagiri, in Gingee Hills (12.15°N, 79.30°E; 150-450 m asl), a rocky hillock-dominated landscape in Villupuram district of Tamilnadu State, India. Within this period, we surveyed a total of 14 ponds and visited each pond once between 10:00 and 14:00 hrs. Of these, five ponds contained *D. hololius*. The dimensions of these five ponds and the body and tail lengths of the various stages (following Gosner 1960) of *D. hololius* tadpoles observed are summarized in Table 1. All photographs were taken using a high-resolution digital camera (Canon® Powershot® SX130IS). Morphological examinations were

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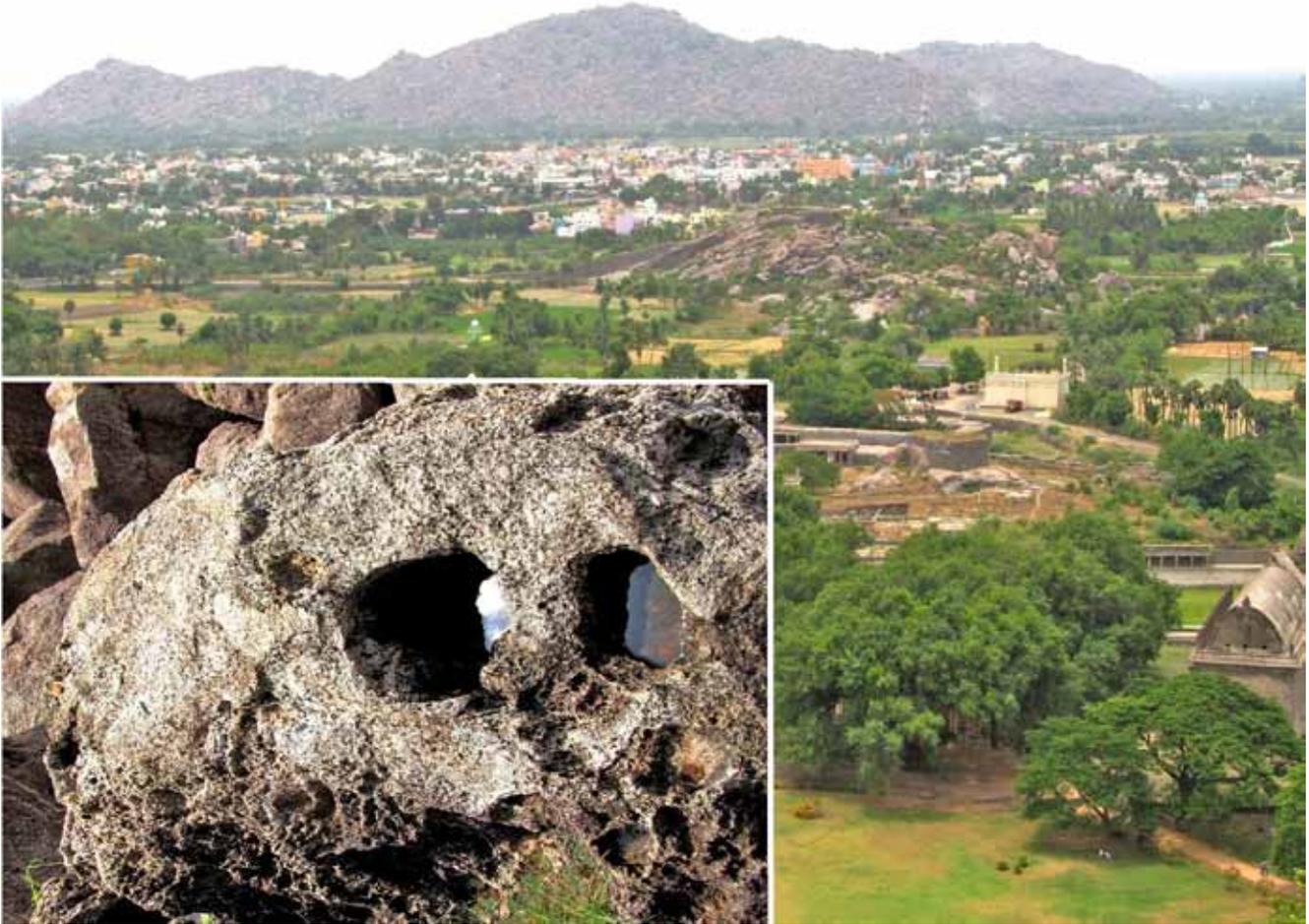


FIG. 2. General habitat of Gingee hills, India; with inset showing rocky ephemeral pools where *Duttaphrynus hololius* tadpoles were observed.
 Hábitat general de las colinas Gingee, India; con recuadro que muestra piscinas efímeras rocosas donde se observaron renacuajos de *Duttaphrynus hololius*.

TABLE 1. Summary of puddle characteristics and stages, body and tail lengths of *Duttaphrynus hololius* tadpoles in Gingee hills, India.

TABLA 1. Resumen de características de los charcos, y estadios, longitud del cuerpo y de la cola de renacuajos de *Duttaphrynus hololius* en Gingee hills, India.

Puddle Length	Puddle Width	Puddle Depth	Temp. °C	RH %	Tadpole Stage & No. (brackets)	Body length in mm (n<5)	Tail length in mm (n<5)
42 cm	12 cm	6 cm	41.8	49	Stage 20-23 (29) Stage 24-30 (3)	Stage 20-23 = 5	Stage 20-23 = 8
158 cm	158 cm	16 cm	42.1	53	Stage 31-35 (2) Stage 44-47 (1)	Stage 24-30 = 8	Stage 24-30 = 10
100 cm	56 cm	7 cm	40.4	50	Stage 24-30 (4) Stage 44-47 (1)	Stage 31-35 = 10	Stage 31-35 = 15
170 cm	155 cm	4 cm	40.1	51	Stage 20-23 (43) Stage 31-34 (24)	Stage 36-43 = 10	Stage 36-43 = 5
295 cm	180 cm	18 cm	41.3	52	Stage 36-43 (7) Stage 44-47 (9)	Stage 44-47 = 10	Stage 44-47 = <3

containing the tadpoles of this species had a reasonable growth of algae on its bottom, housed small molluscs and some aquatic insects. No other amphibians (either tadpoles or adults) were seen syntopically in or close by these puddles. The puddles were small ranging in size from 42-295 cm long, 12-180 cm wide and the water depth was 4-18 cm. Tadpoles were gregariously active and were found in parties of two to three individuals to as high as over 70 individuals. Freshly metamorphosed toadlets were more dispersed and spread across the larger puddles when compared to the gregarious tadpoles that concentrated in high numbers in small puddles.

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