

Notes on the natural history
of the casque-headed treefrog
Trachycephalus jordani
(STEJNEGER & TEST, 1891)

Trachycephalus jordani (STEJNEGER & TEST, 1891) is a treefrog mostly endemic to Ecuador. It inhabits the lowlands from extreme southwestern Colombia across western Ecuador to extreme northwestern Peru, between 0 to 1000 m elevation (ICOCHEA et al. 2004; FROST 2006). Although *T. jordani* is a common treefrog species in various habitats (including secondary forests and agricultural areas), very few information is available on most aspects of its natural history or ecology. Herein I present some information on the habitat preferences and diet of *T. jordani*.

Examined specimens are deposited at the following collections: Universidad San Francisco de Quito, Quito (DFCH-USFQ); Fundación Herpetológica G. Orcés, Quito (FHGO); National Museum on Natural History, Smithsonian Institution, Washington, D.C. (USNM). Some distributional data were obtained from records held in the following institutions and accessed through HerpNet data portal (<http://www.herpnet.org>) on 08 November 2006: California Academy of Sciences, San Francisco (CAS, collection database portal <http://www.calacademy.org/research/herpetology/catalog/>), Los Angeles County Museum of Natural History, Los Angeles (LACM), University of Illinois, Museum of Natural History, Urbana (UIMNH), The Field Museum, Chicago (FMNH, collection database portal <http://fm1.fieldmuseum.org/collections/search.cgi?dest=herps>), Natural History Museum and Biodiversity Research Center, University of Kansas, Lawrence (KU), and Museum of Comparative Zoology, Harvard University, Cambridge, (MCZ, collection database portal <http://collections.oeb.harvard.edu/Herp/AmphSearch.htm>). Classification of vegetation formations follows SIERRA (1999), with modifications proposed by CISNEROS-HEREDIA (2006b).

Information for *T. jordani* was obtained from 24 localities across western Ecuador (italics = specimen examined): Province of CAÑAR: CAS 104973, 70 km E Guayaquil. Province of EL ORO: near

Machala (pers. obs.). Province of ES-MERALDAS: FHGO-alive 2448, Río Verde. KU 221679–80, Castelnovo. DHMECN 1321–26, 2711–13, 2721, Cabo San Francisco. Province of GUAYAS: KU 111992–94, 40 km E Duran. CAS-SUA 2272, Milagro. CAS-SUA 6407 Isla Puná. C. MARTINEZ (pers. comm.): Loma Alta. STEJNEGER & TEST (1891): Guayaquil. Province of LOS RÍOS: DFCH-USFQ B174, USNM 285297–285307, KU 146582–146604, 164477–89, MCZ A-88441, 95413–428, MCDIARMID & ALTIG (1990): Río Palenque Scientific Center (00°35'S, 79°21'W, 200m). KU 132451–61, 4 km N Quevedo. ALMENDÁRIZ & CARR (1992): Jauneche. Province of LOJA: FHGO 3387, Cordillera Mangahurquillo (04°03'S, 80° 16'W, 325 m elevation). FHGO-alive 2470, 2474, Quebrada Fayette Verde, Cañaverale, canton Zapotillo. FHGO 975, Puyango (03°53'S, 80°05'W, 300 m elevation). Province of MANABÍ: FHGO 979, Salango (0 m elevation). RON et al. (2004): Puerto Rico. CISNEROS-HEREDIA (2006a): Cerro La Mocora (ca. 550 m a.s.l.). Province of PICHINCHA: FHGO 616, 976–978, Hacienda Margarita, km 35 Santo Domingo de los Colorados– Quevedo road (300 m elevation). KU 142647, 217771, MCZ A-88442, Santo Domingo de los Colorados. KU 178888, 2 km E, 1 km S Santo Domingo de los Colorados. KU 202747, Tinalandia, 15.5 km SE Santo Domingo de los Colorados. KU 217772, La Concordia, Bosque Protector la Perla. CAS-SUA 10605, 35 km E of Santo Domingo de los Colorados, near Hacienda Lelia (Fig. 1).

All localities are restricted to deciduous, semi-deciduous, and seasonal evergreen habitats across the entire Pacific coastal region of Ecuador from 0 to 1000 m elevation. There are records of this species in all five coastal provinces (Esmeraldas, Manabí, Guayas, Los Rios, and El Oro), and in the lowland regions of three inland provinces (Pichincha, Cañar, and Loja). The species inhabits a wide variety of vegetation formations in western Ecuador, including: Mangrove, Seasonal Lowland Evergreen forest, Lowland Semideciduous Forest, Lowland Deciduous forest, Lowland Dry Shrubs, Littoral Dry Shrubs, Littoral Spiny Shrubs, Seasonal Foothill Evergreen forest, and in the Cordillera de la Costa: Low Mon-



Fig. 1: Map of Ecuador showing the 24 localities of *Trachycephalus jordani* (STEJNEGER & TEST, 1891) mentioned in the text.

tane Cloud forest, Foothill Semideciduous forest, and Seasonal Foothill Evergreen forest. Similar vegetation formations are occupied by the species in extreme southwestern Colombia (Department of Nariño); and northwestern Peru (Department of Tumbes) (ICOCHEA et al. 2004, this paper). *Trachycephalus jordani* occurs and breeds in primary and secondary forests, as well as plantations, gardens, and even human buildings (in certain altered areas it reaches even higher densities than in pristine area, e.g., Mompiche and Río Palenque). *Trachycephalus jordani* is among the few frogs found in mangroves, together with *Chaunus marinus* (LINNAEUS, 1758) and *Scinax quinquefasciatus* (FOWLER, 1913). It is an explosive breeder, using ponds and open flooded areas for reproduction (MCDIARMID & ALTIG 1990, pers. obs.). Males call from inside the water (e.g., several males heard and observed at ponds in littoral shrubs and pastures in Mompiche, April 2006) or from perches in shrubs or low trees (e.g., a male was heard calling during the late evening and early night from an arboreal bromeliad ca. 5 m above ground in old-growth Low Montane Cloud forest in Cerro La Mocora on June 2000). *Trachycephalus jordani* is mostly nocturnal (85% of 28 specimens with

available field data were active at night), but during the breeding season males can be heard calling during the late afternoon and evening. Otherwise, during the day individuals of *T. jordani* usually hide inside cavities of trunks or bamboos, amidst palm or banana leaves, inside bromeliads, or inside human settlements. Dissection of the digestive tract of five specimens of *T. jordani* revealed mainly arthropods parts (Orthoptera, Lepidoptera, and Coleoptera); but specimen FHGO 3387 had shells and parts of at least two terrestrial snails (Mollusca: Gastropoda), elytra and head of one adult beetle (Coleoptera), one larva of moth (Lepidoptera), and remains of wood and soil. Feeding on mollusks (molluscivory) has been reported few times in anurans (SAVAGE 2002; NUSSBAUM et al. 1983; METTER 1964), and this is the first report for *T. jordani*. The absence of mollusks on the other specimens suggests opportunistic feeding.

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Herpetological notes on the island of Amorgos (Cyclades, Greece)

The Cyclades Archipelago in the Aegean Sea covers about 24000 km². Among the Cyclades Islands, Amorgos, situated south-east of Naxos, ranks number six in size with its 123 km². The length of the island is 33 km, the width only 6 km, the highest elevation (Krikelos) being 821 m above sea level. In the carstic mountain range there is only 200–300 mm of annual precipitation. Therefore, the island is droughty. Today, practically all springs are captured, and the water is kept in cisterns. The vegetation consists of phrygana and garrigue. Woodland only exists as small stands of *Quercus macrolepis* and *Qu. coccifera* in the east of the island. A short overview about the island's natural history is given by DELFORGES (1997).

Early references to the herpetofauna of Amorgos were summarized in WERNER

(1938) who had visited the island and listed from Amorgos what he called *Bufo viridis* LAURENTI, 1768, *Rana ridibunda* PALLAS, 1771, *Gymnodactylus kotschy* STEINDACHNER, 1870, *Hemidactylus turcicus* (LINNAEUS, 1758), *Lacerta erhardi amorgensis* WERNER, 1933, *Eryx jaculus* (LINNAEUS, 1758) and *Elaphe rechingeri* WERNER, 1933. He believed to have seen also *Laudakia stellio* (LINNAEUS, 1758), but the presence of this species was never confirmed. *Mauremys rivulata* (VALENCIENNES, 1833) was cited by BEDRIAGA (1882), BOETTGER (1888) and BIRD (1935), all referring to ERHARD (1858). LOTZE (1970), the author of the only article fully dedicated to the herpetology of Amorgos, added *Ablepharus kitaibelii kitaibelii* BIBRON & BORY, 1839 but could neither find *M. rivulata* nor *L. stellio*.

The most conspicuous snake of Amorgos is a largely unpatterned colubrid the taxonomic status of which was seen controversially. WERNER (1932) described it from the island as *Elaphe rechingeri*. WETTSTEIN (1953) considered the snake a subspecies of *Elaphe longissima* (LAURENTI, 1768), endemic to Amorgos as did BUCHHOLZ (1961) and MERTENS (1961). LOTZE (1970) found another individual on the island and referred to it under the name *Elaphe quatuorlineata rechingeri*. The specimen had no stripes. CLARK (1990) retained the species status, while BÖHME & ŠČERBAK (1993) who discussed the taxonomic history of the snake in depth assigned it to *Elaphe quatuorlineata muenteri* BEDRIAGA, 1881. It is obvious that there are two phenotypes of this snake represented on the island, one striated, the other non-striated (BÖHME & ŠČERBAK 1993).

WETTSTEIN (1953: 808, 809) mentioned *Telescopus fallax fallax* (FLEISCHMANN, 1831) from the island, however, without details as to the source of information.

With the exception of *M. rivulata*, *L. stellio* and *T. fallax* BUTTLE (1993) (erroneously ascribing the reference of *T. fallax* to WERNER 1938) confirmed the presence of all the earlier observed herpetological species and so did CATTANEO (1999).

During our stay from 20 through 29 April 2006 most areas of the island were visited. There were windy days, and the weather was rather cold for the season. All

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