

*dotti* is not a frequent but rather an occasional prey of *M. cf. trinitatis*. Blind snakes, *Leptotyphlops macrolepis* PETERS, 1857 and *Liotyphlops* sp., have been observed to abandon their burrows in urban areas after heavy rains, when the soil is saturated with water, thus being an easy prey to their predators (Jesús MANZANILLA, unpublished data for Aragua State, Venezuela). Perhaps this could also apply to the case described in the present paper.

A few minutes after the ophiophagy observations, and only a few meters upstream, we came upon another particular case of feeding behavior. During the capture and identification of a female *M. cf. trinitatis* (ULABG 5007) found on the leaf litter nearby the stream (about 3.5 meters from the water course), she regurgitated two unidentifiable gelatinous eggs, maybe of her own species. The environmental conditions were the same as previously mentioned. Eggs ingestion by the female *M. cf. trinitatis* could be interpreted as a non-alimentary behavior, some kind of reproductive competition (see WELLS 1978) rather than predation. However, more information is needed to understand this behavior.

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**REFERENCES:** DUELLMAN, W. & TRUEB, L. (1986): Biology of amphibians. New York (Mc Graw Hill Book Co.), 615 pp. GREEN, H. (1997): Snakes, the evolution of mystery in nature. Berkeley (Univ. of California Press), 349 pp. MANZANILLA, J. (2001): Clave ilustrada y descripción de los anfibios del noroeste del Estado Aragua, con comentarios sobre su historia natural. Trabajo de Ascenso, Universidad Central de Venezuela, Caracas; 291 + 10 (anexos) pp. PIÑERO, J. & LA MARCA, E. (1995): Hábitos alimentarios de *Nepheleobates alboguttatus* (Anura: Dendrobatidae) en una selva nublada andina de Venezuela.- Rev. Biol. Trop., San José, Costa Rica; 44 (2):827-833. PIÑERO, J. & DURANT, P. (1993): Dieta y hábitat de una comunidad de anuros de selva nublada en los Andes Merideños.- Ecotrópicos, Caracas; 6: 1-12. PRADERIO,

M. (1985): Aspectos ecológicos de una población de *Colostethus trinitatis* (Dendrobatidae) en la quebrada de La Guairita, Estado Miranda. Undergraduate Thesis, Universidad Simón Bolívar, Caracas, Venezuela, 151 pp. WELLS, K. (1978): Courtship and parental behavior in a Panamanian poison-arrow frog (*Dendrobates auratus*).- Herpetologica, Lawrence; 34 (2): 148-155. WEYGOLDT, P. (1980): Complex brood care and reproductive behavior in captive poison-arrow frogs (*Dendrobates auratus*).- Herpetologica, Lawrence; 34: 148-155. ZIMMERMANN, H. (1976): Froschzuchten.- Aquarien-Magazin, Stuttgart; 10 (2): 50-58.

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**AUTHORS:** Jesus MANZANILLA, Instituto de Zoología Agrícola, Universidad Central de Venezuela, Maracay, Venezuela and Museo Nacional de Ciencias Naturales, CSIC, Madrid, España < manzanillaxxi@hotmail.com >; Enrique LA MARCA, Laboratorio de Biogeografía, Escuela de Geografía, Universidad de Los Andes, Mérida Venezuela; Leonardo DE SOUSA, Grupo de Biomedicina Aplicada (GBA), Centro de Investigaciones en Ciencias de la Salud, Universidad de Oriente, Anzoátegui, Venezuela.

### On the distribution and natural history of *Hyla miyatai* VIGLE & GOBERDHAN-VIGLE, 1990 in Amazonian Ecuador

Several species of tree-frogs inhabit the western Amazonian lowlands (eg. 45 hylids sympatric at the Tiputini Biodiversity Station, Ecuador; CISNEROS-HEREDIA 2003); but our knowledge on this diverse hylid fauna is still limited. *Hyla miyatai* VIGLE & GOBERDHAN-VIGLE, 1990 was described from the Garzacocha area in Amazonian Ecuador and has been subsequently reported from few additional localities, all widely-separated: Iquitos, Perú (RODRIGUEZ & DUELLMAN 1994); Amazonas, Colombia (RUIZ-CARRANZA et al. 1996); and Rio Juruá, Brasil (GASCON 1996). No additional records have been reported from Ecuador and our knowledge on the biology of this species is very poor. Here I report some observations on the natural history of *H. miyatai* and three additional localities for the species in Ecuador

based on specimens examined at the Universidad San Francisco de Quito (DFCH-USFQ) and at the Fund. Herpetológica Orcés (FHGO), Ecuador.

Four adult males (DFCH-USFQ 232-235) were collected from an aggregation, calling 0-20 cm above water from leaves of submerged trees (*Genipa americana*, Rubiaceae) in an oxbow lake at the Tiputini Biodiversity Station (TBS, 00°38'S, 76°09'W, ca. 210 m a.s.l.), province of Orellana, on 23 April 2000 (ca. 35 km ESE from the type locality). One adult male (DFCH-USFQ 391) was collected 5 cm above water at a forest swamp in the Reserva de Producción Faunística Cuyabeno, 3.7 km N from the Finca Cielito Lindo, Lago Agrío - Puerto El Carmen road (76°12'W, 00°05'S, 290 m a.s.l.), Sucumbios Province, on 20 July 2000 (ca. 38 km N from the type locality). Five adult males (FHGO 3313-17) were collected at the Imuya wetlands, between Aguarico and Lagartococha rivers (00°40'S, 75°20'W, 210 m a.s.l.), Sucumbios province, on 10-18 May 2001 (ca. 100 km E from the type locality).

*Hyla miyatai* seems to be restricted in Ecuador to the Amazonian lowlands up to at least 300 m a.s.l., with published records in the provinces of Sucumbios and Orellana. Its habitat preferences include the following plant formations (sensu PALACIOS et al. 1999): Lowland Evergreen forests flooded by white water and black water rivers, Lowland Flooded Palm forest, and Lowland Lacustrine grasslands. It is likely that *H. miyatai* will be found to be fairly common along the Napo river basin in Ecuador, in areas where adequate habitat occurs. *Hyla miyatai* was sympatric at the oxbow lake of TBS with *Hyla fasciata* GÜNTHER, 1858, *Hyla geographica* SPIX, 1824, *Hyla leucohyllata* (BEIREIS, 1783), *Hyla triangulum* GÜNTHER, 1869, and *Sphaenorhynchus* sp; and at Cuyabeno with *Hyla* sp. nov. and *Osteocephalus taurinus* STEINDACHNER, 1862.

*Hyla miyatai* was described as having bright red and yellow markings on the dorsum and a pale pink venter, and color changes have not been reported (VIGLE & GOBERDHAN-VIGLE 1990; RODRIGUEZ &

DUELLMAN 1994); however, the species is not always colored like that. Specimens collected at Tiputini and Cuyabeno exhibited drastic color changes during the day, the red markings changed to bright metallic golden, the yellow areas turned into pale pink, cream or lime green and the pink surfaces changed to pale yellow or remained pale pink. These chromatic changes were observed in all specimens during the day, turning into the bright red/yellow coloration during the night.

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REFERENCES: CISNEROS-HEREDIA, D. F. (2003): Herpetofauna de la Estación de Biodiversidad Tiputini; pp: 1-21. In: DE LA TORRE, S. & RECK, G. (Eds.): Ecología y ambiente en el Ecuador.- Mem. I. Congr. Ecología y Ambiente. CD. Universidad San Francisco de Quito, Ecuador. GASCON, C. (1996): Amphibian litter fauna and river barriers in flooded and non-flooded Amazonian rain forests.- Biotropica, Lawrence; 28: 136-140. RODRIGUEZ, L. O. & DUELLMAN, W. E. (1994): Guide to the frogs of the Iquitos region, Amazonian Peru.- Special Publication Univ. Kansas Nat. Hist. Mus., Lawrence; 22: 1-80. RUIZ-CARRANZA, P. M. & ARDILA-ROBAYO, M. C. & LYNCH, J. D. (1996): Lista actualizada de la fauna amphibia de Colombia.- Revista Acad. Colombiana Cienc. Exactas, Físicas y Naturales, / República de Colombia, Ministerio de Educación Nacional, Bogotá; 20 (77): 365-415. VIGLE, G. O. & GOBERDHAN-VIGLE, C. I. (1990): A new species of small colorful *Hyla* from the lowland rainforest of Amazonian Ecuador.- Herpetologica, Emporia; 46 (4): 467-473.

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AUTHOR: Diego F. CISNEROS-HEREDIA, College of Biological and Environmental Sciences, Universidad San Francisco de Quito, Ave. Inter-oceánica y calle Diego de Robles, Campus Cumbayá, Edif. Maxwell. Casilla Postal 17-12-841 Quito, Ecuador <diegofrancisco\_cisneros@yahoo.com>