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Description of the egg and immature stages of *Martarega lofoides* Padilla-Gil, 2010 (Hemiptera: Heteroptera: Notonectidae)

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Abstract

The egg and five nymphal stages, of the Neotropical species *Martarega lofoides* are described and illustrated for the first time. The immature stages are very similar, differing mainly in the body length, width of the body, head and pronotum, degree of wing pads development, synthlipsis width, and pattern of setae on the ventral abdomen. Adults and nymphs used in this study were collected from the Caunapi River in the Pacific region of southwestern Colombia.

Key words: Notonectidae, *Martarega*, egg, nymphal instars, Neotropical Region

Introduction

The genus *Martarega* White, 1879 comprises 20 species distributed in Western Hemisphere from the southwestern United States to Argentina (Barbosa *et al.*, 2012; Barbosa & Rodrigues, 2013). Work on this genus has been limited, and confined primarily to the taxonomy of the species involved, i.e., Truxal (1949), Manzano *et al.* (1995), Padilla-Gil (2010), and Barbosa & Rodrigues (2013). A few other works have investigated aspects of ecology, geographical distribution and species-specific biology, i.e., Menke & Truxal (1966), Gittelman (1974a), Padilla-Gil (2012), and Castanhole *et al.* (2013). Descriptions of the immature stages are those of Gittelman (1974b), which described the egg and nymphs of *Martarega hondurensis* Bare, 1932 based in specimens collected in Canas, Guanacaste Province, Costa Rica; and of Angrisano (1982) that described the five nymphal instars of *Martarega uruguayensis* (Berg 1883), based on material from Argentina.

Martarega lofoides Padilla-Gil, 2010, the subject of the current paper, occurs in the Caunapi River in the Pacific region of Nariño Department, Colombia. A series of specimens was collected for here for this study, which describes the egg and all five nymphal stages.

Material and methods

The specimens were collected with a hand net (mesh 0.1 mm) and preserved in 70% alcohol. Ripe ovarian eggs were dissected from the female's abdomen.

All measurements are in mm. Voucher specimens are deposited in the Colección de Entomología, Universidad de Nariño, Pasto, Colombia (PSO-CZ).

The abbreviations used are as follows: egg length (EL), egg width (EW), length of body (L), width of head (wh), width of pronotum (wp), vertex width (vw), synthlipsis width (sw), wing pad length (wpd). Proportions of legs are given as fore leg (FL), middle leg (ML), and hind leg (HL): femur/tibia/tarsal/dorsal claw (F/T/t/c). Labrum length/ width: L/W. Rostrum lengths of segments I–IV (Ro I–IV). Macropterous (macr), brachypterous (brach).

Specimens examined. COLOMBIA, Nariño, Tumaco, La Espriella, Río Caunapí, 16 XI 2010, leg D. N. Padilla: 14 eggs, 2 first instar, 1 second instar, 4 third instar, 6 fourth instar, 10 fifth instar, 5 ♀ macr, 5 ♂ brach adults.

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References

- Angrisano, E.B. (1982) Biología de algunas Notonectidae Argentinas (Insecta, Heteroptera). *Physis*, Secciones B, 40 (99), 121–132. [Buenos Aires]
- Barbosa, J.F., Ribeiro, J.R.I. & Ferreira-Keppler, R.L. (2010) A new species of *Martarega* White, 1879 (Hemiptera: Heteroptera: Notonectidae) from the State of Pará, Brazil, and new records for three species in Brazil. *Zootaxa*, 2351, 58–64.
- Barbosa, J.F., Ribeiro, J.R.I. & Nessimian, J.L. (2012) A synopsis of the *Martarega* White, 1879 (Insecta: Heteroptera: Notonectidae) occurring in the Brazilian Amazonia, with description of three new species. *Journal of Natural History*, 46 (17–18), 1025–1057.
<http://dx.doi.org/10.1080/00222933.2011.651645>
- Barbosa, J.F. & Rodrigues, H.D.D. (2013) A new species of *Martarega* White, 1879, with new distributional records of Notonectidae (Hemiptera: Heteroptera: Nepomorpha) from Brazil. *Zootaxa*, 3682 (4), 534–540.
- Castanhole, M.M.U., Marchesin, S.R.C., Pereira, L.L.V., Moreira, F.F.F., Barbosa, J.F., Valério, J.R. & Itoyama, M.M. (2013) The first assess of the haplotypes from *COI* gene sequences in species of spittlebugs (Cicadomorpha: Hemiptera) and aquatic true bugs (Gerromorpha and Nepomorpha: Hemiptera) in Brazil. *Genetics and Molecular Research*, 12 (4), 5372–5381.
<http://dx.doi.org/10.4238/2013.November.7.12>
- Gittelman, S.H. (1974a) *Martarega hondurensis* and *Buenoa antigone* as predators of mosquito larvae in Costa Rica (Hemiptera: Notonectidae). *Pan-Pacific Entomologist*, 50, 84–85.
- Gittelman, S.H. (1974b) Descriptions of immature and adult stages of *Martarega hondurensis* Bare (Hemiptera: Notonectidae). *The Journal of the Kansas Entomological Society*, 47 (2), 145–155.
- Manzano, M., Nieser, N. & Caicedo, G. (1995) Lista preliminar de heterópteros acuáticos en la isla de Gorgona y Llanura del Pacífico, *Biblioteca José Jerónimo Triana*, 11, 47–72.
- Mazzucconi, S.A. (2011) A new species of *Martarega* White, 1879 from South America (Hemiptera: Heteroptera: Notonectidae) with an identification key to all described species of the genus. *Aquatic Insects*, 33 (2), 113–126.
<http://dx.doi.org/10.1080/01650424.2011.600317>
- Menke, A.S. & Truxal, F.S. (1966) New distribution data for *Martarega*, *Buenoa*, and *Abedus*, including the first record of the genus *Martarega* in the United States (Hemiptera: Notonectidae, Belostomatidae). *Los Angeles County Museum Contributions in Science*, 106, 1–6.
- Padilla-Gil, D.N. (2010) Two new species of *Martarega* (Hemiptera: Heteroptera: Notonectidae) and a new species of *Tachygerris* (Hemiptera: Heteroptera: Gerridae) from Colombia. *Zootaxa*, 2560, 61–68.
- Padilla-Gil, D.N. (2012) *Los hemípteros acuáticos del municipio de Tumaco (Nariño, Colombia) Guía ilustrada*. Universidad de Nariño, San Juan de Pasto, Nariño Colombia, 88 pp.
- Truxal, F.S. (1949) A study of the genus *Martarega* (Hemiptera, Notonectidae). *The Journal of the Kansas Entomological Society*, 22 (1), 1–24.