



## Two new species of *Microvelia* Westwood, 1834 (Hemiptera: Heteroptera: Veliidae) from Colombia, with a key to Colombian species

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### Abstract

Only six species of *Microvelia* have been recorded from Colombia up to the present, namely *M. ancona*, *M. hinei*, *M. leucothea*, *M. longipes*, *M. panamensis*, and *M. pulchella*. *Microvelia inguapi* **sp. n.** and *M. piedrancha* **sp. n.** are herein described and compared with similar species. An identification key to the Colombian species of *Microvelia* is presented.

**Key words:** Aquatic insects, Neotropics, South America, water striders

### Introduction

The fauna of Veliidae from Colombia has been extensively studied on the last decade in relation to the species of the genera *Rhagovelia* Mayr, 1865 and *Paravelia* Breddin, 1898 (Padilla-Gil & Moreira, 2011, 2013; Padilla-Gil, 2013a). Much less attention has been given to the genus *Microvelia* Westwood, 1834, and few studies include descriptions or references to species from the country.

Up to the present, only six species of the genus have been recorded from Colombia, namely *M. ancona* Drake & Chapman, 1954, *M. hinei* Drake, 1920, *M. leucothea* Polhemus & Manzano, 1992, *M. longipes* Uhler, 1894, *M. panamensis* Champion, 1898 and *M. pulchella* Westwood, 1834 (J. Polhemus 1977; J. Polhemus & D. Polhemus, 1991; J. Polhemus & Manzano, 1992; Padilla-Gil 2012, 2013b).

In order to contribute to the knowledge of the Colombian fauna of *Microvelia*, two new species are herein described. Both have been collected in the department of Nariño and are included in an identification key to the species of the genus known from the country, accompanied by a map showing their geographical distribution.

### Materials and methods

Specimens have been deposited on the following institutions: Colección de Entomología del Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá (ICN) and Colección de Entomología de la Universidad de Nariño, San Juan de Pasto, Colombia (PSO-CZ).

The following abbreviations have been used in the descriptions: apterous (apt), micropterous (micr), macropterous (macr), body length (BL), head length (HL), head width through eyes (HW), length of antennomeres I–IV (ANT I, ANT II, ANT III, ANT IV), minimum interocular distance (INT), maximum eye width (EYE), pronotum length on midline (PL), pronotum width (PW), length of foreleg segments (FORELEG), length of middle leg segments (MIDLEG), length of hind leg segments (HINDLEG), femoral length (FEM), tibial length (TIB), length of tarsomeres I–II (TAR I, TAR II). All measurements are given in millimeters.

- Male hind femur shorter than body; females hind femur not reaching apex of abdomen .....2
- 2 Male fore tibia with a prolonged apical lobe (Fig. 17a) and a row of short, stout setae similar to spines near outer margin of apex (visible at higher magnifications) (Fig. 17b); male paramere asymmetrical, shape as in Figs. 14–15; female genital segment I with a shining black macula on anterior margin (Fig. 19) (only macropterous form known). .....  
..... *Microvelia piedrancha* n. sp.
- Male fore tibia and paramere not as above; female genital segment I without shining black macula on anterior margin .....3
- 3 Forewing with proximal two-fifths and a large apical spot pearly white; apterous form with bright silvery pubescent areas on abdominal tergites contrasting with the velvet black ground color; inhabiting bromeliads ..... *Microvelia ancona*
- Forewing not as above; apterous form with or without silvery pubescence on abdominal tergites; non-bromeliadiculous species .....4
- 4 Mesonotum of apterous form not covered by pronotum; pronotum not reaching sublateral pits .....5
- Mesonotum of the apterous form covered by pronotum; pronotum reaching sublateral pits or beyond .....7
- 5 Body, legs, and antennae clothed with dense appressed silvery pubescence; male abdominal sternite VII medially excavate, forming a deep semicircular depression ..... *Microvelia leucothea*
- Body, legs, and antennae not clothed with dense appressed silvery pubescence; male abdominal sternite VII not medially excavate ..... 6
- 6 Body length usually less than 2.00 mm (1.25-2.25 mm); male hind tibia bent ..... *Microvelia pulchella*
- Body length 2.50 mm; male hind tibia not bent ..... *Microvelia panamensis*
- 7 Pronotum of apterous form covering almost all of thorax, leaving only lateral triangles of metathorax exposed; male hind trochanter angled upward and bearing a small tubercle projecting beyond posterior margin (Fig. 7); female abdominal sternite VII bearing two pits on anterolateral margin (Fig. 9); collected in estuaries, probably an inhabitant of crab holes. ....  
..... *Microvelia inguapi*
- Pronotum of apterous form shorter, leaving metanotum exposed; male hind trochanter and female abdominal sternite VII unmodified; habitat preferences not as above. .... *Microvelia hinei*

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## References

- Padilla-Gil, D.N. (2012) *Los hemípteros acuáticos del municipio de Tumaco (Nariño, Colombia) Guía ilustrada*. Editorial Universidad de Nariño, San Juan de Pasto. Nariño Colombia, 88 pp.
- Padilla-Gil, D.N. (2013a) Two new species of *Paravelia* Breddin, 1898 (Hemiptera: Heteroptera: Veliidae) from Colombia, with a key to Colombian *Paravelia* species. *Zootaxa*, 3693 (4), 491–502.  
<http://dx.doi.org/10.11646/zootaxa.3693.4.5>
- Padilla-Gil, D.N. (2013b) Nuevos registros y ampliación de la distribución de heterópteros acuáticos en Colombia (Hemiptera, Heteroptera). *Acta Biológica Colombiana*, 18 (2), 391–400.
- Padilla-Gil, D.N. & Arcos, O. (2011) Hemiptera acuáticos asociados a los estuarios de la Costa Pacífica Colombiana. *Revista Colombiana de Entomología*, 37 (2), 350–353.
- Padilla-Gil D.N. & Moreira F.F.F. (2011) A new species of *Paravelia* Breddin, 1898 (Hemiptera: Heteroptera: Veliidae) from Colombia, with a key to Colombian *Paravelia* species. *Zootaxa*, 3065, 14–26
- Padilla-Gil, D.N. & Moreira, F.F.F. (2013) Checklist, taxonomy and distribution of the *Rhagovelia* Mayrs, 1865 (Hemiptera: Veliidae) of the Americas. *Zootaxa*, 3640 (3), 409–424.  
<http://dx.doi.org/10.11646/zootaxa.3640.3.5>
- Polhemus, J.T. (1977) Type-designations and other notes concerning Veliidae (Insecta: Hemiptera). *Proceedings of the Entomological Society of Washington*, 79 (4), 637–648.
- Polhemus, J.T. & Manzano, M.R. (1992) Marine Heteroptera of the Eastern Tropical Pacific (Gelastocoridae, Gerridae, Mesoveliidae, Saldidae, Veliidae). In: Quintero, D. & Aiello, A. (Eds.), *Insects of Panama and Mesoamerica. Selected Studies*. Oxford University Press, Oxford, New York, Tokyo, pp. 302–320.
- Polhemus, J.T. & Polhemus, D.A. (1991) A review of the veliid fauna of bromeliads, with a key and description of a new species (Heteroptera: Veliidae). *Journal of the New York Entomological Society*, 99 (2), 204–216.  
[http://dx.doi.org/10.1664/0028-7199\(2003\)111\[0029:arotvo\]2.0.co;2](http://dx.doi.org/10.1664/0028-7199(2003)111[0029:arotvo]2.0.co;2)