

Description of a new species of *Wolfniana* and new records of *Rotigonalia* (Hemiptera: Cicadellidae: Cicadellinae) from the state of Amazonas, Brazil

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ABSTRACT. *Wolfniana viridis* **sp. nov.** is described and illustrated based on specimens collected in the municipality of Ipixuna (along Liberdade and Gregório rivers), state of Amazonas, Brazil. The new species can be distinguished from the type-species, *W. limbatula* (Osborn, 1926), by the color pattern which lacks conspicuous orange markings on head, pronotum, and forewing commissure; and aedeagal shaft with apex broadly expanded. Based on specimens of *Rotigonalia concedula* Melichar, 1926 and *R. curvula* Cavichioli, 2000, collected along with *W. viridis*, *Rotigonalia* Young, 1977 is firstly recorded from the state of Amazonas and *R. concedula* is firstly recorded from Brazil.

KEY WORDS. Auchenorrhyncha; Cicadellini; distribution; new record; new species.

Wolfniana was described by CAVICHIOLI (2001) to comprise solely *Cicadella limbatula* Osborn, 1926, which was previously included in *Rotigonalia* Young, 1977 along with the type-species, *R. concedula* (Melichar, 1926). CAVICHIOLI (2001) diagnosed *Wolfniana* by the following combination of features: 1) head slightly produced anteriorly; 2) ocelli located before imaginary line between anterior eye angles; 3) epistomal suture incomplete; 4) pronotal width less than transocular width; 5) forewings with anteapical cells closed; 6) male pygofer without processes; 7) styles very short; and 8) paraphyses rami longer than aedeagus, symmetrical, and acute. CAVICHIOLI'S (2001) decision of removing *Cicadella limbatula* from *Rotigonalia* was based on the fact that this species does not present the male clypeus inflated at base, a diagnostic feature of the latter genus that is shared by the four species currently included in it (see CAVICHIOLI 2000). Although all of the above-cited characteristics of *Wolfniana* individually are present in several Neotropical Cicadellini, the included species can be additionally distinguished from closely related genera in the *Juliaca* Melichar, 1926 generic group (YOUNG 1977) by the following features: 1) mostly dark green colored pronotum and forewings; 2) short aedeagal shaft; and 3) paraphyses with broad transversal base, apical third of rami with pitted sculpturing.

Based on newly collected specimens from Ipixuna, state of Amazonas, Brazil, a new species of *Wolfniana*, *W. viridis* **sp. nov.**, is described and illustrated. Additionally, specimens of *Rotigonalia concedula* Melichar, 1926 and *R. curvula* Cavichioli, 2000 were collected, representing the first record of *Rotigonalia* from the state of Amazonas and the first record of the former species from Brazil.

MATERIAL AND METHODS

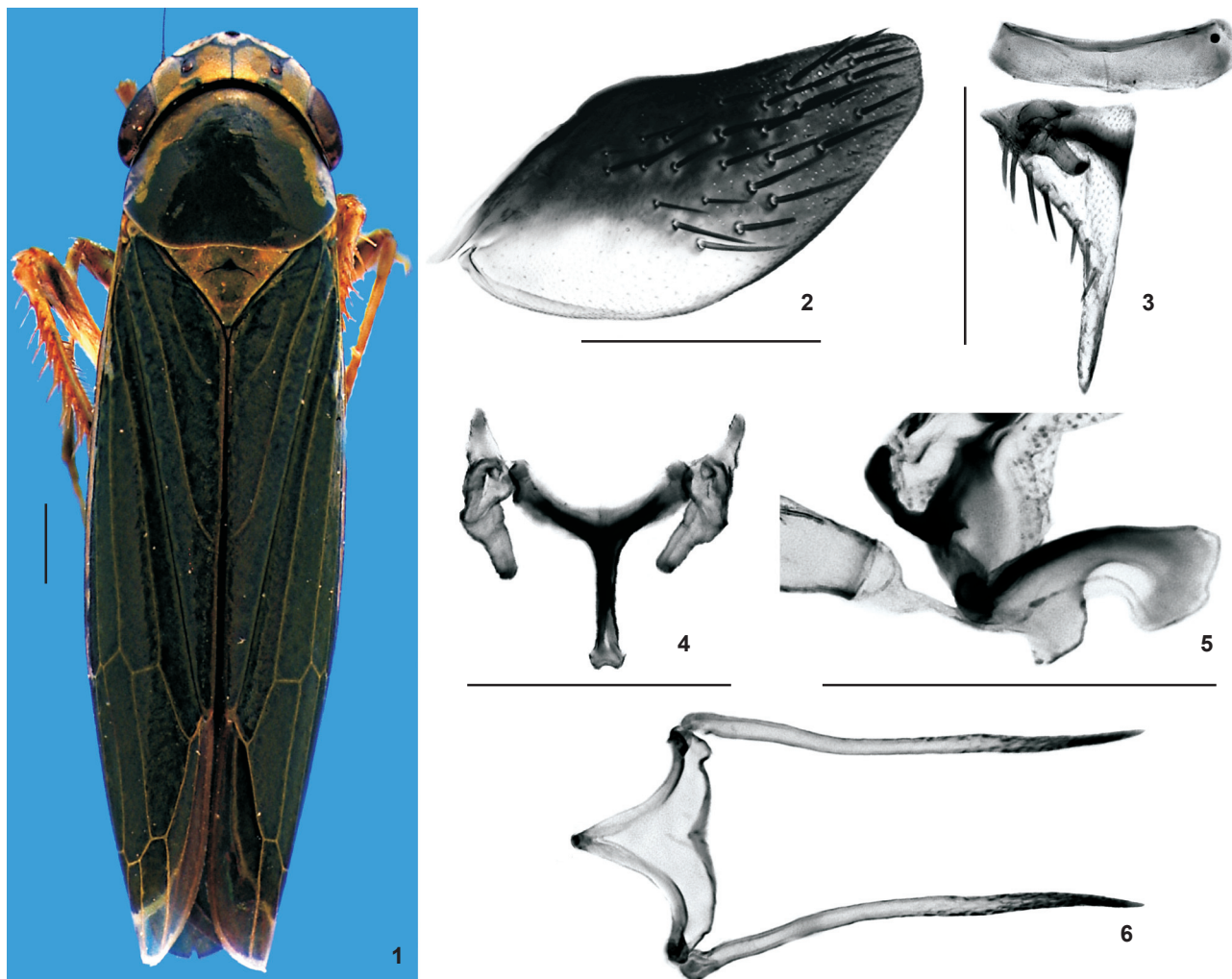
The specimens studied herein are deposited in the following institutions: Instituto Nacional de Pesquisas da Amazônia, Manaus (INPA); Coleção Entomológica Prof. José Alfredo Pinheiro Dutra, Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro (DZJR); and Coleção Entomológica Pe. Jesus Santiago Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba (DZUP). The terminology follows mainly YOUNG (1968, 1977), except for the head structures, which follows HAMILTON (1981) and MEJDALANI (1998). Terminology for the leg chaetotaxy follows RAKITOV (1997). Male terminalia were prepared according to OMAN (1949) with the following modifications: the terminalia were 1) soaked in boiling potassium hydroxide, 2) transferred to lactic acid in a water bath for five minutes, and then 3) transferred to 50% ethanol in a water bath for two minutes to remove air bubbles. Terminalia were analyzed and photographed in glycerin and posteriorly stored in microvials. In quotations of label data, a reversed virgule (\) separates lines on the label.

TAXONOMY

Wolfniana viridis Cavichioli & Takiya, **sp. nov.**

Figs 1-6

Diagnosis. Small-sized sharpshooters; general coloration dark green; crown slightly produced, with anterior margin rounded; pronotum slightly narrower than transocular width, lateral margins slightly convergent anteriorly; aedeagus shaft short and slightly curved ventrally.



Figures 1-6. *Wolfniana viridis* sp. nov., male holotype: (1) dorsal habitus; (2) pygofer, lateral view; (3) valve and right subgenital plate, ventral view; (4) styles and connective, dorsal view; (5) aedeagus, lateral view; (6) paraphyses, dorsal view. Scale bars = 1.0 mm.

Description (male). Length 5.94 (holotype) – 6.12 mm.

Head and thorax. Crown (Fig. 1) slightly produced, anterior margin rounded; median length of crown almost four-fifths of interocular width and one-fourth of transocular width; coronal suture extending anteriorly almost to anterior margin. Pronotum slightly narrower than transocular width, lateral margins slightly convergent anteriorly; posterior margin almost straight. Forewings with distal membrane covering apical half of apical cells. Hindtibiae with anterodorsal row of macrosetae with short intercalary setae (approximately two in between each pair of macrosetae). Other characteristics as in the generic description (CAVICHIOLO 2001).

Coloration. Head (Fig. 1) greenish-yellow; median spot on anterior margin, zig-zag transverse line over epicranial, frontogenal, and temporal (anterior to ocelli) sutures, black;

frons and clypeus black. Pronotum (Fig. 1) dark-green with anterior margin greenish-yellow; prosternum black; pleurae and legs castaneous. Mesonotum (Fig. 1) greenish-yellow; black transverse line over scutoscutellar suture. Forewings (Fig. 1) dark green with translucent membrane.

Male genitalia. Pygofer (Fig. 2) elongate, apex truncate; without process; macrosetae distributed from basal third to apex. Valve (Fig. 3) almost linear; anterior margin broadly concave; posterior margin broadly convex. Subgenital plates (Fig. 3), in ventral view, subtriangular, strongly narrowed on apical third; uniseriate macrosetae from base to apical third; apex acute. Styles (Fig. 4) very short; shorter than connective; apex truncate. Connective (Fig. 4) Y-shaped; arms widely divergent, almost as long as median stalk. Aedeagus (Fig. 5) shaft short; curved ventrally, ventral margin with a medially strong groove;

base and apex broad. Paraphyses (Fig. 6) with broad T-shaped base articulated with rami; rami long and narrow, apical third with pitted sculpturing, apex acute.

Female unknown.

Type material. Brazil, state of Amazonas. Holotype: male, "Ipixuna – Am; Rio\Gregório; Com. [Comunidade] Lago\Grande. Seringal\7°10'6"S 70°49'6"W", "145m – light trap\18-23/V/2011\Cavichioli, Gonçalves & \Takiya" (INPA). Paratype: one male, "Ipixuna – Am; Rio\Liberdade; Com. [Comunidade] São\Vicente (Estirão da\Preta) 7°21'47"S\71°52'7"W", "175m – Malaise\11-14/V/2011\Cavichioli, Gonçalves & \Takiya" (DZUP).

Etymology. The new species epithet refers to the completely dark green general color, which distinguishes it from the only other known *Wolfniana* species.

Remarks. *Wolfniana viridis* **sp. nov.** is assigned to *Wolfniana* based on features discussed in the introduction. The new species is very similar to *W. limbatula*, but it can be readily distinguished from it by: 1) color pattern lacking orange markings on head, pronotum, and forewing commissure; and 2) aedeagus shaft with apex broadly expanded.

The new species was collected in the municipality of Ipixuna, state of Amazonas, in a *terra-firme* forest along Gregório and Liberdade rivers, somewhat close to the borders of the state of Acre and Peru. Specimens were collected with mixed mercury light and Malaise traps. *Wolfniana* is known only from the Amazon basin, considering that specimens of *W. limbatula* were studied from Brazil (Amazonas, Mato Grosso, and Rondônia states) and Ecuador (CAVICHOLI 2001), and recorded by YOUNG (1977) from French Guiana. Records of this species from Southern Brazil (YOUNG 1977, CAVICHOLI 2001) are erroneous. They were based on localities listed by OSBORN (1926) that are actually in the state of Rondônia (Santo Antônio de Guaporé and Rio Guaporé near Porto Príncipe, along Guaporé river, on the border with Bolivia). YOUNG (1977) lists this species as occurring in Costa Rica. However, photographed specimens from Costa Rica deposited at the North Carolina State University (WILSON *et al.* 2009) have a very different color pattern and might represent a different species or genus.

Rotigonalia concedula (Melichar, 1926)

Material studied. Four males and three females from Brazil, state of Amazonas. One male and one female, "Ipixuna – Am; Rio\Liberdade; Com. [Comunidade] São\Vicente (Estirão da\Preta) 7°21'47"S\71°52'7"W", "175m – Sweep\11-14/V/2011\Cavichioli, Gonçalves & \Takiya" (INPA); one male and one female, same data as preceding (DZURJ); one male, same data as preceding, except "Malaise" instead of "Sweep" (INPA); one male and one female, "Ipixuna – Am; Rio\Gregório; Com. [Comunidade] Lago\Grande. Seringal\7°10'6"S 70°49'6"W", "145m – sweep\18-23/V/2011\Cavichioli, Gonçalves & \Takiya" (DZUP).

Remarks. This species was previously known from Bolivia and Peru (YOUNG 1977) and was the only *Rotigonalia* not recorded from Brazil.

Rotigonalia curvula Cavichioli, 2000

Material studied. One male from Brazil, state of Amazonas. One male, "Ipixuna – AM, Rio\Liberdade, Com. [Comunidade] São\Vicente (Estirão da\Preta) 7°21'47"S\71°52'7"W", "175m Malaise\11-14/V/2011\Cavichioli, Gonçalves & \Takiya" (INPA).

Remarks. This species was described from the state of Pará, Brazil, and is herein firstly recorded from Amazonas State.

ACKNOWLEDGMENTS

A preliminary version of this manuscript benefited from comments and corrections by Gabriel Mejdalani (Museu Nacional, Universidade Federal do Rio de Janeiro) and two anonymous reviewers. The senior author is a research productivity fellow from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq; process 303.127/2010-4). This research was partially funded by PROTAX/CNPq research grants to the senior (process 561.298/2010-6) and junior (process 562.303/2010-3) authors. This paper is contribution number 1866 of the Departamento de Zoologia, Universidade Federal do Paraná. Collection of the specimens was possible thanks to the project "Amazonas: Diversidade de insetos ao longo de suas fronteiras", headed by José A. Rafael (INPA, PRONEX, FAPEAM, process 1437/2007/NT0318/07).

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Submitted: 08.XI.2011; Accepted: 17.I.2012.
Editorial responsibility: Gabriel L.F. Mejdalani