

**A NEW SPECIES OF *WAORANIELLA* (PSOCODEA:
'PSOCOPTERA': LACHESILLIDAE: EOLACHESILLINAE)
FROM THE RESERVA FLORESTAL DUCKE,
AMAZONAS, BRAZIL**

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ABSTRACT. *Waoraniella vidali* n. sp., the second species in the genus, is described and illustrated on the basis of a male from Amazonas, Brazil. The hypandrium and clunium are autapomorphic for the family. The phallosome is similar to that of *Eolachesilla*, and the character state "Forewing Rs-M joined by a crossvein" is found to appear in three genera of the subfamily Lachesillinae. Thus *Waoraniella* and *Eolachesilla* are close, and the genera of Graphocaeciliini stand apart in the subfamily.

Key words. Taxonomy, Amazonia, neotropics, Waoraniellini.

García Aldrete, A. N. y E. L. Mockford. Una nueva especie de *Waoraniella* (Psocodea: 'Psocoptera': Lachesillidae: Eolachesillinae) de la Reserva Forestal Ducke, Amazonas, Brasil. *Acta Zool. Mex. (n. s.)*, 27(1): 123-127.

RESUMEN. Se describe aquí *Waoraniella vidali* n. sp., la segunda especie en el género, con base en un macho colectado en Amazonas, Brasil. El hipandrio y el clunio son autapomórficos para la familia, mientras que el falosoma es similar al de *Eolachesilla*; el estado de carácter "Venas Rs-M del ala anterior unidas por una vena transversal", se encuentra en tres géneros de la subfamilia Lachesillinae. *Waoraniella* y *Eolachesilla* son cercanas, y los géneros de la tribu Graphocaeciliini constituyen un grupo aparte en la subfamilia.

Palabras clave. Taxonomía, Amazonia, neotropical, Waoraniellini.

INTRODUCTION

The genus *Waoraniella* García Aldrete, is known from two females collected in the Waorani Ethnic Reserve, in Napo, Ecuador (0°30'10''S: 76°26'00''W); they constitute the type series of *W. erwini* (Lachesillidae: Eolachesillinae: Waoraniellini) (García Aldrete 2006).

One single male, belonging in the subfamily Eolachesillinae (cf. Key to subfamilies of Lachesillidae, in García Aldrete 2006), was found in the Collection of Invertebrates of the Instituto Nacional de Pesquisas da Amazônia, in Manaus, Amazonas, Brazil, made available for study by Dr. José Albertino Rafael, researcher of that institution. This specimen was assigned to *Waoraniella* García Aldrete because it falls within the diagnoses of the tribe Waoraniellini and of the genus (*e. g.*, with ocelli; epistomal sulcus developed only laterally, not present dorsally; lacinia bicuspid, with outer cusp bidentate; tarsi two segmented; Rs stem in forewing flexuous; Rs-M in forewing joined by a crossvein; fore- and hindwing membranes with abundant microtrichia; veins in basal half of forewing [except Cu2] with two rows of setae; areola postica small; pterostigma much broader posteriorly).

The character state "Forewing Rs-M joined by a crossvein" has appeared three other times in the family, in the Lachesillinae genera *Hemicaecilius*, *Lachesilla* and *Nadleria*. The specimen here dealt with can not, for obvious reasons, be assigned to any of those genera. This specimen is of considerable interest, as it provides information on the male sex of the genus, and because it was collected some 1900 km E of the type locality of *W. erwini*.

The specimen above is here described and illustrated as a new species, at the risk of creating a synonym with *W. erwini*, minimized, we believe, by the distance between the two collecting localities, and because the areola postica in the Brazilian specimen is distinctly higher and narrower than in the Ecuadorian specimens.

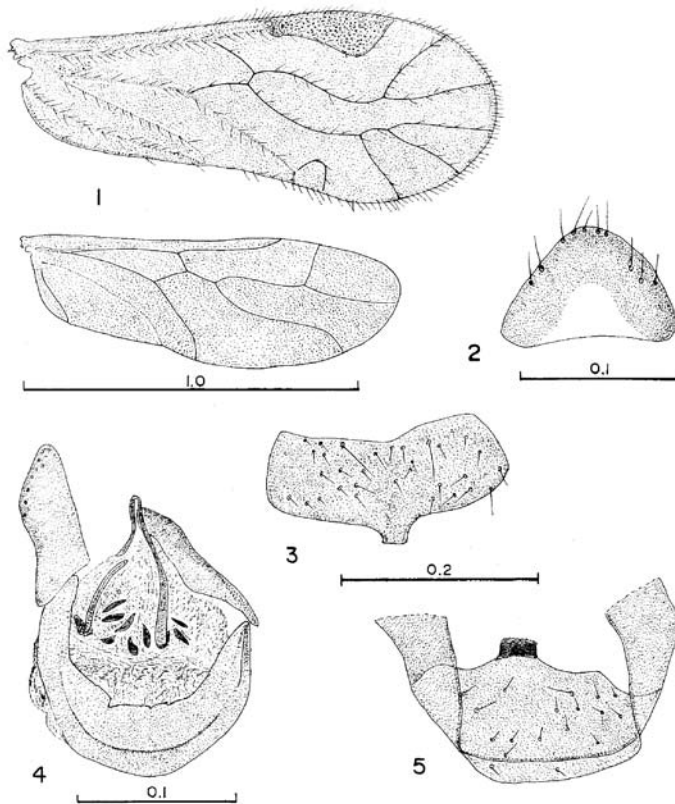
MATERIAL AND METHODS

One male specimen was available for study; color was recorded by placing it in 80% ethyl alcohol, under a dissecting microscope, illuminated with white cold light at 80X. The specimen was dissected in 80% ethyl alcohol and its parts (head, right legs and wings, and genitalia) were mounted on a slide in Canada Balsam. Illustrations were made with a drawing tube, and measurements were taken with a filar micrometer and are stated in μm . Abbreviations of body parts measured are as follows: FW and HW: lengths of right fore- and hind- wings, F, T, t1, and t2: lengths of femur, tibia, and tarsomeres 1 and 2 of right hind leg, ctt1: number of ctenidia on t1 of right hind leg, fl...fn: lengths of flagellomeres 1...n of right antenna, IO, D and d: minimum distance between compound eyes, antero-posterior diameter, and transverse diameter of right compound eye respectively, in front view of head, PO: d/D. The male holotype

will be deposited in the Collection of Invertebrates, Instituto Nacional de Pesquisas da Amazônia, Manaus, Amazonas, Brazil.

Family Lachesillidae
Subfamily Eolachesillinae
Tribe Waoraniellini
***Waoraniella vidali* n. sp. (♂).**
(Figs. 1-5)

Color. Ground color orange brown. Compound eyes black, ocelli hyaline, with ochre centripetal crescents. Wings with a dark orange hue. Abdomen with brown, transverse subcuticular rings, less pigmented ventrally.



Figures 1-5. Structures of *Waoraniella vidali* n. sp. (♂). 1. Fore- and hind-wings. 2. Epiproct. 3. Hypandrium. 4. Phallosome. 5. Clunium. Scales in mm. Fig. 5 to scale of Fig. 3.

Morphology. As in generic diagnosis (García Aldrete, 2006), plus the following: Five distal labral sensilla, in line, a central placoid, flanked by two trichoids. Pretarsal claw with a small pre-apical denticle, pulvillus broad. Wings (Fig. 1) as in generic diagnosis (cf. Introduction above and García Aldrete 2006). Hypandrium (Fig. 3) broad, setose, with a posterior truncate projection in the middle. Clunium (Fig. 5) projected posteriorly over the area of the epiproct to form a strongly sclerotized, almost rectangular extension, with the posterior edge straight, with small indentations. Phallosome (Fig. 4) closed anteriorly, with border rounded; aedeagal arch narrowing posteriorly; external parameres broad, blunt ended, with a row of pores on outer edge posteriorly; endophallus with nine small, elongate, spindle shaped sclerites. Epiproct (Fig. 2) broad, rounded posteriorly, with pigmented area deeply concave anteriorly, setae as illustrated. Paraprocts lost in preparation.

Measurements. FW: 1477, HW: 1129, F: 362, T: 614, t1: 212, t2: 88, ctt1: 13, f1: 193, f2: 159, IO: 289, D: 170, d: 78, IO/d: 3.7, PO: 0.45.

Type locality. Brazil. Amazonas. Reserva Florestal Adolpho Ducke (03°08'S: 60°02'W), 26 km NE Manaus, Rodovia AM 010. IX.2004. Malaise trap, Mata. Joao F. Vidal. Holotype ♂.

Etymology. This species is dedicated to Joao F. Vidal, for many years technician of the Collection of Invertebrates of the Instituto Nacional de Pesquisas da Amazônia (INPA), in recognition to his expertise and enthusiasm as insect collector of that Institution.

DISCUSSION

The description of *W. vidali* broadens the diagnosis of the genus (García Aldrete 2006) with the following male characters: Hypandrium with a truncate posterior projection in the middle. Clunium with a posterior rectangular projection over the area of the epiproct, the posterior edge of which presents small indentations. Phallosome closed anteriorly, external parameres broad, endophallus with small, spindle shaped sclerites.

The hypandrium and clunium of *Waoraniella* are autapomorphic, and the phallosome bears more resemblance to the phallosome of *Eolachesilla* (Eolachesillini), than to the phallosomes in the genera of Graphocaeciliini. In *Waoraniella* and *Eolachesilla* the phallosome is closed anteriorly, rounded; the external parameres are broad, distally blunt, and the endophallic sclerites are small, whereas in the genera of Graphocaeciliini, the phallosome is also closed anteriorly, but it is straight or extended anteriorly in the middle, the external parameres are often distally pointed, and the endophallus is compact, radula-like, or with large sclerites.

Considering the above, *Waoraniella* and *Eolachesilla* are close, and the genera of Graphocaeciliini (*Graphocaecilius*, *Anomopsocus*, *Antilachesilla*, *Prolachesilla*, *Nanolachesilla*, *Tricholachesilla*, *Mesolachesilla*, and *Notolachesilla*) stand apart in

the subfamily. Presence of the character state “Forewing Rs-M joined by a crossvein” in the Lachesillinae genera *Hemicaecilius*, *Lachesilla* and *Nadleria* constitutes an independent event.

One of us (ELM), has found a female *Waoraniella*, that represents a species different from *W. erwini*, from Indiana, Peru, down river from Iquitos, in the area where the Napo and the Amazon rivers come together; this maintains *Waoraniella* as an endemic Amazonian genus.

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