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A New Species of *Neoblattella* Shelford (Blattellidae: Pseudophyllodromiinae) from Amazonas State, Brazil

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Abstract

Neoblattella mista sp. nov. is described and illustrated based on male genitalia and morphological characters of a single specimen collected in the town of Coari, State of Amazonas, Brazil. By studying the literature on the genus, we determined that *N. mista* sp. nov. differs from the other four known complexes in the morphology of its genital structures, including the supra-anal plate, subgenital plate, right and left phallomeres, median genital sclerite and tergal modification in the abdomen, and is placed in the new "mista complex".

Introduction

Neoblattella was described by Shelford (1911) based on *Blatta adspersicollis* (Ståll). Rehn (1915) described a new species of this genus from Argentina, *N. puerilis* Rehn, based on a female; and *N. sucina* Rehn from Pará, Brazil, later in 1932. Bruijning (1959) transferred three species of the genus *Neoblattella* to his newly erected genus *Nahublattella*, and included *Na. aristonice* (Hebard), *Na. incompta* (Hebard) and *Na. nahua* (Saussure), differing from *Neoblattella* by the tergal modification in the fifth tergite of the abdomen of the male, which forms a pouch on each side and occasionally have cilia scattered on the seventh tergite; subgenital plate symmetrical with long styles, located laterally near the lateral edges of the plate; supra-anal plate with median notch demarcated. He also included six species of *Neoblattella* known in the adspersicollis group: *N. adspersicollis* (Stål); *N. binodosa* Hebard, *N. poecilops* Hebard, *N. longior* Hebard, *N. unifascia* Hebard, and *N. guianae* Hebard. Princis (1969) listed 34 species of *Neoblattella* in his "Orthopterorum Catalogus". Princis (1971) added two more species to the list (*N. guadeloupensis* and *N. perdentata* by Bonfils (1969) from Guadeloupe Islands) in his "Corrigenda et addenda" of the last part of the world Catalogue, and Rocha e Silva-Albuquerque & Lopes (1976) described *Neoblattella carvalhoi* from Brazil. Lopes & Oliveira (2004a) added new records for Brazil and proposed a new status for *N. livida* Rocha e Silva-Albuquerque and *N. laodamia* Rehn & Hebard, placing both taxa in the genus *Nahublattella*, reaffirming to Princis (1969). Beccaloni (2007) listed 37 species, but one of them, *N. sooretamensis* Rocha & Silva Albuquerque, was considered a synonym of *Amazonina conspersa* (Brunner von Wanttenwyl) (Pellens & Grandcolas, 2008). Lopes & Khouri (2009) described two species from Amazonas State, Brazil (*N. amazonensis* and *N. poecilopensis*) and reported a new distribution record of *N. longior*.

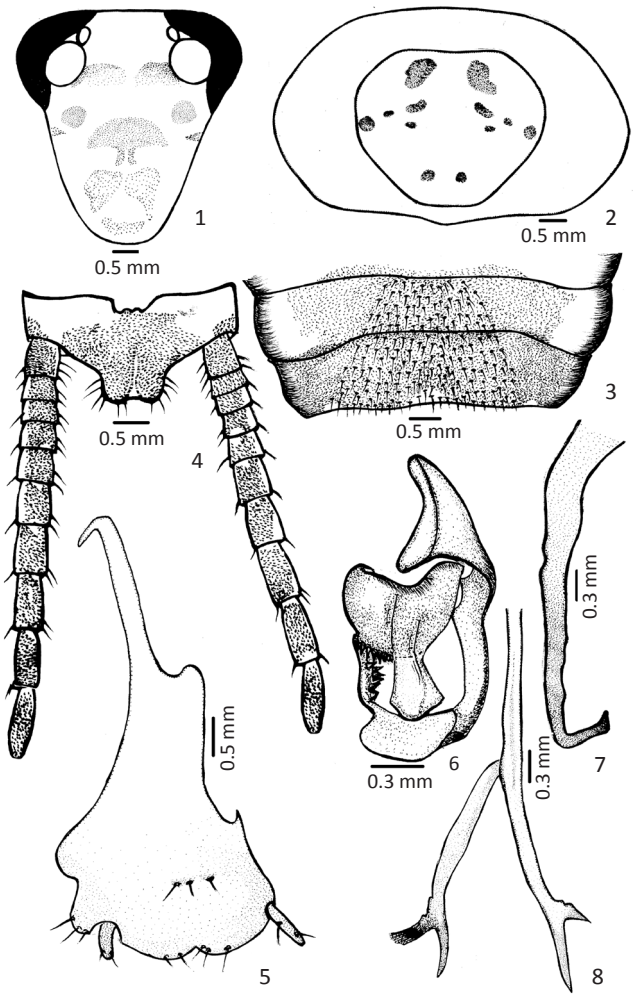
The 36 known species of the genus *Neoblattella* are distributed as follows: in South America (18 species), and in the West Indies (Antillean islands) and Florida, United States (18 species). Of the 18 South American species, 15 occur in Brazil: *N. amazonensis* Lopes & Khouri, *N. adspersicollis* (Stål), *N. binodosa* Hebard, *N. carvalhoi* Rocha e Silva & Lopes, *N. elegantula* Rocha e Silva, *N. guianae* Hebard, *N. longior* Hebard, *N. paulista*

Rocha e Silva & Gurney, *N. picta* Rocha e Silva & Gurney, *N. poecilops* Hebard, *N. poecilopensis* Lopes & Khouri, *N. puerilis* Rehn, *N. sucina* Rehn, *N. titania* Rehn, and *N. unifascia* Hebard.

Species of *Neoblattella* are characterized by the male abdomen with a tergal modification on the sixth, seventh, and eighth segments or only on the seventh segment, in the form of scattered cilia; a pronounced supra-anal plate between the cerci, with margins straight and convergent; subgenital plate symmetrical, styles equal, tapering, and arranged next to the edges of the plate; genital median sclerite bifurcated, with its apex variously shaped. According to the configuration of the genital plate and median sclerite, species can be grouped in the longior, carvalhoi, adspersicollis, and unifascia complex (Lopes & Oliveira 2004b).

Material and Methods

The genital structures of the male specimen were examined by removing the apex of the abdomen, using traditional dissection techniques as described by Lopes & Oliveira (2000) and Gurney *et al* (1964). The terminology used for describing the structures and the position in the subfamily Pseudophyllodromiinae followed Roth (2003). Images were taken with a Canon Power Shot SX20 IS-12.1 megapixels, Zoom 20x digital camera and the drawings were digitized using a video camera. The studied material is deposited in the entomological collection in the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ).



Figs 1-8 *Neoblattella mista* sp. nov. (holotype ♂) (mista complex). 1) head, ventral; 2) pronotum, dorsal; 3) tergal modification in the abdomen; 4) supra-anal plate, dorsal; 5) subgenital plate, ventral; 6) left phallomere, dorsal; 7) right phallomere, dorsal; 8) median sclerite, dorsal.

Neoblattella mista sp. nov. (Fig 1)

Holotype male. General coloration glassy-clear, bright brown. Head with brown spots on the clypeus and the interocular space; front with small dark-brown spots. Pronotum, central disk with scattered and symmetrical dark-brown spots. Tegmina and wings with dark-brown tips. Legs dark brown, spine insertions light brown. Arolium brown, and claws on the apex darker. Abdomen of male yellow-brown with darker markings.

Head small and sub-triangular, exposed under the pronotum. Large interocular area about two-thirds the size of the space between the bases of the insertions of the antennae (Fig 1). Antennae long and tomentose. Maxillary palp with the first and second segments smaller than the third and fourth which are subequal in size, and the fifth segment tomentose and spatulate, larger than the preceding ones.

Pronotum elliptical with central disk hexagonal (Fig 2). Anterior legs with ventro-cephalic margin of the fore femur with a series of spines that gradually decrease in size of the base towards the apex, with two pre-apical spines and one apical (Type A), ventro-caudal margin with four large spaced spines, and one more apical; mid femur with ventro-cephalic margin with three spines developed and spaced, with one apical spine; ventro-caudal margin with a row of spines at the base and one row of three to four spines toward the apex; presence of geniculate spine. Hind femur with a series of four to five spines on ventro-cephalic margin; ventro-caudal margin with a row of four spaced spines. Pulvilli present on tarsal segments and most developed on fourth segment, arolia developed to the length of the claws, which are symmetrical and specialized. Tegmen with marginal field narrow, elongated and slightly concave; elongated scapular field, convex, and the arrangement of the veins oblique; discoidal field broad, convex, and with the veins

arranged longitudinally; anal field broad and convex. Long wing, costal area with tips of branches of radial not clubbed, apical triangle and anal sector folding fanwise.
Abdomen. Tergal modification on the seventh and eight segments, with sparse cilia on the segment (Fig 3). Supra-anal plate ciliated, slightly enlarged, with the median portion prominent and straight, and with cilia concentrated latero-apically. Cerci sharply tapering, with 12 segments (Fig 4). Subgenital plate symmetrical, broad, with slight median indentation apical; styles long and tapering, located near the lateral edges of the plate (Fig 5). Genitalia with left phallomere medially sclerotized and apically rounded (Fig 6); right phallomere hook-shaped, with thin apex (Fig 7); genital median sclerite bifurcated (Fig 8).
Measurements (mm), holotype male. Total length 24; length of pronotum 4; width of pronotum 6; length of tegmina 20; width of tegmina 6.

Material examined. Holotype male, Brazil, Amazonas, Coari, Rio Urucu, Ruc-36, 4º55'53"S and 65º18'13"W, 25/II-10/III/1955, Coll. P. Bührnheim.

Etymology. From the Latin "mixtus –a -um," past participle of misceo.

Comments. *Neoblattella mista* sp. nov. has features similar to *N*. *binodosa* in the configuration of the pronotum, to *N*. *adspersicollis* in the configuration of the left phallomere, particularly the small number of spines, and also in the right phallomere, and to *N*. *unifascia* in the subgenital plate. It differs from other species of the genus, among other characters, in the apical portion of the supra-anal plate and the configuration of the median sclerite. The male of *N*. *mista* sp. nov. does not fit into any of the four known species complexes, thus we have erected the new "mista complex" in order to accommodate it. *Neoblattella mista* differs from the others complexes (i.e., longior, carvalhoi, adspersicollis, and unifascia) mainly in the morphology of its genital structures, including the supra-anal plate, subgenital plate, right and left phallomeres, median genital sclerite and tergal modification in the abdomen.

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