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## A new species of *Lachesilla* (Psocodea: 'Psocoptera': Lachesillidae) from Dominica, representing a new species group

### Una especie nueva de *Lachesilla* (Psocodea: 'Psocoptera': Lachesillidae) de Dominica, que representa un nuevo grupo de especies

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**Abstract.** A new species of *Lachesilla*, from Cabrits National Park, St. John's Parish, Dominica, is here described and illustrated. The phallosome is V-shaped, and it is autapomorphic in having the distal ends of the apodeme arms articulated to each clasper. Based on these characters, a new species group is created, close to the *L. forcepeta* and *L. palmera* species groups (the latter also diagnosed in this paper). The holotype is deposited in the National Insect Collection (CNIN), Instituto de Biología, Universidad Nacional Autónoma de México, Mexico City.

Key words: taxonomy, Lesser Antilles, *Lachesilla* species groups, new species.

**Resumen.** Se describe e ilustra una nueva especie de *Lachesilla*, procedente de Cabrits National Park, St. John's Parish, Dominica. El falosoma tiene forma de V, y es autapomórfico en tener los extremos distales de los brazos articulados a cada cláspen. Con base en estos caracteres, se crea un nuevo grupo de especies, cercano a los grupos de *L. forcepeta* y *L. palmera* (este último también definido en este trabajo). El holotipo está depositado en la Colección Nacional de Insectos (CNIN), alojada en el Instituto de Biología de la Universidad Nacional Autónoma de México, México, D. F.

Palabras clave: taxonomía, Antillas Menores, grupos de especies de *Lachesilla*, especie nueva.

## Introduction

Only 5 species of Psocoptera have been recorded from the Lesser Antillean island of Dominica: *Troctopsocopsis intermedia* Mockford, *Spurostigma dominica* Eertmoed, *S. insula* Eertmoed, *Willreevesia dominica* García Aldrete, and *Lachesilla dominicaensis* García Aldrete (see <http://www.ville-ge.ch/mhng/psocoptera/page/ps04dom.htm>; García Aldrete 2005). Besides the described species, I have records of *Soa flaviterminata* Enderlein, *Proentomum personatum* Badonnel, *Pseudocaecilius citricola* (Ashmead), *P. tahitiensis* (Karny), *Ectopsocus titschacki* Jentsch, and *Graphocaecilius cruciatus* (Linnaeus). Other species in the genera *Echmepteryx*, *Nepticulomima*, *Psyllipsocus*, *Lithoseopsis*, *Valenzuela*, *Mesepipsocus*, *Hemipsocus*, *Blaste*, *Metylophorus*, *Ptycta*, *Indiopsocus* and *Lichenomima* also occur in the island (pers. inf.).

I describe herein a new species of *Lachesilla*, the second known in Dominica, with a distinct autapomorphic character, so unique in the genus that it deserves the

creation of a new species group. *Lachesilla* is a large and diverse genus (288 described species worldwide, plus about an additional hundred awaiting description [<http://psocodea.speciesfile.org>; Mockford and García Aldrete (2010); pers. inf.]), in which presently 17 species groups have been recognized (pers. inf.), some with only 1 species each (e.g. the *L. cerorma*, *L. magnifica*, *L. patzunensis* and *L. szirakii* species groups), ranging to large groups as *L. forcepeta* and *L. pedicularia*, with 94 and 81 described species respectively.

## Material and methods

One male specimen was available for study. It was dissected in 80% ethyl alcohol and its head, wings, legs and genitalia were mounted on a slide in Canada Balsam. Color was recorded placing the whole specimen, before dissection, in 80 % ethyl alcohol under the dissecting microscope, illuminated with cold white light at 80X. Measurements of parts on the slide were taken with a filar micrometer whose measuring unit is 136  $\mu$ m for wings, and 53  $\mu$ m for other parts. Abbreviations of parts measured are the following: FW and HW: length 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 ctenidobothria on t1 of right hind leg, Mx4: length of fourth segment of right maxillary palp, f1...fn: lengths of flagellomeres 1...n of right antenna, IO, D and d: minimum distance between compound eyes, antero-posterior diameter and transverse diameter, respectively, of right compound eye, all in dorsal view of head, PO: d/D. The holotype is deposited in the National Insect Collection (coden CNIN for Colección Nacional de Insectos), housed in the Instituto de Biología, Universidad Nacional Autónoma de México, Mexico City.

## Description

*Lachesilla clavicularis* n. sp. (♂) (Figs. 1-4)

**Diagnosis.** Phallosome apodeme V-shaped, each arm distally articulated with an excavation of the clasper; and paraprocts with slender, sclerotized mesal prong.

**Color.** Body pale brown. Compound eyes black, ocelli hyaline, without pigmented centripetal crescents. Flagellomeres 3-11 more pigmented than flagellomeres 1-2. Wings hyaline, veins brown. Tergal lobes of meso- and metathorax slightly more pigmented than rest of the thorax. Abdomen whitish, with dark brown subcuticular rings.

**Morphology.** Forewing pterostigma almost rectangular, slightly wider posteriorly, veins Rs-M fused for a short distance, areola postica almost triangular, slightly slanted posteriorly. Hindwing veins Rs-M fused for a distance (Fig. 3). Hypandrium almost trapeziform, broad, setose, posteriorly rounded (Fig. 2). Proximal halves of claspers elongate, sclerotized, bearing mesally 1 long setae; distal halves slender, slightly curved outwards, acuminate, each with a basal concavity on inner side, that receives the distal end of each phallosome apodeme arm, these long, slender, distally dilated and curved outwards, to articulate with the inner side of each clasper (Fig. 2). Epiproct lost in preparation. Paraprocts broad, setose, with a sclerotized, slender mesal prong; sensory fields circular, surrounded by a sclerotized area, bearing 9-10 trichobothria on basal rosettes, and a marginal trichobothrium without basal rosette (Fig. 4).

**Measurements.** FW: 1284, HW: 1016, F: 266, T: 504, t1: 180, t2: 70, ctt1: 18, Mx4: 72, f1: 196, f2: 155, f3: 134, f4: 112, 10: 223, D: 130, d: 75, IO/d: 2.09, PO: 0.58.

## Taxonomic summary

**Holotype male.** Dominica. Parish of St. John. Cabrits National Park. 15°35'N: 61°28.3'W, 100m., 19-20.III.2003.

Malaise trap in dry deciduous forest. M. E. Irwin *et al.*

**Etymology.** The specific name refers to the articulation between the distal ends of the arms of the phallosome and the claspers, reminiscent of the sterno-clavicular joint in man.

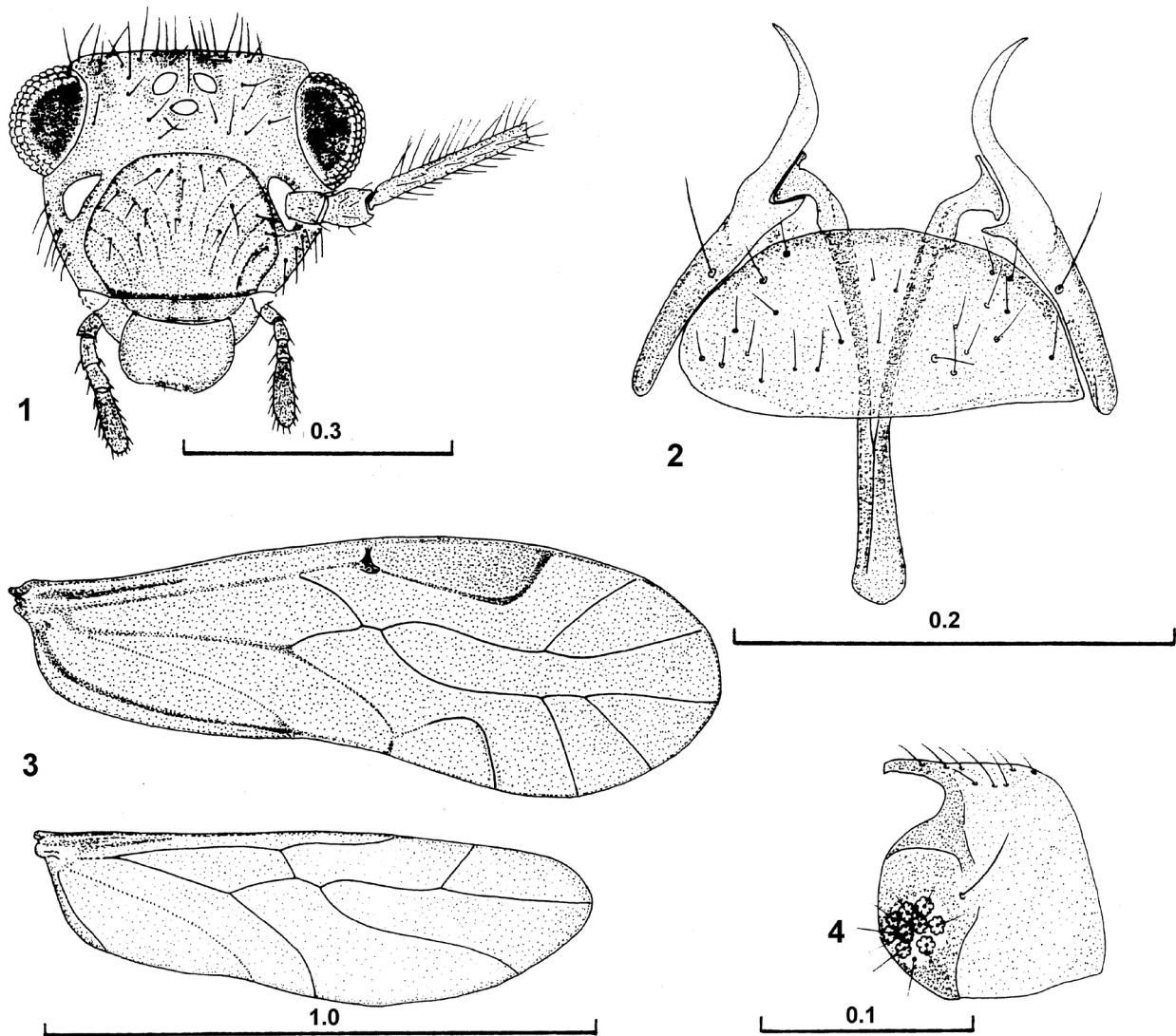
## Remarks

In the large genus *Lachesilla*, the males of the species in the *L. forcepeta* (García Aldrete, 1974; Mockford, 1993) and *L. palmera* (diagnosed below) species groups, and in *L. clavicularis*, present the same structural plan of the male genitalia. However, males of the species in the *L. forcepeta* species group do not have a mesal prong in the paraprocts; except for some species with a short, sclerotized mesal prong in each paraproct. In some species, the male epiproct is either extended posteriorly, or presents 1 or 2 sclerotized posterior projections; in most species, however, the epiproct is simple, not extended posteriorly and without projections. On this basis, it seemed sensible to withdraw, from species group *forcepeta* the species indicated below, to erect the species group *palmera*, diagnosed as follows:

***L. palmera* species group.** With the characters of the *L. forcepeta* species group, but with males having a well defined mesal paraproctal prong, and epiproct either extended posteriorly in the middle or with 1 or 2 sclerotized posterior projections. Included species: *L. acuminiproctus* García Aldrete, *L. amarilla* New, *L. capreola* New, *L. palmera* New, *L. bicornata* New & Thornton, and *L. pereirorum* García Aldrete.

In the species of this group, the males have the phallosome apodemes fused to form a long, slender baculum, T-shaped distally (*L. acuminiproctus*), ending in a pointed apophysis (*L. amarilla* and *L. pereirorum*), or divided distally, with a membranous lamella on each side. The claspers of the males in this group are either basally stout, with numerous setae and with the distal half pointed (*L. acuminiproctus* and *L. bicornata*), or they are long, slender (*L. palmera*), and with lateral, pointed apophyses (*L. amarilla*, *L. capreola*, and *L. pereirorum*). These characters differ from the V-shaped phallosome apodemes and from the claspers of *L. clavicularis* (basally slender, with a single seta, and with the distal half slender and distally acuminate). *Lachesilla clavicularis* is close to species group *L. palmera*, but cannot be assigned to it, or in the *L. forcepeta* species group, mainly on the basis of the V-shaped phallosome, and to the unique articulation of the branches of the phallosome with an excavation of the claspers, that deserves the creation of a new species group, diagnosed as follows:

***L. clavicularis* species group.** With the characters of the *L. palmera* species group, but having the phallosome apodemes



**Figures 1-4.** *Lachesilla clavicularis* n. sp. (♂). 1, front view of head; 2, hypandrium, phallosome apodeme and claspers; 3, fore- and hind- wings; 4, right paraproct. Scales in mm.

V-shaped, each branch articulating with an excavation of the clasper, unique in the genus (see Fig. 2).

With the above, the species groups presently recognized in *Lachesilla*, stand as follows: *L. andra*, *L. centralis*, *L. cerorma*, *L. clavicularis*, *L. corona*, *L. forcepeta*, *L. fuscipalpis*, *L. magnifica*, *L. palmera*, *L. palmicola*, *L. patzunensis*, *L. pedicularia*, *L. q*, *L. riegeli*, *L. rufa*, *L. sclera*, *L. szirakii*, and *L. texcocana*. The diagnosis of each group, the species in each and their distribution will be

treated separately.

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