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ARTICLE

Description of two new species of *Prosapia* (Hemiptera: Cercopidae) from the Nearctic and Neotropics, with a key to species of the *P. inferens* species group

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Abstract
Insects in the subfamily Ischnorhininae (Hemiptera: Auchenorrhyncha: Cercopidae), known as spittlebugs or froghoppers, are mainly distributed in the Neotropical region. A few genera include pest species of economic relevance, including *Prosapia* Fennah, 1949. Two new species from Mexico and Costa Rica are now described for this genus, and a key to species is proposed for the *P. inferens* (Walker, 1858) species group.

Introduction

Species in the subfamily Ischnorhininae (Hemiptera: Auchenorrhyncha: Cercopidae) are known as spittlebugs or froghoppers and are mainly distributed in the Neotropical region (Carvalho and Webb 2005). One of the genera in this subfamily is *Prosapia* Fennah, 1949, which initially consisted of *Prosapia bicincta* (Say, 1830) (the type species), *Prosapia inferens* (Walker, 1858), and *Prosapia simulans* (Walker, 1858) (Fennah 1949). Four years later, Fennah (1953) recognised others species and subspecies: *P. bicincta augusta* (Walker, 1851), *P. bicincta basalis* (Walker, 1851), *P. bicincta bicincta*, *P. bicincta bifascia* (Walker, 1851), *P. bicincta fraterna* (Uhler, 1863), *P. bicincta ignipecta* (Fitch, 1856), *P. latens latens* (Fennah, 1953), *P. latens turrialbae* (Fennah, 1953), *P. plagiata* (Distant, 1878), *P. simulans mulieris* (Fennah, 1953), *P. simulans ripalis* (Fennah, 1953), *P. simulans simulans*, *P. simulans sordida* (Fennah, 1953), *P. simulans teapana* (Fennah, 1953), *P. simulans unifasciata* (Lallemand, 1927), and *P. simulans zunilana* (Fennah, 1953).

Twenty-four years later, Hamilton (1977) revised the genus and synonymised some subspecies: five subspecies under *P. bicincta*, three subspecies under *P. simulans*, *P. simulans sordida* under *P. ripalis*, *Sphenorhina biformis* (Lallemand, 1927) under *P. plagiata*, *P. latens turrialbae* under *P. latens*, and *P. simulans zunilana* under *P. teapana*. Hamilton (1977) restored other names to valid species: *P. inferens*, *P. ignipectus* (Fitch, 1856), and *P. miles* (Fowler, 1897). Finally,

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Hamilton (1977) described five new species: *P. ignifera* Hamilton, 1977; *P. chiapana* Hamilton, 1977; *P. fortior* Hamilton, 1977; *P. hemelytra* Hamilton, 1977; and *P. isobar* Hamilton, 1977 and presented a dichotomous key to identify the 14 species he revised.

The compilation by Carvalho and Webb (2005) recognised the 14 species by Hamilton (1977) and also added *Prosapia flavifascia* (Meltcalf and Bruner, 1925). They also restored five subspecies: *P. latens turrialbae*, *P. simulans mulieris*, *P. simulans sordida*, *P. simulans unifasciata*, and *P. teapana zunilana*.

In research based on morphological characters by Paladini *et al.* (2015), *Prosapia* was assigned to a clade formed with the genera *Aeneolamia* Fennah, 1949 and *Isozulia* Fennah, 1953. The latest molecular phylogenetic analysis of Ischnorhininae (which included five species of *Prosapia*) showed the clade formed by the genus *Iphirhina* Fennah, 1968 and *Tomaspis biolleyi* (Distant, 1909) (*incertae sedis*) as a group related to *Prosapia* (Paladini *et al.* 2018).

Since the revision of the genus by Hamilton (1977) and the compilation by Carvalho and Webb (2005), no new species have been added. In this report, we describe one new species from Mexico and one new species from Costa Rica and present a dichotomous key to males in the *P. inferens* species group (*sensu* Hamilton 1977).

Materials and methods

Specimens were examined and deposited in the following collections:

CACH – Colección Entomológica, Ciencias Agronómicas de Chiapas, Universidad Autónoma de Chiapas, Villaflores, Chiapas, Mexico.
CCFT – Colección de Artrópodos Asociados a Cultivos de la Región del Soconusco, Chiapas, El Colegio de la Frontera Sur, Unidad Tapachula, Tapachula, Chipas, Mexico.
CEAM – Colección de Insectos del Colegio de Posgraduados, Texcoco, Mexico, Mexico.
CECT – Colección Entomológica del Campus Tabasco, Colegio de Postgraduados, Cardenas, Tabasco, Mexico.
CEFS – Colección Entomologica San Cristobal de las Casas, El Colegio de la Frontera Sur, Unidad San Cristóbal de las Casas, San Cristóbal de las Casas, Chiapas, Mexico.
CEUNP-70 – Museo Entomológico, Universidad Nacional de Colombia Sede Palmira, Palmira, Valle del Cauca, Colombia.
CIATARC – Arthropods Reference Collection, Centro Internacional de Agricultura Tropical, Palmira, Valle del Cauca, Colombia.
CLPV – Colección del Laboratorio de Parasitología Vegetal Universidad Autónoma del Estado de Morelos, Cuernavaca, Morelos, Mexico.
CNIN – Colección Nacional de Insectos del Instituto de Biología de la Universidad Nacional Autónoma de México, Mexico City, Mexico.
EBTLT – Colección Nacional de Insectos-Estación Biológica Trópical Los Tuxtlas de la Universidad Nacional Autónoma de México, Catemaco, Veracruz, Mexico.
IEXA – Instituto de Ecología, Xalapa, Veracruz, Mexico.
MCTP – Museu de Ciências e Tecnologia da Pontificia Universidad Católica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil.
MUSENUV – Colección de Insectos del Museo de Entomología de la Universidad del Valle, Cali, Valle del Cauca, Colombia.
NCSU – North Carolina State University Insect Collection, Raleigh, North Carolina, United States of America.

The identifications were made based on available taxonomic papers related to *Prosapia* such as Fennah (1949, 1953), Hamilton (1977), Peck *et al.* (2001), Carvalho and Webb (2005), and Thompson and León González (2005). In order to manipulate specimens and take photographs,

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we used the method of Valdez-Carrasco (Castro-Valderrama *et al.* 2018). Morphological terminology followed Fennah (1949, 1953), Hamilton (1977), and Paladini *et al.* (2015). The taxonomic key was elaborated based on Hamilton (1977).

Key to males of the *Prosapia inferens* species group (*sensu* Hamilton 1977)

1. Basal third of tegmina red. *Prosapia miles* species group ..... ***Prosapia miles*** **(Fowler, 1897)**
– Basal third of tegmina black, brown, or yellow 2
2. Aedeagal shaft armed with slender processes at tip. *Prosapia latens* species group .... **see Hamilton** (1977)
– Aedeagal shaft armed with short blunt teeth at tip 3
3. Gonopore preapical, basad paired teeth on aedeagal shaft; subgenital plates evenly tapered throughout their length. *Prosapia simulans* and *Prosapia bicincta* species groups .... **see Hamilton** (1977)
– Gonopore apical, distad paired teeth on aedeagal shaft; subgenital plates parallel margined at base, tapered strongly from midlength to tip. *Prosapia inferens* species group 4
4. Paramere apically constricted, with massive apical tooth overlapping subapical lobe in lateral aspect; tegmina red on apical two-thirds ..... ***Prosapia hemelytra*** **(Hamilton**, 1977)
– Paramere not apically constricted, with small apical tooth not overlapping subapical lobe in lateral aspect; tegmina mostly black or dark brown 5
5. Aedeagus completely straight ..... ***Prosapia inferens*** **(Walker, 1858)**
– Aedeagus slightly or distinctly curved 6
6. Aedeagus in lateral view slightly c-shaped; tubular, small grooves on the sides, near the apex a pair of triangular teeth, apex rounded (Fig. 2F); tegmina wide, background black with two transversal lines, the first line is a faint coral red on the basal third or absent, the other line faint or visible on the distal third. Some specimens have the tegmina entirely black or dark brown, others have the tegmina black with two visible lines, coral red and broad, one in the basal third and other in the apical third, anterior margin of the tegmina with or without a coral red spot and joined with the basal line (Fig. 1A–I) .... ***Prosapia morelosi*** **Castro-Valderrama, Romero, and Carvalho, new species**
– Aedeagus in lateral view straight, but the distal third slightly curved, without small grooves on the sides, anteapically a pair of blunt teeth that protrude from the sides of shaft, apex straight (Fig. 4F); tegmina wide, background black or dark brown, with two transversal lines, the first on the basal third and the second on the distal third, both lines reddish orange or yellow, anterior margin of the costa has a red spot and joined with the basal line (Fig. 3A–F) ..... ***Prosapia tilaranensis*** **Peck, Castro-Valderrama, and Valdez, new species**

Prosapia morelosi Castro-Valderrama, Romero, and Carvalho new species

http://zoobank.org/urn:lsid:zoobank.org:act:FBC507A0-BBA7-4D93-853B-24C26AF36F5E
Figures 1A–I and 2A–F.

Type material. MEXICO, Michoacán, Morelia, 13.viii.1962, F. Pacheco M. (holotype ♂, HOM-TIP-162, CNIN). Michoacán, Tangamandapio, Bordo Grande, Parcela Macedonio Campos, 14.ix.2017, 1732 m, U. Castro and A. Manzo, on *Paspalum* Linnaeus (Poaceae), 19°55'55.83"N, 102°23'34.41"W (allotype ♀, HOM-TIP-163, CNIN). Paratypes. Michoacán, km 126 carretera Maravatio-Morelia, 16.ix.1987, R. Barba, (1 ♂, CNIN); Michoacán, Morelia,

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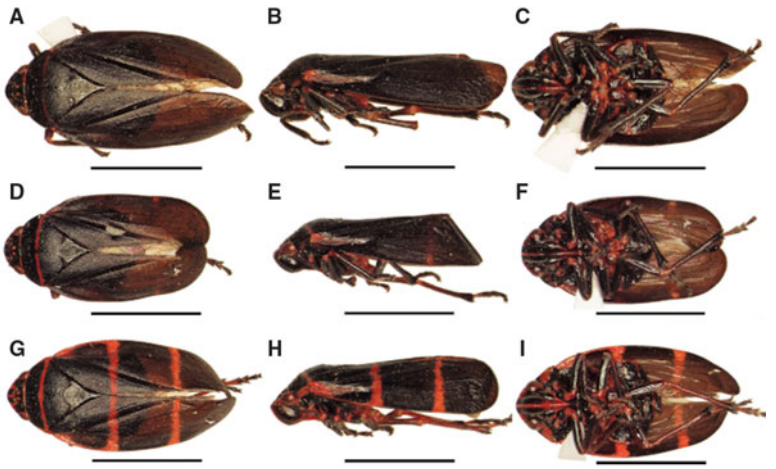

Fig. 1. *Prosapia morelosi* **new species** (♂). **A–C**, Variation "a"; **D–F**, variation "b" holotype (♂); **G–I**, variation "d". Scale bar = 5 mm.

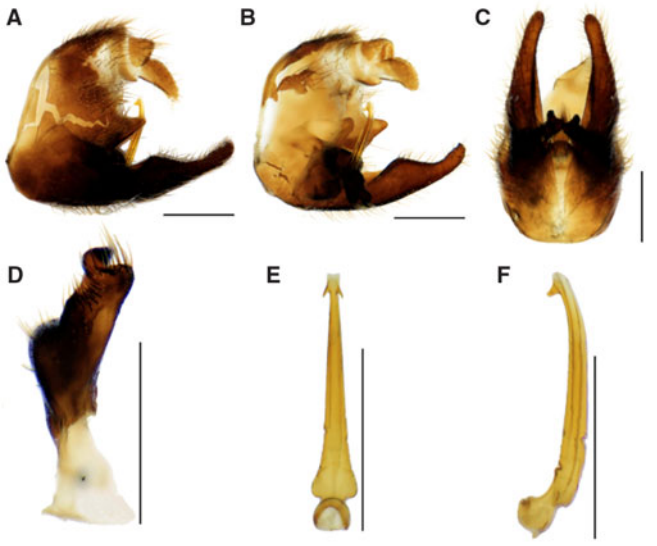

Fig. 2. *Prosapia morelosi* **new species**, holotype (♂). **A**, Pygofer lateral view of external genitalia; **B**, pygofer lateral view of internal genitalia; **C**, pygofer ventral view of subgenital plates; **D**, paramere lateral view; **E**, aedeagus anterior view; **F**, lateral view. Scale bar = 0.5 mm.

13.viii.1962, F. Pacheco M. (6 ♂, CEAM); Michoacán, El Platanal, x.1992, J.C.O. Cabrera on "Olleto" (1 ♀, CEAM); San Luis Potosi, Temazuchale, 7.iv.1998, M.Y. Sanchez, on Fabaceae (1 ♂, CEAM); Michoacán, Carretera Libre Maravario-Morelia, km 85 + 400, entrada Huanimoro, 13.ix.2017, 2149 m, U. Castro and A. Manzo, on Ciperaceae, 19°54'48.31"N, 100°30'01.54"W (16♀, 13♂, CEAM); Michoacán, Tangamandapio, Bordo Grande, Parcela Macedonio Campos, 14.ix.2017, 1732 m, U. Castro and A. Manzo, on *Paspalum*, 19°55'55.83"N, 102°23'34.41"W (40 ♀, 3 ♂, CEAM); Michoacán, Carretera Libre Maravario-Morelia, 1 km antes de Ucare, 13.ix.2017, 2469 m, U. Castro and A. Manzo, on *Pennisetum* Richard (Poaceae), 19°52'45.02"N, 100°41'10.3"W (8 ♀, 51 ♂, CEAM). Michoacán, Carretera Libre Maravario-Morelia, KM 85 + 400, entrada Huanimoro, 13.ix.2017, 2149 m, U. Castro and A. Manzo, on

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Ciperaceae, 19°54'48.31"N, 100°30'01.54"W (1♀, 1♂, CEUNP-70); Michoacán, Carretera Libre Maravario-Morelia, KM 85 + 400, entrada Huanimoro, 13.ix.2017, 2149 m, U. Castro and A. Manzo, on Ciperaceae, 19°54'48.31"N, 100°30'01.54"W (1♀, 1♂, MCTP).

Diagnosis. Aedeagus in lateral view slightly c-shaped; tubular, almost the same width in all its length, small grooves on the sides, near the apex a pair of triangular teeth, but truncate, apex rounded (Fig. 2F). Tegmina wide and background black with coral red lines, with the following variations: (a) entirely black (36.6% of specimens); (b) with the basal line absent and the distal line faint (20.4%); (c) with two lines, the basal line faint and the distal line visible (18.3%); (d) with two broad and visible lines (12.7%); and (e) the basal line absent and the distal line visible (12.0%). Also, anterior costal margin with or without spot and joined with the basal line. The colour of the lines and spot are coral red (Fig. 1A–I).

Description. *Male*. Lateral view length ($n = 6$) 10.62 ± 0.62 mm; width of the head in dorsal view ($n = 6$) 2.31 ± 0.14 mm.

Dorsal view (Fig. 1A, D, G). Head triangular, black with black setae, anterior margin between eye and the apex of head red. Also, a red or black triangle without setae that limits the tylus; compound eyes rounded, red with black tints; vertex with median carina that originates in the posterior margin of head and extends to the tylus, close to posterior margin and between eye; also a median small depression, elongate, black and without setae; posterior margin of head red but in the middle black, some specimens have whole head black or red; ocelli red and closer to each other than twice the diameter of an ocellus; tylus quadrangular, black with median carina with the same colour or red. Pronotum with black setae, punctate, hexagonal and with carina, crossed on the widest part by a line, wide or thin, complete or incomplete and coral red, but in some specimens this line is absent, anterior zone with irregular depressed areas, one in each side, anterior margin straight, entirely black, or red only behind eyes, lateral anterior margin straight, black or red, lateral posterior margin slightly grooved and black, posterior margin grooved and black; scutellum black.

Lateral view (Fig. 1B, E, H). Postclypeus black or with red tints, convex, lateral grooves slightly marked; pronotum not curved; tegmina wide and background black with coral red lines; with the following variations: (a) entirely black (36.6% of specimens) (Fig. 1A–C); (b) with the basal line absent, and the distal line faint (20.4%) (Fig. 1D–F); (c) with two lines, the basal line faint and the distal line visible (18.3%); (d) with two broad and visible lines (12.7%) (Fig. 1G–I); and (e) the basal line absent and the distal line visible (12.0%). Also, anterior costal margin with or without spot and joined with the basal line. The colour of the lines and spot are coral red. The point of union within Cu and R red.

Ventral view (Fig. 1C, F, I). Postclypeus inflated, with median carina black or red; anteclypeus black or red with black tints, or red; rostrum black, the union between the two segments red, reaching the mesocoxae; antennae with scape, pedicel and basal body of the flagellum reddish black; other specimens with pedicel red with black tint, but scape and basal body of the flagellum black; setae on pedicel sparse, basal body of the flagellum subcylindrical, smaller than pedicel and with arista. Thorax with hind wing transparent light brown, dark brown venation, and dark brown setae on both faces, prosternum and mesosternum black, metasternum red, but in some insects black; prothoracic and mesothoracic legs with coxae black or with red tint, trochanters black or with red tint, or entirely red, femurs black or with red, tibiae black or dark brown, tarsus black; metathoracic legs with coxae and trochanters black or with red tint, femurs and tibiae black or dark brown or red, tarsus black or dark brown, some specimens have the base of the basitarsus red; tibiae with two lateral spines and an apical crown with two rows of spines, basal spine small, and distal spine two times larger, basal spine smaller than apical crown spines, basitarsus with two rows of spines covered with sparse setae. Abdomen black, but the posterior edges of each sternite and pleurite red.

Genitalia. Pygofer in lateral view with a wide and triangular lateral process between anal tube and subgenital plates, projected forward to space between anal tube and subgenital plates;

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subgenital plate wide with a triangular process on dorsal margin, distally thin, rounded with a small spine on tip, ending under mesal line formed by the lateral process (Fig. 2A–B). Subgenital plates in ventral view with interior margins not parallel, lobes spiculate not visible in this view, plates tapering directed to apex, distally not touching with rounded ending (Fig. 2C). Paramere in lateral view with dorsal margin with a reduced median process, rounded and with many setae, ending with a chitinised claw; subapical lobe rounded with many long setae; the claw without overlapping the subapical lobe, inferior margin slightly curved (Fig. 2D). Aedeagus in anterior view with the shaft long, the basal third thick, thinning distally, and apex straight, small grooves on the sides, near the apex a pair of teeth that protrude from the sides of shaft (Fig. 2E). Aedeagus in lateral view slightly c-shaped, tubular, almost the same width in all its length, small grooves on the sides, near the apex a pair of triangular teeth, but truncated, apex rounded and apical gonopore (Fig. 2F).

Female measurements: Lateral view length ($n = 6$) 9.72 ± 0.40 mm; width of head in dorsal view ($n = 6$) 2.45 ± 0.10 mm. The female has the same characteristics as the male, but smaller in size.

Etymology. Holotype and some paratypes were found for the first time in Morelia. The species is named in honour of the hero of Mexican independence, José María Morelos y Pavón, who was born in that city. The specific epithet is in apposition to *Prosapia*.

Host plants. *Paspalum*, *Pennisetum*, *Cyperus* Linnaeus (Cyperaceae).

Distribution. Mexico (Michoacán and San Luís Potosí; see discussion).

Remarks. The variation "a" of *P. morelosi* is quite similar to the darker variation of *P. ignifera* Hamilton, 1977. Moreover, both species are sympatric and for this reason identification might be difficult, but the tips of the subgenital plates of *P. morelosi* are straight while those of *P. ignifera* are curved. Another character useful to separate species is the lines on the tegmina of *P. morelosi*. Also, *P. morelosi* is similar to *P. inferens*, but the aedeagus of *P. morelosi* is slightly c-shaped, while in *P. inferens* it is entirely straight.

Prosapia tilaranensis Peck, Castro-Valderrama, and Valdez, new species

http://zoobank.org/urn:lsid:zoobank.org:act:26855F7E-6286-42CE-A647-F669B80E62DB

Figures 3A–F and 4A–F.

Type material. COSTA RICA, Puntarenas, Monteverde, 1994, pasture, 1400 m, D.C. Peck (holotype ♂, HOM-TIP-164, CNIN); Puntarenas, Monteverde, 3.vii.1994, pasture, D.C. Peck (allotype ♀, HOM-TIP-165, CNIN). Paratypes. Puntarenas, Monteverde, 3.vii.1994, pasture, D.C. Peck (7 ♀ paratypes, CEAM); Puntarenas, Monteverde, 8.vi.1991, pasture, D.C. Peck (paratype 1, without abdomen, possibly was a male, CEAM); Costa Rica, Alajuela, Grecia, 16.vi.2006, Marcela Acuña, *Cynodon plectostachyus* (Schumann) Pilger (Poaceae), 10°4'44.76"N, 84°18'15.288"W (labelled: "10.0791 N, 84.30423 W"); 2 ♀, 2 ♂, 2 sex unknown, catalogue number 5970 (CIATARC); Costa Rica, Puntarenas, Monteverde, 6.viii.1992, Daniel C. Peck, 10° 16'29.856"N, 84°49'31.8"W (label: "10.27496 N, 84.8255 W"), 10 ♀, 2 ♂, catalogue number 5771 (CIATARC).

Diagnosis. *Male*. Tegmina with background black or dark brown, two transversal lines reddish orange or yellow, anterior margin of the tegmina with a red spot ending on the second line (Fig. 3A–C). Aedeagus in lateral view straight, but the distal third slightly curved, and tubular almost the same width in all its length; apex straight (Fig. 4F). Female. Tegmina background black, two transversal lines reddish orange or yellow, but less bright than in male, anterior margin of the tegmina with a red spot ending on the basal line (Fig. 3D–F).

Description. Male measurements. Lateral view length ($n = 1$) 9.95 mm; dorsal view width of the head ($n = 1$) 2.25 mm.

Dorsal view (Fig. 3A). Head triangular, black with black setae, anterior margin between eye and the apex of head and posterior margin red; compound eyes rounded, red; vertex black with median

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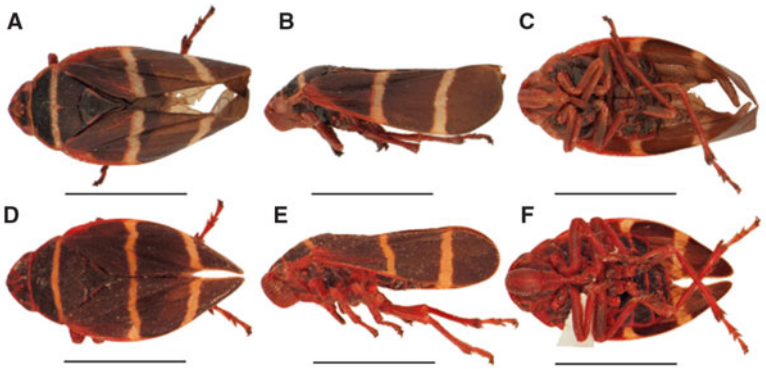

Fig. 3. *Prosapia tilaranensis* **new species** holotype (♂). **A**, Dorsal view; **B**, lateral view; **C**, ventral view. *Prosapia tilaranensis* paratype (♀). **D**, Dorsal view; **E**, lateral view; **F**, ventral view. Scale bar = 5 mm.

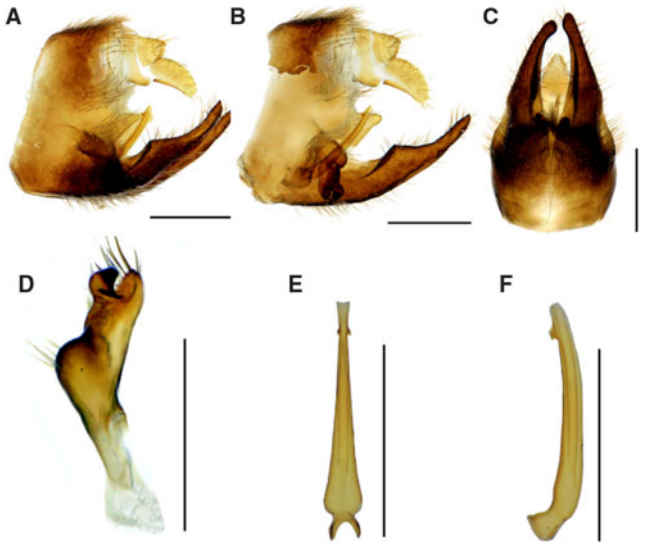

Fig. 4. *Prosapia tilaranensis* **new species** holotype (♂). **A**, Pygofer lateral view of external genitalia; **B**, pygofer lateral view of internal genitalia; **C**, pygofer ventral view of subgenital plates; **D**, paramere lateral view; **E**, aedeagus anterior view; **F**, aedeagus lateral view. Scale bar = 0.5 mm.

carina black that originates in the posterior margin of head and extends to the tylus, between eye and the median carina there is a small depression elongate, black, without setae; ocelli red and close to each other less than the width of an ocellus; tylus quadrangular, red with median carina red. Pronotum with black setae, punctate, hexagonal and with carina, black in the anterior half and dark brown in the rest, crossed on the widest part by a wide line reddish orange or yellow, but this line is thinner than the tegmina lines, anterior zone with irregular depressed areas, one in each side, anterior margin straight and red on the sides, but black in the middle, lateral anterior margin straight and red, lateral posterior margin slightly grooved and black, posterior margin grooved and black; scutellum black, except the sides red.

Lateral view (Fig. 3B). Postclypeus red, slightly angulate, lateral grooves slightly marked; pronotum not curved; tegmina wide, background black or dark brown, with two transversal lines, the first on the basal third and the second on the distal third, both lines reddish orange or yellow, anterior margin of the tegmina with a red spot ending on the basal line, the point of union between Cu and R red.

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Ventral view (Fig. 3C). Postclypeus, red, inflated, with median carina red; anteclypeus red with black, rostrum red with the tip black and reaching the mesocoxae; antennae with scape and pedicel red, basal body of the flagellum black, setae on pedicel sparse, flagellum black, basal body of the flagellum subcylindrical, smaller than pedicel and with arista. Thorax with hind wing transparent light brown, dark brown venation, and dark brown setae on both faces; prosternum, mesosternum, and metasternum black; prothoracic and mesothoracic legs with coxae red with black tint, trochanters red, femurs red with black tint, tibiae red, tarsi red with the tip dark; metathoracic legs with coxae red and black tint, trochanters red with black tint, femurs and tibiae red, tarsi red with the tip black; tibiae with two lateral spines and an apical crown with two rows of spines, basal spine small, distal spine two times longer than basal spine, basal spine the same size as the apical crown spines; basitarsus with two rows of spines covered with sparse setae. Abdomen black, except the posterior edges of each sternite and pleurite red.

Genitalia. Pygofer in lateral view with a wide, triangular lateral process between anal tube and subgenital plates, the upper side shorter than the lower side and the apex directed forward to subgenital plates; subgenital plate thin with a triangular process on dorsal margin, narrowed gradually towards the apex with acute termination and a small spine on tip, ending above the mesal line formed by the lateral process (Fig. 4A–B). Subgenital plates in ventral view with interior margins not parallel, without spiculate lobes, wide in the base, but tapering directed to apex, distally not touching and rounded ending (Fig. 4C). Paramere in lateral view with dorsal margin with a developed median process, rounded and with setae, ending with a chitinised claw, subapical lobe rounded, with many long setae, the claw not overlapping the subapical lobe, inferior margin slightly straight (Fig. 4D). Aedeagus in anterior view with the shaft long, the basal third thick, tapering directed to apex, near the apex a pair of blunt teeth that protrude from the sides of shaft, apex slightly concave (Fig. 4E). Aedeagus in lateral view straight, but the distal third slightly curved, and tubular almost the same width in all its length; apex straight and apical gonopore (Fig. 4F).

Female measurements. Lateral view length ($n = 7$) 9.94 ± 0.3 mm; width of head in dorsal view ($n = 7$) 2.47 ± 0.1 mm. The same characteristics as male, but shorter and wider in size, and with tegmina lines less bright than male (Fig. 3D–F).

Etymology. It is a patronymic noun related to the Cordillera de Tilaran, where Monteverde is located.

Host plants. *Cynodon plectostachyus*; Peck (1998a) reported the following graminoid hosts: *Kyllinga brevifolia* Rottbøll (Cyperaceae), *Kyllinga* Rottbøll species, *Cynodon nlemfuensis* Vanderyst (Poaceae), *Digitaria abyssinica* (Hochstetter ex Richard) Stapf (Poaceae), *Hyparrhenia rufa* (Nees) Stapf (Poaceae), *Ichnanthus nemorosus* (Swartz) Döll (Poaceae), *Lasiacis* (Grisebach) Hitchcock species (Poaceae), *Paspalum conjugatum* Bergius (Poaceae), *Pennisetum clandestinum* Hochstetter ex Chiovenda (Poaceae), *Pennisetum purpureum* Schumacher (Poaceae), *Sporobolus* Brown (Poaceae) species, and two called "San Juan" and "St Augustine". As a non-graminoid adult host, *Ilex haberi* (Lundell) Hahn (Aquifoliaceae) was reported.

Distribution. Costa Rica, Puntarenas. Thompson and León González (2005) reported this species on the high "cordilleras" and valleys of the provinces of Limón, Cartago, San José, Heredia, Alajuela, and Guanacaste.

Remarks. Externally this species is similar to *Prosapia bicincta* (Say, 1830), but differs because in the ventral view of the subgenital plates of *P. tilaranensis*, there are no spiculate lobes. *Prosapia tilaranensis* has sexual dimorphism, the female is shorter, wider, and with narrower and less bright tegmine lines than the male and has a wider head.

Discussion

Prosapia tilaranensis was reported and named for the first time as "*Prosapia* near *bicincta*" (Peck 1998a: 435; 1998b: 639). The ecology and pest status of this species were further decribed

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in Peck (1999). It is also the species reported as "*Prosapia* sp. cercana a *bicincta*" by Thompson and León González (2005: 49). This species is considered the most important insect pest in upland dairy pastures in the Monteverde area of Puntarenas. With respect to *P. morelosi*, there is no information on it as a pasture pest. This might be attributed to its misidentification as *P. ignifera* and *P. inferens*, which have been cited for their damage to grass crops. The specimens of *P. morelosi* were all collected in the Nearctic region of the states of Michocan and San Luis Potosi. The range will probably encompass other states of northern Mexico. Four paratypes were donated by CEAM to CEUNP (1♀, 1♂) and MCTP (1♀, 1♂).

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