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The genus *Ptilothrix* (Hymenoptera, Apidae, Emphorini) in South America

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Abstract: A revision of the bee genus *Ptilothrix* Smith in South America is presented. The genus has its maximum diversity in Argentina, Bolivia, Brazil, and Paraguay. Seventeen valid species are recognized, of which five are described as new: *P. aemulatrix* n. sp. and *P. interrupta* n. sp. from Argentina and Bolivia, *P. concava* n. sp. from Argentina, and *P. cerradicola* n. sp. and *P. rubescens* n. sp. from Brazil. New nomenclatural acts are as follows. *Ancyloscelis nigerrima* Friese, 1906, *Ptilothrix corrientium* Strand, 1910, *P. lynchii* Brèthes, 1910, *P. chacoensis* Brèthes, 1910, *P. megasoma* Brèthes, 1910, *P. heterochroa* Cockerell, 1919, and *Emphor opuntiae* Schrottky, 1920, are new synonyms of *Ptilothrix tricolor* (Friese, 1906). *Ancyloscelis nigrita* Friese, 1910, is a new synonym of *Ptilothrix relata* Holmberg, 1903. *Ancyloscelis nigrita sexmaculata* Friese, 1910, is considered an objective junior synonym of *Ptilothrix nigrita* Friese, 1899. Lectotypes are designated for *Ptilothrix plumata* Smith, 1853, *Teleutemnesta relata* Holmberg, 1903, *Ancyloscelis tricolor* Friese, 1906, *Ancyloscelis nigerrima* Friese, 1906, *Ancyloscelis plumata nigrescens* Friese, 1910, *Ancyloscelis nigrita* Friese, 1910, *Ancyloscelis plumata ruficornis* Friese, 1910, and *Diadasia sumicharsti vulpihirta* Cockerell, 1912. A key to the species, descriptions, illustrations, and a phylogenetic analysis based on morphological characters are provided.

Key words: oligolectic bees, taxonomy, new species.

El género *Ptilothrix* (Hymenoptera, Apidae, Emphorini) en Sudamérica.

Resumen: Se presenta una revisión del género de abejas *Ptilothrix* Smith en América del Sur. El género tiene su mayor diversidad en Argentina, Bolivia, Brasil y Paraguay. Se reconocen 17 especies válidas, de las cuales se describen cinco como nuevas: *P. aemulatrix* n. sp. y *P. interrupta* n. sp. de Argentina y Bolivia, *P. concava* n. sp. de Argentina, y *P. cerradicola* n. sp. y *P. rubescens* n. sp. de Brasil. Nuevos actos nomenclaturales son los siguientes. *Ancyloscelis nigerrima* Friese, 1906, *Ptilothrix corrientium* Strand, 1910, *P. lynchii* Brèthes, 1910, *P. chacoensis* Brèthes, 1910, *P. megasoma* Brèthes, 1910, *P. heterochroa* Cockerell, 1919, y *Emphor opuntiae* Schrottky, 1920, son nuevos sinónimos de *Ptilothrix tricolor* (Friese, 1906). *Ancyloscelis nigrita* Friese, 1910, es un nuevo sinónimo de *Ptilothrix relata* Holmberg, 1903. *Ancyloscelis nigrita sexmaculata* Friese, 1910, se considera un sinónimo objetivo posterior de *Ptilothrix nigrita* Friese, 1899. Se designan lectotipos para *Ptilothrix plumata* Smith, 1853, *Teleutemnesta relata* Holmberg, 1903, *Ancyloscelis tricolor* Friese, 1906, *Ancyloscelis nigerrima* Friese, 1906, *Ancyloscelis plumata nigrescens* Friese, 1910, *Ancyloscelis nigrita* Friese, 1910, *Ancyloscelis plumata ruficornis* Friese, 1910, y *Diadasia sumicharsti vulpihirta* Cockerell, 1912. Se presenta una clave para las especies, descripciones, ilustraciones y un análisis filogenético basado en caracteres morfológicos.

Palabras clave: abejas oligolécticas, taxonomía, nuevas especies.

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INTRODUCTION

The genus *Ptilothrix* Smith is a member of the Emphorini, a tribe of solitary, soil burrowing bees exclusively found in the New World. Species of *Ptilothrix* have been characterized as oligoleges, mainly related to pollen hosts in the families Malvaceae, Onagraceae, Cactaceae, Convolvulaceae, and Zygophyllaceae (Linsley *et al.*, 1956; Butler, 1967; Cazier & Linsley, 1974 Rust, 1980; Hazeldine, 1997; Schlindwein, 1995; Schlindwein & Wittmann, 1997; Schlindwein & Martins, 2000; Schlindwein *et al.*, 2009; Tellería, 2003).

The nesting biology of species of *Ptilothrix* has been summarized by Rust (1980), Martins *et al*. (1996), and Hazeldine (1997). Nesting features common to all of the studied species are the selection of hard-packed soil as nesting substrate, the use of carried water for the excavation of tunnels and cells, the construction of a turret at the nest entrance, the expulsion of mud pellets during excavation, the low number of cells per nest, usually from one to three, and the thick- walled cells, which are constructed, not merely excavated. Mature larvae were described by Rozen (2011).

The genus is present in North and South America, but its species have not been collected in the Central American countries from Honduras and El Salvador south to Panama, and seem to be absent in this area. In North America it is distributed from southern Canada to southern Mexico (Flórez-Gómez & Danforth, 2023), and the same authors cite an imprecise record for Guatemala. In South America its species occur from Colombia to central Argentina, both in temperate and tropical areas.

The North American species are well known, having been recently reviewed by Flórez-Gómez & Danforth (2023), with the description of two new species. On the contrary, the taxonomy of the South American species is in a poor state of knowledge, except for a small, distinctive group, the *P. albidohirta* species-group, studied by Roig-Alsina (2007). The present contribution is a revision of the 17 species of *Ptilothrix* that occur in South America. The revision includes a phylogenetic analysis based on morphological characters, mainly from features of the male hidden sterna and genitalia. A key to the South American species is presented, illustrated with images of the characters diagnostic for each species. The study of the type material has allowed an extensive synonymy.

MATERIALS AND METHODS

Specimens studied belong to the following institutions. AMNH, American Museum of Natural History, New York (J.G. Rozen, Jr.); CR, Claus Rasmussen Collection, Aarhus University, Denmark (C. Rasmussen); DZUP, Department of Zoology, Universidade Federal do Paraná, Curitiba (Pe. J.S. Moure and G.A.R. Melo); IFML, Instituto y Fundación Miguel Lillo, Tucumán (C. Berta and E. Pérez); MACN, Museo Argentino de Ciencias Naturales, Buenos Aires; MLP, Museo de La Plata, La Plata (M. Lucía and L. Álvarez); MZSP, Museu de Zoologia, Universidade de São Paulo (C. R. Brandão); NHMUK, Natural History Museum, London (D. Notton); PCYU, Packer collection at York University, Toronto (L. Packer); SEMC, Snow Entomological Collection, University of Kansas, Lawrence (R. Osborn); USNM, United States National Museum, Smithsonian Institution, Washington D.C. (S.G. Brady); ZMB, Zoologisches Museum, Museum für Naturkunde der Humboldt-Universität, Berlin (F. Koch and S. Krause). Acronyms are used in the list of material studied to indicate depositories of the specimens. Names of the personnel who loaned the material are in parentheses.

The maximum diameter of the median ocellus (MOD) is used as unit of measurement to express the length of the pubescence and other structures. The metasomal terga (T) and sterna (S) are identified with Arabic numerals; in the lists of material studied F stands for female, and M for male.

The phylogenetic analysis and the illustration of the cladogram were made with the aid of the programs TNT (Goloboff *et al.*, 2003) and WinClada (Nixon, 2002). Species of *Ptilothrix* are notoriously homogeneous in their external morphology. The present analysis is mainly based on the study of the hidden metasomal sterna and the genital capsule of males, which do show variability and are suggestive of relationships among the species. The analysis is based on 26 morphological characters, listed below. A data matrix was constructed for 19 of the 21 species known in the genus (Table 1). Two species are excluded from the analysis, *P. nigrita* Friese from Bolivia, the males of which are unknown, and *P. zacateca* Flórez-Gómez & Danforth from Mexico, specimens of which were not available for study. Specimens of all other species in the genus were studied. Species of the genus *Diadasina* Moure were selected as outgroups, based on previous analyses that included relationships among genera of Emphorini (Sipes & Tepedino, 2005; Cardinal *et al*., 2010; Freitas *et al*., 2021). Since the male hidden sterna and genital capsule of species of *Diadasina* are extremely similar (Roig-Alsina, 2025), only *D. distincta* (Holmberg) is indicated as outgroup in the cladogram. Trees were calculated with the implicit enumeration algorithm available in TNT (Goloboff *et al*., 2003), using unordered, unweighted characters.

Table 1. Data matrix for phylogenetic analysis.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
D. distincta	0	?	?	?	?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P. aemulatrix	1	0	1	0	0	1	0	0	1	0	1	2	0	1	2	1	1	0	0	1	1	0	1	0	0	0
P. albidohirta	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1
P. bifax	1	0	1	1	0	1	0	0	0	1	0	2	0	1	2	1	1	0	1	1	1	1	0	0	1	0
P. bombiformis	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0
P. cerradicola	1	0	1	0	0	0	2	0	0	0	0	1	1	1	2	0	0	0	0	1	1	?	1	?	0	0
P. chiricahua	1	0	0	1	0	0	0	0	0	1	0	1	1	1	2	0	0	0	0	1	1	0	1	0	0	0
P. concava	1	0	1	1	0	1	0	0	0	1	0	2	0	1	2	1	1	0	0	1	1	0	1	1	0	0
P. concolor	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1
P. fructifera	1	0	1	0	0	1	0	0	1	0	1	2	0	1	2	1	1	0	0	1	1	0	1	0	0	0
P. interrupta	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	1
P. nemoralis	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1
P. nigrescens	1	0	1	1	1	2	0	0	0	1	0	2	0	1	1	0	1	0	0	1	1	0	1	0	0	0
P. plumata	1	0	1	1	1	1	0	0	0	1	0	2	0	1	2	1	1	0	0	1	1	0	1	1	0	0
P. relata	1	0	1	1	1	2	0	0	0	1	0	2	0	1	1	0	1	0	0	1	1	0	1	0	0	0
P. rubescens	1	0	1	1	0	1	0	0	1	0	0	2	0	1	2	1	1	0	0	1	1	0	1	0	0	0
P. scalaris	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	1
P. sumichrasti	1	0	0	1	0	0	0	0	0	1	0	1	1	1	2	0	0	0	0	1	1	0	1	0	0	0
P. tricolor	1	0	1	1	0	1	0	0	0	1	0	2	0	1	2	1	1	0	1	1	1	1	0	0	1	0
P. vulpihirta	1	0	1	0	0	1	0	0	1	0	1	2	0	1	2	1	1	0	0	1	1	0	1	0	0	0

SYSTEMATICS

Genus ***Ptilothrix*** Smith 1853

Type species. *Ptilothrix plumatus* Smith 1853, monobasic.

Description. Bees 8.5–19.0 mm long, usually with distinct apical bands of pale hairs on T2–T4 (female) or T2–T6 (male). The species of *Ptilothrix* are easily recognized by the following suite of characters: first flagellomere long, over 1.5x as long as its apical width, and upper margin of clypeus surpassing medially the lower level of the antennal sockets, these two features coupled short proboscis are diagnostic of Ptilothrix. The proboscis at rest barely reaches the anterior coxae (other emphorines with a long first flagellomere and/or a bowed upper margin of the clypeus have a long proboscis). Hind tibia of female with distinct basitibial plate; arolia absent; all claws with pointed apices in both sexes; gradulus of S2 gently curved; female pygidial plate with basal sides straight and apical portion narrow; S6 of male frequently with hairs forming a tuft; S7 of male with apicolateral lobe bearing a hairy apical projection; S8 not divided by longitudinal slit. The lack of arolia and the apical projection of the lobes of the male S7 are unique features of *Ptilothrix*.

Collecting structures

Species of *Ptilothrix* vary in the type of hairs forming the tibial scopa of the hind legs. A striking variation is seen on the outer surface of the tibia. Some species have a rather plesiomorphic type of hairs (Figs. 1A–B) with numerous wavy branches, similar to those present in the species of *Diadasina* specialized in collecting malvaceous pollen (Roig-Alsina, 2025; figure 4). This type of hairs is present in the *P. albidohirta* species-group and in the North American *P. sumichrasti* and *P. chiricahua*.

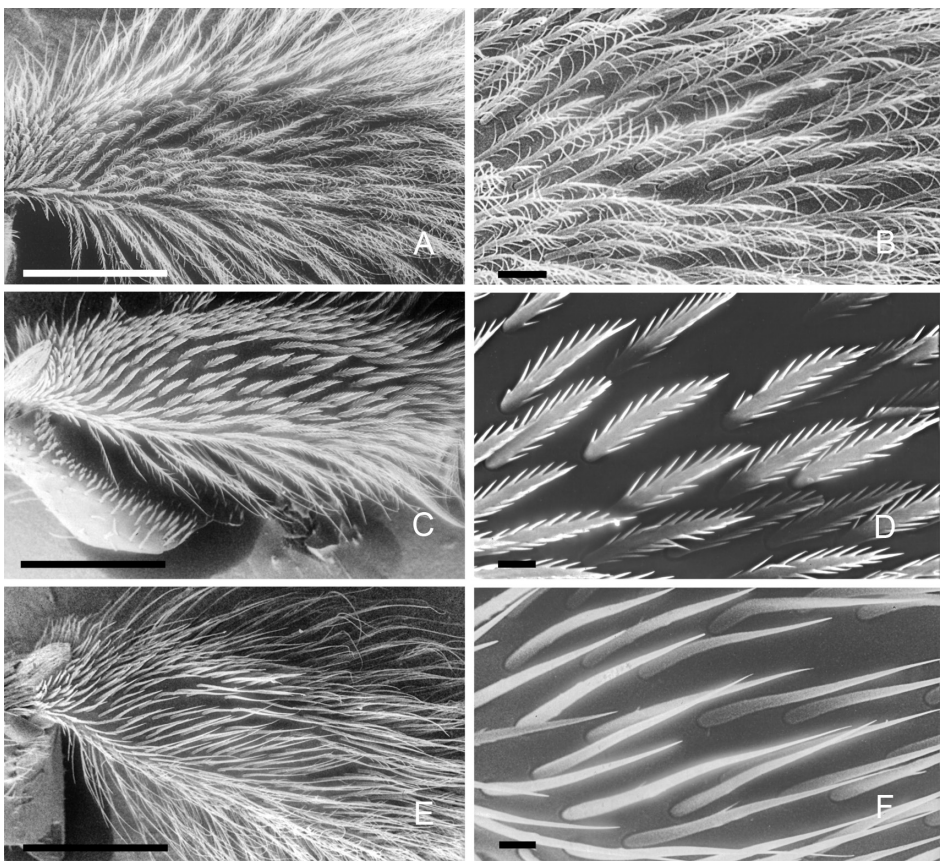


Fig. 1. Hind tibia of *Ptilothrix* females; outer surface showing scopal hairs (left) and detail of hairs (right). **A–B.** *P. albidohirta*. **C–D.** *P. relata*. (E–F) *P. tricolor*. Scale bars A, C, E = 1 mm; B, D, F = 0.1 mm.

Two species, the cactus specialists *P. bifax* and *P. tricolor*, have simple, stiff hairs, sometimes with a few minute branches (Figs. 1E–F). The tendency to present scopal hairs with few branches is seen in many other bees that collect coarse pollen like that of the Cactaceae (Michener, 2007).

A third type of hairs on the outer surface of the tibia (Figs. 1C–D) is present in all of the other species of *Ptilothrix*, a type of hairs not seen in any other emphorines. The hairs are short, with a rachis that becomes flattened in some species (*e.g.*, *P. relata*; Figs. 1C–D), and the branches are short, straight, and arise at acute angles to the axes of the hairs. Schlindwein *et al*. (2009) noted that females of the species of *Ptilothrix* studied by them (probably *P. vulpihirta*, see Discussion), that specialize on the large pollen of *Pavonia* (Malvaceae), transported the pollen on the inner surface of the hind tibia, between the long hairs that border dorsally and ventrally the keirotrichia, and not on the outer surface. Museum specimens of *Ptilothrix* with full pollen loads are uncommon, but a few specimens studied of *P. scalaris* and *P. rubescens* n. sp. agree with the pattern observed by Schlindwein *et al*. (2009): most of the pollen load was on the inner side of the tibia as well as on the basitarsus. The functionality, if any, of the particular short hairs on the outer surface of the hind tibia of many species of *Ptilothrix* needs to be studied.

Phylogenetic analysis

Two most parsimonious trees were obtained (length 39 steps), and the strict consensus was calculated (Fig. 2). Standard bootstrap (1000 replicates) values are shown below branches. The consensus tree shows an unresolved trichotomy formed by the distinctive *P. albidohirta* species-group (Roig-Alsina, 2007), the pair *P. scalaris-P. interrupta* n. sp., and a branch leading to the rest of the species, with *P. bombiformis* as the basalmost species. Since this last branch has a low support, *P. bombiformis* may well be considered as forming part of an unresolved basal polytomy.

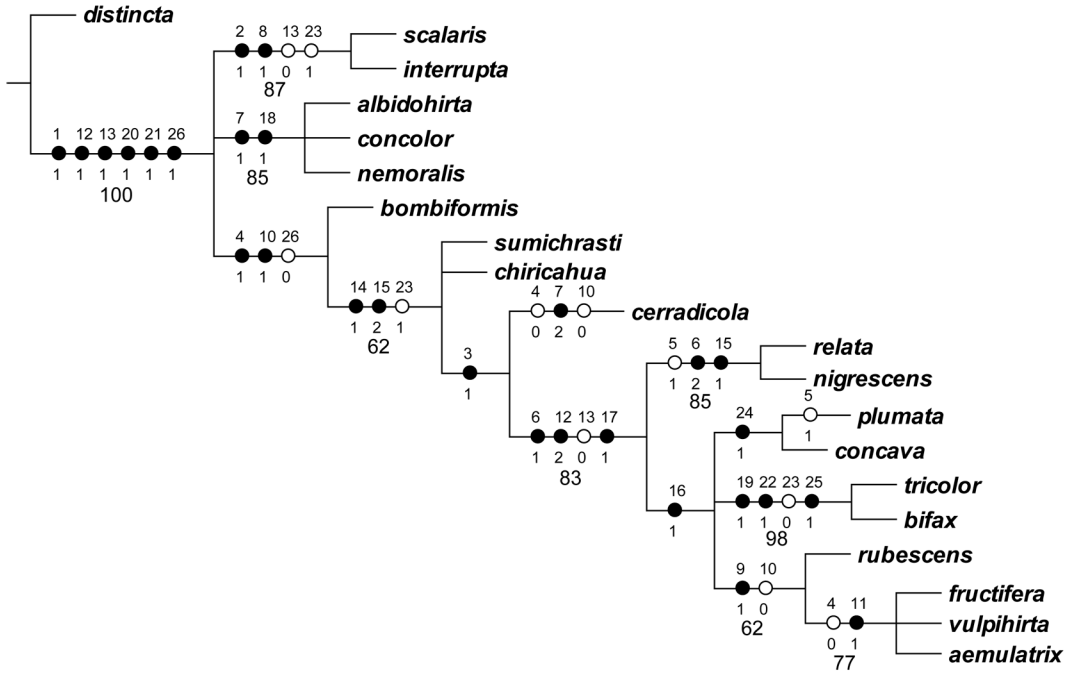


Fig. 2. Strict consensus tree depicting relationships among species of *Ptilothrix* based on morphological characters. Black hash marks indicate nonhomoplastic changes. Large numbers below branches indicate bootstrap values.

All the species in the branch subtended by *P. bombiformis* (Fig. 2) have a distinctive gonostylus, which has lost the dorsal ramus, and the ventral ramus has become a flattened, more or less ribbon-shaped structure. Within this clade, *P. cerradicola* n. sp. is a peculiar species with a unique male seventh sternum (Fig. 3B), that much reminds of the sternum of the *P. albidohirta* species-group

because of the mesal projection of the admedian lobe (Fig. 3A). Most other species in the clade have a kidney-shaped seventh sternum (Fig. 3D; Flórez-Gómez & Danforth, 2023; figure 2), with exception of the *P. fructifera* species-group (*P. aemulatrix* n. sp., *P. fructifera*, *P. rubescens* n. sp., and *P. vulpihirta*), which is recovered as monophyletic. In this last group the seventh sternum has a straight mesal margin and a distinctive pattern of vestiture (Fig. 3E). Two other groups recovered with strong support are the pairs of species *P. relata-P. nigrescens*, and *P. bifax-P. tricolor*. The first group is supported by a peculiar gonostylus, broadly flattened basally and digitiform on the apical one-third, with a sigmoid shape (Fig. 3J), and by the obsolete basal point of the admedian lobe of the male S7 (Fig. 3D). The second group, formed by cactus specialists, is supported by the broadly rounded apical portion of the labrum (Fig. 4B), the strongly hooked hind tibial spurs (Fig. 6B), and the simple scopal hairs of the female (Fig. 1E–F).

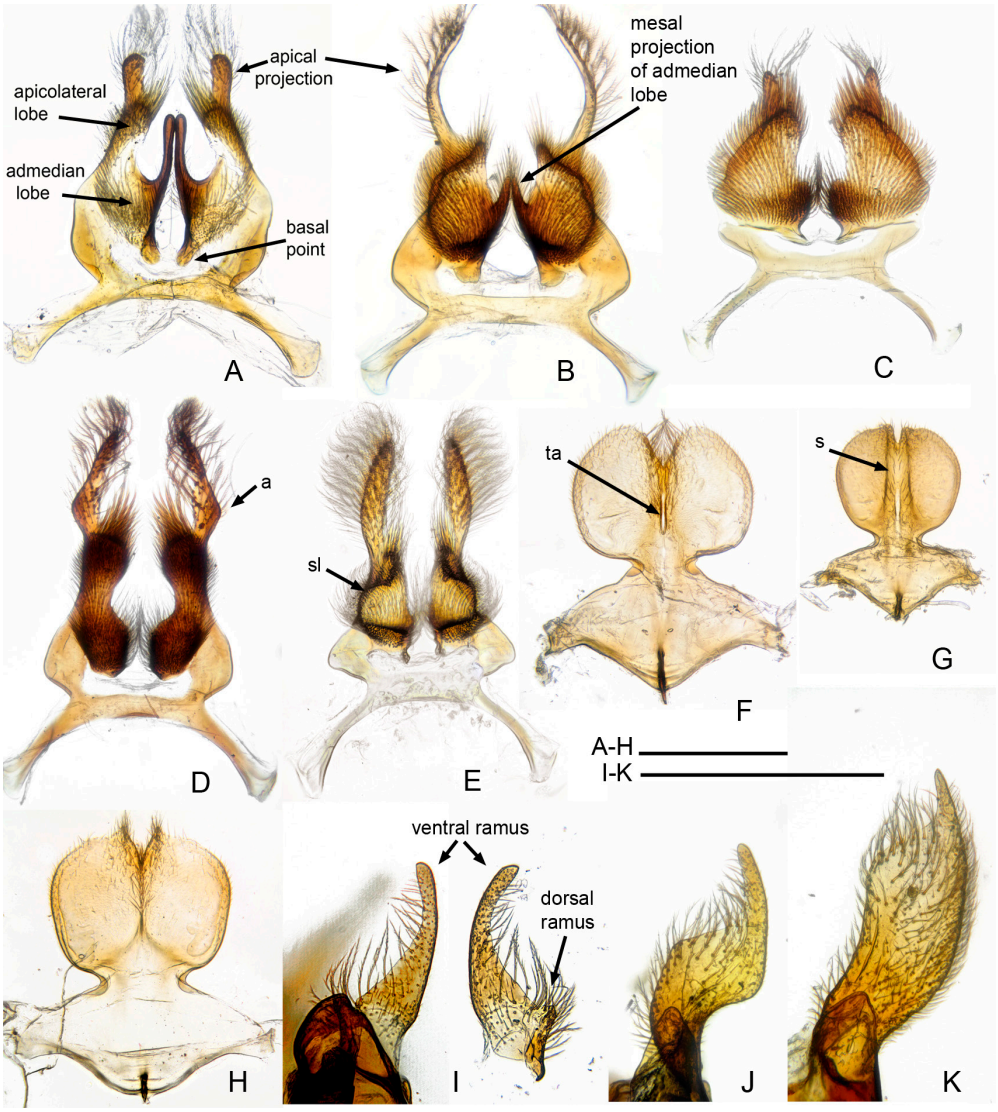


Fig. 3. Hidden sterna and gonostyli of *Ptilothrix* males. **A–E**. S7, ventral view. **F–H**. S8, ventral view. **I–K.** Gonostyli. **A.** *P. albidohirta*. **B.** *P. cerradicola* n. sp. **C.** *P. scalaris*. **D.** *P. relata*, a: angulation of apical projection. **E.** *P. vulpihirta*, sl, sinuous line of hairs. **F**. *P. interrupta* n. sp., ta: narrow translucent area. **G.** *P. nemoralis*, s: sclerotized area. **H.** *P. concava* n. sp. **I.** *P. interrupta* n. sp., outer view(left) and inner view (right) of gonostylus. **J.** *P. nigrescens*. **K.** *P. vulpihirta*. Scale bars = 1 mm.

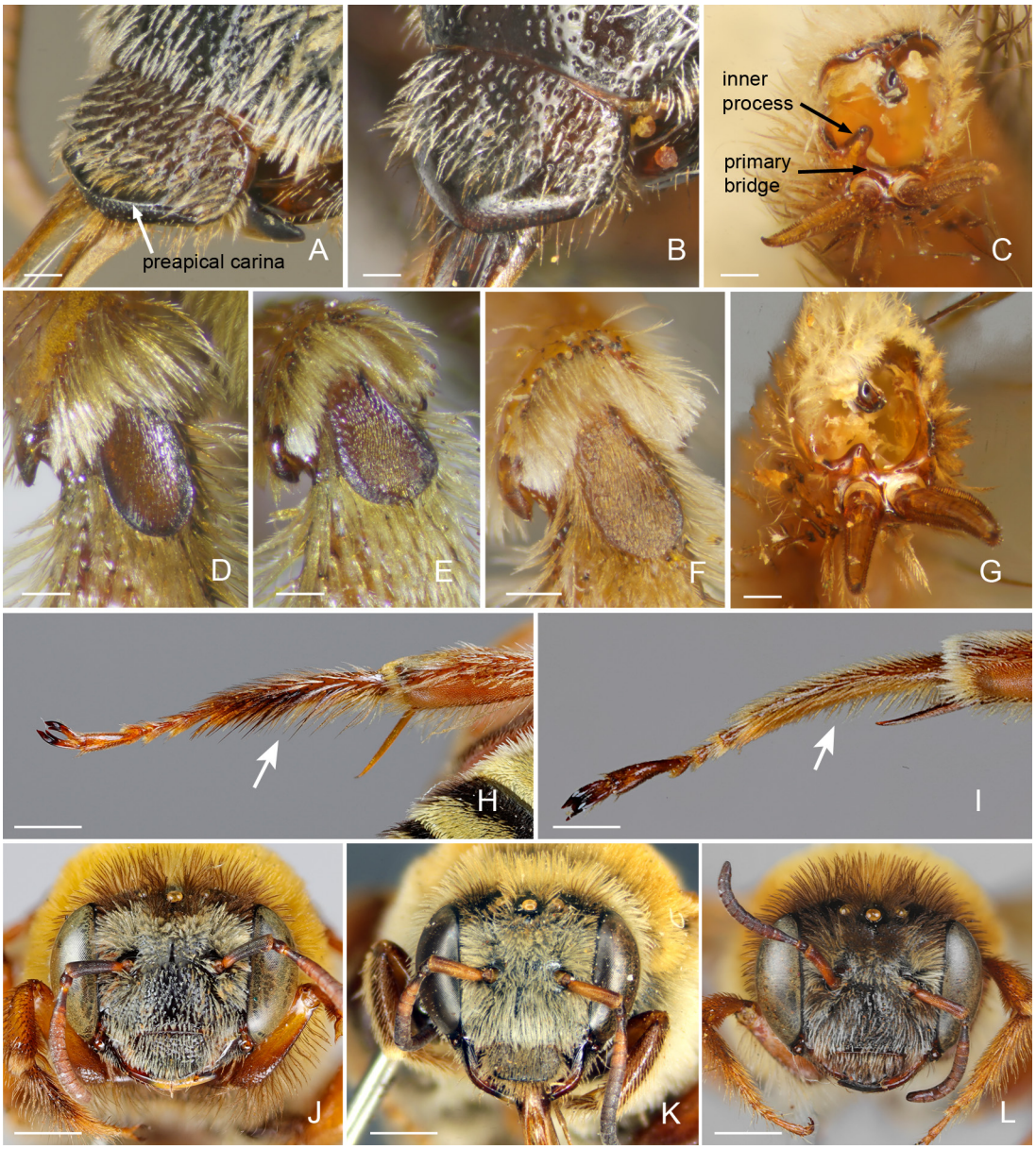


Fig. 4. Details of morphological features of *Ptilothrix* species. **A.** *P. plumata*, labrum. **B.** *P. tricolor*, labrum. **C.** *P. rubescens* n. sp., apex of tibia, articulation with basitarsus. **D–F.** basitibial plates. **D.** *P. concava* n. sp. **E.** *P. plumata*. **F.** *P. rubescens* n. sp. **G.** *P. plumata*, apex of tibia. **H–I.** Hind leg of male, dorsal view, arrows point to inner dorsal hairs of hind basitarsus. **H.** *P. rubescens* n. sp. **I.** *P. vulpihirta*. J–L. Face of females. **J.** *P. plumata*. **K.** *P. vulpihirta*. **L.** *P. rubescens* n. sp., holotype. Scale bars = A–G: 0.2 mm; H–L: 1 mm.

List of characters

1. S7 of male, apicolteral lobe, apical projection, presence. 0, absent (Roig-Alsina, 2025; figure 18). 1, present (Figs. 3A–B, apical projection).

2. S7 of male, apicolteral lobe, apical projection, position. 0, arising laterally. 1, arising apically.

3. S7 of male, apicolteral lobe, apical projection, length. 0, short, at most 0.45x length of admedian and apicolateral lobes combined. 1, long, over 0.65x length of admedian and apicolateral lobes combined.

4. S7 of male, apicolteral lobe, apical projection, structure. 0, tubular. 1, open mesally. 5. S7 of male, apicolteral lobe, apical projection, shape. 0, straight or gently curved (Figs. 3A–C, E). 1, angulate (Fig. 3D).

6. S7 of male, basal point of admedian lobe. 0, well developed (Figs. 3A–C). 1, reduced (Fig. 3E) 2, obsolete (Fig. 3D).

7. S7 of male, admedian lobe, mesal margin. 0, rounded (Figs. 3C–E). 1, with glabrous, digitiform projection (Fig. 3A). 2, with pointed, hairy projection (Fig. 3B).

8. S7 of male, combined admedian and apicolateral lobes, proportions. 0, long, at least 1.6x longer than wide. 1, nearly as long as wide (1.2x or less, Fig. 3C).

9. S7 of male, mesal margin of admedian and apicolateral lobes combined. 0, concave. 1. rather straight (Fig. 3E).

10. S7 of male, combined admedian and apicolateral lobes, shape. 0, kidney-shaped (Fig. 3D). 1, not kidney-shaped.

11. S7 of male, apicolateral lobe, vestiture. 0, hairs of lobe not forming definite pattern. 1, hairs denser along a sinuous line (Fig. 3E) subtended by a thickening of the cuticle.

12. S8 of male, apical lobes. 0, deeply incised (Roig-Alsina, 2025, figure 20). 1, with median, longitudinal, narrow translucent area (Figs. 3F–G). 2, fused (Fig. 3H).

13. S8 of male, apical lobes, median longitudinal sclerotization, presence. 0, absent. 1, present (Fig. 3G).

14. Male genital capsule, gonostylus, dorsal ramus, presence. 0, present (Fig. 3I). 1, absent.

15. Male genital capsule, gonostylus, ventral ramus, shape. 0, slender, round in cross-section, evenly curved (Fig. 3I). 1, broadly flattened on basal two-thirds and digitiform on apical one-third, sigmoid in shape (Fig. 3J). 2, broadly flattened, more or less ribbon-shaped, with short narrowed apex (Fig. 3K).

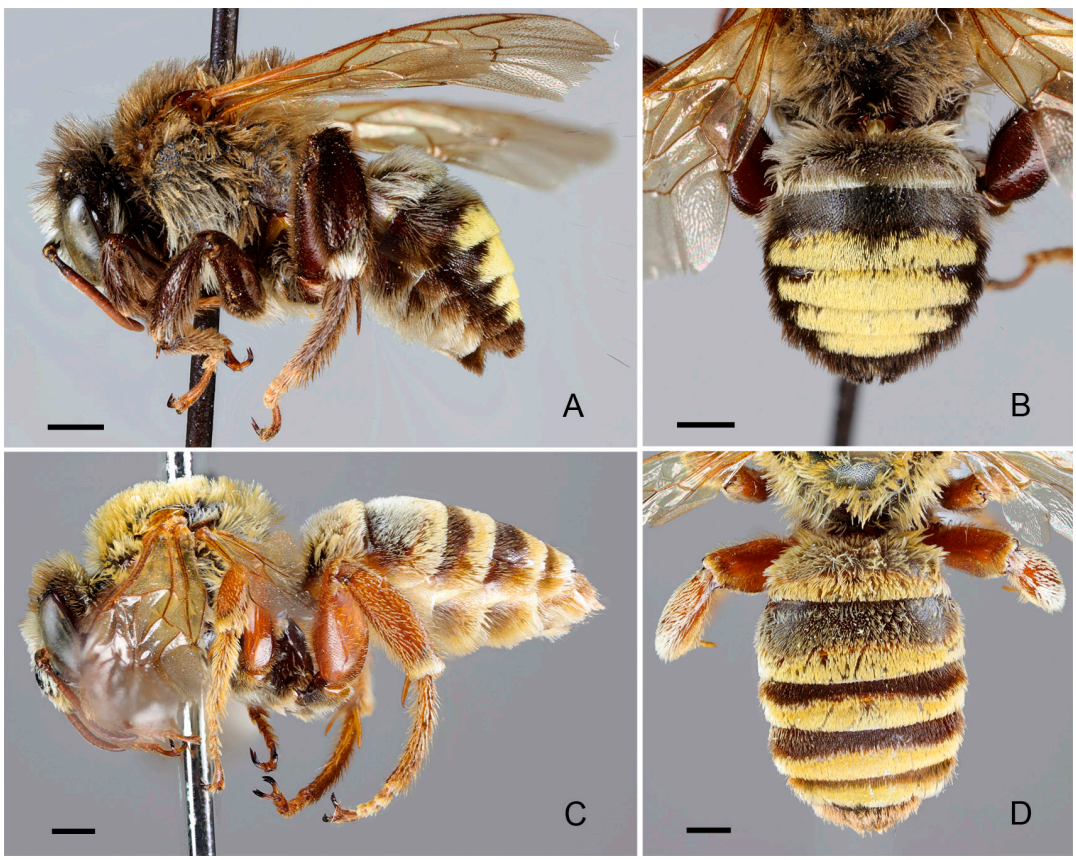


Fig. 5. A–B. *Ptilothrix aemulatrix* n. sp, male holotype, lateral view (left), and dorsal view of metasoma (right). **C–D.** *Ptilothrix cerradicola* n. sp., male holotype, lateral view (left), and dorsal view of metasoma (right). Scale bars = 1 mm.



Fig. 6. Female metasoma of species of *Ptilothrix*, dorsal view. **A.** *P. albidohirta*. **B.** *P. bifax*, inset showing detail of the hind tibial spur. **C.** *P. concava* n. sp., holotype. **D.** *P. concolor*, holotype. **E.** *P. fructifera*. **F.** *P. interrupta* n. sp., holotype. Scale bars = 1 mm.

16. Male genital capsule, penis valve, lateral carina, presence. 0, present. 1 absent.

17. Male genital capsule, penis valve, ventral concavity, prolongation of apical end nearly closing concavity, presence. 0, absent. 1, present.

18. Male genital capsule, gonocoxite, dorsal lobe, dorsal view. 0, broad, 0.5x as broad as long or broader. 1, slender, 0.25x as broad as long or narrower.

19. Labrum. Apical portion. 0, at strong angle to disc, forming preapical carina (Fig. 4A). 1, broadly rounded (Fig. 4B).

20. Antenna. First flagellomere. 0, short, approximately as long as its apical width. 1, long, over 1.5x as long as its apical width.

21. Arolia. 0, present. 1, absent.

22. Legs, hind tibia of female, outer surface, scopal hairs. 0, with numerous branches (Fig. 1A–D). 1. mostly simple, without branches (Fig. 1E–F).

23. Legs, hind tibia of female. Apical tuft of white hairs. 0, absent. 1 present.

24. Legs, apex of hind tibia of female, shape of inner process of primary bridge isolating hind tibial spurs (Cane, 1979). 0. short, triangular (Fig. 4G). 1, long, digitiform (Fig. 4C).

25. Legs. Hind tibial spurs. 0, more or less straight (Fig. 8D). 1, strongly hooked (Fig. 6B)

26. T7 of male. Gradulus. 0, medially curved to weakly angulate, complete (Fig. 10K). 1, medially angulate, interrupted (Fig. 10L).

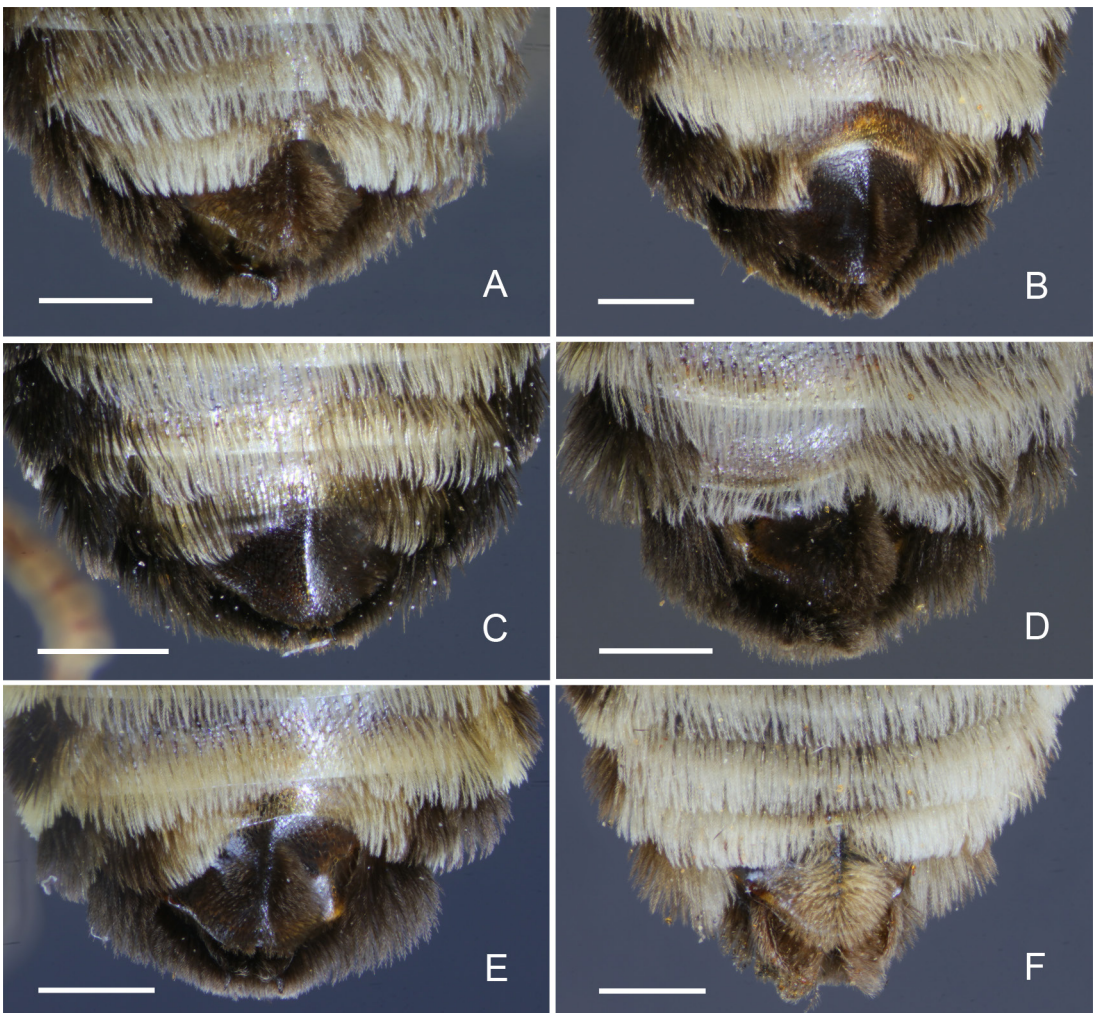


Fig. 7. Apical metasomal sterna of males. **A.** *P. aemulatrix* n. sp. **B.** *P. relata*. **C.** *P. scalaris*. **D.** *P. rubescens* n. sp. **E.** *P. plumata*. **F.** *P. vulpihirta*. Scale bars = 1 mm.

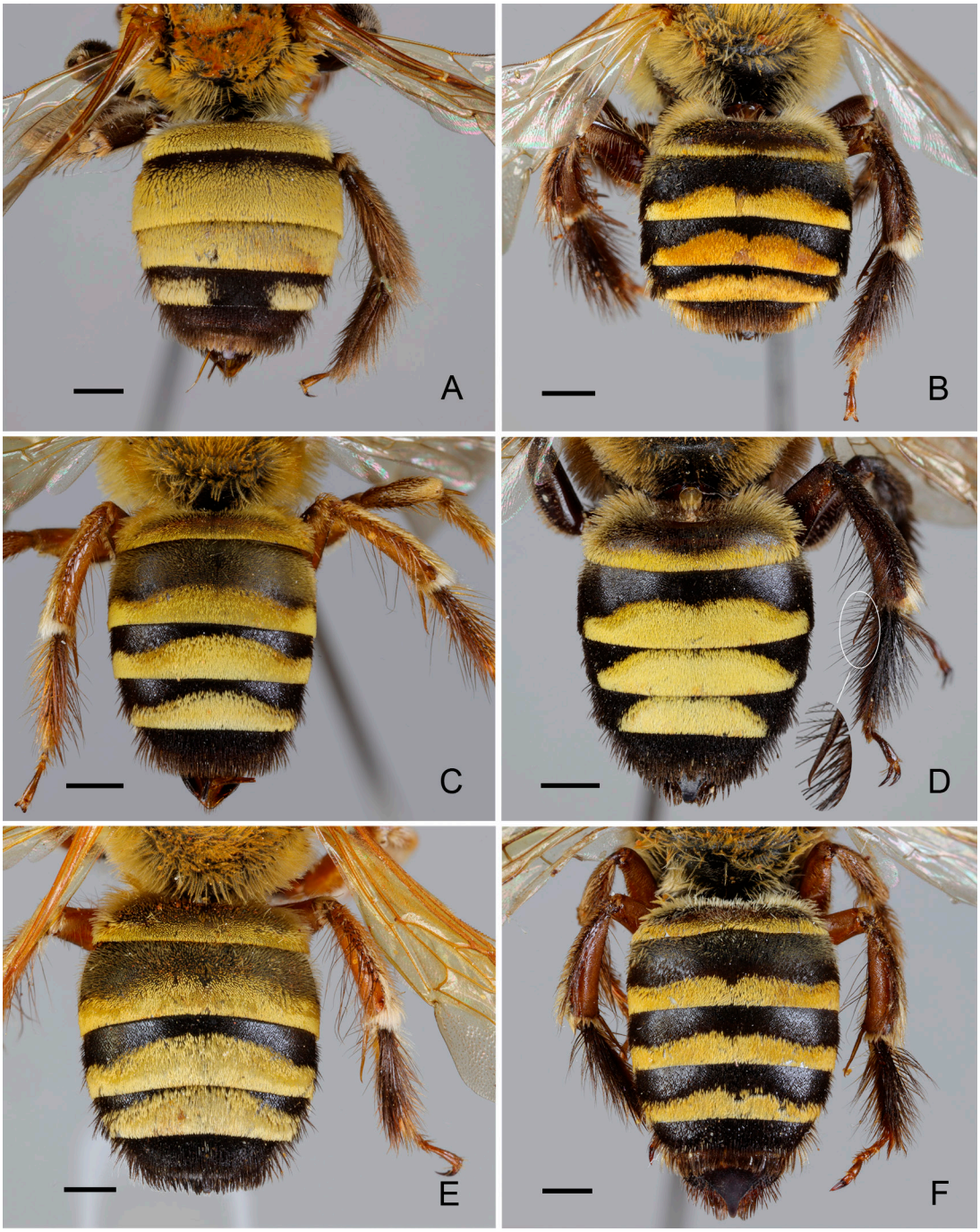


Fig. 8. Female metasoma of species of *Ptilothrix*, dorsal view. **A.** *P. nemoralis*. **B.** *P. nigrescens*. **C.** *P. plumata*. **D.** *P. relata*, inset showing detail of the hind tibial spur. **E.** *P. rubescens* n. sp., holotype. **F.** *P. vulpihirta*. Scale bar = 1 mm.

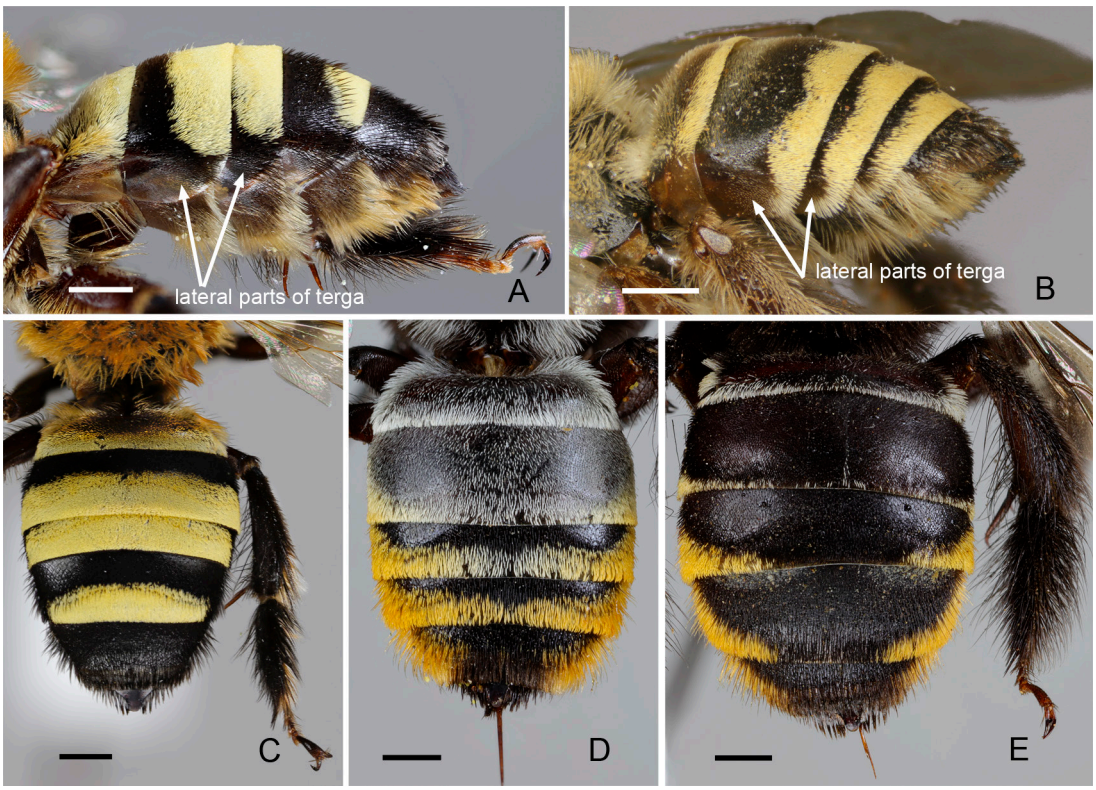


Fig. 9. Female metasoma of species of *Ptilothrix*: **A–B.** lateral views. **C–E.** dorsal views. **A, C.** *P. scalaris*. **B.** *P. vulpihirta*. **D–E.** *P. tricolor*, color variants. Scale bars = 1 mm.

Key to the South-American species of *Ptilothrix*
(Male of *P. nigrita* and female of *P. cerradicola* n. sp. unknown)

1- Hind tibial spurs with apices distinctly curved (Fig. 6B). Labrum without preapical carina and apex broadly convex (Fig. 4B). Outer surface of hind tibia of female with hairs simple, intermixed with hairs with a few minute branches (Figs. 1E–F). **2**

- Hind tibial spurs with apices more or less straight, or at most briefly curved beyond serrate margins (Fig. 8D). Labrum with preapical carina, and truncate apex (Fig. 4A). Outer surface of hind tibia of female with branched hairs (Figs. 1A–D). **3**

2- Scutum and scutellum entirely covered with whitish hairs. Hairs on disc of scutum long, 1.8–2.4x MOD. T1-T2 with whitish hairs (restricted to base of T2 in females); T3-T5 with black hairs (Fig. 6B). *P. bifax* Vachal

- Pubescence on scutum and scutellum variable, from black to whitish, when extensively whitish, then scutum with transverse black band running from level of one pronotal lobe to the other, and scutellum with transverse black band on disc. Hairs on disc of scutum of moderate length, 1.0–1.4x MOD. Pilosity on T1 T2 from black to white, when white hairs present, then T3-T5 with apical bands of yellow hairs (entire or restricted to sides) (Figs. 9D–E). *P. tricolor* Friese

3- Tegula dark brown to black, or black mesally and outer margin translucent. Forewing with dark brown veins and pterostigma (basal veins more distinctly so); wings membrane hyaline or infuscate. **4**

- Tegula yellowish brown, translucent. Forewing with yellowish-brown veins and pterostigma; wings membrane yellowish. **6**

4- Dorsum of mesosoma with white and black intermixed hairs. T2-T4 (female) or T2-T6 (male) with narrow apical yellow bands; on T3-T4 yellow bands contrasting with black-haired discs of terga (Fig. 6E). Outer surface of hind tibia with distinct apical tuft of white hairs (more evident in females). *P. fructifera* (Holmberg)

- Dorsum of mesosoma with uniform greyish to tawny hairs. Metasomal terga with vestiture entirely pale, without black hairs, and with poorly defined or no apical bands (Figs. 6A, 6D). Outer surface of hind tibia without apical tuft of white hairs. **5**

5- Metasomal terga with erect, long hairs (1.5–2.2x MOD), without any appressed hairs (Fig. 6A). Scopal hairs of female black (Fig. 6A). *P. albidohirta* Brèthes

- Metasomal terga densely covered with appressed, short hairs (0.4–0.7x MOD), intermixed with sparse, erect, longer hairs (Fig. 6D). Scopal hairs of female yellowish brown (Fig. 6D). *P. concolor* Roig-Alsina

6- Apical bands of T2-T4 interrupted medially (Fig. 6F). **7**

- Apical bands of T2-T3 entire, on T4 entire or interrupted. **8**

7- Face and metasomal sterna of female with dark brown to black hairs; T2 basal to yellow bands with black hairs. S6 of male with uniform short hairs, not forming a median tuft. *P. interrupta* n. sp.

-Face (except vertex) and metasomal sterna of female with whitish pilosity; T2 basal to yellow spots with lateral patches of white hairs. Male unknown. *P. nigrita* Friese

8- Apical bands on T2-T3 in dorsal view not reaching sides of terga, and tapering laterally (Figs. 5B, 8B, D). **9**

- Apical bands on T2-T3 in dorsal view reaching sides of terga (may or may not turn down to lateral margins of terga, which are not visible in dorsal view); bands nearly as broad laterally as medially (Fig. 8A, 9C), or narrowed sublaterally (Fig. 6C, 8C, E–F). **12**

9- Face with frons, upper ocellocular area, and vertex clothed with fulvous hairs (as those of scutum). Apical band of T3 of female medially 2.0–2.5x MOD (measured along midline of band) (Fig. 8B). Prepygidial fimbria of female laterally with yellowish hairs (Fig. 8B). T6 of male with apical fringe of whitish hairs, and S6 with pale brownish hairs. *P. nigrescens*

- Face with dark brown to black hairs occupying upper part of frons, upper part of paraocular area, and vertex (but occiput sometimes with fulvous hairs). Apical band of T3 of female medially 3.0–3.5x MOD (Fig. 8D). Prepygidial fimbria of female black (Fig. 8D). T6 and S6 of male with black hairs. **10**

10- Vestiture of mesosoma fulvous. *P. relata* (Holmberg) (in part)

- Vestiture of mesosoma fuscous to black. **11**

11- Male S5 with long hairs on most of its surface, except short hairs on small median apical portion, approximately 0.10–0.15x of sternal apical width (Fig. 7A). Females with light-red femora and tibiae, and light-red flagellum. *P. aemulatrix* n. sp.

- Male S5 with median apical sector (approximately 0.4–0.5x of apical width of sternum) with very short hairs and a glabrous, polished apical margin (Fig. 7B). Females with black femora and tibiae, and dark brown to black flagellum. *P. relata* (Holmberg) (in part)

12- Females. **13**

- Males. **18**

13- Apical yellow bands on T2-T3 covering almost all exposed surface, on T4 interrupted medially (Fig. 8A). Outer surface of hind tibia without apical tuft of white hairs (Fig. 8A). *P. nemoralis* Roig-Alsina

- Apical yellow bands on T2-T3 not covering all exposed surface, discs of terga basal to bands with greyish to black erect pubescence (Figs. 8C, E–F). Outer surface of hind tibia with apical tuft of white hairs (as in Fig. 5A). **14**

14- Basitibial plate nearly glabrous, concave (Fig. 4D). *P. concava* n. sp.

- Basitibial plate flat, pilose (Figs. 4E–F). **15**

15- Apical bands on T2-T3 reaching sides of terga in dorsal view (Fig. 9C), but not turning down, so that lateral parts of terga only with black hairs (Fig. 9A). Middle and hind tibiae and basitarsi dark brown to black (Fig. 9C). Antennal scape black, usually with basal one-fifth red (excluding basal bulb). *P. scalaris* (Holmberg)

- Apical bands on T2-T3 reaching sides of terga in dorsal view and then turning down, reaching lateral margins of terga, sometimes narrowly, if so, then lateral parts of terga with pale and black hairs (Fig. 9B). Middle and hind tibiae and basitarsi light red to red (Figs. 8C, E–F). Scape variable. **16**

16- Face with whitish hairs up to level of anterior ocellus, and ocellocular area and vertex with fulvous hairs (as those of scutum) (Fig. 4K). Apical band of T3 narrow (2.2–2.8x MOD, measured along midline of band), similar to or narrower than apical band of T2 (Fig. 8F). *P. vulpihirta* (Cockerell)

- Face with transverse band of dark brown to black hairs occupying upper part of frons, upper part of paraocular area, and vertex (but occiput usually with fulvous hairs) (Figs. 4J, L). Apical band of T3 broad (2.7–3.2x MOD in *P. plumata*, 3.3–4.0x MOD in *P. rubescens* n. sp.), broader than apical band of T2 (Figs. 8C, 8E). **17**

17- Antennal scape black (frequently with reddish basal portion) (Fig. 4J). Basitibial plate broadened apically, more or less truncate (Fig. 4E). Foreleg with dark brown to black basitarsus (usually foreleg dark brown from coxa to apex of basitarsus, but some specimens with reddish femur and tibia); vestiture of foreleg dark brown to black. *P. plumata* Smith

- Antennal scape red (Fig. 4L). Basitibial plate with narrowly rounded apex (Fig. 4F). Foreleg light red beyond apex of trochanter; vestiture of foreleg whitish to yellowish. *P. rubescens* n. sp.

18- Apical band on T5 absent, or forming yellow lateral patches. Apical bands of yellow, appressed hairs on T2-T3 occupying nearly all exposed surface of terga (as in female, Fig. 8A). *P. nemoralis* Roig-Alsina

- Apical band on T5 complete or restricted to median part of tergum. Discs of T2-T3 with distinct area of erect, whitish or black hairs. **19**

19- S6 with uniform short hairs, not forming median tuft (Fig. 10B); sternum weakly elevated along midline. Scape black, usually with basal one-fifth red (excluding basal bulb). Apical bands on T2-T3 reaching sides of terga in dorsal view, but not turning down, so that lateral parts of terga only with black hairs (as in female, Fig. 9A). *P. scalaris* (Holmberg)

- S6 basally and laterally with short or no hairs, and midapically with hairs longer forming dense patch (Figs. 10G–J); sternum elevated along midline. Scape variable. Apical bands on T2-T3 reaching sides of terga in dorsal view and then turning down, reaching lateral margins of terga, sometimes narrowly, if so, then lateral parts of terga with pale and black hairs (Fig. 9B). **20**

20- Metasomal sterna with black hairs. Scape black. *P. concava* n. sp.

- Metasomal sterna with whitish hairs on S1-S4, whitish to black on S5-S6. Scape red or black, when black usually with contrasting reddish basal portion. **21**

21- S5 with median apical area of very short hairs, this area approximately 0.2–0.3x of sternal apical width (Fig. 7E). *P. plumata* Smith

- S5 with long hairs along all its apical margin (Figs. 7D, F). **22**

22- Inner dorsal hairs of hind basitarsus 3.5–4.0x width of basitarsus (Fig. 4H). Face with transverse band of black hairs occupying upper part of frons, upper part of paraocular area, and vertex (but occiput usually with fulvous hairs). Apical band of T3 broad (3.3–4.0x MOD, measured along midline of band), broader than apical band of T2 (as in female, Fig. 8E). *P. rubescens* n. sp.

- Inner dorsal hairs of hind basitarsus shorter than, to as long as width of basitarsus (Fig. 4I). Face with whitish hairs up to level of anterior ocellus, and fulvous hairs on ocellocular area and vertex. Apical band of T3 2.2–2.7x MOD, similar to or narrower than apical band of T2. **23**

23- S6 with dense tuft of hairs occupying entire median apical portion of sternum (Figs. 7F, 10J). *P. vulpihirta* (Cockerell)

- S6 with dense tuft of hairs preapical, transverse, and apical portion of sternum with shorter and sparser hairs (Fig. 10C). *P. cerradicola* n. sp.

Available and valid names in *Ptilothrix* Smith

Valid names in boldface, original genus between brackets, synonymy in parenthesis.

aemulatrix Roig-Alsina, n. sp. [*Ptilothrix*]
albidohirta Brèthes, 1910 [*Ptilothrix*]
bifax (Vachal, 1909) [*Melitoma* (*Emphor*)]
bombiformis (Cresson, 1878) [*Melissodes*]
cerradicola Roig-Alsina, n. sp. [*Ptilothrix*]
chiricahua Flórez-Gómez & Danforth, 2023 [*Ptilothrix*]
chacoensis Brèthes, 1910 [*Ptilothrix*] (= *tricolor*)
concava Roig-Alsina, n. sp. [*Ptilothrix*]
concolor Roig-Alsina, 2007 [*Ptilothrix*]
corrientium Strand, 1910 [*Ptilothrix*] (= *tricolor*)
fructifera (Holmberg, 1903) [*Teleutemnesta*]
fuscojubatus Cockerell, 1913 [*Emphor*] (= *bombiformis*)
heterochroa Cockerell, 1919 [*Ptilothrix*] (= *tricolor*)
interrupta Roig-Alsina, n. sp. [*Ptilothrix*]
lynchii Brèthes, 1910 [*Ptilothrix*] (= *tricolor*)
megasoma Brèthes, 1910 [*Ptilothrix*] (= *tricolor*)
nemoralis Roig-Alsina, 2007 [*Ptilothrix*]
nigerrima Friese, 1906 [*Ancyloscelis*] (= *tricolor*)
nigrescens (Friese, 1910) [*Ancyloscelis plumata n.*]
nigrita Friese, 1899 [*Ptilothrix*]
nigrita Friese, 1910 [*Ancyloscelis*] (= *relata*)
opuntiae Schrottky, 1920 [*Emphor*] (= *tricolor*)
plumata Smith, 1853 [*Ptilothrix*]
relata (Holmberg, 1903) [*Teleutemnesta*]
rubescens Roig-Alsina, n. sp. [*Ptilothrix*]
ruficornis Friese, 1910 [*Ancyloscelis plumata r.*] (= *scalaris*)
scalaris (Holmberg, 1903) [*Teleutemnesta*]
sexmaculata Friese, 1910 [*Ancyloscelis nigrita s.*] (= *nigrita*)
sumichrasti (Cresson, 1878) [*Melissodes*]
tricolor (Friese, 1906) [*Ancyloscelis*]
vulpihirta (Cockerell, 1912) [*Diadasia sumichrasti v.*]
zacateca Flórez-Gómez & Danforth, 2023 [*Ptilothrix*]

Ptilothrix aemulatrix n. sp.

Figs. 5A–B, 7A, 10G, 11C, 12E, 14A.

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Diagnosis. This species is recognized by the dark vestiture of the mesosoma and the yellow apical bands on T2-T4 (females) or T2-T5 (males, Figs. 5A–B), which are broader medially and taper laterally, not reaching the sides of the terga in dorsal view. This species closely resembles *P. relata*, in particular those specimens of *P. relata* with dark vestiture on the mesosoma which occur in northwestern Argentina and Bolivia. The two species have the same pattern of yellow apical bands on the metasomal terga. Males of *P. aemulatrix* are distinguished by the extensively haired S5 (Fig. 7A), which in *P. relata* has a median apical sector (approximately 0.4–0.5x of the apical width of the sternum) with very short hairs and a glabrous, polished apical margin (Fig. 7B). Males of *P. aemulatrix* are further distinguished by the shape of the gonostylus and features of the S7, which has the apical projection of the apicolteral lobe rather parallel-sided and the mesal margin of the lobes more or less straight (Fig. 11C). In *P. relata* the apical projection of the apicolateral lobe of S7 has a characteristic outer angulation and the lobes are kidney-shaped, with a sinuous mesal margin (Fig. 3D). Females are notoriously similar and difficult to separate from females of *P. relata* with dark pubescence on the mesosoma. Females that I attribute to *P. aemulatrix* have light red femora and tibiae, while females of *P. relata* with dark hairs on the mesosoma have black legs (specimens of *P. relata* with fulvous pubescence may have reddish femora). The genitalia and hidden sterna of the male relate *P. aemulatrix* to *P. fructifera* and *P. vulpihirta*.

Male description. Length: 8.5–10.0 mm (holotype 9.0 mm); length of forewing: 7.0–8.8 mm (holotype 8.5 mm). *Color*. Black integument, except reddish brown tegula and distal tarsomeres; antenna variable, from black to reddish beyond first flagellomere. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white around antennal sockets, on clypeus, labrum, and on gena in some specimens (as in holotype); other hairs of head black. Hairs fuscous to black on most of mesosoma, except greyish on venter; in some specimens lower half of mesopleuron also with greyish hairs. Legs with fuscous hairs, except greyish hairs on under surface of mid and hind coxae and trochanters, and white apical tuft on mid and hind tibiae. T1 and base of T2 with hairs varying from greyish to fuscous. T1 with long hairs reaching posterior margin of tergum, lacking an apical band. T2-T5 with yellow apical bands of short squamose hairs; bands not reaching sides of terga, broader medially and tapering laterally. Remainder of terga with black hairs. S2-S4 with white hairs, S5 with hairs varying from greyish to black. S6 with hairs black. Hairs on center of scutum 1.5–2.3x MOD. Hairs on disc of T2 erect, 0.9–1.3x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs on most of its surface, except apical fringe with hairs longer laterally and short on small median sector, which is not broader than 0.10–0.15x of sternal apical width (Fig. 7A). S6 with dense apical, median brush of erect hairs (Fig. 10G). *Sculpture*. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. First flagellomere 1.9x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 1.9:0.4:1:0.45:0.5. S7 and gonostylus as figured (Figs. 11C,12E).

Female description. Length: 9.0–10.5 mm; length of forewing: 7.5–8.5 mm. Color, pubescence and sculpture similar to those of male, except as follows: femora and tibiae light red, venter of mesosoma and mesopleuron with black hairs in all examined specimens; apical bands of yellow hairs restricted to T2-T4. Prepygidial and pygidial fimbriae black. Hairs on S1-S5 white, on S6 black. Hairs on center of scutum 1.1–1.7x MOD. Tibial scopa with hairs on outer surface 0.7–1.1x MOD, with flattened rachis and short branches directed apical (branches barely longer than width of rachis). Disc of T2 with erect hairs 0.3–0.6x MOD. *Structure*. Clypeus 1.80x wider than long, protuberant in lateral view for a distance 0.63x maximum eye width. Labrum 1.6x as broad as median length; with apical truncation margined by preapical carina upturned medially, and concave apical one-third of disc. First flagellomere twice as long as its apical width. Mid and hind tibial spurs weakly bent apically.
Etymology. From Latin, noun of feminine gender meaning one that imitates, in reference to the close similarity of this species to *P. relata*.

Distribution. Argentina, provinces of Jujuy, Salta, and Tucumán. Bolivia, departments of Cochabamba and Santa Cruz.

Type material. Holotype male, Argentina, Tucumán, Trancas-Tacanas, 1/30.xi.1968, L. Stange (IFML).

Material studied. Following paratypes: Argentina. Jujuy: 1 M, xii.1925, A. Pozzi & A. Zotta, 17344 (MACN). Tucumán: 1 M, Tucumán (MACN); 1 M, Trancas, Tacanas, 1.ii.1963 (MACN). Bolivia. Cochabamba: 1 M, Cochabamba, R. Zischka (MLP). Santa Cruz: 1 M, n. Valle Grande, 18°25,738'S, 64° 7,394'W, 5.xii.2007, Schlumpberger & Brokamp, ex *Opuntia sulphurea* (MACN). Non-type specimens: Argentina. Jujuy: 1 F, xii.1925, A. Pozzi & A. Zotta, 17344 (MACN). Bolivia. Santa Cruz: 3 F, Santa Cruz de la Sierra, ix.1949 (MACN).

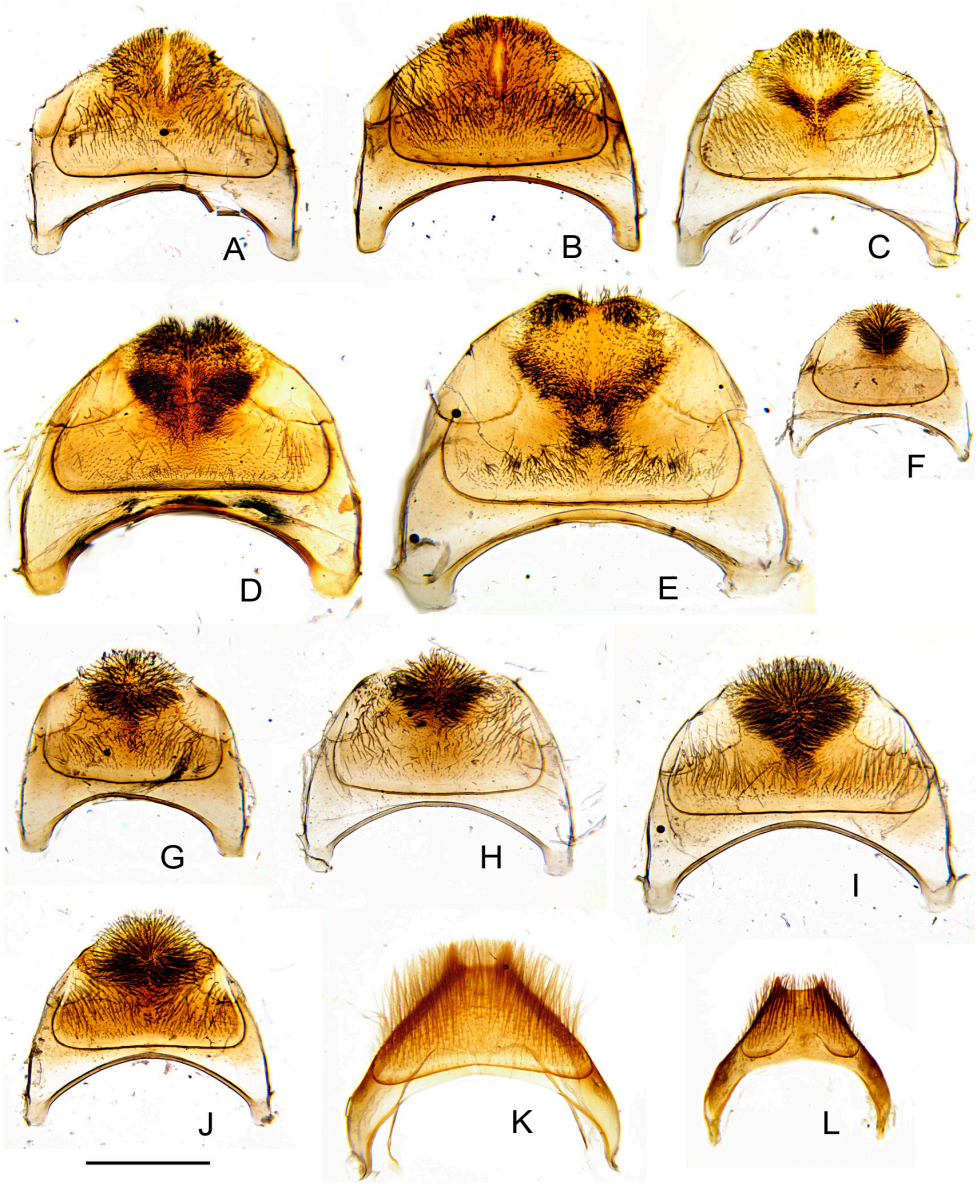


Fig. 10. Male metasomal sterna and terga. **A–J.** S6, ventral view. **K–L.** T7, dorsal view. **A.** *P. interrupta* n. sp. **B.** *P. scalaris*. **C.** *P. cerradicola* n. sp. **D.** *P. tricolor*. **E.** *P. bifax*. **F.** *P. nemoralis*. **G.** *P. aemulatrix* n sp. **H.** *P. concava* n. sp. **I.** *P. rubescens* n. sp. **J.** *P. vulpihirta*. **K.** *P. rubescens*. **L.** *P. nemoralis*. Scale bar = 1 mm.

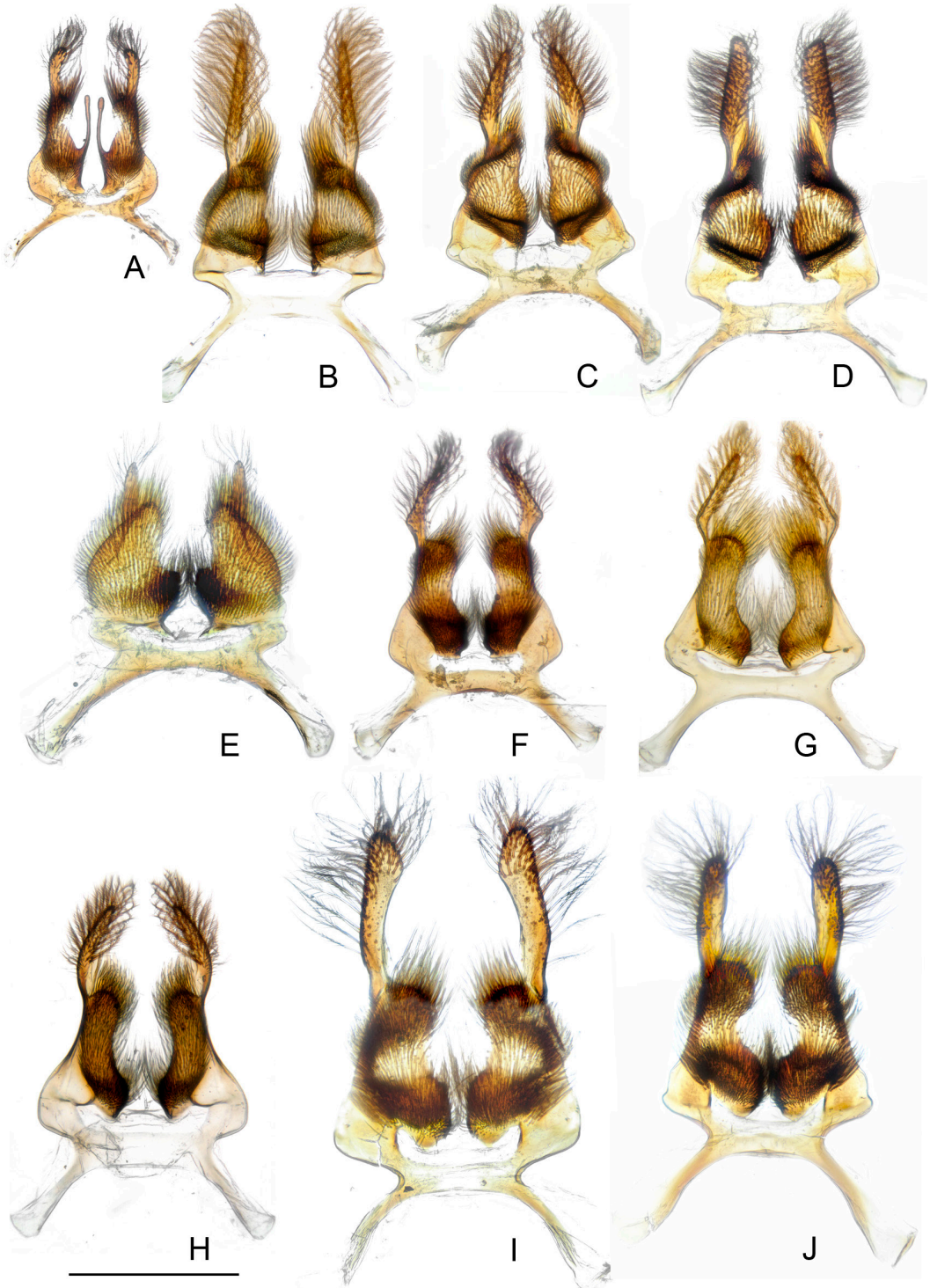


Fig. 11. Male seventh sternum of species of *Ptilothrix*. **A.** *P. nemoralis*. **B.** *P. rubescens* n. sp. **C.** *P. aemulatrix* n sp. **D.** *P. fructifera*. **E.** *P. interrupta* n. sp. **F.** *P. nigrescens*. **G.** *P. plumata*. **H.** *P. concava* n. sp. **I.** *P. bifax*. **J.** *P. tricolor*. Scale bar = 1 mm.

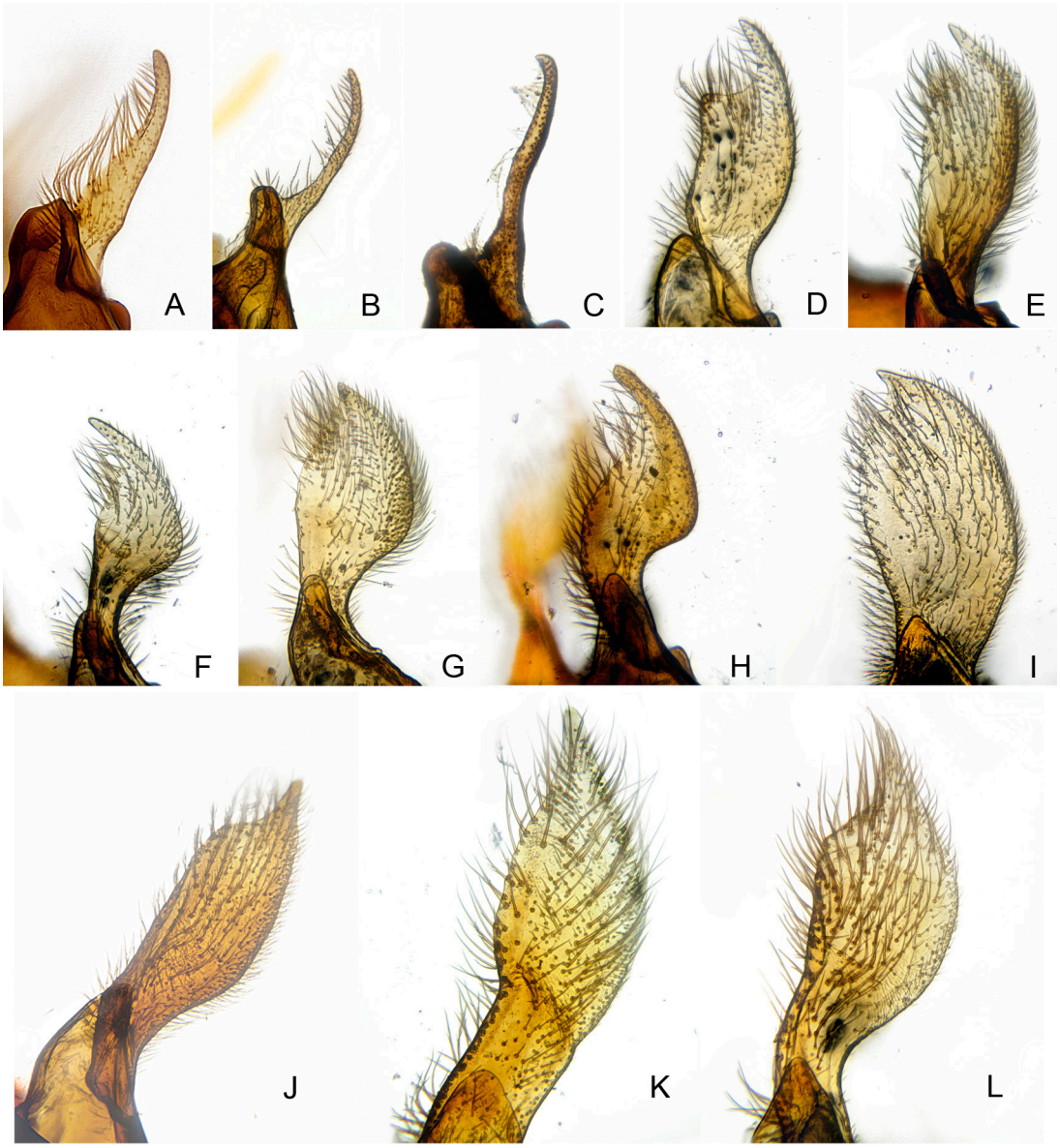


Fig. 12. Male gonostylus of species of *Ptilothrix*. A. *P. scalaris*. B. *P. nemoralis*. C. *P. concolor*. D. *P. cerradicola* n. sp. **E.** *P. aemulatrix* n sp. **F.** *P. concava* n. sp. **G.** *P. plumata*. **H.** *P. relata*. **I.** *P. rubescens* n. sp. **J.** *P. fructifera*. **K.** *P. bifax*. **L.** *P. tricolor*. Scale bar = 1

Ptilothrix albidohirta Brèthes

Figs. 1A–B, 3A, 6A, 13A.

Ptilothrix albidohirta Brèthes, 1910a: 295–296. Holotype male, 7892, Jujuy, Argentina, MACN_En 42342 (MACN, examined). Roig-Alsina, 2007: 116, figs. 4–7, 10 (redescription).

Diagnosis. This species lacks the white apical brush on the hind tibia and the usual apical yellow bands on the metasoma present in many other *Ptilothrix* species. The vestiture is entirely greyish

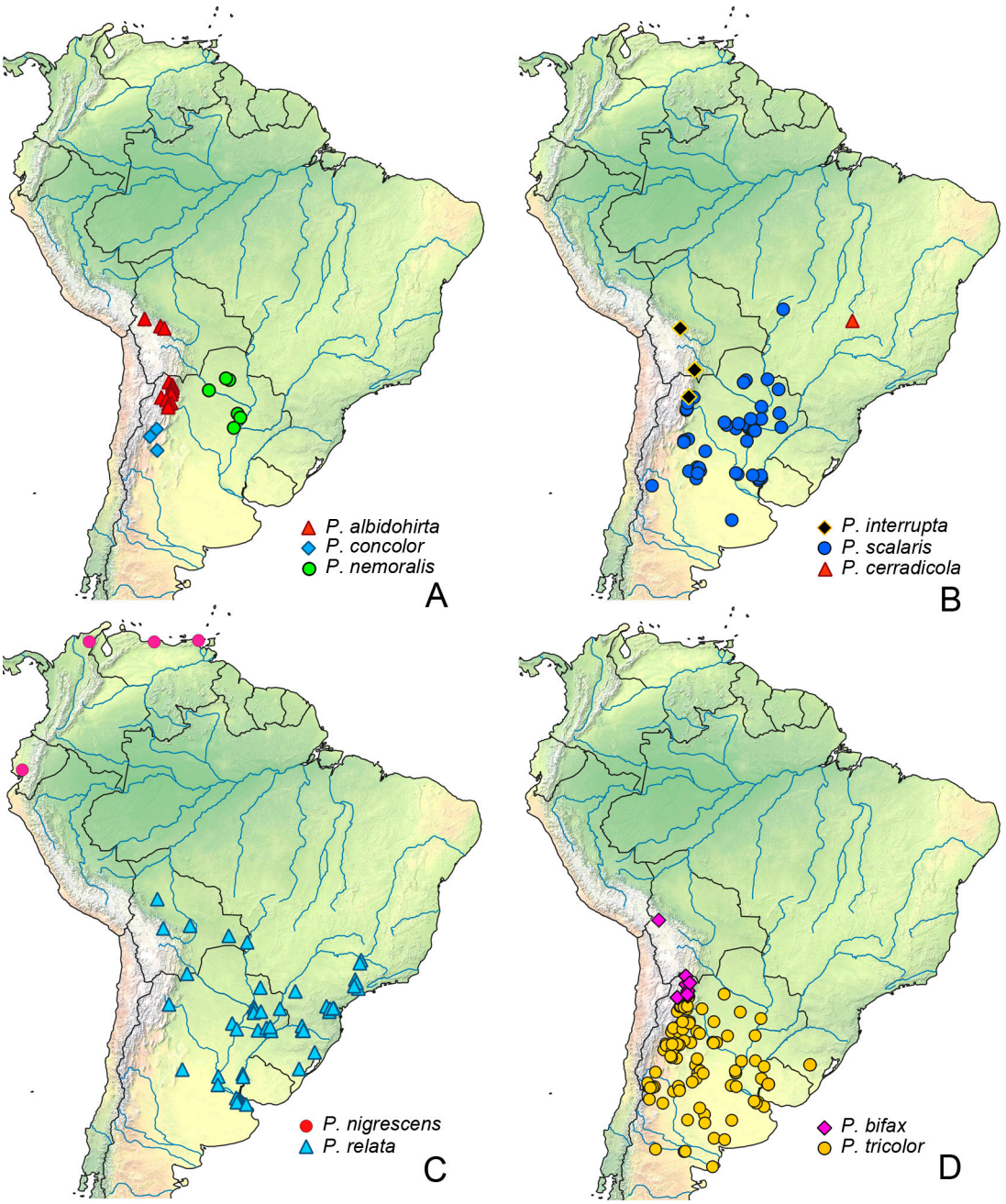


Fig. 13. Distribution maps of species of *Ptilothrix*. **A.** *P. albidohirta* (red triangles), *P. concolor* (blue diamonds), *P. nemoralis* (green dots). **B.** *P. interrupta* n. sp. (black diamonds). *P. scalaris* (blue dots), *P. cerradicola* n. sp. (red triangle). **C.** *P. nigrescens* (red dots), *P. relata* (blue triangles). **D.** *P. bifax* (magenta diamonds), *P. tricolor* (yellow dots).

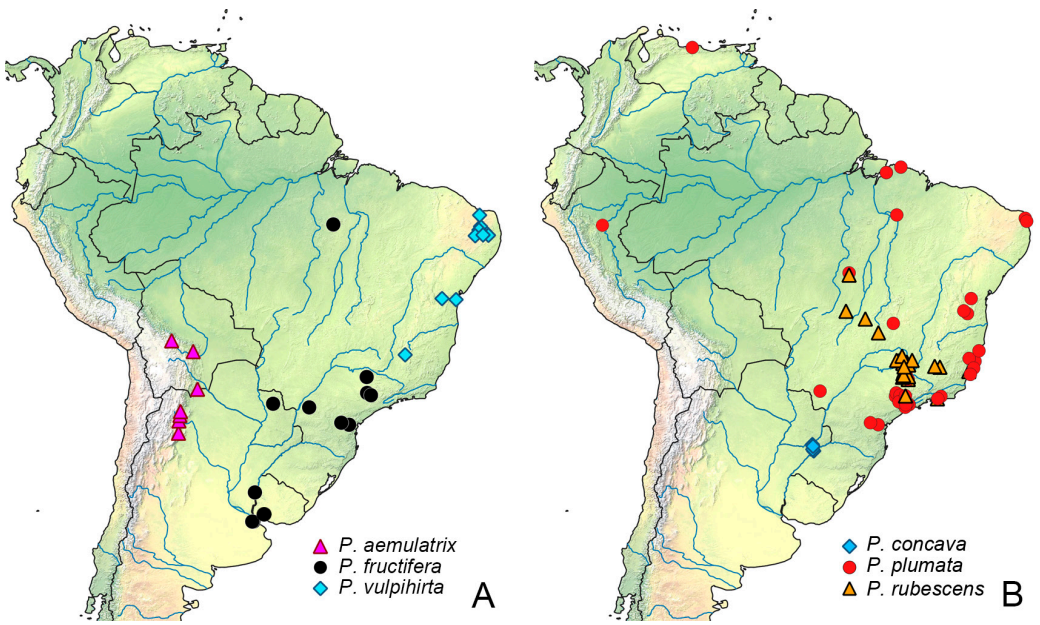


Fig. 14. Distribution maps of species of *Ptilothrix*. **A.** *P. aemulatrix* n sp. (pink triangles), *P. fructifera* (black dots), *P. vulpihirta* (blue diamonds). **B.** *P. concava* n. sp. (blue diamonds), *P. plumata* (red dots), *P. rubescens* n. sp. (orange triangles).

in males, but females have greyish hairs on the head and mesosoma, yellowish-brown hairs on the metasoma (reddish-brown on the prepygidial and pygidial fimbriae), and legs with dark hairs, dusky on the underside of the coxae, trochanters, and front and mid femora, and black on the rest of the legs, including the scopal hairs. The mesosoma and the metasomal terga are covered with erect, long hairs (2.5–3.0x MOD on scutum, 1.5–2.2x MOD on the terga), completely lacking appressed hairs. This hirsute vestiture is similar in appearance to that of *Diadasia baeri* (Vachal), with which it may be confused at first sight. Both species inhabit high altitude areas (2000 to 3800 m a.s.l.) in northwestern Argentina. This uniform coloration is also present in the closely related *P. concolor*, from which it is readily distinguished by the long, sparse, erect hairs on the scutum and the metasoma (Fig. 6A), while in *P. concolor* the vestiture is short and appressed (Fig. 6D).

Comments. This species has been redescribed in detail by Roig-Alsina (2007), and it is not treated further here. Hazeldine (1997) studied the nesting habits of this species. She reported that the cells were stored with malvaceous pollen.

Distribution. Argentina, provinces of Jujuy, La Rioja, and Salta. Bolivia, departments of Cochabamba and La Paz.

Material studied. All specimens cited by Roig-Alsina (2007) were examined; their data are not repeated here, but included in the distribution map.

Ptilothrix bifax (Vachal)

Figs. 6B, 10E, 11I, 12K, 13D.

Melitoma (*Emphor*) *bifax* Vachal, 1909: 24. Syntypes female and male, Argentina, Tucumán, Baer (Muséum National d'Histoire Naturelle, Paris, not examined).
Ptilothrix bifax: Roig-Alsina, 1999: 25.

Diagnosis. This species and *P. tricolor* are characterized by the apically hooked hind tibial spurs, the rounded, convex apical margin of the labrum (not truncate), and in females by the simple hairs on the outer surface of the hind tibia. *Ptilothrix bifax* can be distinguished from *P. tricolor* by the scutum and scutellum entirely covered with whitish hairs, the longer pubescence on the mesosoma, the denser punctation of the clypeus, and the contrasting color of the pubescence of the metasoma, whitish on T1 and basally on T2, and black on T3-T5 (Fig. 6B). In the variable *P. tricolor*, specimens with whitish hairs on T1-T2 always have yellow apical bands (entire or interrupted) on T3-T4 (Figs. 9D–E).

Female redescription. Length: 10.5–12.0 mm; length of forewing: 7.8–9.5 mm. *Color*. Black, except reddish distal tarsomeres. Wings with weakly infuscate membrane; pterostigma and veins dark brown. *Pubescence*. Hairs black on most of head, but white on vertex, and in some specimens a few white hairs above antennal insertion. Hairs white to whitish on scutum, scutellum, metanotum, anterior one-third of tegula, patch on mesopleuron below tegula, and on propodeum above spiraculum; other hairs of mesosoma and legs black. T1 and base of T2 with sparse whitish hairs, all other hairs of metasoma black. Hairs on center of scutum 2.0–2.4x MOD. Tibial scopa with long hairs on outer surface 1.5–2.2x MOD; hairs with a few basal short branches intermixed with simple hairs. T1-T2 without apical bands, hairs on disc of T2 0.6–0.9x MOD; T3-T4 with rather weak apical bands of black hairs. *Sculpture*. Clypeus polished between punctures, disc of clypeus with small punctures 0.2–1.0 diameters apart; disc of labrum densely punctate, punctures lees than a diameter apart; convex apex finely punctate. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, punctures on center of scutum 0.5–1.0 diameters apart. *Structure*. Clypeus 1.65x wider than long, protuberant in lateral view for a distance 0.7x maximum eye width. Labrum 1.6x as broad as median length, with apex rounded, convex, more or less in same plane as disc, so apical margin of labrum visible in anterior view; disc medially depressed above convex apex. First flagellomere 1.9 times longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2:0.45:1:0.4:0.4. Mid and hind tibial spurs with hooked apices.

Male redescription. Length: 10.5–14.5 mm; length of forewing: 9.5–12.3 mm. Color of integument and sculpture similar to those of female. *Pubescence*. Hairs whitish on most of head, except black around proboscidial fossa, and on lower gena in some specimens. Mesosoma nearly all covered with whitish hairs, except black hairs on ventral part. T1-T2 with whitish hairs, remainder of metasoma with hairs black; some specimens with intermixed black hairs laterally on T2. Hairs on center of scutum 1.8–2.3x MOD. Hairs on metasomal terga erect, long, on disc of T2 1.3–1.7x MOD. S2-S4 with long, dense, erect hairs, and apical fringes poorly defined; S5 with continuous apical fringe, but hairs short medially and longer laterally. S6 with apical and preapical dense, erect hairs, surrounding a nearly glabrous median area (Fig. 10E). S7 and gonostylus as figured (Figs 11I, 12K).

Distribution. Argentina, provinces of Jujuy, Salta, and Tucumán. Bolivia, department of La Paz.

Type material. I have not examined the syntypes, but the description of Vachal (1909) detailing the distinct pattern of pubescence of this species, and the large size of the syntypes, allow the recognition of the species with certainty.

Material studied. Argentina. Jujuy: 1 F, Volcán, Garganta del Diablo, 2600 m, 19.xi.1979, Willink, Fidalgo, Domínguez (IFML); 1 F, Tres Cruces, 3600 m, 20.xi.1979, Willink, Fidalgo, Domínguez (IFML); 1 M, Posta de Lozano, Nov., Fritz (MACN); 1 M, Tumbayá, 7.xii.1976, L. Stange (IFML); 1F, 1 M, Garganta del Diablo, 7.xii.1976, L. Stange (IFML); 2 F, 1 M, Tilcara, 25.i.1948, Monrós & Willink (IFML); 1 F, Tilcara, 2500 m, 27.xi.2003 (PCYU); 1 F, Quiaca, iv.1944, Cipolatti (MLP). Salta: 2 F, Chorrillos, ex Opuntia cfr. sulphurea, 27.xi.2002, B. Schlumpberger (MACN); 1 F, Iruya, 29.xii.2001, L. Compagnucci (MACN).
Imaged specimens from https ://www. inaturalist.org. Bolivia. 1 F; Cota Cota, La Paz; Lat/Lon: -16.53779, -68.06993; 25.v.2024; Vale De Cárdenas obs.; iNaturalist record #386144959.

Ptilothrix cerradicola n. sp.

Figs. 3B, 5C–D, 10C, 12D, 13B.

LSIDurn:lsid:zoobank.org:act:40B189A3-E6C3-4D3E-98D4-19FAF996643E

Diagnosis. This species is only known from the male sex, and from a single specimen from the Cerrado region. It is most similar in color and pattern of pubescence to *P. vulpihirta* from northeastern Brazil. Males of the two species are readily separated by the different pattern of pilosity of S6 (Figs. 10C, J), as detailed in the key to species. The structure of its seventh metasomal sternum is unique (Fig. 3B). It is a peculiar species, with a combination of plesiomorphic and apomorphic traits, as discussed in the phylogenetic analysis.

Description. Male holotype. Length: 12.0 mm; length of forewing: 8.3 mm. *Color*. Integument black, except as follows: light-red legs beyond trochanters, reddish basal one fourth of scape, remainder of scape, pedicel and base of first flagellomere dark reddish brown (probably somewhat discolored), reddish flagellum beyond base of first flagellomere, yellowish-brown tegula, and reddish lateral areas of metasomal terga and sterna. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence.* The holotype may be somewhat discolored. Most of head with whitish hairs, except area around ocelli with pale brown hairs. Hairs on mesosoma fulvous, paler on venter. Most of legs with pale brown to whitish hairs; hind tibia with distinct white apical tuft. T1-T5 with yellow apical bands; bands on T2-T4 turning down, reaching lateral margin of terga; bands on T2-T4 in dorsal view nearly as broad medially as laterally, with weak sublateral constrictions; band on T3 2.7x MOD; T1-T2 basally with whitish hairs; T3-T4 basally with black hairs. Pubescence of S1-S5 whitish, of S6 dark. Hairs on center of scutum 1.4–1.8x MOD. Hairs on disc of T2 erect, 0.5–0.6x MOD. S2-S5 with dense apical fringes, that on S5 with long hairs along all apical margin of sternum. S6 with dense tuft of hairs preapical, transverse, and apical portion of sternum with hairs shorter and sparser (Fig. 10C). *Sculpture*. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. First flagellomere 2.2x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.2:0.5:1:0.6:0.55. S7 and gonostylus as figured (Figs. 3B,12D).

Etymology. The species name refers to the Cerrado region, where the species occurs.

Distribution. Brazil, state of Goiás.

Type material. Holotype male, Goiás, Goiania, 17.v.1938, F. Lane (MZSP).

Ptilothrix concava n. sp.

Figs. 3H, 4D, 6C, 10H, 11H, 12F, 14B.

LSIDurn:lsid:zoobank.org:act:7047191A-6481-4975-B545-A2076577EF5E

Diagnosis. This species is closely related to *P. plumata*, with which it shares the same pattern of yellow apical bands on the metasoma, and the light-red legs of the females. Females are readily distinguished by the concave basitibial plate (Fig. 4D), clothed with sparse hairs that do not hide the integument, while in *P. plumata* the basitibial plate is flat and densely covered with hairs that give it a silky appearance (Fig. 4E). Males are distinguished by the black pubescence of the metasomal sterna, and the pilosity of S5, which has long hairs along the entire apical margin (although longer and denser laterally); males of *P. plumata* have pale greyish hairs on S1-S4 (variable on S5), and S5 has a broad median apical sector of minute hairs (Fig. 7E).

Female description. Length: 10.0–11.5 mm (holotype 11.4 mm); length of forewing: 7.8–9.7 mm (holotype 8.6 mm). *Color*. Black integument, except as follows: reddish brown forelegs, light red middle and hind legs beyond trochanters, although basitarsi usually darkened, and yellowish-brown tegula. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Head with hairs white to greyish around antennal sockets, on clypeus, on labrum, and close to occiput, with transverse band of black to dark brown hairs on upper part of frons, upper part of paraocular area, and vertex, hairs of

gena and hypostomal area black (some specimens with few pale hairs on gena and on vertex). Hairs on mesosoma fulvous, except black on venter. Hairs dark brown to black on foreleg, black on inner side of hind basitarsus, remainder of legs with light brown to brown hairs; hind tibia with distinct white apical tuft. T1-T4 with yellow apical bands; bands on T2-T4 turning down, reaching lateral margin of terga; T1-T2 basally with yellowish hairs; remainder of terga with black hairs, including prepygidial and pygidial fimbriae. Apical fringes of S2-S3, and in some specimens also S4, with light-brown hairs, other sternal hairs dark brown to black. Hairs on center of scutum 1.2–1.5x MOD. Tibial scopa with hairs on outer surface 1.0–1.3x MOD, with flattened rachis and minute branches directed apicad. Disc of T2 densely covered with erect hairs 0.7–1.0x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with punctures 0.5–1.0 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, densely punctate, punctures separated by 0.2–1-0 puncture diameters. *Structure*. Clypeus 1.75x wider than long, protuberant in lateral view for a distance 0.7x maximum eye width. Labrum 1.4x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 2.0x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.1:0.45:1:0.45:0.45. Mid and hind tibial spurs weakly bent apically.

Male description. Length: 8.0–10.0 mm; length of forewing: 7.3–8.8 mm. Color, pubescence and sculpture similar to those of female, except as follows: some specimens with hairs on head mostly pale, T1-T5 with yellow apical bands of short squamose hairs, those on T1-T4 as in females, but on T5 restricted to median two-thirds to three-fourths of tergum; T1, and in some specimens also T2, basally with pale erect hairs. Hairs on S1-S6 black. Hairs on center of scutum 1.6–2.0x MOD. Hairs on disc of T2 erect, 1.0–1.2x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with continuous apical fringe. S6 apically with dense median tuft of erect hairs. S7 and gonostylus as figured (Figs. 11H, 12F).

Etymology. The name of the species refers to the peculiar concave basitibial plate of the females of this species (Fig. 4D).

Distribution. Argentina, province of Misiones.

Type material. Holotype female, Argentina, Misiones, Santa María, Dpto. Concepción, x.1954, M. Viana, MACN_En 42344 (MACN).

Material studied. Following paratypes: Argentina. Misiones: 1 F, 1 M, Santa María, i.1964, M. Viana (MACN); 1 F, Santa María, Dpto. Concepción, x.1954, M. Viana (MACN); 2 F, 1 M, no locality, 1905, L. Echeverría (MACN); 1 F, Territ. Misiones, 28.ii.1910, M. Rodríguez (MACN); 1 M, San Juan, 15.xii.1925, M. Gómez (MACN); 1 M, Loreto, x.1945, M. Viana (MACN); 1 F, Posadas, iv.1963, M. Fritz (MACN); 3 M, Bompland, 5.xii.1910, 2.ii.1911, P. Jörgensen (MLP).

Ptilothrix concolor Roig-Alsina

Figs. 6D, 12C, 13A.

Ptilothrix concolor Roig-Alsina, 2007: 117–118, figs. 1–3, 8, 10. Holotype female, Argentina, Catamarca, San Fernando, 4-6-XI-1989, L. Moffatt, MACN_En 42345 (MACN, examined).

Diagnosis. This is a large species of *Ptilothrix*, 11.0–13.5 mm long, readily separated from all other *Ptilothrix* by its homogeneous pale-colored, short vestiture (Fig. 6D), similar to that of many species of *Diadasia*. The metasomal terga are densely covered with appressed, short hairs (0.4–0.7x MOD) intermixed with sparse, erect, long hairs; the appressed hairs are denser on the posterior margins of the terga, forming weakly defined apical bands. The wings are hyaline, except slightly infuscate on the marginal cell; the veins and the pterostigma are dark brown. Females have the prepygidial and pygidial fimbriae reddish brown, and the outer surface of the hind tibia lacks the tuft of white hairs

present in other species of *Ptilothrix*. The admedian lobe of the male S7 has a glabrous, digitiform projection on the mesal margin (Roig-Alsina, 2007,), similar to the projection seen in *P. albidohirta* (Fig. 3A) and *P. nemoralis* (Fig. 11A).

Comments. This species has been described in detail by Roig-Alsina (2007), and it is not treated further here.

Distribution. Argentina, provinces of Catamarca and La Rioja.

Material studied. All specimens cited by Roig-Alsina (2007) were examined; their data are not repeated here, but are included in the distribution map.

Ptilothrix fructifera (Holmberg)

Figs. 6E, 11D, 12J, 14A.

Teleutemnesta fructifera Holmberg, 1903: 402. Holotype female, Argentina, Buenos Aires, Barracas al Sur, I-1881, E.L. Holmberg, MACN_En 42346 (MACN, examined).
Ptilothrix fructifera: Brèthes, 1910b: 212.

Diagnosis. This species is distinguished by the narrow, yellow apical bands on T2-T4 (females) or T2-T6 (males), the pale greyish pubescence on the dorsum of the mesosoma and base of T1-T2 (on the scutum the greyish hairs are intermixed with black hairs), and the weakly infuscate wings with dark brown veins and pterostigma. It can be confused with the pale forms of *P. tricolor*, which have a similar pattern of color of pubescence. It is readily distinguished by the nearly straight hind tibial spurs, and the labrum with a preapical carina and truncate apex (hooked tibial spurs and labrum with convex apex in *P. tricolor*). Females of *P. fructifera* have a distinct apical white tuft on the hind tibia, which is lacking in the entirely black- haired legs of *P. tricolor* females.

Female redescription. Length: 10.5–12.0 mm; length of forewing: 7.8-9.5 mm. *Color*. Black, except reddish distal tarsomeres. Wings with weakly infuscate membrane; pterostigma and veins dark brown. *Pubescence*. Hairs pale greyish on most of head, but black on vertex, around proboscidial fossa, and on part of gena in some specimens. Hairs pale greyish on dorsum of mesosoma and upper part of pleurae; scutum with varying amount of intermixed black hairs, not forming definite pattern, scutellum with transverse band of black hairs on disc, remainder of mesosoma with black hairs. Foreleg with black hairs, middle leg with greyish hairs beyond femur, hind tibia with fuscous hairs on upper margin close to basitibial plate and white apical tuft, other hairs greyish to brown; hind tarsus with yellowish hairs. T2-T4 with yellow apical bands reaching sides of terga in dorsal view and turning down to lateral margins of terga; T1 and base of T2 with greyish hairs, on T1 forming more or less defined apical band; disc of T3-T5 with black hairs; prepygidial fimbria black on center, yellow laterally; pygidial fimbria black. Apical fringes of S2-S5 yellow, other sternal hairs black. Hairs on center of scutum 1.0–1.4x MOD. Tibial scopa with hairs on outer surface 1.0–1.4x MOD, with stout rachis and short branches directed apicad. Disc of T2 densely covered with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus polished to finely tessellate, disc of clypeus with dense punctures 0.2–1.0 diameters apart; labrum densely punctate, punctures lees than a diameter apart. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, density of punctures variable, irregular (on center of scutum 0.5–2.0 diameters apart). *Structure*. Clypeus 1.75x wider than long, protuberant in lateral view for a distance 0.55x maximum eye width. Labrum 1.55x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 1.9 times longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 1.9:0.45:1:0.4:0.4. Mid and hind tibial spurs nearly straight. *Male description.* Length: 9.5–11.0 mm; length of forewing: 8.2–9.5 mm. Color, pubescence and sculpture similar to those of female, except yellow apical bands on T2-T6; sternal fringes on S2-S5 greyish to yellow, but in some specimens black medially; hairs of S6 black. Hairs on center of scutum 1.3–2.0x MOD. Hairs on disc of T2 erect, 1.0–1.3x MOD. S2-S4 with dense, erect hairs, and apical

fringes poorly defined; S5 with hairs long laterally and shorter medially, but without differentiated median sector of short hairs. S6 apically with dense median tuft of erect hairs. S7 and gonostylus as figured (Figs. 11D, 12J).

Comments. The pubescence of the scutum is usually greyish with scattered intermixed black hairs, but in a male specimen studied from Pará the pubescence is predominantly black, with a reduced number of greyish hairs. In specimens from Paraguay the yellow color of the apical bands on the metasomal terga is more intense.

Distribution. Argentina, provinces of Buenos Aires and Entre Ríos. Brazil, states of Pará, Paraná and São Paulo. Paraguay, department of San Pedro. Uruguay, department of Colonia.

Type material. The holotype of *Teleutemnesta fructifera* has been damaged by anthrenids, lacking the eyes, the metasternum, and the metasoma beyond the first segment. It bears the following labels: 1) a small white square without any inscriptions, 2) "Teleutemnesta/ Holmberg" 3) "fructifera/ Holmberg" 4) a red printed label "Holotypus" and 5) "MACN_En 42346" printed. The labels two and three are handwritten, and bear small lateral pin holes indicating that originally in the Holmberg collection they were pinned at one side of the specimen. The specimen is easily recognized by the truncate labrum, the fuliginous wings with dark-brown veins and pterostigma, the dark-brown tegula, the intermixed white and black hairs on the scutum, and the white tuft of hairs on the apex of the hind tibia.

Material studied. Argentina. Buenos Aires: 1 M, Devoto, 26.xii.1925, Bridarolli (MACN). Entre Ríos: 1 F, Parque Nacional El Palmar, 8/11.iii.1994, Hazeldine (MACN); 7 F, 10 M, P.N. El Palmar, ii.1985, L. Moffatt (MACN). Brazil. Pará: 1 M, P.I. Nilo Peçanha, Kuben-Kan-Krein, x.1955, A. Sousa (DZUP). Paraná: 1 M, Curitiba, xii.1938, P.J. Moure (DZUP); 2 F, Vila Velha, 30.xi.1965, Moure e Marinoni (DZUP); 1 F, Vila Velha, 21.ii.1965, Mitchell-Moure (DZUP); 1 M, Cruzeiro D'oeste, 9.xii.1955, V. Graf, L. Azevedo (DZUP). São Paulo: 1 F, 2 M, Rio Claro, xi.1943, P. Fiamenghi (DZUP); 1 F, Rio Claro, x.1939, Coll. Claretiano (DZUP); 2 F, Batatais, 1.i.1972, J. S. Moure (DZUP); 1 F, Cosmopolis, 19.xii.1971, J. S. Moure (DZUP). Paraguay. San Pedro: 1 M, Cororo, Río Ypané, ii.1979, Fritz (MACN). Uruguay. Colonia: 1 M, Riachuelo, A. Stévenin (MACN).

Ptilothrix interrupta n. sp.

Figs. 3F, 3I, 6F, 10A, 11E, 13B.

LSIDurn:lsid:zoobank.org:act:3088A7D1-8078-4FF9-AA00-BF0EF36DAEB5

Diagnosis. This species is readily distinguished by the medially interrupted apical bands of yellow squamiform hairs on T2-T4 (females) or T2- T5 (males). This pattern is only shared with *P. nigrita* Friese, 1899, from which it is distinguished by the lack of a white patch of hairs on T2, the black sternal hairs, the bent apices of the mid and hind tibial spurs (although not as much bent as in *P. tricolor* or *P. bifax*), and the female scopal hairs on the outer surface of the tibia, with a slender rachis and numerous branches, the basal ones much longer than the width of the rachis. *Ptilothrix nigrita* bears a white lateral patch of hairs on T2, has white sternal hairs, the tibial spurs are nearly straight, and the female scopal hairs on the outer surface of the hind tibia have a broad, flattened rachis and few branches (4–7), the basal ones barely longer than the width of the rachis. The male S6 of *P. interrupta* bears short, uniform hairs on all its surface, a feature only shared with *P. scalaris*. Males of other species of *Ptilothrix* have S6 with longer hairs medially, forming a dense tuft.

Female description. Length: 9.0–11.5 mm (holotype 11.0 mm); length of forewing: 7.8–9.2 mm (holotype 8.8 mm). *Color*. Black, except as follows: reddish flagellum beyond first flagellomere, reddish distal tarsomeres, and translucent yellowish-brown tegula. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs dark brown to black on head, but some specimens with greyish hairs on center and apex of clypeus (holotype). Hairs on mesosoma entirely

dark brown to black. Legs with black hairs, except some whitish hairs on apex of fore and mid tibiae, large white apical tuft on hind tibia, white apical tuft on hind basitarsus, and whitish hairs on hind distal tarsomeres. T2-T4 with yellow apical bands of short squamose hairs; bands broadly interrupted medially and reaching sides of terga in dorsal view. T1 with dorsolateral patch of yellowish hairs; remainder of terga with black hairs, including prepygidial and pygidial fimbriae. Metasomal sterna with black hairs. Hairs on center of scutum 1.5–2.3x MOD. Tibial scopa with hairs on outer surface 1.2–1.5x MOD, with slender rachis and branches directed apicad, as long as to twice width of rachis (12–15 branches at each side). Disc of T2 sparsely covered with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with irregularly distributed punctures 0.2–1.5 diameters apart; labrum densely punctate, punctures lees than a diameter apart. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, density of punctures variable, irregular (on center of scutum 0.2–1.0 diameters apart in holotype). *Structure*. Clypeus 1.7x wider than long, protuberant in lateral view for a distance 0.6x maximum eye width. Labrum 1.6x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 1.9 times longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 1.9:0.4:1:0.4:0.4. Mid and outer hind tibial spurs shortly bent apically.

Male description. Length: 8.5–11.0 mm; length of forewing: 7.8–9.5 mm. Color, pubescence and sculpture similar to those of female, except as follows: hairs grayish on most of clypeus, labrum, and venter of mesothorax. Hairs on center of scutum 2.4–3.0x MOD. Hairs on disc of T2 erect, 1.0–1.4x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs; apical fringe with hairs barely shorter medially. S6 apically with erect hairs sparse and of even length, not forming a tuft (Fig. 10A). S7 and gonostylus as figured (Figs. 3I, 11E).

Etymology. The specific name refers to the interrupted yellow metasomal bands.

Comments. The interrupted yellow tergal bands are more separated medially in some specimens than in others. In the holotype the lateral bands on T2 are separated by a distance 7.0x MOD, on T3 by 0.41x MOD, and on T4 by 3.2x MOD; in a paratype with closer bands, these are separated on T2 by 6.0x MOD, on T3 by 0.27x MOD, and on T4 by 0.27x MOD.

Distribution. Argentina, province of Jujuy. Bolivia, departments of Cochabamba and Tarija.

Type material. Holotype female, Bolivia, Tarija [Burmeister collection], MACN_En 42347 (MACN). The holotype is in perfect condition. It bears the labels "Bolivia," "Tarija," a holotype identification label of mine, and the collection identification number "MACN_En 42347."

Material studied. Following paratypes: Argentina. Jujuy: 1 M, no locality, 1905, C. Spegazzini (MACN). Bolivia. Cochabamba: 8 F, 2 M, Cochabamba, 24.iii.1945, R. Zischka (MLP). Tarija: 1 M, Tarija (MACN).
Imaged specimens from https ://www. inaturalist.org. Bolivia. 1 F; Urbanizacion L.A.B., Cochabamba; Lat/Lon: -17.38342, -66.07761; 2.iii.2022; M. S. Whitney obs.; iNaturalist record #131844114.

Ptilothrix nemoralis Roig-Alsina

Figs. 3G, 8A, 10F, 10L, 11A, 12B, 13A.

Ptilothrix nemoralis Roig-Alsina, 2007: 118–119, figs. 9–10. Holotype female, Argentina, Formosa, Pozo de Maza, Departamento Bermejo, II-1989, P. Arenas, MACN_En 42350 (MACN, examined).

Diagnosis. This species is characterized by the lack of the white apical brush on the hind tibia, present in all other species of *Ptilothrix* that have a yellow-banded T2-T4. The hairs around the ocelli are fulvous. The pattern of the yellow apical bands on the metasomal terga is also distinctive. Both sexes have yellow bands covering almost all exposed surface of T2-T3, females have the band on T4 broadly

interrupted medially, and males have the band on T4 entire or briefly interrupted, and T5 with yellow lateral patches, or black, without any band. This species is closely related to *P. albidohirta* and *P. concolor*, with which it shares a similar S6 of the male (Fig. 10F), and a peculiar inner lobe of the seventh sternum of the male, with a digitiform projection (Fig. 11A).

Comments. This species was described by Roig-Alsina (2007), and it is not treated further here. Its biology is unknown.

Distribution. Argentina, provinces of Chaco and Formosa. Paraguay, departments of Boquerón and Presidente Hayes.

Material studied. Besides the specimens cited in Roig-Alsina (2007), the following are new records. Argentina. Chaco: 2 F, Colonia Mixta, 4.i.2017, A. Schaller (MACN). Formosa: 2 M, San Francisco de Laishi, Reserva El Bagual, ex *Opuntia anacantha* var. *retrorsa*, 9.i.2014, Agüero & Torretta (MACN). Paraguay. Presidente Hayes: 16 F, 29 M, 5 km SW Lag. Capitán, 5/6.ii.2007, E. Willis (PCYU). Boquerón: 7 M, 2 km NE Filadelfia, 6.ii.2007, E. Willis (PCYU).

Ptilothrix nigrescens (Friese) n. comb.

Figs. 3J, 8B, 11F, 13C.

Ancyloscelis plumata nigrescens Friese, 1910: 705. Lectotype male, Ecuador, Guayaquil, 1901, Buchwald (ZMB, examined through photographs, present designation).

Diagnosis. This species is closely related, and very similar, to *P. relata*. As in the latter species, the apical yellow bands of the metasoma do not reach the sides of the terga in dorsal view, although the bands in *P. nigrescens* reach closer to the sides and are more slender (Fig. 8B) than in *P. relata* (Fig. 8D). Females of *P. nigrescens* have white hairs at the sides of the prepygidial fimbria besides the pale bands on T1-T5, and males have apical bands on T1-T6. The scopal hairs on the outer surface of the hind tibia have a slender rachis (not flattened as in *P. relata*, Fig. 1D), and the branches are longer than the width of the rachis. Both sexes have the head covered all over with pale hairs, lacking the distinct upper transverse band of black hairs on the face present in *P. relata*.

Female description. Length: 9.5 mm; length of forewing: 8.0 mm. *Color*. Integument black, except reddish flagellum beyond first flagellomere, reddish distal tarsomeres, and yellowish-brown tegula. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white to greyish on most of head, fulvous on upper part of frons and vertex. Hairs on mesosoma fulvous, paler on venter. Hairs greyish on coxae, trochanters, and distal tarsomeres, brown to black on remainder of legs, but mid and hind tibiae with distinct white apical tufts. T1-T4 with yellow apical bands, on T2-T4 not reaching sides of terga in dorsal view, T3 medially 2.0–2.5x MOD (a median notch may be present) and tapering laterally; T1 basally with pale hairs and stripe of brown hairs bordering yellow apical band; T2 with pale hairs on basal part of disc and black hairs close to apical yellow band; prepygidial fimbria with white hairs laterally; remainder of terga with black hairs. Pubescence of S1-S5 greyish, of S6 black. Hairs on center of scutum 0.5–1.0x MOD. Tibial scopa with hairs on outer surface 1.0–1.4x MOD, with branches directed apicad; branches short, but longer (1.2–2.0x) than width of rachis. Disc of T2 densely covered with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with irregular punctures 0.5–1.5 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. Clypeus 1.8x wider than long, protuberant in lateral view for a distance 0.55x maximum eye width. Labrum 1.45x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 1.8x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.2:0.55:1:0.45:0.45. Mid and hind tibial spurs weakly bent apically.

Male redescription. Length: 9.0–9.5 mm; length of forewing: 7.5–7.8 mm. Color, pubescence and sculpture similar to those of female, except as follows: T1-T6 with yellow apical bands, those on T1-T4 as in females,

on T5 reaching or not sides of tergum, on T6 on entire apical margin; T1 basal to the apical band with pale hairs, T2 as in female with pale hairs basally and black hairs close to apical band. Hairs on S1-S5 whitish, on S6 light brown. Hairs on center of scutum 1.1–1.7x MOD. Hairs on disc of T2 erect, 0.8–1.0x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs; apical fringe with hairs longer laterally and broad median apical area of very short hairs; this median area approximately 0.4–0.5x of sternal apical width. S6 with dense apical median brush of erect hairs. S7 and gonostylus as figured (Figs. 3J, 11F).

Distribution. Colombia, department of Magdalena. Ecuador, province of Guayas. Venezuela, Federal District and state of Sucre.

Type material. Friese (1910) in his description of *Ancyloscelis plumata nigrescens* included specimens from Argentina, Paraguay, and Ecuador. The syntype series presently preserved at ZMB includes three specimens, a male and a female from Paraguay (Villarica) collected by Burgdorf, and one male from Ecuador (Guayaquil), collected by Buchwald, with the date 1901. This last specimen is selected as the lectotype.

Material studied. Colombia. Magdalena: 1 M, Valledupar, 4.vi.1968, B. Malkin (AMNH). Ecuador. 1 M, Guayaquil, 1901, Buchwald (ZMB). Venezuela. Federal District: 1 F, El Valle, xi.1964, C. Bordon (MACN) Sucre: 1 M, Irapa, xii.1964, C. Bordon (MACN).

Ptilothrix nigrita Friese

Ptilothrix nigrita Friese, 1899: 272. Holotype female, Bolivia, 97 (ZMB, examined).
Ancyloscelis (*Ptilothrix*) *nigrita sexmaculata* Friese, 1910: 706. Objective junior synonym of *Ptilothrix nigrita* Friese, 1899.

Diagnosis. This species is readily distinguished by the roundish yellow spot at each side of T2-T4. The only other species with lateral yellow marks on the metasoma is *P. interrupta*, but in *P. interrupta* the marks are short bands with more or less parallel anterior and posterior margins (Fig. 6F), not roundish spots. The female of *P. nigrita* (the male is unknown) is further differentiated from *P. interrupta* by the white pubescence of the face and the metasomal sterna, and the white patches on the base of T2. The pubescence of these areas is black in *P. interrupta.* The female scopal hairs on the outer surface of the hind tibia of *P. nigrita* have a broad, flattened rachis and few branches (4–7), the basal ones barely longer than the width of the rachis. These scopal hairs of *P. nigrita* are remarkably similar to those of *P. relata*.

Female redescription. Holotype. Length: head plus mesosoma 5.5 mm, metasoma 5.5 mm (metasoma strongly bent down); length of forewing: 8.5 mm. *Color*. Integument black, except as follows: antenna mostly blackish, with reddish basal bulb and reddish-brown underside of flagellum, legs reddish-brown beyond trochanters although femora reddish, and tegula yellowish-brown. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white to greyish on face and labrum, but with transverse band of black hairs at level of ocelli. Hairs on mesosoma blackish, except anterior margin of scutum with hairs paler, with yellowish tint, and mesopleuron below tegula with patch of yellowish hairs; hairs of scutellum distinctly black. Legs with brown to black hairs, but hind tibia with distinct white apical tuft. Metasomal terga with black hairs, except as follows: T1 basally and laterally with white hairs, T2 basally at each side with white hairs, T2-T4 with roundish lateral spots of yellow squamiform hairs (each spot broader medially and narrower laterally, not reaching sides of tergum in dorsal view). Metasomal sterna with white hairs. Hairs on outer surface of hind tibia with flattened rachis and short, straight branches directed apicad at acute angles, basal ones barely longer than width of rachis. *Sculpture*. Clypeus with irregular punctures and impunctate, narrow polished band close to upper margin. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. Labrum with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc of labrum concave. Proportion of lengths of proximal three flagellomeres 1:0.45:0.55. Basitibial plate flat and densely covered with hairs with silky appearance. Apex of hind tibia with digitiform inner process of primary bridge isolating tibial spurs. Mid and hind tibial spurs nearly straight.
Distribution. Bolivia.

Type material. The specimen of *Ptilothrix nigrita* Friese, 1899, preserved in Berlin (ZMB) agrees in every feature with Friese's detailed description of 1899, but it lacks any identification label written by Friese at that time. A noteworthy agreement between this specimen and Friese's description is the distribution of hairs of different color on the thorax: most hairs are blackish, but those of the scutellum are distinctly black, on the anterior margin of the scutum the hairs are paler, with a yellowish tint, and on the mesopleuron below the tegula there is a patch of yellowish hairs. The metasoma is strongly bent down, making it difficult to assess the total length of the specimen. This may be the reason why Friese (1899) indicated in the original description an ambiguous measurement (10–11 mm) of the single specimen that he studied. I consider this specimen to be the holotype of *P. nigrita* Friese, 1899.

The same specimen was used by Friese ten years later (Friese, 1910) to describe *Ancyloscelis nigrita* var. *sexmaculata*. It bears the following labels: "Bolivia/ 97" "Ancyloscelis/ nigr./ v. 6-maculata/ [female symbol] 1909 Friese det." "Type" "Zool. Mus/ Berlin" and a label of mine indicating that this is the holotype of both *Ptilothrix nigrita* Friese, 1899, and *Ancyloscelis nigrita sexmaculata* Friese, 1910.

Friese (1910) described another *Ptilothrix* using the epithet "nigrita" as species name: *Ancyloscelis* (*Ptilothrix*) *nigrita* (Friese, 1910, p. 705). This name is a junior synonym of *P. relata* (Holmberg) (see below).

Material studied. The holotype is the only specimen known to date (ZMB). Its locality label only indicates "Bolivia."

Ptilothrix plumata Smith

Figs. 4A, E, G, 7E, 8C, 11G, 12G, 14B.

Ptilothrix plumata Smith, 1853: 132. Lectotype female, Brazil, F. Sm. Coll. 79.22, B. M. Type Hym. 17B.755, BMNH(E) #970988 (NHMUK, examined, present designation).

Diagnosis. This species is characterized by the fulvous vestiture of the mesosoma, the yellowish-brown wings and tegula, and the yellow apical bands of T1-T4 (female) or T1-T5 (male) that reach the sides of the terga in dorsal view and turn down to the lateral sides of the terga. This species may be confused with *P. vulpihirta* and *P. rubescens*, with which it is sympatric. It is recognized by the black scapes, the rather truncate basitibial plate of the female (Fig. 4E), and the shape of the inner process of the primary bridge that isolates the hind tibial spurs (Fig. 4G). For further differences see the diagnoses of the aforementioned species.

Female redescription. Length: 9.5–11.5 mm; length of forewing: 7.2–9.3 mm. *Color*. Integument black, except as follows: reddish brown to blackish forelegs, light-red middle and hind legs beyond trochanters, although basitarsi usually darkened (some specimens from Pará and Venezuela with dark reddish-brown middle and hind legs), frequently reddish base of scape (up to basal one-fifth), orange to reddish-brown flagellum beyond first flagellomere, and yellowish-brown tegula. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white to greyish around antennal sockets, on clypeus, on labrum, on lower part of gena, and close to occiput, with black hairs on upper part of gena and transverse band on upper part of frons, upper part of paraocular area, and vertex (some specimens with pale hairs occupying posterior part of vertex). Hairs on mesosoma fulvous, paler on venter. Hairs dark brown to black on foreleg, black on inner side of hind basitarsus, remainder of legs with light brown to greyish hairs; hind tibia with distinct white apical tuft. T1-T4 with yellow apical bands; bands on T2-T4 turning down, reaching lateral margin of terga; bands on T2-T4 broad medially and narrowed sublaterally in dorsal view; band on T3 broadest medially (2.7–3.2x MOD); T1-T2 basally with pale fulvous to yellowish hairs; remainder of terga with black hairs, including prepygidial and pygidial fimbriae (some specimens of northern distribution with hairs of disc of T2 black close to the apical band). Pubescence of S1-S5 greyish, of S6 black. Hairs on center of scutum 1.2–1.3x MOD. Tibial scopa with hairs on outer surface 1.0–1.4x MOD, with short branches (shorter than to as long as width of rachis), directed apicad. Disc of T2 densely

covered with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with irregular punctures 0.5–1.0 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. Clypeus 1.8x wider than long, protuberant in lateral view for a distance 0.65x maximum eye width. Labrum 1.45x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 2.2x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 1.9:0.35:1:0.4:0.4. Mid and hind tibial spurs weakly bent apically.

Male redescription. Length: 8.5–11.0 mm; length of forewing: 7.2–9.0 mm. Color, pubescence and sculpture similar to those of female, except as follows: legs frequently darker than in females, from dark reddish-brown to black, T1-T5 with yellow apical bands of short squamose hairs, those on T1-T4 as in females, but on T5 restricted to median two-thirds to three-fourths of tergum; T1-T2 basally with pale erect hairs. Hairs on S1-S5 whitish, on S6 black. Hairs on center of scutum 1.2–1.8x MOD. Hairs on disc of T2 erect, 0.6–0.8x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs on most of its surface, except median apical area of very short hairs; this median area approximately 0.2–0.3x of sternal apical width (Fig. 7E). S6 apically with dense median tuft of erect hairs. S7 and gonostylus as figured (Figs. 11G, 12G).

Comments. Voucher specimens need to be studied to unravel the extensive number of citations and records attributed to this species in the literature.

Distribution. Brazil, Federal District of Brasilia, and states of Bahia, Espírito Santo, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraná, Rio de Janeiro, Rio Grande do Norte, and São Paulo. Perú, department of San Martín. Venezuela, Federal District.

Type material. Images of the lectotype here designated, as well as its labels, are available at the website of the Natural History Museum, London (NHMUK), listed below in the References. The specimen is in very good condition.

Material studied. Brazil. Bahia: 8 F, Vitoria da Conquista, 5/9.v.1961, F.M. Oliveira (DZUP); 1 F, Anajé, 18.v.1975, C. & P. Elias (DZUP); 2 M, Maracás, 18.viii.1964, C. Elias (DZUP). Brasilia - DF: 1 M, xii.1971, Stawiarski (DZUP). Espírito Santo: 3 F, 7 M, Linhares, i.1962, C. Elias (DZUP); 2 F, 2 M, Serra - N. Almeida, 25.ii.1967, C.T. & C. Elias (DZUP); 1 M, São Domingos, 27.iii.1966, C. Elias (DZUP); 1 F, 3 M, Conc. da Barra, 19.v.1969, C. Elias (DZUP); 1 M, Guarapari, xi.1961, M. Alvarenga (DZUP). Maranhão: 1 M, Imperatriz, 20.ii.1962, F.M. Oliveira (DZUP). Mato Grosso: 1 M, Serra do Roncador (DZUP). Mato Grosso do Sul: 3 M, Dourados, i.1976, J. Lorenzoni (DZUP). Minas Gerais: 1 F, 2 M, Passos, 7/22.vi.1963, 18/23.xi.1963, C. Elias (DZUP); 1 M, Nova Resende, vii.1961, C. Elias (DZUP); 1 F, 1 M, Jacui, 27.xi.1963, C. Elias (DZUP). Pará: 2 F, Belem, i.1955, O. Rego (DZUP); 1 M, Belem, vi.1966, J.S. Moure (DZUP); 2 F, Belem, 8/10.v.1949, Th. Dobzhansky (DZUP); 2 F, Primavera, 13.vi.1987, J. Días (SEMC). Paraná: 1 F, 1 M, Villa Velha, 4.xii.1965, T.B. Mitchell (DZUP); 2 M, Curitiba, xii.1941, R. Langue (DZUP). Rio de Janeiro: 1 F, S. Bento - D. Caxias, v.1957, A. d'Araujo Silva (DZUP); 1 F, Guaratiba, ii.1956, Guimaraes (DZUP). Rio Grande do Norte: 1 F, 1 M, Natal, vi.1951, 28.vii.1951, M. Alvarenga (DZUP); 1 M, Papari, III.1948, M. Alvarenga (DZUP). São Paulo: 6 F, 1 M, Barueri, 13.Xii.1959, 1.iv.1961, 17.ii.1962, 22.i.1967, K. Lenko (MZSP); 3 F, 1 M, Faz. Pau d'Alho Itu, 4/5.i.1963, A. Rocha (MZSP); 1 M, Monte Alegre, Sitio Boa Vista, 20.ii.1943, J. L. Lima (MZSP); 1 F, Barra Funda, xi.1902 (MZSP); 1 F, Barueri, 15.iii.1955, K. Lenko (DZUP); 1 F, Rio Claro, 10.i.1944, P. Fiamenghi (DZUP); 1 M, Rio Claro, x.1939, Coll. Claretiano (DZUP); 1 F, Piracicaba, i.1950, W.E. Kerr (DZUP); 1 F, 1 M, Poá, i.1960, J. Lane (DZUP); 2 F, Cosmopolis, Usina Ester, 9/13.ii.1960, Moure, Nogueira, Hurd (DZUP); 1 F, Jarinú, ii.1944, V. Autuori (DZUP); 2 F, Guarulhos, 5.i.1939, Moure (DZUP); 2 F, 1 M, San Pablo, 1972, Martínez (MACN). Perú. San Martín: 1 M, Tarapoto, Ciudad Universitaria, 350 m a.s.l., 15.iv.2002, C. Rasmussen, ex Convolvulaceae (CR); 1 M, Tarapoto, 350 m a.s.l., 8.iv.2002, C. Rasmussen (CR); 6 F, Tarapoto, Morales ex adobe wall, 350 m a.s.l., 18.iv.2002, C. Rasmussen (CR). Venezuela. Caracas: 3 M, 4.ix.1966, R.L. Dressler (DZUP).

Ptilothrix relata (Holmberg)

Figs. 1C–D, 3D, 7B, 8D, 12H, 13C.

Teleutemnesta relata Holmberg, 1903: 403–404. Lectotype female, Argentina, Buenos Aires, Flores, 4-II-1880, E. L. Holmberg, MACN_En 42351 (MACN, examined, present designation).
Ancyloscelis (*Ptilothrix*) *nigrita* Friese, 1910: 705. Lectotype male, Bolivia, Tarata, 1900 (ZMB, examined, present designation). New synonym.
Ptilothrix relata: Brèthes, 1910b: 212.

Diagnosis. This species is readily distinguished by the pattern of the apical bands on the metasomal terga, restricted to T2-T4 in the females and T2-T5 in the males. The bands do not reach the sides of the terga and are broad medially, tapering laterally (Fig. 8D). The color of the vestiture of the mesosoma varies from fulvous to black. Specimens with dark pile on the mesosoma, which occur mainly in northwestern Argentina and in Bolivia, can be confused with *P. aemulatrix* (see diagnosis of this species above). Besides *P. relata* and *P. aemulatrix*, another species with a similar pattern of metasomal yellow bands is *P. nigrescens* from northern South America (see diagnosis of this species above for differences with *P. relata*).

Female redescription. Length: 9.5–11.5 mm; length of forewing: 7.3–9.4 mm. *Color*. Black, except as follows: pale specimens with reddish flagellum beyond second flagellomere, reddish distal tarsomeres, and yellowish-brown tegula; dark specimens with reddish brown undersurface of flagellum, and dark brown tegula. Legs usually black, but some specimens with reddish-brown femora and tibiae. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs black on most of head, white around antennal sockets, on sides of clypeus, and on part of gena in some specimens. Hairs on mesosoma varying from entirely fulvous (mainly in specimens with eastern distribution) to entirely black (some specimens with western distribution); intermediate specimens with predominantly black pile, may have different extent of greyish hairs on anterior part of scutum, upper part of pleurae, and sides of propodeum. Legs with black hairs, except white apical tuft on mid and hind tibiae. T2-T4 with yellow apical bands of short squamose hairs; bands not reaching sides of terga, on T3 3.0-3.5x MOD medially and tapering laterally. T1 in specimens with fulvous mesosoma with whitish hairs, except more or less defined yellow apical band; in specimens with black haired mesosoma, T1 with lateral patch of white hairs, other hairs black. Remainder of terga with black hairs, including prepygidial and pygidial fimbriae. Apical fringes of S2-S5 with white hairs, other sternal hairs black. Hairs on center of scutum 1.0–1.2x MOD. Tibial scopa with hairs on outer surface 1.0–1.3x MOD, with broad rachis and short branches (1.0–1.2x width of rachis), directed apicad. Disc of T2 with erect hairs 0.5–0.6x MOD. *Sculpture*. Clypeus tessellate, disc of clypeus with punctures 0.5–1.5 diameters apart, in some specimens punctures closer along midline; labrum polished between punctures. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, density of punctures variable, dense in some specimens (on center of scutum 0.2–1.0 diameters apart) but in others disc of scutum with sparse, irregularly distributed punctures. *Structure*. Clypeus 1.7x wider than long, protuberant in lateral view for a distance 0.6x maximum eye width. Labrum 1.6x as broad as median length; with apical truncation margined by preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 1.9–2.0 times longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 1.9:0.4:1:0.4:0.4.

Male redescription. Length: 8.0–11.0 mm; length of forewing: 7.1–9.0 mm. Color, pubescence and sculpture: similar to those of female, except as follows. Most specimens with pale hairs also on vertex of head and occiput, T6 with yellow apical band not reaching sides of terga, broader medially and tapering laterally, S5 with hairs varying from black to white. Hairs on center of scutum 1.2–1.8x MOD. Hairs on disc of T2 erect, 0.6–0.8x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs laterally and with median sector (approximately 0.4–0.5x apical width of sternum) with very short hairs and glabrous, polished apical margin (Fig. 7B). S6 apically with dense median tuft of erect hairs. S7 and gonostylus as figured (Figs. 3D, 12H).

Comments. The color of the vestiture on the mesosoma is fulvous in specimens from eastern Argentina, Brazil, Paraguay, and Uruguay, and also in some specimens from western Argentina and Bolivia. In the latter area the specimens frequently have the vestiture of the mesosoma entirely black. A long series collected in Santiago (department of Santa Cruz, Bolivia, November and December 1959, SEMC) shows specimens with all-fulvous and all-black mesosoma, as well as several intergrades. Although a fulvous vestiture on the mesosoma is the rule in eastern specimens, a single male from Buenos Aires (Reserva Costanera Sur, Compagnucci, Galvani & González V., MACN) has blackish hairs on the scutum and scutellum, and greyish hairs on the rest of the mesosoma.
The extension and shape of the apical tergal bands is fairly constant in females, except the band on T2 that may present a basal median notch, but is never interrupted. In a few males from Buenos Aires and Entre Ríos, the yellow apical bands on T2-T4 narrowly continue to the sides of the terga in dorsal view, and even turn down to reach the lateral margins of the terga. In these cases, the pattern of pubescence of S5 will help to distinguish these males from those of other species.

Distribution. Argentina, provinces of Buenos Aires, Chaco, Córdoba, Corrientes, Entre Ríos, Misiones, Santa Fe, and Salta. Bolivia, departments of Beni, Cochabamba, and Santa Cruz. Brazil, states of Minas Gerais, Paraná, Rio Grande do Sul, Santa Catarina and São Paulo. Paraguay, departments of Cordillera, Guayrá, Paraguarí, and San Pedro.

*Type material***.** Holmberg (1903) based his description of *Teleutemnesta relata* on both sexes, but presently only a female type specimen is preserved. The specimen lacks the head, but otherwise is well preserved, and the species is easily recognized. It is here designated as the lectotype. It bears the following labels: 1) "Fl. II-4-80" 2) a handwritten label "relata/ Holmberg" 3) "MACN_En 42351," 4) a red lectotype label of mine.

Ancyloscelis nigrita Friese, 1910, was described from specimens of both sexes from Tarata, Bolivia and Salta, Argentina. A male from Tarata (ZMB) is designated here as the lectotype. It is a dark-haired male of *P. relata* with the following labels: 1) "Bolivia/ Tarata/ 1900" 2) "Ancyloscelis/ nigrita/ Fr./ [male symbol] 1909 Friese det." 3) "Type" 4) "Zool. Mus./ Berlin" 5) a lectotype label of mine.

Material studied. Argentina. Buenos Aires: 1 F, 2 M, Martínez, 2.xii.1926, Bridarolli (MACN); 1 F, Buenos Aires, 9.xii.1902, J. Brèthes (MACN); 4 M, 12 km NO Tigre, 15.i.1990, A. Roig A. & L Moffatt (MACN); 1 M, Capital Federal, Facultad de Agronomía, 29.xii.1994, A. Roig A. (MACN); 5 F, 9 M, Cdad. Buenos Aires, Reserva Costanera Sur, 16.xi.2016, 1.xii. 2015, 25.i.2016, 28.iii.2016, Compagnucci, Galvani, González V. (MACN); 1 F, 16 M, Villa Adelina, 13.i.1993, ex Hibiscus, 13.i.1993, A. Roig A. (MACN); 2 F, Haedo, 13.i.1990, L. Moffatt (MACN); 1 F, Otamendi, ii.1993, P. Hazeldine; 1 M, Glew, ii.1975, Carpintero (MACN); 3 F, 1 M, Moreno, i.1974, i.1975, Fritz (DZUP); 1 M, Berisso, Los Talas, 16.ii.2011, L. Álvarez & M. Lucia (MLP). Chaco: 1 F, Colonia Elisa, 30.xii.2017, A. Schaller (MACN). Córdoba: 1 F, Sastre, ii.1940 (MACN). Corrientes: 2 M, Corrientes, 22.iii.1911, A. Soto (MACN); 2 F, Ituzaingó, iii.1982, Fritz (MACN). Entre Ríos: 1 F, 1 M, P.N. El Palmar, 8/11.iii.1994, Hazeldine (MACN); 1 F, Pque. Nac. Predelta, 16.xii.2015, Compagnucci, González V. & Vossler (MACN); 2 M, Liebig, 15.xii.2004, ex Hibiscus cisplatinus, A. Roig A. (MACN); 6 F, 4 M, P.N. El Palmar, 26.ix.2008, 24.x.2008, 10.xi.2008, A. Taylor & N. Veiga (MACN). Misiones: 2 M, Loreto, x.1945, M. Viana (MACN); 1 M, 7517 (MACN); 1 M, Posadas, 12.xii.1947, C. D'Amico (MACN); 1 M, INTA Cerro Azul, 17.x.2010, Roig A. et al. (MACN); 1 F, San Ignacio, 21.xi.1951, F. Monrós (IFML). Santa Fe: 1 M, 11942 (MACN). Salta: 1 F, Sumalao, 22.ii.1994, Hazeldine (MACN); 2 F, Pocitos, xii.1977, Fritz (MACN); 4 F, Reserva Campo Alegre, 25 km N cdad. Salta, 10.xii.2020, 9.ii.2022, G. Ellenrieder (MACN). Bolivia. 1 M (lectotype of *Ancyloscelis nigrita* Friese, 1910), 1 F (paralectotype), Tarata, 1900 (ZMB). Beni: 1 F, El Porvenir, NE San Borja (SEMC). Santa Cruz: 25 F and M, Santiago, xi.1959, xii.1959 (SEMC); 1 M, Santiago, xi.1959, Foerster (MACN); 1 F, Santa Cruz de la Sierra, 14.iii.1954 (MACN); 1 F, Puerto Suárez (SEMC). Brazil. Minas Gerais: 3 F, 6 M, Passos, 9/14.xii.1963, C. Elias (DZUP); 2 M, Passos, 21.xii.1964, C. Elias (DZUP); 2 F, 3 M, Jacuí, 27.xi.1963, C. Elias (DZUP). Paraná: 2 M, F. Iguassu, I.1962, Sakagami & Laroca (DZUP); 1 M, Curitiba, iii.1959, P.D. Hurd (DZUP); 1 M, Curitiba, 14.xii.1960, N.L. Marston (DZUP); 1 M, Curitiba, 14.xii.1955, Michener & Lange(DZUP); 1 M, Curytiba, iii.1941, coll. Claretiano (DZUP); 2 M, Curitiba, 1.ii.1964, S. Laroca (DZUP); 6 F, 1 M, Cruzeiro d'Oeste, 9.xii.1965, Graf & Azevedo (DZUP); 1 M, Vila Velha, iii.1965, Moure, Mitchell, Laroca (DZUP); 1 M, Lapa, 12.i.1956, Michener & Moure

(DZUP); 1 M, São Luis do Puruná, i.1956, Michener & Moure (DZUP); 1 M, Bariguí, xi.1947, Moure (DZUP). Rio Grande do Sul: 8 F, 8 M, B. de Cotegipe, 8.i.1966, F. Giacomel (DZUP); 1 F, 1 M, Erexim, 27.ii.1965, Giacomel (DZUP); 2 F, 1 M, Canguçu, 8.xii.1986, D, Wittmann (DZUP); 1 M, São Leopoldo, 19.ii.1965, C. Valle (DZUP). Santa Catarina: 1 F, Nova Teutonia, i.1950, F. Plaumann (DZUP). São Paulo: 1 M, Barueri, 13.Xii.1959, K. Lenko (MZSP); 1 F, Faz. Pau d'Alho Itu, 25.x.1959, U. Martins (MZSP); 3 F, 1 M, Barueri, 26.x.1955, iii.1957, xi. 1957, K. Lenko (DZUP); 1 F, Cosmópolis, Usina Ester, 13.ii.1960, Moure, Hurd, Nogueira (DZUP); 1 F, Campinas, i.1962, Moure (DZUP); 1 M, São Paulo (DZUP). Paraguay. Cordillera: 2 M, 2 km NE Atyra, 18.i.2007, E. Willis (PCYU); 1 M, 8 km SW Pirebebuy, 19.i.2007, E. Willis (PCYU). Guayrá: 1 M, Villa Rica, 1900, Burgdorf (ZMB). Paraguarí: 1 M, M. Nat. Acahay, 17.i.2007, E. Willis (PCYU). San Pedro: 1 M, 30 km S Cororo, 27.i.2007, E. Willis (PCYU).

Ptilothrix rubescens n. sp.

Figs. 4C, F, H, 7D, 8E, 10I, K, 11B, 12I, 14B.

LSIDurn:lsid:zoobank.org:act:9DE1D8C6-6517-423C-92FE-1C464B819C1E

Diagnosis. This is the species of *Ptilothrix* with more extended reddish coloration. All the legs beyond the trochanters, the anterior surface of T1, and the bases of S1 and S2 are light red. It can be separated from the similar *P. plumata*, which overlaps its area of distribution, by the red scapes, the pale vestiture of the forelegs, the digitiform inner process of the primary bridge that isolates the hind tibial spurs (Fig. 4C), the narrowly rounded apex of the female basitibial plate (Fig. 4F), the long inner dorsal hairs of the hind basitarsus of the male (3.5–4.0x the width of the basitarsus, Fig. 4H) and the male S5 with long hairs along all the apical margin (Fig. 7D). This is the only species of *Ptilothrix* in which the male S7 has an apical projection longer than the combined length of the admedian and apicolateral lobes (Fig. 11B).

Female description. Length: 8.7–12.0 mm (holotype 11.8 mm); length of forewing: 7.8–9.0 mm (holotype 8.8 mm). *Color*. Integument black, except as follows: legs beyond trochanters light-red (although hind basitarsus darkened, and dorsal surface of hind coxa light red), scape, apex of first and most of second flagellomere red, flagellum beyond second flagellomere reddish brown, labrum variable, from red to black, tegula yellowish-brown, anterior surface of T1, and bases of S1 and S2 light red. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white to greyish around antennal sockets, on clypeus, labrum, and lower part of gena (frequently with intermixed dark-brown hairs at sides of clypeus), hairs fulvous on posterior part of vertex and close to occiput, remainder of head with black hairs. Hairs on mesosoma fulvous, paler on venter. Coxae, trochanters, femora, and most of tibiae with whitish hairs, tibiae in part and tarsi with brown hairs, hind tibia with distinct white apical tuft, and hind basitarsus with dark brown to black hairs dorsally. T1-T4 with yellow apical bands; bands on T2-T4 turning down, reaching lateral margin of terga; band on T3 broadest medially (3.3–4.0x MOD), and with sublateral constrictions; T1-T2 basally with pale fulvous to yellowish hairs; remainder of terga with black hairs, including prepygidial and pygidial fimbriae. Pubescence on S1-S4 whitish, on S5 variable, from whitish to black, on S6 black. Hairs on center of scutum 0.9–1.4x MOD. Tibial scopa with hairs on outer surface 1.1–1.5x MOD, with short branches (1.0–1.5x width of rachis), directed apicad. Disc of T2 densely covered with erect hairs 0.5–0.8x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with irregular punctures 0.2–1.0 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. Clypeus 1.75x wider than long, protuberant in lateral view for a distance 0.5x maximum eye width. Labrum 1.6x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 2.1x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.1:0.4:1:0.4:0.4. Mid and hind tibial spurs weakly bent apically.

Male description. Length: 8.5–12.0 mm; length of forewing: 7.0–9.5 mm. Color, pubescence and sculpture similar to those of female, except as follows: forefemur mostly black in some specimens, metasomal terga and sterna without red color in some specimens, yellow apical bands of short squamose hairs present on T1-T5, band on T5 usually not reaching sides of tergum in dorsal view. Hairs on S1-S5 whitish, on S6 black. Hairs on center of scutum 1.1–1.8x MOD. Hairs on disc of T2 erect, 1.1–1.4x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs on all its surface, without

differentated median apical area (Fig. 7D). S6 apically with dense median tuft of erect hairs (Fig. 10I). S7 and gonostylus as figured (Figs. 11B, 12I).

Etymology. The specific name refers to the extensive reddish coloration of this species.

Distribution. Brazil, states of Espírito Santo, Goiás, Mato Grosso, Minas Gerais, and São Paulo.

Type material. Holotype female, Brazil, Minas Gerais, Passos, iv.1961, C. Elias (DZUP).

Material studied. Following paratypes: Brazil. Espírito Santo: 1 F, Domingos Martins, 28.ii.1966, C. Elias (DZUP). Goiás: 1 F, Sta. Rita da Anta [Jeroaquara] (MZSP); 1 M, Goiania, xi.1946 (DZUP). Mato Grosso: 1 M, Serra do Roncador (DZUP); 1 F, Xavantina, M. Alvarenga (DZUP). Minas Gerais: 2 F, 6 M, Passos, iii.1961, iv.1961, v.1961, C. Elias (DZUP, 1 F, 2 M, MACN); 3 F, 15 M, Passos, iv.1962, 1/5.v.1962, 21.v.1962, 22/26.v.1962, 28.v.1962, 29/30.v.1962, vii.1962, 11/17.vii.1962, 1/3.xi.1962, 10/15.xii.1962, C. Elias (DZUP); 5 F, 14 M, Passos, 12.i.1963, 30.iii.1963, 10/16.iv.1963, 24/30.iv.1963, 1/7.v.1963, 8/14.v.1963, 25/31.v.1963, C. Elias (DZUP); 1 M, Passos, 21.xii.1964, C. Elias (DZUP); 13 F, 3 M, Araxá, 17/23.ii.1965, 29.ii.1965, 22.iii.1965, 22.iv.1965, 5/10.v.1965, 6.ix.1965, 12.ix.1965, 7.x.1965, C. Elias (DZUP); 1 M, Araxá, vi.1965, C.T. Elias (MZSP); 15 F, 10 M, Nova Resende, viii.1961, C. Elias (DZUP); 1 F, 6 M, Ibiá, 18.vi.1965, C. Elias (DZUP); 10 M, S. Seb. Paraiso, vi.1961, C. Elias (DZUP); 1 F, Pratihna, 4.ix.1965, C. Elias (DZUP); 1 F, Sta. Barbara, V.1955, A. Silva (DZUP); 1 F, Sta. Rita Cassia, 23/30.ix.1963, C. Elias (DZUP); 1 M, Sta. Rita Cassia, v.1961, C. Elias (DZUP); 1 F, Perdizes, 8.iv.1965, C. Elias (DZUP); 2 F, 2 M, Sta. Juliana, 4.vi.1965, C. Elias (DZUP); 3 M, Belo Horizonte, 26.iv.1949, A. Costa (DZUP); 1 M, Patrocínio, 5.x.1965, C. Elias (DZUP); 5 M, Delfinópolis, 6.iv.1963, C. Elias (DZUP); 1 M, Alpinópolis, iii.1961, C. Elias (DZUP); 1 M, Pratápolis, iv.1961, C. Elias (DZUP); 2 M, São Gotardo, 11.vi.1965, C. Elias (DZUP); 8 M, Tapira, 27.v.1965, C. Elias (DZUP). São Paulo: 1 M, Monte Alegre, 750 m, Faz. Bom Jesus, 14/27.x.1942, L. Trav. & Almeida (MZSP).

Ptilothrix scalaris (Holmberg)

Figs. 3C, 7C, 9A, 9C, 10B, 12A, 13B.

Teleutemnesta scalaris Holmberg, 1903: 403. Holotype male, Argentina, Chaco, Resistencia, 1884, A. Romero, MACN_En 42352 (MACN, examined).
Ancyloscelis plumata ruficornis Friese, 1910: 705. Lectotype male, Argentina, Córdoba, Hieronymus col. (ZMB, examined, present designation).
Ptilothrix scalaris: Brèthes, 1910b: 212.

Diagnosis. This species is distinguished in both sexes by the red basal portion of the scape, and the apical bands on T2-T3 reaching the sides of terga in dorsal view, but not turning down, so that the lateral part of each tergum has black hairs (Fig. 9A, C). The apical band on T4 in females, and on T4-T5 in males usually does not reach the sides of the terga in dorsal view. Males are further characterized by the short and even pubescence of S6.

Female redescription. Length: 9.2–12.0 mm; length of forewing: 7.6–8.7 mm. *Color*. Black, except as follows: reddish basal one-fifth to one third of scape, reddish apex of first flagellomere and rest of flagellum, reddish distal tarsomeres, and yellowish-brown tegula. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Hairs white to yellowish around antennal sockets, on clypeus, on labrum, and close to occiput; other hairs black, but some specimens with pale hairs on gena and hypostomal area. Hairs on mesosoma fulvous, paler on venter. Legs with white to yellowish hairs on underside of coxae, trochanters and femora, remainder of fore and mid legs with brown to black hairs; hind tibia and basitarsus with brown to black hairs, except both with distinct white apical tufts. T1-T4 with yellow apical bands of short squamose hairs; bands on T2-T3 reaching sides of terga in dorsal view, but not turning down, so lateral part of terga with black hairs; band on T4 smaller, frequently not reaching sides of terga in dorsal view. T1 basally with pale hairs, and remainder of terga with black hairs, including prepygidial and pygidial fimbriae. Apical fringes of S2-S5 with white hairs, other sternal hairs black. Hairs on center of scutum 1.0–1.4x MOD. Tibial scopa with hairs on outer

surface 1.3–1.7x MOD, with branches 1.5-2.5x width of rachis, directed apicad. Disc of T2 with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with punctures 0.5–1.0 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures, densely punctate, punctures separated by less than a puncture diameter. *Structure*. Clypeus 1.7x wider than long, protuberant in lateral view for a distance 0.65x maximum eye width. Labrum 1.55x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 1.9x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.3:0.45:1:0.4:0.45. Mid and hind tibial spurs weakly bent apically.

Male redescription. Length: 8.0–10.0 mm; length of forewing: 7.3–8.8 mm. Color, pubescence and sculpture similar to those of female, except as follows: some specimens with hairs on head mostly pale, T1-T5 with yellow apical bands of short squamose hairs, those on T1-T4 as in females, but on T5 restricted to median two-thirds to three-fourths of tergum; T1, and in some specimens also T2, basally with pale erect hairs. Hairs on S1-S5 whitish, on S6 black. Hairs on center of scutum 1.5–1.8x MOD. Hairs on disc of T2 erect, 0.6–0.8x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with sparse, long hairs; apical fringe with hairs shorter medially (Fig. 7C). S6 apically with erect hairs sparse, not forming a tuft (Fig. 10B). S7 and gonostylus as figured (Figs. 3C, 12A).

Comments. Among over 150 specimens studied from a broad area (Fig. 13B), a single female from the province of Chaco in Argentina had the legs red instead of black. In some specimens from northwestern Argentina the red basal portion of the scape is reduced to a tiny spot.

Distribution. Argentina, provinces of Buenos Aires, Catamarca, Chaco, Córdoba, Corrientes, Entre Ríos, Formosa, Jujuy, Mendoza, Salta, Santa Fe, and Santiago del Estero. Brazil, state of Mato Grosso. Paraguay, departments of Boquerón, Concepción, Guayrá, Presidente Hayes, and San Pedro.

Type material. The male holotype of *Teleutemnesta scalaris* (MACN) is well preserved. It bears the following labels: 1) "Resistencia/ '75' 1884/ A. Romero" 2) "Teleutemnesta/ scalaris Holmb.," both handwritten, 3) a printed Holotype label, 4) "MACN_En 42352" printed.
The variety *Ancyloscelis plumata* v. *ruficornis* was described by Friese (1910) from "Cordova und Salta" based on both sexes. A male from Córdoba (ZMB) is here designated as the lectotype. It bears the following labels: 1) "Cordova/Hieronym." 2) "Ancyloscelis/plum. /v. ruficornis Fr./[male symbol] 1909 Friese det." 3) "Type" 4) "Zool. Mus./ Berlin" 5) Lectotype label of mine. The specimen lacks the apex of the metasoma beyond T3. It agrees in all details with *P. scalaris* (Holmberg).

Material studied. Argentina. Buenos Aires: 1 F, Bolívar, 12.iv.1946, R. Llano (MACN). Catamarca: 1 M, Dpto. El Alto, 5.v.1958, J. Argañarás (IFML); 1 F, Catamarca, x.1988, Fritz (MACN); 1 F, Río del Valle, 580 m, 5.xi.1951, F. Plumann (DZUP). Chaco: 9 F, 4 M, Lapachito, 22.xii.2016, 2.i.2017, A. Schaller (MACN); 2 M, Colonia Mixta, 4.i.2017, A. Schaller (MACN); 2 F, 2 M, La Eduvigis, Dpto. San Martín, 12.i.2018, A. Schaller (MACN); 1 M, Colonia Benítez, 20.xi.2018, A. Schaller (MACN); 1 M, Resistencia, Monte Alto, 22.xi.2018, Schaller (MACN); 1 M, Camino Isla del Cerrito, 21.xi.2018, A. Schaller (MACN); 1 M, Colonia Elisa, 30.xii.2017, A. Schaller (MACN); 4 F, San Bernardo, Di Iorio (MACN); 1 M, Capitán Solari, P.N. Chaco, A. Taylor & N. Veiga (MACN); 2 F, 2 M, Resistencia, xii.1935, J.B. Daguerre (MACN); 1 F, Tres Estacas, Di Iorio (MACN); 1 F, Roque Sáenz Peña, 1930, Ohmeiser (MACN). Córdoba: 3 F, 2 M, Córdoba, 1.xii.1889, Schulz (MACN); 4 F, 1 M, alrededores Capital, 29.xii.1955, Giorgetta (IFML); 3 F, Córdoba capital, 23.x.1947, P. López (IFML); 2 M, V. Hermoso, Depto Punilla, ii.1943, M. Viana (MACN); 1 F, 1 M, El Sauce, Depto. Calamuchita, xii.1938, M. Viana (MACN); 1 F, 1 M, Huerta Grande, i.1910, (MACN); 1 F, La Tablada, Giacomelli (MACN); 2 F, Cabana, ii.1937, Birabén (MLP); 1 F, Dpto. Colón, Salsipuedes, Río Ceballos, i.1956, A. Giorgetta (IFML); 1 F, Alta Gracia, i.1962, J.R. Llano (DZUP); 2 M, Sierra Córdoba, 17.i.1930, 5.ii.1930 (MZSP). Corrientes: 2 F, 2 M, Corrientes, 22.iii.1911, A. Soto (MACN); 1 M, Paraje El 15, ex Ipomoea carnea, 1.x.2018, Torretta & Avalos (MACN); 1 F, Corrientes, Camping El 15, 7.ii.2018, A. Avalos (MACN). Entre Ríos: 2 M, Paraná, Jan., Dec., [G. Burmeister] (MACN); 1 F, Liebig, 18.xii.2004, A. Roig A. (MACN); 1 F, Liebig, iv.1974, Zelich (MACN); 1 M, Villa Elisa, 11.ii.1974, Gontero (IFML); 3 F, Parque Nacional El Palmar,

12.v.2008, 24.x.2008, Taylor & Veiga (MACN); 1 M, P.N. El Palmar, ii.1985, L. Moffatt (MACN); 1 F, Villaguay, 15.xi.1951, M. Senkute (DZUP); 1 M, Pronunciamiento, ii.1962, Walz (DZUP). Formosa: 1 F, Laguna Blanca, P.N. Río Pilcomayo, 19.v.2008, A. Taylor & N. Veiga (MACN); 2 F, Tres Marías, xi.2013 (MACN); 1 F, Formosa, x.2011, Galvani (MACN); 3 F, Colonia El Alba, 2.ii.2010, C. Medrano (MACN); 1 F, Laguna Larga, iv.1948, J. Morez (IFML). Jujuy: 3 F, 1 M, no locality, 1905, C. Spegazzini (MACN); 5 F, 4 M, La Esperanza, 3.iii.1961, Walz (DZUP). Mendoza: 1 F, Mina Aida [Dpto. Las,Heras], A. Stevenin (MACN). Salta: 1 M, Coronel Moldes, xii.1990, Fritz (MACN); 1 F, La Viña, xii.1992, Fritz (MACN); 1 M, Ambascachi, Valle de Lerma, 7.xi.1959, A. Willink (IFML); 1 M, Capital Salta, 22.xi.1951 (MLP). Santa Fe: 1 M, Villa Ana, i.1946, Hayward & Willink (IFML); 1 M, Santa Fe, 24.xi.1927, Bridarolli (MACN); Santiago del Estero: 4 F, Lago Muyo, 29.iv.1957, Golbach (IFML); 3 F, Sachayoj, i.1993, González (MACN); 1 M Ojo del Agua, 22.xi.1952 (MLP). Brazil. 1 M, St. João del Rey, Sello (ZMB). Mato Grosso: 3 M, Cuiabá, 19.i.1965, 22.ii.1965, S. Laroca (DZUP). Paraguay. 1 F, Coronel Bogado, i.1994, Martínez (DZUP). Boquerón: 3 M, Fn. Boquerón, 6.ii.2007, E. Willis (PCYU). Concepción: 1 M, 56 km S Vallemi, 2.ii.2007, E. Willis (PCYU). Guayrá: 1 M, Villarica, 21.x.1946 (MLP). Presidente Hayes: 14 F, 26 M, 5 km SW Lag. Capitán, 5/6.ii.2007, E. Willis (PCYU). San Pedro: 1 M, Cororo, 8.ii.2007, E. Willis (PCYU).

Ptilothrix tricolor (Friese)

Figs. 1E–F, 4B, 9D–E, 10D, 11J, 12L, 13D.

Ancyloscelis tricolor Friese, 1906: 92. Lectotype female, Argentina, Salta, 1903 (ZMB, examined, present designation).

Ancyloscelis nigerrima Friese, 1906: 92. Lectotype male, Argentina, Mendoza, 1905, Jensen (ZMB, examined, present designation). New synonym.

Ptilothrix corrientium Strand, 1910: 512. Holotype male, Argentina, Corrientes, Empedrado, J.D. Anisits (ZMB, examined). New synonym.

Ptilothrix lynchii Brèthes, 1910a: 294. Holotype male, Argentina, Chaco, MACN_En 42348 (MACN, examined). New synonym.

Ptilothrix chacoensis Brèthes, 1910a: 294. Holotype male, Argentina, Chaco, 6879, MACN_En 42343 [Lynch Arribálzaga col.] (MACN, examined). New synonym.

Ptilothrix megasoma Brèthes, 1910a: 295. Holotype male, Argentina, Mendoza, MACN_En 42349 (MACN, examined). New synonym.

Ptilothrix heterochroa Cockerell, 1919: 119. Holotype female, Argentina, Santa Fe, Carcarañá (USNM, examined). New synonym.

Emphor opuntiae Schrottky, 1920: 10–11. Holotype female, Argentina, Santa Fe, 30.xii.1910, on *Opuntia monacantha* (probably lost). New synonym.

Ptilothrix tricolor: Brèthes, 1910a: 295.

Diagnosis. This species and *P. bifax* are the only two species of *Ptilothrix* with apically hooked hind tibial spurs, a convex, not truncate apical margin of the labrum, and females with simple hairs on the outer surface of the hind tibia. Both species have a dark-brown to black tegula, rather infuscate membrane of the wings, and black-haired legs without the white apical tuft on the hind tibia present in many other species. The diagnosis of *P. bifax* above lists differences between the two species. *Ptilothrix tricolor* varies considerably in the color of the vestiture. Some specimens have extensive whitish pubescence on the head, the mesosoma, and on T1-T2, and yellow apical bands (entire or interrupted) on T2-T4 (Fig. 9D). Other specimens, especially in xeric areas of Argentina, are entirely black. Pale and melanic specimens, as well as intergrades (Fig. 9E), can be seen in many populations. Specimens with whitish hairs on the dorsum of the mesosoma always have a characteristic transverse black band on the scutum running from the level of one pronotal lobe to the other, and a transverse black band on the disc of the scutellum.

Female redescription. Length: 10.5–14.0 mm; length of forewing: 8.8–10.5 mm. *Color*. Integument black, except reddish distal tarsomeres. Wings with infuscate membrane; pterostigma and veins dark brown. *Pubescence*. Palest specimens: hairs whitish on most of head, but black around proboscidial fossa and on transverse band occupying upper part of paraocular area, upper part of frons, and vertex

(but occiput with whitish hairs); hairs whitish on dorsum of mesosoma and upper part of pleurae and propodeum, but scutum with transverse, arched to rear black band at level of pronotal lobes, and scutellum with transverse black band on disc, remainder of mesosoma with black hairs; legs with black hairs; T1 including apical band, and T2 including median part of apical band with whitish hairs, apical band of T2 laterally, apical bands of T3-T4, and prepygidial fimbria laterally, with yellow hairs, other hairs of terga black; apical fringe of S2 and all hairs of S3-S5, yellow, other hairs of sterna black. Melanic specimens: vestiture nearly entirely black, except few whitish hairs on lower half of face, and on anterior margin and posterior half of scutum. Hairs on center of scutum 1.0–1.4x MOD. Tibial scopa with hairs on outer surface 1.0–2.0x MOD, mostly simple, but some hairs with a few basal short branches directed apicad. Disc of T2 with erect hairs 0.4–0.7x MOD. *Sculpture*. Clypeus polished, with sparse, irregularly distributed small punctures; labrum with punctures separated by 0.5–1.0 puncture diameters. Ocelli surrounded by polished areas. Scutum polished between punctures. *Structure*. Clypeus 1.7x wider than long, protuberant in lateral view for a distance 0.6x maximum eye width. Labrum 1.3x as broad as median length; with apex broadly convex, not truncate, so apical margin visible in front view. First flagellomere 2.0x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.1:0.45:1:0.4:0.4. Mid and hind tibial spurs strongly hooked apically.

Male redescription. Length: 10.0–17.0 mm; length of forewing: 8.7-12.2 mm. Color and pubescence similar to those of female, with similar variation from specimens with mesosoma entirely pale haired and metasoma with yellow apical bands to specimens entirely black. S6 always black. Hairs on center of scutum 1.0–1.4x MOD. Hairs on disc of T2 erect, 0.6–1.0x MOD. S2-S4 with erect hairs, and apical fringes poorly defined; S5 with apical fringe of long hairs, except median narrow area of short hairs, approximately on 0.15x of sternal apical width. S6 apically with dense median tuft of erect hairs, but hairs sparser and shorter preapically and along midline of tuft (Fig. 10D). S7 and gonostylus as figured (Figs. 11J, 12L).

Distribution. Argentina, provinces of Buenos Aires, Catamarca, Chaco, Córdoba, Corrientes, Entre Ríos, Formosa, Jujuy, La Pampa, La Rioja, Mendoza, Neuquén, Río Negro, Salta, San Juan, San Luis, Santa Fe, Santiago del Estero, and Tucumán. Brazil, state of Rio Grande do Sul. Uruguay, department of Rio Negro.

Type material. The names *Ancyloscelis tricolor* and *Ancyloscelis nigerrima* were published by Friese in the same work on the same page (1906: 92). The name *tricolor* is given here precedence over *nigerrima*.

Friese based his species *A. tricolor* on specimens of both sexes from Mendoza and Salta. A female from Salta (ZMB), in perfect condition of preservation, is designated here as the lectotype. It bears the following labels: 1) “Argentina/ Salta/ 1903” 2) “Ancyloscelis/ tricolor Fr./ [female symbol] 1904 Friese det.” 3) “Type” 4) “Zool. Mus./ Berlin” 5) a lectotype label of mine. The specimen has distinct yellow lateral apical bands on T2-T5.

Ancyloscelis nigerrima was described from specimens of both sexes from Mendoza and Salta. A male from Mendoza (ZMB) is designated here as the lectotype. It is a melanic male of *P. tricolor* with the following labels: 1) “Argentina/ Mendoza/ 1905/ Jensen” 2) “Ancyloscelis/ nigerrima/ Fr./ [male symbol] 1907 Friese det.” 3) “Type” 4) “Zool. Mus./ Berlin” 5) a lectotype label of mine.

The holotype of *Ptilothrix corrientium* Strand (ZMB) is a rather small male (10 mm long) of *P. tricolor* with limited yellow hairs at sides of T3-T5. It falls within the limits of variation of the species. It bears the following labels: 1) “S. Amer. [male symbol]/ Empedra/ do. Corri/ entes/ J. D. Anisits” 2) “Ptilothrix/ corrienti/ um m./ Strand det.” 3) “Type” 4) “Zool. Mus./ Berlin” 5) a label of mine indicating that this is the holotype.

The holotype of *P. lynchii* Brèthes (MACN) is in good condition. It bears the following labels: 1) “Chaco” 2) “Ptilothrix/ Lynchii” in Brèthes’ handwriting, 3) “Col./ J. BRETHES” printed, 4) red label “Holotypus” printed, 5) “MACN_En 42348” printed. It is a male of *P. tricolor* with interrupted yellow bands on the metasomal terga (similar to Fig. 9E) and black vestiture on the thoracic venter and metasomal sterna.

The holotype of *P. chacoensis* Brèthes is another male of *P. tricolor*. The type presently lacks the

metasoma, which was described by Brèthes as having no apical bands. It bears the following labels: 1) "174" 2) "6879" 3) "Chaco" 4) "688" 5) red label "Holotypus" printed, 6) "MACN_En 42343" printed. The second label corresponds to an entry in an old book of MACN indicating that the specimen came from Chaco and was collected by Lynch Arribálzaga. The number 688 corresponds to an entry in a notebook of Brèthes preserved at the Entomology Department of MACN with the species identification.

The holotype of *P. megasoma* Brèthes deposited at MACN is a large (15 mm long) melanic male of *P. tricolor*. It lacks the antennae, which were already lacking when it was described by Brèthes. It bears the following labels: 1) "Mendoza" 2) "65." 3) "Ptilothrix/ megasoma/ Br." in Brèthes' handwriting, 4) red label "Holotypus" printed, 5) "MACN_En 42349" printed.

The holotype of *P. heterochroa* Cockerell, preserved at USNM, USA, is a pale female of *P. tricolor* with extensive greyish pubescence and well-developed yellow apical bands on the metasomal terga. Images of the holotype and its labels are available at the Primary Type Specimens Catalog of the National Museum of Natural History, Smithsonian Institution, Washington D.C.

The holotype of *Emphor opuntiae* Schrottky has not been located (Rasmussen *et al*., 2009) and it is probably lost. The detailed original description of Schrottky (1920) leaves no doubt about the identity of *Emphor opuntiae* as a synonym of *P. tricolor*. Among many features, Schrottky mentions the hooked apex of the hind tibial spurs, and the diagnostic transverse band of black hairs on the pale-haired scutum.

Material studied. Argentina. Buenos Aires: 10 M, Patagones, xii.1937, J. Viana (MACN); 1 F, Sierra de la Ventana, i.1985, A. Oliva (MACN); 1 F, Martínez, 13.xi.1928, Matus (MACN); 1 M, San Isidro, iv.1916, Amadeo (MACN); 1 F, 2 M, Felipe Solá, xii.1944, A. Martínez (MLP); 1 F, Bolívar, 16.xii.1944, R. Llano (MLP); 1 F, 1 M, La Plata, 4.xii.1924, Beaufils (MLP); 2 M, Bella Vista, 17.xii.1950 (MLP); 1 F, 1 M, Zelaya, 8.xi.1954, Daguerre (MACN). Catamarca: 1 F, 6 km S Belén, 1240 m, 15.xi.1968, Willink-Terán (IFML); 2 F, Los Nacimientos de Abajo, 16.xi.1968, Willink-Terán (IFML); 1 M, Belén, 13.x.1972, Willink (IFML); 1 F, Campo del Arenal, El Molino, 2700 m, 9.i.1969, A. Willink (IFML); 1 M, Andalgalá, 28.x.1972, L. Stange (IFML); 1 M, Entre Ríos, 20 km Santa María, 25.xi.1966, A. Willink (IFML); 4 M, Joyango, 29.x.1972, L. Stange (IFML); 2 F, Hualfín, i.1953, Villalón (IFML); 12 F, 3 M, Frías, 16.xi.1951 (MLP); 1 F, Chumbicha, xi.1947, R. Llano (MLP); 1 F, 1 M, L. Mansilla, 2.xii.1940 (MLP); 1 F, San Fernando, 16.xi.1993, A. Roig A. (MACN). Chaco: 6 F, Tres Mojones, 28.xi.1952, Aguiar (IFML); 1 F, 2 M, Trabadera, 6.xi.1944, Costa (MLP); 1 F, Villa Río Bermejito, 26.x.2003, A. Roig A. (MACN). Córdoba: 3 F, 22 km S Alta Gracia, 18.xi.1975, A. Willink (IFML); 3 F, 2 M, Córdoba, 23.x.1947, P. López (IFML); 4 F, 10 M, alrededores Capital, 13.xi.1955, Giorgetta (IFML); 4 F, 2 M, Alta Gracia, 1.xii.1941 (MLP); 2 F, 6 M, Quilino, 30.xi.1951 (MLP); 1 M, El Sauce, Calamuchita, xii.1972, M. Viana (MACN); 2 M, Río Segundo, 20.xi.1952 (MLP); 1 F, Aguila Blanca, 27.xi.1944 (MLP); 5 F, 18 M, Castelar, xi.1972, Williner (MACN); 1 M, 8 km S San Marcos Sierra, Río Quilpo, 24.xii.2006, A. Roig A. (MACN). Corrientes: 1 M, Empedrado, J.D. Anisits (ZMB). Entre Ríos: 1 M, Feliciano, xii.1972, Fritz (MACN); 1 F, Federación, xii.1981, Fritz (MACN); 1 M, Liebig, xii.1988, Zelich (MACN). Formosa: 3 F, Ing. Juárez, R.N. Formosa, 7.vii/17.xi.2009, N. Veiga (MACN); 1 F, 1 M, C. Aquino, 26.x.2011, Galvani (MACN). Jujuy: 1 M, i.1924, C. Bruch (MACN). La Pampa: 1 M, General Pico, 7.xi.1945 (MLP); 1 M, Victorica, 14.xi.1945, Daguerre (MLP); 1 M, Realicó, 12.xi.1944, Daguerre (MLP); 4 F, 4 M, La Gloria, i.1943, J. Fortuna (MLP). La Rioja: 10 F, 6 M, Cuesta de Miranda, 1500 m, 50 km O Chilecito, 24.ii.1978, Willink-Domínguez (IFML); 4 F, 2 M, Cuesta La Aguadita, 9 km S Angulos, 2.xii.1977, Willink-Fidalgo (IFML); 4 M, Famatina, 1580 m, 30.xi.1977, Willink-Fidalgo (IFML); 20 M, La Rioja, Giacomelli (MACN); 1 M, Punta de los Llanos, 12.xi.1944, A. Ogloblin (MLP); 1 F, Guayapa, 4.x.1954, Hayward (IFML); 6 F, 3 M, San Francisco, 10.ii.1923, M. Gómez (MACN); 1 F, Los Mogotes, 13.xi.1944 (MLP); 1 M, La Sébila, 22.xi.1944 (MLP); 3 M, Anillaco, 6.xi.2011, Roig A., Compagnucci & González V. (MACN). Mendoza: 9 F, 1 M, Potrerillos, 1700 m, 8.i.1980, A. Willink (IFML); 1 M, Pedregal, 17.ii.1906 (MLP); 1 F, Uspallata, 16.xii.1954, A. Ogloblin (MLP); 2 F, Monte Comán, 23.xi.1944 (MLP); 1 F, 3 M, Luján, 18.xi.1941 (MLP); 1F, 1 M, Uspallata, xii.1979, A. Roig A. (MACN); 1 M, Arroyo El Yaucha, Ruta 40 vieja, 21.I.1979, A. Roig A. (MACN); 1 M, Cerro Cacheuta, xii.1972, A. Roig A. (MACN); 1 F, El Salto, Dpto. Luján, 21.xii.1995, A. Roig A. (MACN). Neuquén: 1 F, Arroyito, 30.xi.1989, Fritz (MACN). Río Negro: 1 F, Coronel Pringles, 14.xii.1939 (MLP); 1 F, 1 M, Choele Choel, 5.xii.1989, Fritz (DZUP); 1 M, Luis Beltrán, Fritz (DZUP). Salta: 1 F, 10 M, Ampascachi, Valle de Lerma, 17.xi.1959, A. Willink (IFML); 2 M, Tacuil, 8.xii.1968, Willink-Stange (IFML); 1 F, Cachi, 16.i.1994, C. Schlindwein (DZUP); 1 M Pocitos, xii.1971, M.A. Fritz (DZUP); 1 M, Rosario de Lerma, xi.1984, Fritz (MACN); 14 M, Payogasta, Arroyo El Molle, 4.xi.2004, Compagnucci & Grismado (MACN); 2 M, El Sunchal, Quebrada de Escoipe, 30.xi.2013,

Martínez & Ortega (MACN); 2 F, Sumalao, xi.1994, Fritz (MACN). San Juan: 1 M, San Juan, Ch. Molinari (MLP). San Luis: 1 M, Chosmes, 18.ix.1941, A. Ogloblin (MLP); 2 F, Potrero de los Funes (MACN); 3 F, 5 M, Nogolí, 16.xi.1941 (MLP); 6 F, 6 M, Donovan, 13.xi.1944 (MLP); 3 M, Cortaderas, Williner (MACN); 2 F, Ciudad San Luis, xii.1925, M. Gómez (MACN). Santa Fe: 1 M, Carcarañá (USNM); 1 M, Santa Fe, 24.xi.1927, Bridarolli (MACN); 1 F, Piquete, 28.xi.1931, Bridarolli (MACN); 3 F, Canditti, 12.xi.1945, A. Ogloblin (MLP); 1 M, Rosario, Stevenin (MACN); 1 M, La Brava, San Javier, 26.x.2010, Torretta & Cerino (MACN). Santiago del Estero: 1 F, Tulumbe, xi.1946, Ferhat (IFML); 1 F, Los Núñez, Sierra de Guasayán, iv.1945 (MLP); 1 M, Colonia Dora, ii.1940, A. Prosen (MLP); 2 M, Campo Gallo, xii.1939, Prosen (MLP); 1 F, 1 M, Tacañitas, xii.1939, Ábalos (MLP); 3 F, La Banda, 7.xi.1965 (MLP); 1 M, Río Salado, Wagner (MACN); 1 M, Quebrachal, 27.xi.1942 (MLP); 1 M, Icaño, Wagner (MLP). Tucumán: 1 F, 2 M, Amaicha del Valle, 8.xi.1959, Willink (IFML); 1 F, 2 M, Cochuna, 6.vi.1948, A. Willink (IFML); 1 F, Tafí Viejo, iii.1917, Girard (MACN); 1 F, 10 M, Amaicha del Valle, 7.xi.1989, L. Moffatt (MACN); 1 F, 11 km N El Cadillal, 7.xi.1993, A. Roig A. (MACN); 2 M, El Cadillal, xi.1989, A. Roig A. (MACN).
Imaged specimens from https ://www. inaturalist.org. Uruguay. 1 F; San Javier, Departamento de Río Negro; Lat/Lon: -32.52917, -58.03770; 9-xii.1923; Santiago Mailhos obs.; Visited flower of: Nopal Duraznillo *Opuntia leucotricha*; iNaturalist record #339963598. 1 F; San Javier, Departamento de Río Negro; Lat/Lon: -32.52448, -58.03536; 19-xii.1923; Santiago Mailhos obs.; iNaturalist record #341635475.

Ptilothrix vulpihirta (Cockerell)

Figs. 3E, 3K, 7F, 8F, 9B, 10J, 14A.

Diadasia sumichrasti vulpihirta Cockerell, 1912: 59. Female lectotype, Brazil, Rio Grande do Norte, Baixa Verde, Mann col. (USNM, type number 23246, examined, present designation).
Ptilothrix vulpihirta: Roig-Alsina, 1999: 25.

Diagnosis. This species is similar to *P. plumata, P. concava* n. sp., *P. rubescens* n. sp., and *P. cerradicola* n. sp. due to the yellowish wings and the extent of the metasomal apical bands, that turn down at sides of the terga reaching the lateral margins. It can be distinguished from the three first species by the entirely pale pubescence of the head, and the narrow metasomal bands, barely constricted sublaterally. From *P. cerradicola* it is readily distinguished by the different pattern of pilosity of S6 of the male (females of *P. cerradicola* n. sp. are unknown). Of all these species, only the widespread *P. plumata* overlaps the distribution of *P. vulpihirta*, since both occur in northeastern Brazil. *Ptilothrix vulpihirta* can be further distinguished from *P. plumata* by the red scapes, the digitiform inner process of the primary bridge that isolates the hind tibial spurs, the rounded apex of the female basitibial plate, and the hirsute S5 of the male (Fig. 7F), which lacks the median apical area of very short hairs, characteristic of *P. plumata* males (Fig. 7E).

Female redescription. Length: 9.5–12.0 mm; length of forewing: 7.5–9.0 mm. *Color*. Integument black, except as follows: reddish brown to blackish forelegs, light-red middle and hind legs beyond trochanters (although basitarsi darkened), reddish scape, reddish apex of first and most of second and third flagellomeres, reddish-brown flagellum beyond third flagellomere, yellowish-brown tegula, and in some specimens reddish anterior surface of T1. Wings with yellowish membrane; pterostigma and veins yellowish brown. *Pubescence*. Most of head with whitish hairs, except vertex with hairs yellowish to fulvous. Hairs on mesosoma fulvous, paler on venter. Most of legs with light brown to brown hairs, except hind tibia with distinct white apical tuft, and hind basitarsus with intermixed black hairs in some specimens. T1-T4 with yellow apical bands; bands on T2-T4 turning down, reaching lateral margin of terga; bands on T2-T4 in dorsal view nearly as broad medially as laterally, with weak sublateral constrictions; band on T3 broadest medially (2.2–2.8x MOD); T1-T2 basally with pale fulvous to yellowish hairs; remainder of terga with black hairs, including prepygidial and pygidial fimbriae (some specimens with hairs of disc of T2 black close to the apical band). Pubescence of S1-S5 greyish, of S6 black. Hairs on center of scutum 0.9–1.3x MOD. Tibial scopa with hairs on outer surface 0.9–1.2x MOD, with straight short branches directed apicad. Disc of T2 densely covered with erect hairs 0.4–0.6x MOD. *Sculpture*. Clypeus finely tessellate, disc of clypeus with irregular punctures 0.2–1.0 diameters apart; labrum with dense punctures separated by less than a puncture diameter. Ocelli surrounded by narrow polished areas. Scutum polished between punctures. *Structure*. Clypeus 1.8x wider than long, protuberant in lateral view for a distance 0.6x maximum eye

width. Labrum 1.6x as broad as median length; with apical truncation margined by rounded preapical carina upturned medially, so that apical one-third of disc concave. First flagellomere 2.0x longer than its apical width; proportion of lengths of scape, pedicel and proximal three flagellomeres 2.1:0.45:1:0.4:0.4. Mid and hind tibial spurs weakly bent apically.

Male redescription. Length: 9.0–12.0 mm; length of forewing: 7.9–9.5 mm. Color, pubescence and sculpture similar to those of female, except as follows: legs frequently darker than in females, from dark reddish-brown to black, yellow apical bands of short squamose hairs present on T1-T5, absent to distinct on T6. Hairs on S1-S5 whitish, on S6 pale brown to black. Hairs on center of scutum 1.1–1.3x MOD. Hairs on disc of T2 erect, 0.6–0.8x MOD. S2-S4 with dense, erect hairs, and apical fringes poorly defined; S5 with long hairs on all its surface, without differentated median apical area (Fig. 7F). S6 apically with dense median tuft of erect hairs (Fig. 10J). S7 and gonostylus as figured (Figs. 3E, K).

Distribution. Brazil, states of Bahia, Paraíba, Pernambuco, and Rio Grande do Norte.

Type material. Images of the lectotype and its labels are available at the *Primary Type Specimens Catalog* of the National Museum of Natural History, Smithsonian Institution, Washington D.C. The page is listed below in the References.

Material studied. Brazil. Bahia: 3 M, Maracás, 23.xi.1964, C. Elias (DZUP). Paraíba: 4 F, 5 M, Santa Luzia, 18.xi.1955, 3.xii.1955, R. Lima (DZUP); 6 F, 12 M, S. Luzia, 26.iii.1956, A. Silva (DZUP); 2 F, 3 M, S. Luzia, 27.ix.1955, S.F. Medeiros (DZUP); 5 M, Serra d. Brandão, S. Luzia, xi.1955, A. Silva (DZUP); 9 F, 5 M, Juazeirinho, 24.ix.1955, 3.xi.1955, A. Silva (DZUP); 3 F, 2 M, Soledade, 18.xi.1955, J.L. Azevedo (DZUP); 1 M, Caturité, 23.viii.1954, A.G.A. Silva (DZUP); 4 F, Taperoá, 13.viii.1954, A. Silva (DZUP); 1 F, São João do Cariri, Gurjao, 2.xi.1955, C. Goncalves (SEMC). Pernambuco: 1 F, 3 M, S. José do Egito, 25.viii.1954, A. Silva (DZUP). Rio Grande do Norte: 1 F, 3 M, Jardim do Seridó, 18.viii.1954, A.G.A. Silva (DZUP); 3 F, 4 M, Ipanguaçu, 12.xi.1954, A.G.A. Silva (DZUP).

DISCUSSION

Many studies on the biology of species of *Ptilothrix* dealing with their pollen affinities have the problem of misidentification of the studied bees. As indicated by Flórez-Gómez & Danforth (2023), the species studied by Linsley *et al*. (1956), which behave as an oligolege on Convolvulaceae, should be *P. zacateca*, and not *P. sumichrasti* as believed by Linsley and collaborators. Furthermore, the study made in southern United States on the species of *Ptilothrix* mentioned at that time as *P. sumichrasti* (Butler, 1967), corresponds to *P. chiricahua* (Flórez-Gómez & Danforth, 2023). A similar situation occurs in South America. The cactus specialist *P. tricolor* has been misidentified as *P. fructifera* (Schlindwein, 1995). The black-haired metasoma with very narrow apical bands seen in the specimen of *Ptilothrix* photographed on a flower of *Opuntia* in figure 11 (Schlindwein, 1995; p. 63) does not agree with the color pattern of *P. fructifera*, but with a specimen of the variable *P. tricolor*. Seemingly, the species of *Ptilothrix* in the study of Schlindwein & Wittmann (1997) most probably corresponds to *P. tricolor*. In a study on the pollen specialization of a species of *Ptilothrix* mentioned as *P. plumata* (Schlindwein *et al*., 2009; figure 1), the bees portrayed in their figure very much look like *P. vulpihirta* (narrow metasomal bands, pale hairs on the upper part of the head), and not *P. plumata*. Their study was done in the Brazilian state of Pernambuco, where *P. vulpihirta* is known to occur. The study of Martins *et al*. (1996) on a *Ptilothrix* identified as *P. plumata* was done in the Brazilian state of Minas Gerais, where *P. rubescens* n. sp. is a very common species (see material studied). The many differences in nesting biology found between the bees that they studied and the bees reported by Michener & Lange (1958), identified as *P. plumata* from São Paulo, suggest that the two studies were made on different species. It has not been possible to study voucher specimens of any of these studies, since the collections where the specimens are deemed to be deposited, were not accessible. They need to be evaluated.

Species of *Ptilothrix* have been reported as oligolectic and related to one or a few pollen hosts, but this may not be the case for all the species. Tellería (2003), upon the study of pollen masses recovered from nests, found that *P. relata* collected significant amounts of pollen from five different species, each belonging to a different plant family, namely Asteraceae, Cucurbitaceae, Malvaceae, Onagraceae, and

Portulacaceae. She pointed out that in spite of this diversity of hosts, most of those selected by *P. relata* share the common characteristic of having large, spiny, multiaperturate pollen grains. Another species with a probable broad spectrum of hosts is *P. sumichrasti*. Specimens from Michoacán observed in the collection of the University of Kansas bore in their scopae large and small grains of pollen, as well as round and ovoid grains, suggesting that this species may not be a specialist as other species in the genus. The pollen affinities of *Ptilothrix* species are still in much need of study.

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