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Research article

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Two new species of *Pseudomiopteryx* Saussure, 1870 from the Brazilian Amazon, with an updated key to the species and complementary records (Mantodea: Thespidae)

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Abstract. We describe two new species of *Pseudomiopteryx* Saussure, 1870 from the western Brazilian Amazon: *Pseudomiopteryx akuntsu* sp. nov., recorded from Rondônia and Amazonas states, and *P. chicomendesi* sp. nov. from Acre. These additions raise the total number of recognized species in the genus to 13. We also report new taxonomic and distributional data for *P. decipiens* Giglio-Tos, 1915 and *P. gorgonae* Ariza & Salazar, 2005. An updated species checklist and an identification key to all known species, based on males, are provided.

Keywords. Amazonian rainforest, Dictyoptera, diversity, Neotropics, praying mantises.

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Introduction

The family Thespidae Saussure, 1869 is the most diverse lineage of Neotropical praying mantises, currently comprising 153 species in 32 genera (Agudelo *et al.* 2024a; Anderson 2026). Despite this richness, it remains the least studied family of Mantodea in the region. Several factors contribute to this knowledge gap: thespids are generally small-bodied, adopt secretive habits, and the bulk of their diversity is seldom encountered in collections. As a result, assigning conspecific sexes is challenging even when multiple specimens of both sexes are present, while complete taxonomic treatments only exist for a few genera, leaving much of the family in need of thorough revision.

Thespidae are diverse in the Amazon rainforest, a biome that presents both extensive opportunities and major challenges for biodiversity discovery and research. In recent years, significant progress has been

made in addressing long-standing taxonomic issues in Amazonian praying mantises (Agudelo & Rafael 2014; Rivera & Svenson 2020; Schwarz *et al.* 2020; Favacho *et al.* 2023; Moulin & Schwarz 2023). However, the logistical difficulties of sustained surveys in this vast and complex ecosystem continue to limit systematic coverage (Poester-Carvalho *et al.* 2023).

Among the few thespid genera to receive a comprehensive modern revision is *Pseudomiopteryx* Saussure, 1870. Favacho *et al.* (2023) recognized 11 species, clarified diagnostic features, and expanded the known distribution of several taxa. Their work highlighted two key issues: *Pseudomiopteryx* is commonly encountered across the Amazon, yet it remains underrepresented in collections, and species diversity is likely underestimated, particularly in regions with limited sampling.

Here, we build on this foundation by describing two new species of *Pseudomiopteryx*. *Pseudomiopteryx akuntsu* sp. nov. from Rondônia and Amazonas states, while *Pseudomiopteryx chicomendesi* sp. nov. is described from Acre. These records extend the known distribution of the genus to the western Brazilian Amazon, one of the least surveyed regions of this biome. In addition, we update the key to species proposed by Favacho *et al.* (2023) by incorporating our species. Finally, we provide additional taxonomic and distributional data on *P. decipiens* Giglio-Tos, 1915, and *P. gorgonae* Ariza & Salazar, 2005.

Material and methods

Analyzed material

We examined 11 specimens from the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ) (Rio de Janeiro, Brazil) collection, 10 belonging to our new species and one male specimen of *Pseudomiopteryx decipiens* Giglio-Tos, 1915. All were captured with Malaise traps in Brazilian municipalities of Careiro Castanho (Amazonas), Porto Velho (Rondônia), and Bujari (Acre), all within the Brazilian Amazon rainforest. Holotypes remain at MNRJ. Two paratypes of each new species will be transferred to the Instituto Nacional de Pesquisas da Amazônia (INPA) (Manaus, Brazil), and the remaining paratypes will be housed at MNRJ. All specimens are preserved in 85% ethanol. One specimen of *P. gorgonae* from the Insectarium de Montréal (IMQC) (Montréal, Canada) was also examined.

Images and mapping

We photographed diagnostic structures using a Leica M205C stereo microscope equipped with a Leica MC190 HD camera (stacked in Leica Application Suite X) and a Keyence VHX-7000N Digital Microscope, with specimens submerged in 85% ethanol. Figures and plates were assembled in Adobe Photoshop 2021 and Illustrator 2021; illustrations of genitalia are based on photos presented in Favacho *et al.* (2023). Collection sites were plotted in QGIS ver. 2.18.10 (<https://qgis.org>). Geographical distribution is cited in abbreviated form by country; Brazilian states are cited in parentheses.

Abbreviations for countries and cited Brazilian states

AC = Acre
AM = Amazonas
AP = Amapá
BE = Belize
BR = Brazil
CO = Colombia
CR = Costa Rica
EC = Ecuador
FG = French Guiana
GT = Guatemala
MA = Maranhão

MX = Mexico
NI = Nicaragua
PA = Pará
PE = Peru
PN = Panama
RO = Rondônia
VE = Venezuela

Morphological treatment

Terminology and measurements follow Brannoch *et al.* (2017) with updates on male genitalia by Schwarz & Roy (2019). Male genitalia were dissected following Cerdá (1993) and Brannoch *et al.* (2017). The phallic complex was placed inside a vial containing 10% KOH solution and then heated in a water bath until all soft tissue was cleared, then neutralized in acetic acid. Cleared structures were stored in 85% ethanol in 1.5 mL microvials with the corresponding specimen. Linear measurements were taken with ImageJ software (<https://imagej.net/ij/>).

Abbreviations for general morphological terms

AvS = anteroventral spines
ce = cercus
CS = coxosternite
DS = discoidal spines
job = juxtaocular bump
ps = parietal sulcus
PvS = posteroventral spines
sl9 = stylus
TG = tergite

Abbreviations for wing venation

AA1 = first anterior analis
AA2 = second anterior analis
Arc = arculus
Cst = costal
CuA = anterior cubitus
CuP = posterior cubitus
M = media
RA = anterior radius
RP = posterior radius
SCst = subcostal

Male genitalia morphology

afa = anterior process (left phallomere)
fda = main posterior lobe
L4A = sclerite extended on the ventral wall
L4B = sclerite extended on the dorsal wall
loa = membranous lobe of L4B
paa = posterior process of the left phallomere
pia = process posterolateral to pva
pva = process anteromesal to pia
R3 = anteriorly extending sclerite

sdp = secondary distal process

Abbreviations for measurements

AcL	=	length of anterocoxa
AfL	=	length of anterofemur
AfW	=	width of anterofemur
AtSL	=	length of anterotibia with spur
BL	=	body length
ClyL	=	length of clypeus
ClyW	=	width of clypeus
HW	=	head width
HL	=	head length
LfL	=	length of lower frons
LfW	=	width of the lower frons
MaxW	=	maximum pronotum width
MinW	=	minimum pronotum width
MzL	=	length of the metazone
PnL	=	length of pronotum
PzL	=	length the prozone
TL	=	total length
WaL	=	length of mesothoracic wing
WaW	=	width of mesothoracic wing
WpL	=	length of metathoracic wing
WpW	=	width of metathoracic wing

Results

Updated key to males of Pseudomiopteryx spp. (modified from Favacho et al. 2023)

1. Tip of afa forked (Fig. 1A) 2
 - Tip of afa unforked (Fig. 1B) 6
2. afa with a prominent, proximal protrusion/hump (Fig. 1C) *P. spinifrons* Saussure, 1870
 - afa lacking a prominent, proximal protrusion/hump (Fig. 1D) 3
3. Tip of afa strongly asymmetrical: one fork is much smaller than the other (Fig. 1E) 4
 - Tip of afa not strongly asymmetrical: forks almost equal in size (Fig. 1F) 5
4. Lobe of L4B scarcely produced, broadly curved (Fig. 1G) *P. akuntsu* sp. nov.
 - Lobe of L4B strongly produced, forming a conspicuous lobe (Fig. 1H) *P. riverai* Favacho et al. 2023
5. sdp more robust and distally curved (Fig. 1J) *P. bogotensis* Saussure, 1870
 - sdp narrower and straight (Fig. 1I) *P. decipiens* Giglio-Tos, 1915
6. sdp broad (Fig. 1K) 7
 - sdp narrow and tapering (Fig. 1L) 8

Fig. 1. Details of genitalia of *Pseudomiopteryx* spp. **A.** *P. bogotensis* Saussure, 1870. **B.** *P. chicomendesi* sp. nov. **C.** *P. spinifrons* Saussure, 1870. **D.** *P. akuntsu* sp. nov. **E.** *P. riverai* Favacho *et al.*, 2023. **F.** *P. decipiens* Giglio-Tos, 1915. **G.** *P. akuntsu* sp. nov. **H.** *P. riverai* Favacho *et al.*, 2023. **I.** *P. decipiens* Giglio-Tos, 1915. **J.** *P. bogotensis* Saussure, 1870. **K.** *P. guyanensis* Chopard, 1911. **L.** *P. decipiens* Giglio-Tos, 1915. **M.** *P. guyanensis* Chopard, 1911. **N.** *P. columbica* Giglio-Tos, 1915. **O.** *P. maculata* Beier, 1942. **P.** *P. akuntsu* sp. nov. **Q.** *P. festae* (Giglio-Tos, 1898). **R.** *P. infuscata* Saussure & Zehntner, 1894. **S.** *P. chicomendesi* sp. nov. **T.** *P. gorgonae* Ariza & Salazar, 2005. **U.** *P. infuscata* Saussure & Zehntner, 1894. Abbreviations: see Material and methods. Illustrations of *P. akuntsu* sp. nov. and *P. chicomendesi* sp. nov. were drawn from the holotypes [MNRJ-ENT14-703 and MNRJ-ENT14-709 respectively]; remaining illustrations adapted from figures in Favacho *et al.* (2023).

7. Right lateral margin between lateral lobe and sdg with two lobes (Fig. 1M) *P. guyanensis* Chopad, 1911
 – Right lateral margin between lateral lobe and sdg with one lobe (Fig. 1N) *P. columbica* Giglio-Tos, 1915
8. Ventral phallomere with small projection adjacent to sdg (Fig. 1O) 9
 – Ventral phallomere without projection adjacent to sdg (Fig. 1P) 10
9. Tip of sdg pointed (Fig. 1Q) *P. festae* (Giglio-Tos, 1898)
 – Tip of sdg rounded (Fig. 1O) *P. maculata* Beier, 1942
10. L4B with a large, triangular lobe (Fig. 1R) 11
 – L4B without lobe (Fig. 1S) *P. chicomendesi* sp. nov.
11. spd relatively longer and narrower, spearhead-like, apex pointed (Fig. 1U) 12
 – spd relatively shorter and broader, fang-like, apex blunt (Fig. 1T) *P. gorgonae* Ariza & Salazar, 2005
12. Distributed in Central America and southern Mexico *P. infusata* Saussure & Zehntner, 1894
 – Distributed in Colombia *P. meridana* Giglio-Tos, 1915

Taxonomy

Class Insecta Linnaeus, 1758
 Order Mantodea Latreille, 1802
 Family Thespidae Saussure, 1869
 Subfamily Pseudomiopteryginae Giglio-Tos, 1915
 Genus *Pseudomiopteryx* Saussure, 1870

***Pseudomiopteryx akuntsu* sp. nov.**

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Figs 2A–F, 3A–C, 4A–D, 4I–J, 6

Diagnosis

Pseudomiopteryx akuntsu sp. nov. can be distinguished from its congeners by the following combination of characters: i) forked afa, with markedly asymmetrical tips; ii) base of afa lacking a hump; iii) L4A stout with sdg short with broad base; and iv) distal margin of the L4B without a lobe, instead with a rather small bump.

Etymology

A noun in apposition, the specific epithet ‘*akuntsu*’ is dedicated to the Akuntsu, indigenous people of Rondônia, Brazil. The Akuntsu are considered one of the smallest and most critically endangered ethnic groups in the world, whose history has been marked by extensive territorial loss and violence. Today, only a few individuals belonging to this ethnicity survive, all residing in the Rio Omerê indigenous territory.

Type material

Holotype

BRAZIL – **Porto Velho, Rondônia** • ♂; ESEC Morro Três Irmãos; 9°00′09″ S, 64°32′40″ W; Sep. 2016; V.S. Silva and J.A. Rafael leg.; Malaise; MNRJ, MNRJ-ENT14-703.

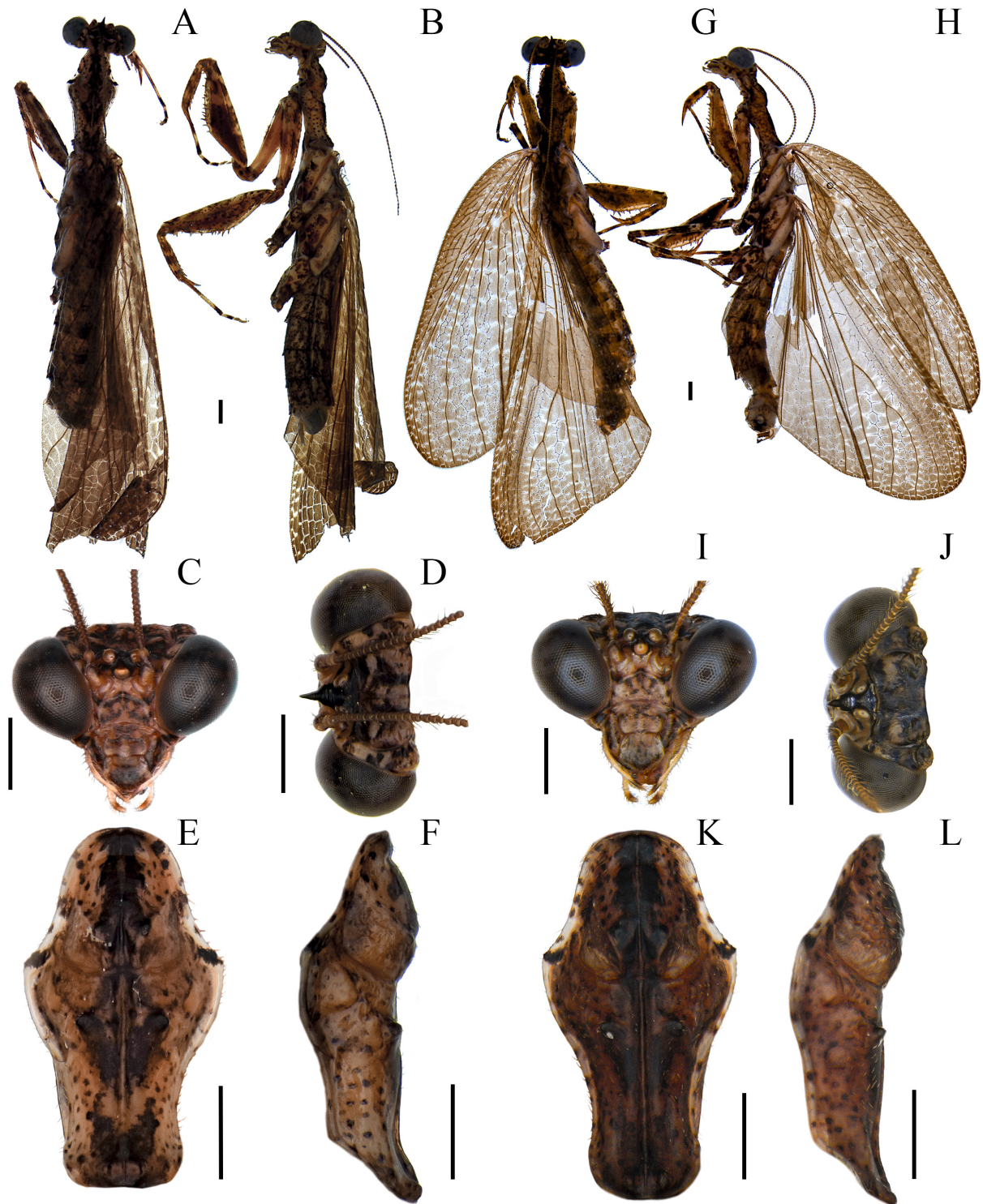


Fig. 2. A–F. *Pseudomiopteryx akuntsu* sp. nov., holotype, ♂ (MNRJ-ENT14-703). A. Dorsal habitus. B. Lateral habitus. C. Head, frontal view. D. Head, dorsal view. E. Pronotum, dorsal view. F. Pronotum, lateral view. G–L. *Pseudomiopteryx chicomendesi* sp. nov., holotype, ♂ (MNRJ-ENT14-709). G. Dorsal habitus. H. Lateral habitus. I. Head frontal view. J. Head dorsal view. K. Pronotum, dorsal view. L. Pronotum, lateral view. Scale bars: A–B, G–H = 1 mm; C–F, I–L = 0.5 mm.

Paratypes

BRAZIL – **Porto Velho, Rondônia** • 1 ♂; ESEC Morro Três Irmãos; 9°00'09" S, 64°32'40" W; Sep. 2016; V.S. Silva and J.A. Rafael leg.; Malaise; MNRJ, MNRJ-ENT14-704 • 2 ♂♂; ESEC Morro Três Irmãos; 9°00'09" S, 64°32'40" W; Dec. 2016; V.S. Silva and J.A. Rafael leg.; Malaise; MNRJ, MNRJ-ENT14-705 to MNRJ-ENT14-706 • 1 ♂; ESEC Morro Três Irmãos; 9°00'09" S, 64°32'40" W; Dec. 2016; V.S. Silva and J.A. Rafael leg.; Malaise; INPA, MNRJ-ENT14-707. – **Careiro Castanho, Amazonas** • 1 ♂; Sítio São Paulo; 4°12'48" S, 60°49'04" W; 16 Jan. 2017; J.A. Rafael and F.F. Xavier Fº [Filho] leg.; Malaise; INPA, MNRJ-ENT14-708.

Type locality

Porto Velho, Rondônia, Brazil.

Description (holotype)

MEASUREMENTS (mm). AcL: 3.927; AfL: 4.790; AfW: 1.181; AtSL: 2.418; BL: 18.210; ClyL: 0.453; ClyW: 0.700; HW: 3.156; HL: 2.356; LfL: 0.381; LfW: 0.717; MaxW: 1.923; MinW: 1.162; MzL: 2.376; PnL: 3.863; PzL: 1.487; TL: 22.701; WaL: 17.112; WaW: 6.221; WpL: 16.893; WpW: 8.462.

HABITUS AND COLORATION. Small size, thorax stout and robust; coloration light to dark brown, with scattered dark spots (Fig. 2A–B). Thin setae present in whole body, especially on abdominal sternites.

HEAD (Fig. 2C–D). Triangular, as wide as long. Compound eyes large, rounded; ocelli round, equidistant, with pointed cuticular projection between three ocelli; ocellar tubercle with dark spot in middle, cuticular projection black. Vertex above imaginary line connecting the top of compound eyes; job protruding, reaching same height as vertex, not particularly conspicuous in dorsal view; ps shallow; vertex irregular with two elevations at ps and one in middle. Scape large, cylindrical; pedicel small, globular; flagellum filiform, each antennomere with dense pilosity, antenna not extending beyond body length. Lower frons small, slightly wider than long, upper margin angular. Clypeus rectangular, as wide as long.

THORAX. Prothorax stout, with two small conical tubercles in posterior edge of prozone, four small tubercles in the metazone, two at anterior and two at posterior edge; in dorsal view, lateral expansion at supracoxal bulge with sharp edges (Fig. 2E). In lateral view, prozone is elevated, metazone flattened and inconspicuously convex, and anterior edge of prozone slightly raised (Fig. 2F). Prothoracic coxa as long as pronotum; femur robust, as long as coxa; tibia noticeably short, half size of corresponding femur; tarsomeres light brown with dark spot at end of each. Spination formula is $F = 4DS/12AvS/4PvS; T = 9AvS/8PvS$. Wings light to darker brown, macrosetae following costal vein edge, microsetae covering whole wing cells, longitudinal veins dark or translucent brown, cross veins white/hyaline with yellowish tone (Fig. 3A–C). Costal field of mesothoracic wing broad, proximal region distinctively broadened; RA bifurcated at distal third of mesothoracic wing; RP+M bifurcating at end of proximal third of wing; CuA bifurcating in first third before stigma, three branches of that vein visible after stigma. Metathoracic wing RA and RP+M positioned closely together and diverging immediately after Arc; CuA bifurcating at distal end of second third of wing with three branches; first AA2 bifurcated at end, remaining ones simple.

ABDOMEN. Slender, elongated. TG10 wider than long, triangular with slightly prominent tip at edge. CS9 wider than long, spoon-shaped, anterior region W-shaped, styli small, edge between styli flattened, abundant pilosity present on ventral side and more abundant distally.

GENITALIA (Fig. 4A–D, I–J). Left phallomere L4B quadrangular, in dorsal view, lower margin without projection, instead with abrupt curvature of left margin of L4B, lower lobe inconspicuous; paa small, curving at right margin; loa triangular with smooth edges, well developed, extending over afa; afa

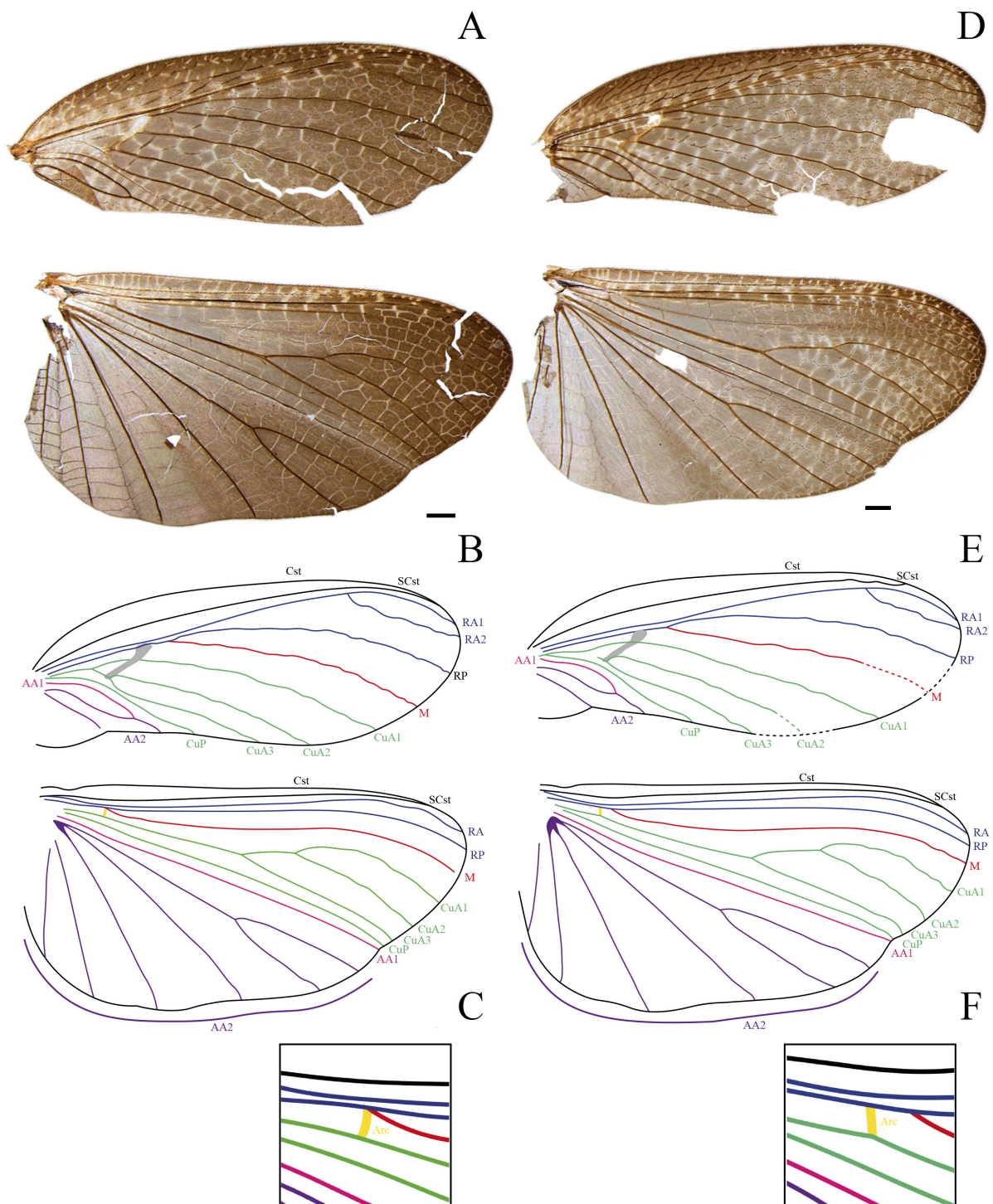


Fig. 3. A–C. Wings of *Pseudomiopteryx akuntsu* sp. nov., holotype, ♂ (MNRJ-ENT14-703). B. Same with vein outlines. C. Same, zoom in the Arc. D–F. Wings of *P. chicomendesi* sp. nov., holotype, ♂ (MNRJ-ENT14-709). E. Wings with vein outlines. F. Wings, zoom in the Arc. Scale bars = 1 mm. Abbreviations: see Material and methods.

forked, tips divergent, unequal, one much smaller than other, base of afa slightly broader than main shaft of afa. Ventral phallomere L4A pentagonal, upper margin elevated, in dorsal view small lobe on upper right margin, poorly sclerotized; sdp small, with large base, tapering distally, not with sharp edge. Right phallomere large compared to other phallomere; fda with scarce pilosity at its distal edge; pva well developed, bending over pia; pia inconspicuous, R3 short.

Differential diagnosis

Among the species of *Pseudomiopteryx* whose left phallomere exhibits a forked afa with strongly asymmetrical branches, *P. akuntsu* sp. nov. most closely resembles *P. riverai*; in the latter, the L4B lobe of the left phallomeres is markedly produced, whereas in *P. akuntsu* the same is only scarcely produced.

Pseudomiopteryx chicomendesi sp. nov.

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Figs 2G–L, 3D–F, 4E–H, K–L, 6

Diagnosis

Pseudomiopteryx chicomendesi sp. nov. can be distinguished from its congeners by the following combination of characters: i) afa boomerang-shaped; ii) l4a stout with sdp short with broad base; and iii) distal margin of the l4b without lobe.

Etymology

The specific epithet ‘*chicomendesi*’ is a Latinized genitive noun honoring Chico Mendes (1944–1988), a Brazilian rubber tapper, trade unionist, and environmental activist originally from Acre. Chico Mendes dedicated his life to defending the Amazon rainforest and the rights of its forest communities, whose livelihoods depended on sustainable rubber extraction. The name is especially fitting given that the type locality, Bujari, is historically linked to rubber cultivation.

Material examined

Holotype

BRAZIL – **Bujari, Acre** • ♂; FES Antimary; 9°20′01″ S, 68°19′17″ W; 18–31 May 2017; E.F. Morato and J.A. Rafael leg.; Malaise; MNRJ, MNRJ-ENT14-709.

Paratypes

BRAZIL – **Bujari, Acre** • 1 ♂; FES Antimary; 9°20′01″ S, 68°19′17″ W; 18–31 May 2017; E.F. Morato and J.A. Rafael; Malaise; MNRJ, MNRJ-ENT14-710 • 2 ♂♂; FES Antimary; 9°20′01″ S, 68°19′17″ W; 18–31 May 2017; E.F. Morato and J.A. Rafael leg.; Malaise; INPA, MNRJ-ENT14-711 to MNRJ-ENT14-712.

Type locality

Bujari, Acre, Brazil.

Description (holotype)

MEASUREMENTS (mm). AcL: 4.289; AfL: 5.075; AfW: 1.254; AtSL: 2.338; BL: 22.314; ClyL: 0.459; ClyW: 0.758; HW: 3.444; HL: 2.339; LfL: 0.411; LfW: 0.873; MaxW: 2.042; MinW: 1.156; MzL: 2.556; PnL: 3.872; PzL: 1.716; TL: 27.609; WaL: 17.521; WaW: 6.517; WpL: 17.771; WpW: 8.931.

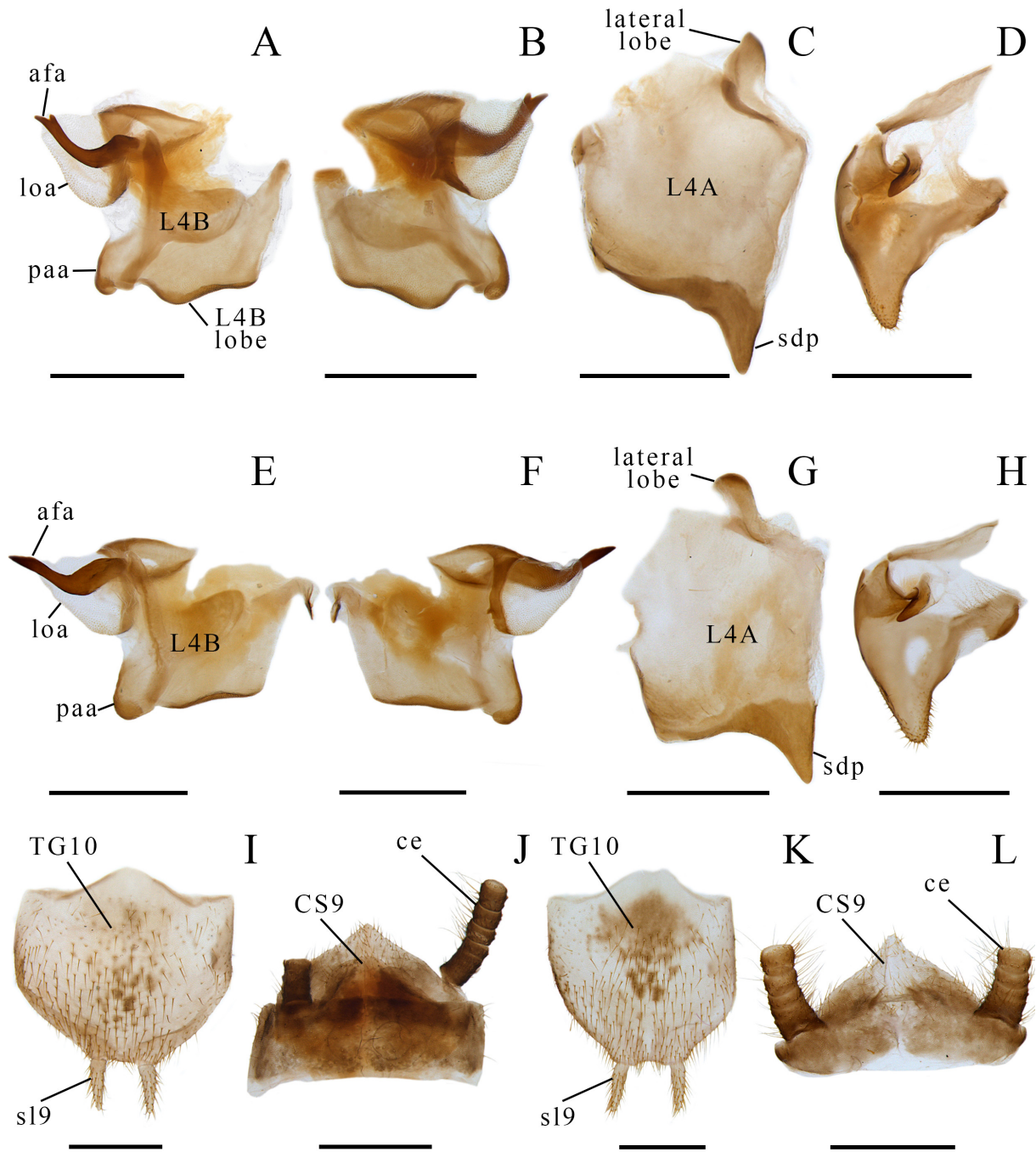


Fig. 4. A–D, I–J. *Pseudomiopteryx akuntsu* sp. nov., holotype, ♂ (MNRJ-ENT14-703). A. Left phallomere, ventral view. B. Left phallomere, dorsal view. C. Ventral phallomere, dorsal view. D. Right phallomere, ventral view. E–H, K–L. *Pseudomiopteryx chicomendesi* sp. nov., holotype, ♂ (MNRJ-ENT14-709). E. Left phallomere, ventral view. F. Left phallomere, dorsal view. G. Ventral phallomere, dorsal view. H. Right phallomere, ventral view. I. TG10, ventral view. J. CS9, dorsal view. K. TG10, ventral view. L. CS9, dorsal view. Abbreviations: see Material and methods. Scale bars: 0.5 mm.

HABITUS AND COLORATION. Small size, thorax stout and robust; coloration light to dark brown, dark spots scattered through the lighter background of body coloration (Fig. 2G–H). Thin setae present in whole body, especially abdominal sternites.

HEAD (Fig. 2I–J). Triangular, as wide as long. Compound eyes large, round; ocelli round, equidistant, with sharp cuticular projection between three ocelli; ocellar tubercle with dark spot in middle, cuticular projection black. Vertex subtly above imaginary line connecting top of compound eyes; job slightly protruding, not reaching same height of vertex, conspicuous in dorsal view; ps shallow; vertex irregular with two elevations at ps and one in middle. Scape large, cylindrical; pedicel small, globular; flagellum filiform, each antennomere with dense pilosity, antenna not extending beyond body length. Lower frons small, slightly wider than long, upper margin angular. Clypeus rectangular, as wide as long.

THORAX. Prothorax stout, two small conical tubercles in posterior edge of prozone, four small tubercles in metazone, two at anterior and two at posterior edge; in dorsal view lateral expansion at supracoxal bulge with sharp edges (Fig. 2K). In lateral view, prozone and metazone elevated, latter less conspicuously, with anterior edge of prozone slightly raised (Fig. 2L). Prothoracic coxa longer than pronotum; femur robust, longer than coxa; tibia noticeably short, half size of femur; tarsomeres light brown with dark spots at end of each. Spination formula is $F = 4DS/12AvS/4PvS$; $T = 8(L)-9(R)AvS/9PvS$. Wings light to darker brown, macrosetae following costal vein edge, microsetae covering whole wing cells, longitudinal veins dark or translucent brown with macrosetae, more abundant distally, cross veins white/hyaline with yellowish tone (Fig. 3D–F). Costal field of mesothoracic wing broad, proximal region distinctively broadened; RA bifurcated at distal third of mesothoracic wing; RP+M bifurcating at the end of proximal third of wing; CuA ramifying in first third before stigma, three branches of that vein visible after stigma. Metathoracic wing RA and RP+M positioned closely together and diverging immediately after Arc; CuA bifurcating at distal end of second third of the wing with three branches; first AA2 bifurcated at end, remaining ones simple. Mesothoracic leg striped with light-brown/yellow-ochre and dark brown coloration, dense pilosity both in mesothoracic femur and mesothoracic tibiae; tarsi yellow-ochre with dark spot at distal edge.

ABDOMEN. Slender, elongated. TG10 wider than long, triangular with conspicuously prominent tip at edge creating sharp outline. CS9 as wide as long, spoon-shaped, anterior region W-shaped, styli small, edge between styli flattened, abundant pilosity present on ventral side and more abundant distally

GENITALIA (Fig. 4E–F, K–L). Left phallomere L4B quadrangular, in dorsal view, lower margin without projection, instead with abrupt curvature of the left margin of L4B, lower lobe absent; paa small, curving at right margin; loa triangular with smooth edges, well developed, extending over afa; afa simple, recurved as boomerang with sharp curvature at middle of its length. Ventral phallomere L4A pentagonal, upper margin elevated, in dorsal view small lobe on the upper right margin, poorly sclerotized; sdP small, with large base, tapering distally, not with sharp edge. Right phallomere large compared to other phallomere; fda with scarce pilosity at its distal edge; pva well developed, hook-shaped, bending over pia; pia inconspicuous, R3 short.

Differential diagnosis

Among the species of *Pseudomiopteryx* whose left phallomere exhibits an unforked afa and ventral phallomere with a narrow and tapered sdP, *P. chicomendesi* sp. nov. most closely resembles *P. infuscata*, *P. gorgonae*, and *P. meridana*, but can be readily separated by the absence of the l4b lobe on its left phallomere.

Pseudomiopteryx decipiens Giglio-Tos, 1915

Figs 5A, C–F, 6

Material examined

BRAZIL – **Porto Velho, Rondônia** • 1 ♂; ESEC Morro Três Irmãos; 9°00'09" S, 64°32'40" W; Sep. 2016; V.S. Silva and J.A. Rafael; Malaise; MNRJ, MNRJ-ENT14-721.

Remarks

We examined male individuals of a second species collected at the type locality of *P. akuntsu* sp. nov. in Porto Velho, Rondônia. Examination of its genitalia structures revealed a close resemblance to the configuration reported by Schwarz *et al.* (2020) for *P. cf. decipiens* from Huánuco, Peru. Favacho *et al.* (2023) subsequently confirmed that the Peruvian specimens reported by Schwarz *et al.* (2020) indeed corresponded to *P. decipiens*, thus significantly extending the species' known distribution, which was previously limited to an unspecified locality in Colombia.

The specimens from Porto Velho shares key diagnostic features with *P. decipiens*, including forked afa, L4B lobe expanded, adjacent projection to the sdg, and general outline of L4A (Fig. 5A–C). Although the individuals from Porto Velho exhibit a somewhat more elongated L4B lobe compared to both the holotype and the Peruvian population, we interpret this and other observed differences as intraspecific variation. Accordingly, we assign the specimens from Porto Velho to *P. decipiens* (Fig. 5D), expanding its distribution to western Brazil (Fig. 6).

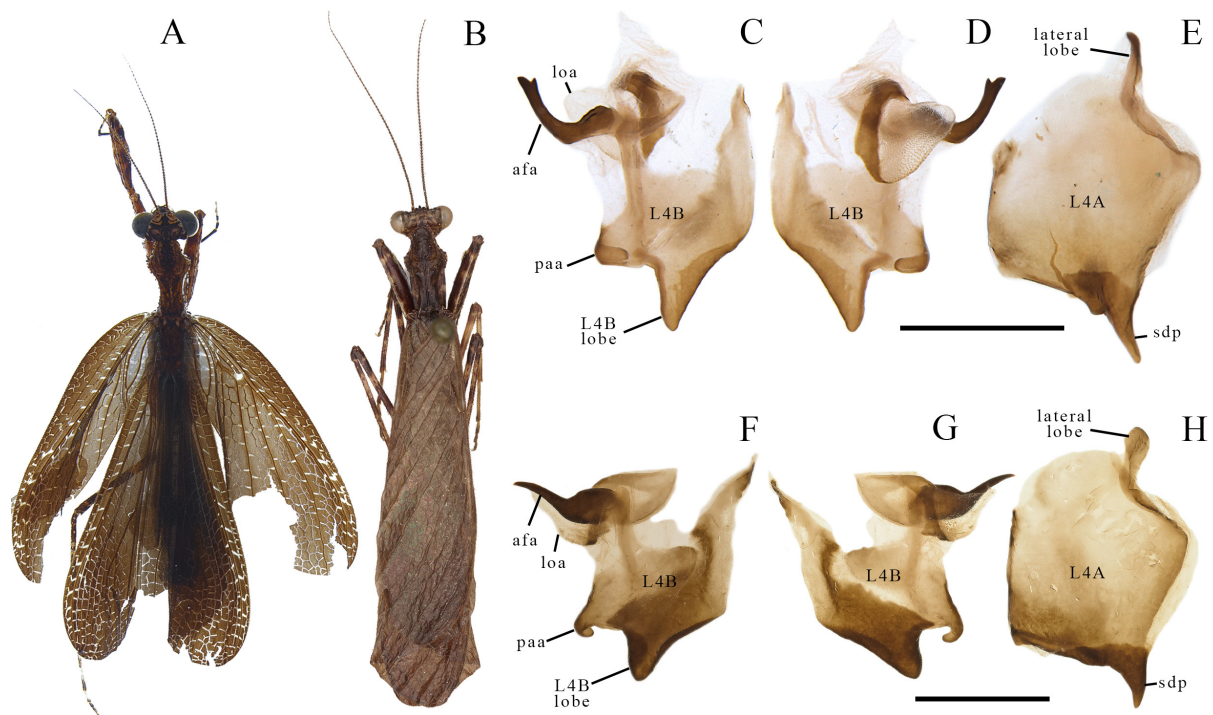


Fig. 5. A, C–E. *Pseudomiopteryx decipiens* Giglio-Tos, 1915 from Porto Velho, Rondônia (Brazil) (MNRJ-ENT14-721). B, F–H. *Pseudomiopteryx gorgonae* Ariza & Salazar, 2005 from Lita, Imbabura (Ecuador) (IMQC1010505). A. Dorsal habitus. C. Left phallomere, ventral view. D. Left phallomere, dorsal view. E. Ventral phallomere, dorsal view. F. Left phallomere, ventral view. G. Left phallomere, dorsal view. H. Ventral phallomere, dorsal view. Scale bars = 0.5 mm. Abbreviations: see Material and methods.

Pseudomiopteryx gorgonae Ariza & Salazar, 2005
Figs 5B, F–H, 6

Material examined

ECUADOR – Lita, Imbabura • 1 ♂; 0°50'24" N, 78°27'18" W; 600 m a.s.l.; 19 Feb. 2002; J.E. Iglesias leg.; IMQC, IMQC1010505.

Remarks

Originally described by Ariza & Salazar (2005) as a subspecies of *P. bogotensis* from Gorgona Island, off the coast of Colombia, the taxon was later elevated to species rank by Favacho *et al.* (2023). In the same study, its distribution was extended to western Ecuador based on a male specimen from Santo Domingo de los Colorados, Santo Domingo de los Tsáchilas Province (625 m elevation).

We examined an additional male from Ecuador (obtained at Lita, Imbabura province) (Fig. 5H) whose genital morphology matches the structures presented by Favacho *et al.* (2023). Key diagnostic features of the left phallomere include L4B strongly projecting into a triangular lobe, and an unforked, elongated, sinuous afa (Fig. 5E–G). The ventral phallomere bears a spd that is relatively shorter and broader, fang-like, with a blunt apex. However, the lateral lobe of the ventral phallomere was not filiform, as reported by Favacho *et al.* (2023), but flattened and rounded, a condition also observed in other species, such as *P. spinifrons* (Favacho *et al.* 2023). We believe this discrepancy is an artifact of the way the ventral/left phallomere complex was presented by Favacho *et al.* (2023), which still shows it articulated and with soft tissue attached.

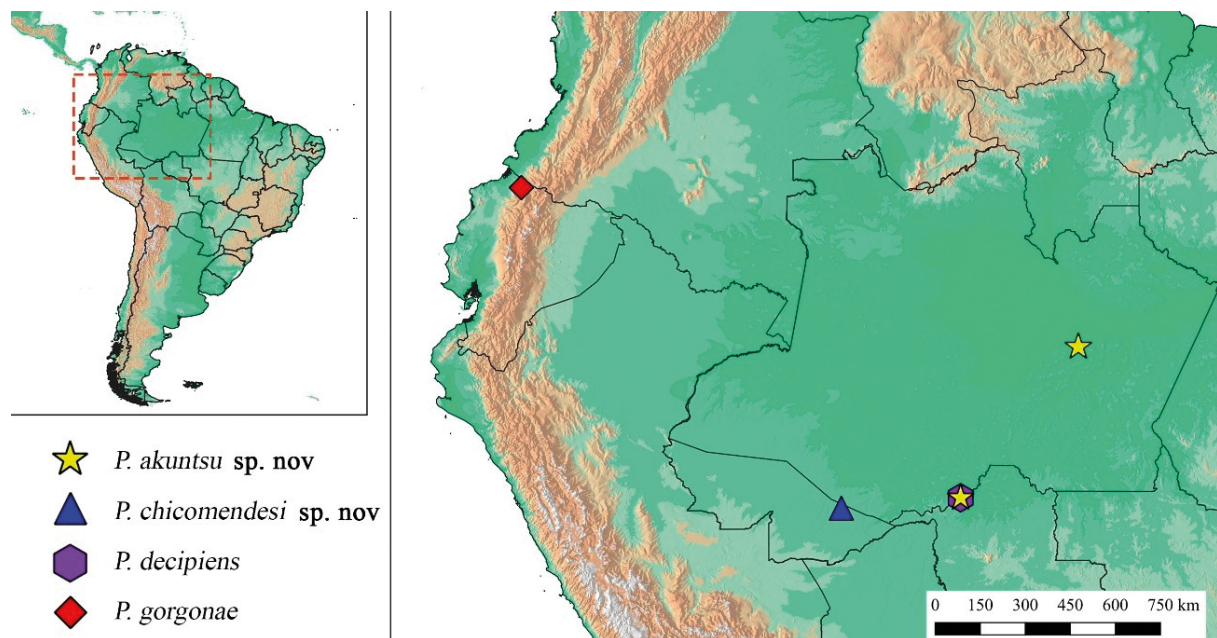


Fig. 6. Records of *Pseudomiopteryx* spp. *Pseudomiopteryx akuntsu* sp. nov. (stars); *Pseudomiopteryx chicomendesi* sp. nov. (triangle); *Pseudomiopteryx decipiens* Giglio-Tos, 1915 (hexagon); *Pseudomiopteryx gorgonae* Ariza & Salazar, 2005 (new records) (losange).

Updated checklist of the species of *Pseudomiopteryx* Saussure, 1870 (*new records; underline denotes type locality)

1. *Pseudomiopteryx akuntsu* sp. nov. – BR (AM, RO)
2. *Pseudomiopteryx bogotensis* Saussure, 1870 – CO
3. *Pseudomiopteryx chicomendesi* sp. nov. – BR (AC)
4. *Pseudomiopteryx columbica* Giglio-Tos, 1915 – CO
5. *Pseudomiopteryx decipiens* Giglio-Tos, 1915 – BR (RO*), CO, PE
6. *Pseudomiopteryx festae* (Giglio-Tos, 1898) – EC, PE
Myrcinellus festae Giglio-Tos, 1898
7. *Pseudomiopteryx gorgonae* Ariza & Salazar, 2005 – CO, EC
Pseudomiopteryx bogotensis gorgonae Ariza & Salazar, 2005
8. *Pseudomiopteryx guyanensis* Chopard, 1911 – BR (AM), FG, VE
= *Pseudomiopteryx amazonensis* Toledo-Piza, 1968
9. *Pseudomiopteryx infuscata* Saussure & Zehntner, 1894 - BE, CR, GT, MX, NL, PN
10. *Pseudomiopteryx maculata* Beier, 1942 – VE
11. *Pseudomiopteryx meridana* Giglio-Tos, 1915 – VE
12. *Pseudomiopteryx riverai* Favacho *et al.* 2023 – CR
13. *Pseudomiopteryx spinifrons* Saussure, 1870 – BR (AC, AP, MA, PA)

Discussion

Pseudomiopteryx akuntsu sp. nov. and *P. chicomendesi* sp. nov. exhibit a high degree of external morphological similarity with their congeners, making examination of male genital structures essential for reliable species delimitation. *Pseudomiopteryx chicomendesi* represents the second species of the genus recorded from Acre, alongside *P. spinifrons*, whereas *P. akuntsu* and *P. decipiens* constitute the first records of *Pseudomiopteryx* from Rondônia, a region that has historically received limited entomological sampling.

The descriptions of *Pseudomiopteryx akuntsu* sp. nov. and *P. chicomendesi* sp. nov. bring the genus to thirteen recognized species. To date, formal records of *Pseudomiopteryx* in Brazil have been largely confined to the proximity of the Amazon River's main course and main tributaries (Favacho *et al.* 2023). These new findings, together with the first Brazilian record of *P. decipiens*, extended the known geographic range of *Pseudomiopteryx* further into southwestern Amazonia. Acre and Rondônia, despite lying within one of the Amazon's primary endemism hotspots (Morrone *et al.* 2022), remain chronically underrepresented in Mantodea surveys, a gap that targeted collections have recently addressed (Agudelo *et al.* 2024b). Moreover, users of the iNaturalist platform have documented specimens of *Pseudomiopteryx* far to the south (southern Amazonas and northern Mato Grosso states) and even across the border into central Bolivia, suggesting that *Pseudomiopteryx* is more widespread across Amazonia than previously thought.

This is not particularly surprising, as *Pseudomiopteryx* is frequently encountered in the Amazon rainforest (Favacho *et al.* 2023). However, before the work of Favacho *et al.* (2023), taxonomic identification was difficult to achieve, which likely explains the limited literature documentation of this otherwise common lineage of Thespidae. Additional undescribed species almost certainly remain to be discovered, and given that sympatric species can occur, careful examination and thorough documentation of genital structures are essential to distinguish them.

Long-term Malaise trapping has proven highly effective for collecting Thespids, particularly *Pseudomiopteryx*, often yielding the robust series ideally suited for taxonomic work (Rivera & Svenson 2016; Schwarz *et al.* 2020; Moulin 2025). Integrating Malaise traps into standard Amazonian Mantodea

survey protocols, and mining bycatch from broader sampling efforts across Amazon-focused collections, will undoubtedly accelerate the discovery and characterization of *Pseudomiopteryx* and other elusive, ground-dwelling, and understory Thespidae taxa (e.g., *Thrinaconyx* Giglio-Tos, 1915, *Bantia* Stål, 1877, *Mantillica* Westwood, 1889). Targeted manual sampling at or near each type locality will also be essential to secure and describe the yet-unknown females of *P. akuntsu* sp. nov. and *P. chicomendesi* sp. nov.

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