65 (2) 157 – 237

Revision of the New World *Dohrniphora* Dahl Species with Hind Tibial Setae (Diptera: Phoridae)

Brian V. Brown & Giar-Ann Kung

Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles CA 90007, USA
[bbrown@nhm.org; gkung@nhm.org]

Received 03.ix.2007, accepted 12.xi.2007.
Published online at www.arthropod-systematics.de on 7.xii.2007.

> Abstract

The New World species of *Dohrniphora* with one or more large hind tibial setae are revised. Prior to our work, the known fauna consisted of 36 described species, including five that are mostly known from specimens lacking hind tibial setae. Fifty-two new species are described, all from the Neotropical Region. Two names, *D. anterosetalis* Borgmeier & Prado and *D. trudiae* Disney, are both considered new synonyms of *D. anteroventralis* Borgmeier. The *Dohrniphora* species with hind tibial setae are not considered to be a monophyletic group, but some tentative monophyletic groups within this assemblage are proposed. In particular, a large group of small, yellow species is recognized as the probably monophyletic *D. pyricornis* group.

> Key words

Diptera, Phoridae, *Dohrniphora*, New World, taxonomic revision, natural history.

Contents

1. Introduction

The Phoridae is a large and poorly-known group of small flies, with about 3,700 described species. Within the Phoridae, the genus *Dohrniphora* is one of the largest genera, with 175 species, and is found worldwide. One species, *Dohrniphora cornuta* (Bigot), is nearly cosmopolitan, spread by human activity, whereas all other species are apparently restricted to a single hemisphere or smaller biogeographical region.

Probably because they are relatively large in size and common in collections, the genus *Dohrniphora* has received more attention than most phorid genera. The recent reviews of the Afrotropical (DISNEY 2003), Oriental, and Australasian faunas (DISNEY 1990) has put the genus on a good footing for these areas, but the New World fauna has received relatively less recent study. The pioneering works of BORGMEIER (1960, 1961, 1969a, b), BORGMEIER & PRADO (1975), and PRADO (1976) have received scant recent additions (DISNEY 1983, 1995; KUNG & BROWN 2005, 2006) for such a large genus. Thus, we decided to revise the entire group, treating a large amount of newly collected material from several survey projects and our own collections, as well as the holdings of major museums. We will also examine all available type material, and propose synonymies as necessary. This treatment will be published in two parts: those species without large setae on the hind tibia (to be treated in a future paper), and those species bearing such setae, treated herein. Neither of these divisions are expected to be monophyletic groups, but they are traditional divisions of the genus for convenience.

Occasionally, species of *Dohrniphora* that normally lack hind tibial setae will have one anterodorsal seta present. For example, we have seen specimens of *D. divaricata* (Aldrich), *D. shannoni* Borgmeier, *D. sulcatula* Borgmeier, and *D. ventralis* Borgmeier & Prado with one hind tibial seta on both hind legs. Such exceptional specimens are included in the current key. There might be others, however, so we recommend that if a specimen cannot be identified using the current key to check the hind femur against those of the previously described species (mostly keyed in BORGMEIER 1960). We will present a key to the rest of the New World *Dohrniphora* in the near future (Brown & Kung, in preparation).

2. Methods

Species recognition. This revision is based mostly on male specimens, as is typical for treatments of this genus. Males and females are dimorphic in many characters, and cannot be confidently associated in most situations (DISNEY 2003: 1 summarized the problem). In some previously described, easily recognized species,

females have been included in the material examined. Among males, the most important characters are found at the base of the posterior face of the hind femur. Usually in this location are a number of peglike setae, carinae, and other structures that are extremely useful for recognizing species. BARNES (1990) reported on the mating behavior of *Dohrniphora cornuta*, and noted that these structures are brought into contact with the sclerotized lateral patches of the females seventh abdominal segment. The male moved his hind legs up and down, producing a rocking motion against the female abdomen. Based on these observations, the structures of the posterior face of the hind femur, as well as the hindcoxal lobe, are probably used as specialized nongenitalic males structures (sensu EBERHARD 1985) to stimulate females and induce her to use the sperm of the current male for fertilizing her eggs (EBERHARD 1985, 1991, 1994). Under intense sexual selection, there is presumably rapid divergent evolution of these structures, making them excellent characters for species recognition. The male genitalia, in contrast, are relatively uniform within the genus.

In the past, images of the important hind femur characters have been by line drawings. In our revision (as in our previous papers – KUNG & BROWN 2005, 2006) all species are illustrated with scanning electron micrographs (SEMs). A low magnification image is shown to indicate the general shape of the femur, and a higher magnification image is shown to illustrate the fine structure at the base of the femur. The most important parts of the higher magnification image have in most instances been digitally "cleaned," using Adobe Photoshop®, to remove obscuring debris.

Two other characters of importance in these flies have been illustrated by SEM. The fine cuticular processes on the frons produce surfaces that have, in one case, a silver sheen (Figs 1–2), but are more often shiny (Figs 3–4) or subshiny (Figs 5–8). Secondly, the structure of the hind coxal lobe are shown for some species. These structures were first used in *Dohrniphora* taxonomy by Disney (1990), and are sometimes helpful characters for species recognition. Even when only slightly developed, the hind coxal lobe can be useful, as it can be located relatively dorsally or ventrally (Figs 21–22) on the hind coxa. Otherwise, it can be absent, or modified in distinctive shapes (Figs 23–28).

The distribution of the second row of frontal setae is referred to as concave or in a straight line. Designation as "concave" means that the dorsal fronto-orbital setae are more ventral on the frons than the dorsal interfrontal setae (e.g., Fig. 3).

Color photographs provide important supplemental information for species recognition. Photographs of all species have been deposited in MorphBank (*www.morphbank.com*).

Data for each specimen are available online at DiscoverLife.org. Distribution maps of each species are easily produced using this site by clicking on a species name and then on "Global map."

Species are narrowly defined in this revision, as in many other phorid treatments. We have found that small differences in hind femur structure often underly larger differences in other structures (e.g., hind tibial setation, mouthpart size) in some species. Until further evidence, from behavioral studies or molecular studies, is available, such narrowly-defined species are likely to continue to predominate in the phorid literature.

Abbreviations

Depositories and abbreviations. Material is deposited in the following collections:

BHMH	Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil
CBFC	Colección Boliviana de Fauna, La Paz, Bolivia
CMNH	Section of Invertebrate Zoology, Carnegie Museum of Natural History, Pittsburgh, Pennsylvannia, USA
CNCI	Biosystematics Research Centre, Agriculture Canada, Ottawa, Ontario, Canada
CUMZ	University Museum of Zoology Insect Collection, Cambridge, United Kingdom
DEBU	Department of Environmental Biology, University of Guelph, Guelph, Ontario, Canada
EMUS	Department of Biology, Utah State University, Logan, Utah, USA
INBC	Instituto Nacional de Bioversidad, Heredia, Costa Rica
INPA	Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil
LACM	Entomology Section, Natural History Museum of Los Angeles County, Los Angeles, California, USA
MACN	Division Entomologia, Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina
MCZC	Entomology Department, Museum of Comparative Zoology, Harvard University, Cambridge, Massachussetts, USA
MIUP	Museo de Invertebrados, Universidad de Panama, Panama
MUCR	Museo de Insectos, Universidad de Costa Rica, San José, Costa Rica
MUSM	Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru
MZSP	Museu de Zoolgia, Universidade de São Paulo, São Paulo, Brazil
QCAZ	Quito Catholic Zoology Museum, Departamento de Biologia, Quito, Ecuador
ROME	Department of Entomology, Royal Ontario Museum, Toronto, Ontario, Canada
SEMC	Snow Entomological Museum, University of Kansas, Lawrence, Kansas, USA
UNCB	Museo de Historia Natural, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia

USNM United States National Museum, Smithsonian Institution, Washington, DC, USA
ZMUC Department of Entomology, Zoological Museum, University of Copenhagen, Copenhagen, Denmark

3. Natural history of New World *Dohrniphora* with hind tibial setae

Little is known about the natural history of New World *Dohrniphora*. Although some have been found with social insects, it is unclear how strongly tied *Dohrniphora* species are to social insects, as the records for such associations are so few, and natural history information is so limited. DISNEY & DARLINGTON (2000) found that alate termites were apparently parasitized by the larvae of the Afrotropical *D. isopterorum* Disney (a species that lacks hind tibial setae), but in general, *Dohrniphora* females are strongly attracted to injured or dead insects (personal observations), and their association with social insect nests could be just as opportunistic scavengers. This opportunism could be either as adults feeding or as adults ovipositing on the dead insects. Unfortunately, as already discussed, it is difficult or impossible to identify most female specimens. Clearly, more research is needed.

Natural history records for females of species of *Dohrniphora* with hind tibial setae are extremely few. Aside from brief comments about *Dohrniphora incisuralis* (Loew) females feeding on decaying plant material, caterpillar excrement, and dead insect larvae (BRUES 1909: 105, footnote), our records are limited to incidents where *D. anterospinalis* Borgmeier, *D. divaricata*, and *D. paraguayana* were collected with termites (BORGMEIER 1923a, 1960; DISNEY & KISTNER 1997), and *D. anterospinalis*, *D. femoralis* Borgmeier, and *D. paraguayana* with ants (BORGMEIER 1960; DISNEY & KISTNER 1998; RETTENMEYER & AKRE 1968). A key to females known to be associated with termites is given by DISNEY & KISTNER (1997), and one to ant-associated species by DISNEY & KISTNER (1998). More recently, KUNG & BROWN (2005) discussed the possible relationship of *D. longirostrata*-group species with ants of the subfamily Ponerinae, and DISNEY & BERGHOFF (2005) list a female of an unidentified species with a single hind tibial seta "sitting on leaf over the swarm front of raiding column of [the army ant] *Eciton burchellii urichi* Forel."

A new record reported in this paper is that of males and females of *D. paraguayana* and females of an unidentified species of the *D. pyricornis* group associated with a damaged nest of unidentified stingless bees in Panama. This new record further widens the range of attraction for *D. paraguayana*, which was already associated with both termites and ants.

A further new record is based on a photograph by S. A. Marshall, which portrays a female of *Dohrniphora gigantea* (Enderlein) feeding on a dead moth. This photograph is available at our website *http://www.phorid.net/phoridae/dohrniphora.htm*

BORGMEIER (1960) reported *D. paraguayana* to be associated with *Eciton burchellii*. We examined the specimens upon which this record was based, however, and found that the ant specimens mounted with the flies were workers of a *Neivamyrmex* species.

4. Phylogenetic relationships

The relationships within *Dohrniphora* currently are unknown, but it is not likely that the species treated in this revision are a monophyletic group. Some groupings can be recognized, however, and are discussed here.

One already-revised assemblage is the *D. longirostrata* group, treated by KUNG & BROWN (2005). We consider this to likely be a monophyletic group, based on the distinctive structure of the females, with their elongate proboscis (see Morphbank accession # 142922) and thickened costal vein (Morphbank accession # 142923). Further discussion is given by KUNG & BROWN (2005).

Another possible monophyletic group is what we herein refer to as the *D. pyricornis* group. These are small, yellow species with subequal scutellar setae, and with anterior to anteroventral setae on the hind tibia. Additionally, most although not all species have light colored setal bases on the frons (see Morphbank accession # 142926). These light-colored setal bases are lacking in *D. femoralis* Borgmeier, *D. incomitata* sp.n., *D. lacunosa* sp.n., and *D. pickeringi* sp.n. Although we are unable to provide strongly supported derived characters of the *D. pyricornis* group, we suspect that they are closely related to each other. For purposes of this paper we have separated the species descriptions and illustrations into non-*D. pyricornis* group and the *D. pyricornis* group.

Within the *D. pyricornis* group, a number of species, *Dohrniphora femoralis*, *D. mesofemoralis* sp.n., *D. rachelae* Disney, and *D. stenobasalis* sp.n., all have the posterior face of the base the hind femur distinctly concave. We refer to these species as the *D. femoralis* group, and consider it likely to be monophyletic.

Among the species not classified in the *D. pyricornis* group, several are similar to *D. angularis* Borgmeier, a species lacking hind tibial setae. These species, *D. brunneifrons* sp.n., *D. consimilis* sp.n., *D. sarmientoi* sp.n., *D. wangae* sp.n., and *D. xiei* sp.n.,

have a similar arrangement of hind femur structures (labeled on Fig. 53), but have subtle differences that make us suspect they might be distinct species (see Diagnosis for *D. consimilis*).

A final group of species is characterized by enlarged foretarsomeres, as well as other characters listed in couplet 2 of the key. We refer to these species as the *D. metatarsalis* group, based on a species, *D. metatarsalis* Borgmeier & Prado that lacks hind tibial setae. There is evidence that enlarged foretarsomeres have evolved more than once in the genus, as this character is found also in one species similar to *D. angularis*, namely *D. brunneifrons*, as well as in the apparently unrelated *D. tarsalis* Borgmeier.

5. Species descriptions

Dohrniphora Dahl

Type species. *Dohrniphora dohrni* Dahl.
Remarks. A full synonymy of this genus is given by Kung & Brown (2005).

Dohrniphora adusta Borgmeier

Figs 29–30, 187

Dohrniphora adusta Borgmeier, 1925: 92; 1960: 261, fig. 1.
Diplonevra (*Dohrniphora*) *adusta*: Schmitz 1927: 49; 1929: 108

Description. *Body length:* 2.4–2.6 mm. *Head:* Frons blackish-brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.47 head width; range 0.43–0.48. Flagellomere 1 rounded-oval, brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax*: Scutum brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.49 wing length; range 0.47–0.52. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; short, with ventral projection. Posterior face of hind femur with basal group of about 18 peglike setae; more distally with deep ventral concavity with sparse spinuli (Figs 29–30). Hind tibia with three to four anteroventral setae and three to five longer anterodorsal setae (Fig. 187). *Abdomen*: Abdominal tergite 1 brown to dark brown. Tergites 2–6 blackish-brown, posterior margin lighter. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This is a dark brown species that can be recognized by the presence of both anterodorsal and anteroventral setae, as well as the structure of the hind femur (Figs 29–30).
Distribution. Brazil, Ecuador.

Material. Holotype ♂, BRAZIL: Paraná: Rio Negro, 19.i.1924 [barcode: LACM ENT 234038] (MZSP; examined). —BRAZIL: Minas Gerais: Belo Horizonte, UFMG, 19.87°S 43.97°W, 3♂, xi.1996, D. Yanega, yellow pan traps (BHMH, LACM); Rondonia: 62 km SE Ariquemes, 1♂, 8-20.xi.1994, W.J. Hanson (EMUS). ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap (LACM, ZMUC).

Dohrniphora alvarengai species complex

Figs 15, 31–32, 188

Dohrniphora alvarengai Prado, 1976: 567–569, figs 17–20.

Description. *Body length:* 2.1–2.7 mm. *Head*: Frons orange, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.47 head width; range 0.44–0.51. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/5 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown to brown. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.5–0.54. Halter yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated (Fig. 15). Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with rounded ventrobasal concavity bordered with double to triple row of peglike setae (Figs 31–32). Hind tibia with two to four anterodorsal setae (Fig. 188). *Abdomen:* Abdominal tergite 1 orange. Tergites 2–5 with dark brown lateral margins. Venter of abdomen whitish yellow to yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. These are yellow *Dohrniphora* with inflated foretarsomeres (Fig. 15) and two to four anterodorsal setae on the hind tibia (Fig. 188). There is great variation in the structure of the hind femur of specimens placed in this species complex,

centering largely on the shape of the concavity and the two to three rows of peglike setae that surround it. The original description of this species includes an illustration of the hind femur that has a double row that seems to be artificially damaged, making the peglike setae appear slightly irregular in their arrangement; additionally, there are 3 anterodorsal hind tibial setae. Specimens we examined showed an oval (as in Figs 31–32) to elongate-oval concavity, with peglike setae arranged neatly into two rows, arranged partially in two or three rows, or arranged in three rows. We could see no logical way to arrange this diversity of structure without further specimens or further information, so we are leaving them now as a species complex. Some species recognized in this paper (such as *D. arcuata* new species) are more distinctive members of this complex.

Distribution. Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Panama.

Material. Holotype ♂, BRAZIL: Mato Grosso, SINOP (Sociedade Imobiliaria Norte do Paraná), 12.52°S 55.62°W, x.1974, M. Alvarenga, Malaise trap (MZSP; not examined). [The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study.] —BRAZIL: Amazonas: S. Gabriel Cachoeira, Morro 6 Lagos, 1♂, 28.ix-6.x.1990 (INPA), Manaus, Res. Ducke, 1♂, 21.vii.1990, J. Vidal, R.A. Rocha, Malaise trap (INPA); Rondonia: 62 km SE Ariquemes, 2♂, 17-24.iii.1989, W.J. Hanson, 180 m (EMUS, LACM); Roraima: Rio Uraricoera, Ilha de Maraca, 3.37°N 61.43°W, 1♂, 2-13.v.1987, J. Rafael, J. Brasil, L. Aquino, Malaise trap (INPA). COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 23-30.x.2000, CAP-850, A. Parente, Malaise trap, 1♂, 6-12.vii.2000, CAP-687, 1♂, 30.x-11.xi.2000, CAP-852, 1♂, 11-25.ix.2000, CAP-846, 1♂, 6-14.i.2001, CAP-1321, 1♂, 12-26.ii.2001, CAP-1606; 1♂, 19.xi-3.xii.2001, CAP-2768; Caquetá: PNN Chiribiquete, Rio Cuñaré, Bos. Tepuy, 0.50°N 72.62°W, 1♂, 12-19.xi.2000, M. Ospina, 300 m, Malaise trap, CAP-952; Meta: PNN La Macarena, Caño Curía, Send. Cachicamos, 3.35°N 72.63°W, 3♂, 1-25.x.2004, W. Villalba, 493 m, Malaise trap, CAP-5065; Putumayo: PNN La Paya, Cabaña La Paya, 0.12°S 74.93°W, 1♂, 26.ii-1.iii.2002, R. Cobete, 330 m, Malaise trap, CAP-3138, PNN La Paya, Finca Charapa, 0.13°S 74.95°W, 4♂, 28.iv-14.v.2002, R. Cobete, Malaise trap, 330 m, CAP-3243, PNN La Paya, Nac. Qbda Blanca, 0.02°S 75.20°W, 1♂, 25.ix.2001, D. Campos, 330 m, sweep, Malaise trap, PNN La Paya, Viviano Cocha, 0.13°S 74.95°W, 1♂, 26-29.i.2003, C. Sarmiento, Malaise trap, 210 m, CAP-3415; Vaupés: Est. boil. Mosiro-Itajura (Caparú), 1.07°N 69.05°W, Antigua Cabaña, 2♂, 3-10.xi.2003, J. Pinzón, Malaise trap, 60 m, CAP-4429, Igapo, 3♂, 3-10.xi.2003, J. Pinzón, Malaise trap, 60 m, CAP-4428 (LACM, UNCB). COSTA RICA: Alajuela: Est. Biol. San Ramon, 10.06°N 84.50°W, 1♂, 7-9.vii.2000, J. Ashe, R. Brooks, Z. Fallin, FIT #84 (LACM); Guanacaste: Estacíon Pitilla, 11.00°N 85.43°W, 1♂, 13-15.viii.2000, J. Ashe, R. Brooks, Z. Fallin, 610 m, FIT #135; Puntarenas: Rd. to Rincon, 24 km W Pan-American Hwy, 5♂, iii-iv.1989, P. Hanson, I. Gauld, Malaise trap, 200m; San José: Braulio Carillo NP, 10.12°N 83.97°W, 2♂, iv-v.1990, P. Hanson, Malaise trap, 1000 m (LACM). ECUADOR: Napo: Tena, 1♂, 22-27.v.1987, B.V. Brown, L.D. Coote, Malaise trap 500 m, 2nd growth, Yasuni Research Station, 0.7°S 76.39°W, 1♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap, 220 m, Yasuni NP, PUCE Station, 0.63°S 76.6°W, 2♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap (LACM), Yasuni Research Station, 0°40.566'S 076°23.851'W, 2♂, 4-9.v.2003, C. Brammer, Malaise trap, 250 m (EMUS). FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 1♂, xii.2005, 6♂, i.2006, 7♂, ii.2006, J. Cerda, Malaise traps (2) (LACM). PANAMA: Chiriquí: Lagunas, 5km SW Hato del Volcan, 1♂, 22-26.v.1977, S. Peck, 1360 m, dung (DEBU). PERU: Madre de Dios: Pakitza, 11.94°S 71.28°W, 4♂, 13-18.ii.1992, MT#1, 1♂, 13-18.ii.1992, MT#2, 4♂, 18-23.ii.1992, MT#2, 1♂, 1♂, 23-28.ii.1992, MT#3, 28.ii-4.iii.1992, MT#3, 2♂, 28.ii-4.iii.1992, MT#2, 2♂, 28.ii-4.iii.1992, MT#3, B. Brown, D. Feener, Malaise trap, Tambpata Res. Ctr., 13.14°S 69.61°W, 1♂, 20.viii.2001, B. Brown, G. Kung, Malaise trap #5 (LACM); Cuzco: Quincemil: 1♂, 27-31.viii.1962, L. Pena, 740 m, 1♂, 1-15.xi.1962, L. Pena, 700 m (CNCI).

Dohrniphora anchicayensis sp.n.

Figs 33–34

Description. *Body length:* 1.9 mm. *Head*: Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.5 head width. Flagellomere 1 rounded-oval, brown. Palpus of normal size, brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/2 posterior. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane unmarked. Costa 0.56 wing length. Halter brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; only slightly developed. Posterior face of hind femur with large basal group of about 30 peglike setae on raised area; more distally with narrow, almost rectangular, cavity with small distal tooth (Figs 33–34). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites dark brown. Venter of abdomen light gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is a dark brown species with one hind tibial seta and a large basal group of peglike setae over a small concavity; more distally there is a larger concavity bounded by the basal concavity and a distal rounded tooth (Figs 33–34). Both ends of the distal concavity appear white in some specimens, indicating that they there is thin membrane in this region.

The large, rounded group of peglike setae on a raised pad is highly distinctive.
Derivatio nominis. Named for the type locality.
Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Valle de Cauca: PNN Farallones de Cali, Anchicaya, 3.43°N 76.80°W, 11.ix-16.x.2001, S. Sarria, 900 m, Malaise trap, CAP-2868 [LACM ENT 179810] (UNCB).

Dohrniphora anterospinalis Borgmeier

Figs 35–36, 189

Dohrniphora anterospinalis Borgmeier, 1923a: 329–331; 1960: 262–264, fig. 4.
Diplonevra (*Dohrniphora*) *anterospinalis*: Schmitz 1927: 49; 1929: 31, 108; 1949: 204, fig. 139 (6).

Description. *Body length:* 2.2–2.3 mm. *Head*: Frons brown, second row of setae concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.49 head width; range 0.48–0.49. Flagellomere 1 oval, brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron yellow, except proepisternum and dorsum of anepisternum contrastingly brown. Wing membrane unmarked. Mean costal length 0.5 wing length; range 0.47–0.52. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with elongate group of about 23 peglike setae extending basally on narrow process; distal to peglike setae with concavity surrounded by bulbous swelling (Figs 35–36). Hind tibia with row of three to four anteroventral setae (Fig. 189). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–6 dark brown with yellow posterior margin, and tergites 2–4 with gradually decreasing anteromedial and posteromedial yellow coloring. Venter of abdomen yellow, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This species is recognized by the row of anteroventral setae on the hind tibia and the structures on the posterior face of the hind femur, especially the elongate group of peglike setae (Figs 35–36).
Distribution. Brazil.

Material. Lectotype (designated by Borgmeier, 1960) ♂, BRAZIL: Rio de Janeiro: Petrópolis, 26.iv.1922, T. Borgmeier [barcode: LACM ENT 229012] (MZSP; examined). – BRAZIL: Rio de Janiero: Macaé de Cima, 20 km SW Novo Friburgo, 22.37°S 42.50°W, 2♂, 3-4.v.1999, B. Brown, Malaise trap, 1100 m, forest edge (LACM), Petrópolis, 1♂, 4.v.1922, 4♂, 5.x.1922, 1♂, 7.x.1922, 1♂, 17.x.1922, T. Borgmeier (MCZC, MZSP), 1♂, 10.vi.1923, Ronchi (USNM), 1♂, 1.v.1924, C. Prade (USNM).

Dohrniphora anteroventralis Borgmeier

Figs 1–2, 16, 19–20, 37–38, 190

Dohrniphora anteroventralis Borgmeier, 1960: 264, fig. 7.
Dohrniphora anterosetalis Borgmeier & Prado, 1975: 14–15, fig. 28. **syn.n.**
Dohrniphora trudiae Disney, 1983: 455–456, Figs 10–11. **syn.n.**

Description. *Body length:* 2–3.1 mm. *Head*: Frons dark brown, some specimens with light brown setal bases; second row of setae concave. Frons with fine, sparse setulae; with extremely dense microscopic processes producing silvery reflection (Figs 1–2). Mean frontal width 0.44 head width; range 0.42–0.48. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown (in some specimens with dark brown posteromedial area). Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum darker yellow. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.51–0.57. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four to five anterodorsal setae. Foretarsomeres slender, elongate (Fig. 16). Midcoxa darker yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; elongate, narrow, ventrally curved (Fig. 19–20). Posterior face of hind femur with triangular group of about 17 relatively widely-spaced, peglike setae; distal to peglike setae with spinuli-filled cavity (Figs 37–38). Hind tibia with three to four anteroventral setae (Fig. 190). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–6 yellow medially and brown laterally, with medial yellow area decreasing in every tergite posteriorly. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium yellowish-brown, hypandrium brown, and cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This yellow species can easily be recognized by the silvery reflection of the frons (Figs 1–2), the presence of anteroventral hind tibial setae, and the structure of the posterior face of the hind femur (Figs 37–38).

Borgmeier & Prado (1975), in describing *D. anterosetalis*, stated that it differs from *D. anteroventralis* by the "greyish pollinosity of the frons," the more elongate concavity on the hind femur, and the number

of scutellar setae: *D. anterosetalis* with 2 bristles and 2 hairs and *D. anteroventralis* with 4 bristles. The holotype of *D. anterosetalis* is from Costa Rica, whereas that of *D. anteroventralis* is from southeastern Brazil. We examined the holotype and topotypic specimens of *D. anteroventralis* and found that they also displayed the silver reflection, although to a limited extent. The metallic reflection depends on the method of preparation and is best observed in critical-point-dried material; older air-dried specimens have less prominent reflection, varying among specimens presumably in relation to the amount of grease on the surface of the head. Freshly collected specimens from northern Argentina, close to the type locality of *D. anteroventralis*, clearly have the silvery reflection present.

We examined the holotype specimen of *D. anterosetalis* and found that the anterior seta of the scutellum was no more reduced than in specimens of *D. anteroventralis*; therefore we do not agree with this distinction. Furthermore, the more elongate concavity on the posterior face of the hind femur in the holotype of *D. anterosetalis* is one example of a varying range of sizes in this species, and thus is not a reliable method of separating two species. Because the other differences listed by BORGMEIER & PRADO are what we consider trivial, we therefore synonymized the two species.

DISNEY (1983) differentiated his new species *D. trudiae* from *D. pyricornis* Brues (which belongs in the *D. pyricornis* group, discussed below), *D. anterosetalis*, and *D. anteroventralis*, stating that it differed by "the form of the sensory complex at the base of the hind femur, and in numerous other small details." We compared his holotype specimen with our material, however, and conclude that it is referable to our slightly enlarged concept of *D. anteroventralis*.

Distribution. New World tropics.

Material. Holotype ♂, BRAZIL: Santa Catarina: Nova Teutônia, 27.18°S 52.83°W, [no date], F. Plaumann [barcode: LACM ENT 232647] (MZSP; examined). —ARGENTINA: Misiones: PN Iguazu, 25.68°S 54.44°W, 1♂, 30.xi-2.xii.2003, B. Brown, G. Kung, 200 m, Malaise trap #5, Reserva Vida Silvestre Urugua-í, 25.97ºS, 54.11ºW, 1♀, 29.xi-2.xii.2003, 4♂, 7-9.xii.2003, 2♂, 10-12.xii.2003, B. Brown, G. Kung, Malaise trap # 1, 2, 4, and 5 (LACM, MACN). BRAZIL: Amazonas: Manaus, PDBFF Reserve 1208. 3.13ºS, 60.02ºW, 1♂, 22.x.1985, B. Klein, Malaise trap, R.L.O., Manaus, PDBFF Reserve 1210. 3.13ºS, 60.02ºW, 1♂, 3.x.1985, 1♂, 28.xi.1985, B. Klein, Malaise trap, R.L.E., 1♂, 24.x.1985, B. Klein, Malaise trap, R.L.O., Manaus, PDBFF Reserve 1301. 3.13ºS, 60.02ºW, 1♂, 16.x.1985, B. Klein, Malaise trap, R.L.N.1 (INPA, LACM); Para: Belem, 1♂, 4.xi.1964, Shope, de Freitas (CNCI); Paraná: Rio Negro, 1♂, 22.i.1924 (MZSP); Rio de Janeiro, Petrópolis, 1♂, 5.ii.1924, C. Prade (MZSP); Santa Catarina: Nova Teutônia, 10♂, [no date], 1♂, 1924, F. Plaumann (MCZC, MZSP). COLOMBIA: Amazonas: PNN Amacayacu, Caña Brava, 3.05ºS, 70.06 ºW, 1♂, 29.viii.2001, M. Sharkey, D. Campos, 200 m, sweep, PNN Amacayacu, Matamata, 3.82ºS, 70.26ºW, 2♂, 8-12.iii.2000, M. Sharkey, total sweep, 1♂, 25.viii-3.ix.2000, D. Chota, Malaise trap, 150m, CAP-2240, San Martin, 3.82ºS, 70.26ºW, 1♂, 17-30.vii.2000, CAP-701, 1♂, 8-16.ix.2000, MT #3, CAP-838, 1♂, 2-10.x.2000, CAP-843, 1♂, 11-19.iii.2001, CAP-2036, 2♂, 5-19.xi.2001, 1♂, 3-17.xii.2001, B. Amado, D. Chota, Malaise trap, 150m; Bolivar: SFF Los Colorados, El Mirador, 9.90ºN, 75.12ºW, 2♂, 18.viii-3.ix.2001, CAP-2051, 1♂, 22.ix-7.x.2001, CAP-2165, E. Deulufeut, Malaise trap, 400m, La Suiris, 9.90ºN, 75.12ºW, 2♂, 1-15.ix.2000, CAP-617, E. Deulufeut, Malaise trap, 126m, Venado, 9.90ºN, 75.12ºW, 1♂, 16-30.xii.2000, CAP-922, E. Deulufeut, Malaise trap, 320m; Caquetá: PNN Chiribiquete, Rio Cuñare, 0.53ºN, 72.63ºW, 1♂, 15-19.xi.2000, E. Gonzalez, M. Ospina, Malaise trap, CAP-957; Cauca: PNN Gorgona, El Helechal, 2.97ºN, 78.18ºW, 1♂, 23.vi-15.vii.2001, CAP-1995, H. Torres, Malaise trap, 30m, El Saman, 2.97ºN, 78.18ºW, 1♂, 22.iii-13.iv.2001, CAP-1650, 3♂, 13.iv-7.v.2001, CAP-1648, 4♂, 30.i-14.ii.2002, CAP-3086, 11♂, 28.vi-15.vii.2001, R. Duque, H. Torres, Malaise trap, 5m, Mancora, 2.97ºN, 78.18ºW, 1♂, 30.xi-18.xii.2000, CAP-904, R. Duque, Malaise trap; Chocó: PNN Utría, Sendero Cocalito, 6.02°N 77.33°W, 1♂, 26.xii-1.ii.2001, CAP-1342, J. Pérez, Malaise trap, 20m; Magdalena: PNN Tayrona, Cañaveral, 11.33°N 74.03°W, 2♂, 14-29.vi.2000, CAP-238, 6♂, 14-30.viii.2000, CAP-568, 2♂, 30.viii-19.ix.2000, CAP-627, 19-30.ix.2000, CAP-628, R. Henriquez, Malaise trap, 30m, Pueblito, 11.33°N 74.03°W, 1♂,29.vii-14.viii.2000, CAP-569, 1♂, 15.viii-1.ix.2000, CAP-566, R. Henriquez, Malaise trap, 225m, Zaino, 11.33°N 74.03°W, 1♂, 14-29.vi.2000, CAP-240, 1♂, 30.viii-20.ix.2000, CAP-624, 1♂, 14-30.viii.2000, CAP-564, 1♂, 15.xii-2.i.2001, CAP-967, R. Henriquez, Malaise trap, 50m; Putumayo: PNN La Paya, Cabaña La Paya Chagra, 0.12°S 74.93°W, 1♂, 30.iii-15.iv.2002, R. Cobete, 320 m, Malaise trap, CAP-3149, PNN La Paya, Finca Charapa, 0.13°S 74.95°W, 1♂, 28.iv-14.v.2002, CAP-3243, R. Cobete, Malaise trap; Vaupés: Est. Biol. Mosiro-Itajura (Caparú), Antigua Cabaña, 1.07°N 69.05°W, 1♂, 3-10.xi.2003, J. Pinzón, 60 m, Malaise trap, CAP-4429; Vichada: PNN El Tuparro, 5.35°N 67.86°W, 1♂, 15-19.vi.2000, G. Kung, M. Sharkey, Malaise trap #16 (LACM, UNCB). COSTA RICA: Alajuela: Higuito, San Mateo, 2♂, P. Schild (one of which is the holotype of *D. anterosetalis*), San Pedro de la Tigra, 10.37°N 83.92°W, 1♂, ii.1990, P. Hanson, Malaise trap, 200m, 20 km S of Upala, 1♂, 10-19.iii.1991, 1♂, 12.iii.1991, 1♂, 27-31.iii.1991, 1♂, 11-21.vi.1991, F. D. Parker; Guanacaste: 14 km S Cañas, 1♂, 16-23.v.1990, 1♂, 17-24.i.1991, 1♂, 15-18.x.1991, F. D. Parker, 3 km SE R. Naranjo, 1♂, 4.vi.1993, F. D. Parker, Santa Rosa N.P., 10.95°N 85.62°W, 11♂, 27.ix-18.x.1986, 2♂, 18.x-8.xi.1986, I. Gauld, D. Janzen, Malaise traps BH-12-C, H-1-0, H-2-C, H-3-0, H-4-C, SE-6-C, SE-8-C; Heredia: Chilamate, 10.45°N 84.08°W, 1♂, 18-23.viii.1988, W.J. Hanson, 2♂, v.1989, P.Hanson, Malaise trap, 75 m, La Selva Bio. Stn., 10.43°N 84.02°W, 3♂, 11-17.vi.1986, W. Hanson, G. Bohart, 1♂, 3-19.vi.1993, M/12/106, 1♂, 1.vi.1993, M/10/118, 2♂, vi.1993, ALAS, Malaise trap; Limón: 4 km NE Bribri, 9.63°N 82.82°W, 4♂, xii.1989-iii.1990, P. Hanson, Malaise trap, 7 km NE Bribri, 9.58°N 82.88°W, 1♂, ix-x.1989, P. Hanson, Malaise trap, Est. Cuatro Esquinas, 10.52°N 83.5°W, 2♂, xi-xii.1989, J. Solano, Malaise trap, 200 m, #6897, Pacuarito, 10.11°N

83.46°W, 1♂, 23-26.viii.1996, Gustafson, Pape, Viklund, Malaise trap, 300 m; Puntarenas: 3 km SW Rincon, 8.68°N 83.48°W, 4♂, iii.1989, 1♂, iii-vi.1990, 6♂, ii.1993, P.Hanson, Malaise trap, 10 m, 5 km SW Rincon, 8.7°N 83.51°W, 3♂, 31.v-7.vi.1998, B. Brown, V. Berezovskiy, Malaise traps #3 and 5, 40 m, Rd to Rincon, 24 km Pan-American Hwy, 1♂, iii-iv.1989, P. Hanson, I. Gauld, Malaise trap (CMNH, INBC, LACM, MUCR, MZSP, USNM). ECUADOR: Chico: Rio Frio, Balao, 1♂, 26-30.iv.1963, Pena (CNCI); Manabi: Cerro Pata de Pajaro, 0.00°N 75.95°W, 1♂, 19-21.vi.1996, P. Hibbs, Malaise trap, 300 m (LACM); Napo: Coca, Napo R., 3♂, v.1965, L. Pena, 250 m (CNCI), 10 km SW Puerto Napo, Limón Chicta, 1♂, 23-27.v.1987, B. Brown, L. Coote, 600 m, rainforest, Yasuni Research Stn., 0.63°S 76.6°W, 4♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap (LACM, QCAZ), 1♂, 4-9.v.2003, C. Brammer, 250 m (EMUS); Pichincha, 17 km E Sto. Domingo, Tinalandia, 1♂, 6-13.v.1987, B. Brown, 710 m, clubhouse windows. FRENCH GUIANA: Regina: Kaw Mtn., Patawa, 4.55°N 52.17°W, 1♂, ii.2006, J. Cerda, Malaise traps (2), 300 m (LACM). HONDURAS: Olancho: Catacamas, 15.83°N 85.85°W, 1♂, 9.vi.1995, R. Cordero, Malaise trap, 600 m (LACM). NICARAGUA: Rio San Juan, Refugio Bartola, 16 km ESE El Castillo, 10.98°N 84.34°W, 1♂, 22.iv-10.v.1999, L. LaPierre, Malaise trap (LACM). PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 2♀, 9.vii.1923, R. C. Shannon (USNM), 1♂, 3.vi.1956, 1♂, 4.vi.1956, Rettenmeyer (CNCI), 3♂, 17-25.vi.1992, #678, 2♂, 12-19.viii.1992, #685, 3♂, 7-14.x.1992, #955, 4♂, 18-25.xi.1992, #727, 1♂, 13-20.i.1993, #703, 6♂, 17-24.iii.1993, #958, 2♂, 24-31.iii.1993, #959, 3♂, 31.iii-7.iv.1993, #960, 3♂, 1-7.iv.1993, #936, 2♂, 23.iv-5.v.1993, #964, 1♂, 5-12.v.1993, #941, 5♂, 5-12.v.1993, #955, 2♂, 26-v-2.vi.1993, #968, 1♂, 7-14.vii.1993, #974, 1♂, 11-18.viii.1993, #1580, 3♂, 8-15.ix.1993, #1632, 1♂, 20-27.x.1993, #1650, 2♂, 8-15.vi.1994, #2383, 3♂, 15-22.vi.1994, #2384, 1♂, 6-13.vii.1994, #2387, 1♂, 24-31.viii.1994, #2394, 1♂, 27.vii-3.viii.1994, #2435, 1♂, 17-24.viii.1994, #2438, 4♂, 7-21.ix.1994, #2441, 1♂, 14-21.viii.1996, #6782, 2♂, 28.viii-4.ix.1996, #958, 1♂, 28.viii-4.ix.1996, #6817, 1♂, 4-11.ix.1996, #6851, 1♂, 11-18.ix.1996, #6871, 1♂, 18-25.ix.1996, #6895, 4♂¸ 25.ix-2.x.1996, #6917, 1♂, 16-23.x.1996, #???, 1♂, 6-13.xi.1996, #7046, 2♂, 13-20.xi.1996, #7066, 2♂, 20-27.xi.1996, #7085, 1♂, 27.xi-4.xii.1996, #7105, 2♂, 11-18.xii.1996, #7146, J. Pickering, Malaise trap, 12♂, 18-22.vi.2000, #22, 4♂, 22-25.vi.2000, #29, 3♂, 30.vi.2000, #34, 2♂, 30.vi-5.vii.2000, 3♂, 6-10.vii.2000, #56, 2♂, 10-13.vii.2000, S. Chatzimanolis, FIT (SEMC, LACM, MCZC, MIUP); Darien: Cruce de Mono, 7.92°N 77.62°W, 11♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM). PERU: Madre de Dios: Avispas, 1♂, 20-30.ix.1962, L. Pena, 400 m (CNCI), Cocha Cashu, 11.92°S 44.30°W, 1♂, 31.viii-1.ix.1986, D.C. Darling, Malaise trap, 380 m, ROM#863581 (ROME), 3♂, 17-19.x.2000, R. Brooks, FIT #42 (LACM), Pakitza, 11.94°S 71.28°W, 6♂, 13-18.ii.1992, B. Brown, D. Feener, Malaise traps #1, 2, 3, and 4 (LACM, MUSM). TRINIDAD: Arima Valley, 1♂, ii.1964, Rozen & Wygodzinsky (MZSP), Morne Blue, 1♂, 6.viii.1969, H. & A. Howden, 2700 ft (CNCI), Mt. St. Benedict, 10.67°N 61.40°W, 1♂, 25-30.xi.1999, R. Snelling, rain forest, Malaise trap, 500 m (LACM). VENEZUELA: Zulia, 2♂, 20-23.iv.1981, Townes, Masner, Malaise trap, rain forest, 200 m (LACM).

Dohrniphora arcuata sp.n.

Figs 39–40, 191

Description. *Body length:* 1.8 mm. *Head*: Frons light brown, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.46 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/5 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown to brown. Wing membrane unmarked. Mean costal length 0.47 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa light brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal group and apically extended line of about 18 peglike setae; more distally with transverse carina forming small ventral tooth. Hind tibia with two anterodorsal setae. *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–5 mostly yellow with blackish-brown lateral markings; tergite 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is a yellow species with enlarged foretarsomeres and two hind tibial setae. It differs from others of the *D. metatarsalis* group by the arrangement of the peglike setae into a basal group and arched dorsal line (Figs 39–40). Additionally, there is a small tooth distal to the peglike setae.

Derivatio nominis. Latin *arcuatus* for bent like a bow, referring to the arrangement of peglike setae on the posterior face of the hind femur.

Distribution. Brazil, Guyana.

Material. Holotype ♂. GUYANA: Berbice: Dubulay Ranch, 5.68°N 57.86°W, 15-18.i.1999, B. Brown, M. Sharkey, Malaise trap #3 [LACM ENT 084065] (LACM). —Paratypes. BRAZIL: Amazonas: Manaus, PDBFF. Res. 1301, 3.13°S 60.02°W, 2♂, 30.x.1985, B. Klein, Malaise trap, R.C.S.2 (INPA, LACM).

Dohrniphora bisetalis Borgmeier

Figs 41–42, 192.

Dohrniphora bisetalis Borgmeier, 1923b: 629; 1925: 97–99, fig. 2, pl. 1 fig. 5; 1960: 267–268, fig. 11. – Borgmeier & Prado, 1975: 22-23, fig. 34.
Diplonevra bisetalis: Enderlein 1924: 273.
Diplonevra (*Dohrniphora*) *bisetalis*: Schmitz 1927: 49; 1929: 108.

Description. *Body length:* 1.8 mm. *Head*: Frons yellow, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.5 head width. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, setae broken. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.49 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with line of 13 peglike setae along ventral margin and more distal row of 7 setae; distally with curved, carinate tooth; ventral margin basal to tooth sinuous (Figs 41–42). Hind tibia with two anterodorsal setae (Fig. 192). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–5 yellow, 4–5 dark brown laterally; 6 yellow. Venter of abdomen yellow, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species has a distinct, sinuous row of peglike setae on the hind femur (Figs 41–42). It is most similar to *D. cerdai* new species (Figs 49–50), but *D. bisetalis* has a more sinuous ventral margin of the femur and the peglike setae are grouped in a more linear fashion.

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: Rio de Janeiro: Petrópolis, 23.i.1923, B. Ronchi [barcode: LACM ENT 213192] (MZSP; examined).

Dohrniphora bispinosa Borgmeier & Prado

Figs 43-44, 193

Dohrniphora bispinosa BORGMEIER & PRADO, 1975: 33–34, fig. 54.

Description. *Body length:* 1.9–2 mm. *Head*: Frons brown, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.5 head width; range 0.49–0.51. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.48 wing length; range 0.48–0.49. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; short, with ventral projection. Posterior face of hind femur with small rounded basal group of 7 peglike setae on slightly raised area; more distally with shallow concavity and ventral margin with two small rounded teeth (Figs 43–44). Hind tibia with two to three anterodorsal setae (Fig. 193). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–6 yellow with brown lateral markings. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium mostly yellow, brown ventrally, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This mostly light brown species is distinctive by its two hind tibial setae, the extremely basal group of peglike setae on the hind femur, and the two curved depressions on the ventral margin of the hind femur that produce two small, rounded teeth (Figs 43-44).

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: Pará: Jacareacanga, xii. 1968, M. Alvarenga (MZSP; not examined). The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study. —BRAZIL: Amazonas:, Manaus, PDBFF, 3.13°S 60.02°W, Res. 1113, 1♂, 10.x.1985, B. Klein, Malaise trap, R.C.O., Res. 1208, 2♂, 1.x.1985, B. Klein, Malaise trap, R.C.S., 2♂, 1.x.1985, B. Klein, Malaise trap, R.L.O., Res. 1210, 1♂, 10.x.1985, B. Klein, Malaise trap, R.L.E. (INPA, LACM).

Dohrniphora brunneifrons sp.n.

Figs 45–46, 195

Description. *Body length:* 2.5 mm. *Head*: Frons dark brown, light brown on ventral margin; second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.45 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/3 length of posterior seta. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.5 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; short, with ventral projection. Posterior face of hind femur with eight peglike setae on basal raised area; more distally with narrow, almost rectangular, concavity bordered by dark carina; posterior margin of concavity forming short rounded tooth (Figs 45–46). Hind tibia with two anterodorsal setae (Fig. 195). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–6 yellow with

brown lateral markings. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species differs from others of the *D. metatarsalis* group in having a dark brown frons and a hind femur like that of *D. angularis* (Figs 45-46) (see discussion under Differential diagnosis of *D. consimilis* new species).

Derivatio nominis. Latin *brunneus* for brown, referring to the dark-colored frons.

Distribution. Brazil.

Material. Holotype ♂. BRAZIL: Amazonas: Manaus, PDBFF. Res. 1301, 3.13°S 60.02°W, 27.ix.1985, B. Klein, Malaise trap, R.C.S. [LACM ENT 233964] (INPA).

Dohrniphora cambuquira Borgmeier

Figs 47–48, 196

Dohrniphora cambuquira Borgmeier, 1960: 270, fig. 17.

Description. *Body length:* 2.4–3 mm. *Head*: Frons blackish-brown (setal sockets lighter), second row of setae concave. Frons with fine, sparse setulae; with extremely dense microscopic processes producing slight silver sheen. Mean frontal width 0.46 head width; range 0.43–0.51. Flagellomere 1 rounded-oval, orange. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/3 length of posterior seta. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.51 wing length; range 0.49–52. Halter yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow; elongate, narrow, posteriorly pointed. Posterior face of hind femur with row of about 12 peglike setae; more distally with short transverse carina (Figs 47–48). Hind tibia with three anterodorsal setae (Fig. 196). *Abdomen:* Abdominal tergite 1 orange, brown medially. Tergites 2–6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be easily recognized by the three anterodorsal setae on the hind tibia (Fig. 196) and the small, irregular row of peglike setae tightly arranged along the ventral margin of the hind femur (Figs 47-48).

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: Minas Gerais, Cambuquira, ii.1941, Lopes & Gomes [barcode: 232654] (MZSP; examined). —BRAZIL: Minas Gerais: Belo Horizonte, UFMG, 19.87°S 43.97°W, 1♂, xi.1996, D. Yanega, yellow pan traps (BHMH); São Paulo: São Jose dos Campos, 1♂, 23-30.x.1997, 1♂, 5-19.i.1999, 1♂, 23.ii-8.iii.1999, E. R. DePaula (EMUS, LACM).

Dohrniphora cerdai sp.n.

Figs 49–50, 197

Description. *Body length:* 1.9 mm. *Head*: Frons light brown, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.49 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/3 length of posterior seta. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.51 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa brown anteriorly, otherwise light brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe not developed. Posterior face of hind femur with irregular ventral row of ten peglike setae and more dorsal irregular group of ten; with curved tooth distal to peglike setae; ventral margin basal to tooth smoothly rounded (Figs 49–50). Hind tibia with two anterodorsal setae (Fig. 197). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–5 mostly yellow with blackish-brown lateral markings; tergite 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species is most similar to *D. bisetalis*, but *D. cerdai* has an evenly curved ventral margin of the femur and the peglike setae are grouped in a more irregular fashion (Figs 49–50).

Derivatio nominis. Named for the collector.

Distribution. French Guiana.

Material. Holotype ♂. FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, i.2006, J. Cerda, 300 m, Malaise traps (2) [LACM ENT 234179] (LACM). – Paratypes. BRAZIL: Roraima: Rio Uraricoera, Ilha de Maraca, 3.37°N 61.43°W, 1♂, 2-13.v.1987, J. Rafael, J. Brasil, L. Aquino, Malaise trap (INPA). FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 1♂, xii.2005, J. Cerda, 300 m, Malaise traps (2) (LACM).

Dohrniphora clariloba sp.n.

Figs 51–52, 199

Description. *Body length:* 2.6 mm. *Head*: Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.44 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.51 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four to five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow, transparent; round. Posterior face of hind femur with narrow basal group of 8 peglike setae, concavity ventral to setae, and more distal, short, transverse carina surrounded by white membrane(Figs 51–52). Hind tibia with four anterodorsal setae (Fig. 199). *Abdomen:* Abdominal tergites dark brown. Venter of abdomen brown, with sparse setae. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the dark brown body, four hind tibial setae (Fig. 199), and rounded, clear yellow hind coxal lobe. It is similar to *D. yasuniensis* sp.n., from which it differs by the arrangement of the peglike setae on the posterior face of the hind femur (Figs 51–52).

Derivatio nominis. Latin *clarus* for clear, referring to the transparent hind coxal lobe.

Distribution. Colombia, Peru.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, [no date] 1988, M. Kelsey, Malaise trap, varzea forest [LACM ENT 093850] (UNCB). – Paratype. PERU: Cuzco, Quincemil, 1♂, 27-31.viii.1962, L. Pena, 740 m (CNCI).

Dohrniphora consimilis sp.n.

Figs 53–54, 202

Description. *Body length:* 2–2.5 mm. *Head*: Frons blackish-brown, second row of setae slightly concave. Frons with fine, sparse setulae; with microscopic processes present, but surface subshiny to shiny. Mean frontal width 0.47 head width; range 0.46–0.49. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.5 wing length; range 0.47–0.53. Halter yellow to light brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; short, with ventral projection. Posterior face of hind femur with small basal group of about 10 peglike setae; more distally with ventral concavity with rounded apical tooth; more dorsally with slight transverse carina (Figs 53–54). Hind tibia with two anterodorsal setae (Fig. 202). *Abdomen:* Abdominal tergite 1 brown, with lighter posterior margin. Tergites 2–6 orange, except in some specimens tergite 6 dark brown but light brown medially and on posterior margin. Venter of abdomen yellow, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species, along with *D. brunneifrons*, *D. sarmientoi* sp.n., *D. wangae* sp.n., and *D. xiei* n.sp., form a group that is extremely similar to *D. angularis* Borgmeier & Prado (which lacks hind tibial setae). They share in common dark coloration of the scutum, dorsum of the pleuron, and midcoxa, the latter strongly contrasting with the light-colored venter of the pleuron, fore- and hind coxae. They further have the hind femur with a basal group of peglike setae, an elongate, narrow ventral concavity, and a transverse carina dorsal to the apical tooth of the concavity (Figs 53–54). The major differences among the species are the number of hind tibial setae (none in *D. angularis*, one in *D. xiei*, two in *D. consimilis* and *D. brunneifrons*, three in *D. sarmientoi*, and 4–6 in *D. wangae*), and small details in the structure of the posterior face of the hind femur. Normally, we would consider the variation in tibial setae a relatively trivial character, especially given some species treated in this revision that have specimens with either one or no such setae. The subtle differences in the concavities, carinae, and peglike setal arrangement, however, are possible evidence for species status of these various forms.

We are aware of the speculative nature of such narrow species descriptions, but the study of species differentiation in phorids is still in its infancy, and we lack a genetic, behavioral, or other basis for supporting our morphological observations. At this time, we have decided to propose these new species, although further study might indicate that some of them should be combined.

Dohrniphora consimilis is most similar to *D. sarmientoi* differing mainly by the number of tibial setae, 2 in *D. consimilis* and 3 in *D. sarmientoi*, but also possibly by the arrangement of the peglike setae.

Derivatio nominis. Latin *consimilis* for similar in all respects, referring to the close similarity between this species and *D. sarmientoi*.
Distribution. Colombia, Costa Rica, Peru.

Material. Holotype ♂. COSTA RICA: Heredia: Chilamate, 10.45°N 84.08°W, v.1989, P. Hanson, Malaise trap [LACM ENT 100299] (LACM). —Paratypes. COLOMBIA: Valle de Cauca: PNN Farallones de Calí, Anchicaya, 3.43°N 76.80°W, 1♂, 8-21.xi.2000, S. Sarria, 650 m, Malaise trap, CAP-1112 (UNCB). COSTA RICA: Cartago: 4 km, NE Cañon, Genesis II, 9.71°N 83.91°W, 1♂, iv.1996, P. Hanson, 2350 m, Malaise trap (LACM); Guanacaste: Estación Pitilla, 11.00°N 85.43°W, 1♂, 13-15.viii.2000, J. Ashe, R. Brooks, Z. Falin, 610 m, FIT #135 (LACM); Heredia: La Selva Biol. Stn., 10.43°N 84.02°W, 1♂, 3-19.v.1993, M/12/106, 40 m, 1♂, 1.ix.1993, M/13/203, ALAS (INBC); Puntarenas: 3 km SW Rincon, 8.68°N 83.48°W, 1♂, vii-ix.1990, P. Hanson, 10 m, Malaise trap (LACM). PERU: Cuzco: Quincemil, 1♂, 1-15.xi.1962, L. Pena, 700 m (CNCI).

Dohrniphora cootei sp.n.

Figs 3–4, 21–22, 55–56, 203

Description. *Body length:* 1.9–2.4 mm. *Head*: Frons orange, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny (Figs 3–4). Mean frontal width 0.47 head width; range 0.44-0.5. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/5 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.5–0.55. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed (Figs 21–22). Posterior face of hind femur with double row of about 18 peglike setae; ventrally with narrow concavity and posterior tooth (Figs 55–56). Hind tibia with two anterodorsal setae (Fig. 203). *Abdomen:* Abdominal tergite 1 orange. Tergites 2-6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This *D. metatarsalis*-group species differs from the similar *D. parvidentata* new species by the large, recurved ventral tooth and a dorsal double line of peglike setae on the hind femur (Figs 55–56).
Derivatio nominis. Named for Lonny Coote, who helped us obtain phorid specimens for our projects.
Distribution. Brazil, Colombia, Costa Rica.

Material. Holotype ♂. COLOMBIA: Amazonas: Leticia, Cgto. L Pedrera, Rio Ayo, 1.32°S 69.58°W, 9-14.vi.2002, F. Quevedo, 75m, Malaise trap, CAP-3264 [LACM ENT 215980] (UNCB). —Paratypes. BRAZIL: Amazonas: Manaus, PDBFF. Res. 1301, 3.13°S 60.02°W, 1♂, 27.xi.1985, B. Klein, Malaise trap, R.C.S. 1 (INPA). COLOMBIA: Amazonas: 22 km NW Leticia, 4.04°S 69.99°W, 1♂, 4-7.ix.1997, M. Sharkey, Malaise trap, treefall gap in forest (LACM), , PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 9-15.viii.2000, A. Parente, Malaise trap, CAP-845, 3.82°S 70.26°W, 1♂, 27.iii-3.iv.2000, CAP-78, 1♂, 29.v-6.vi.2000, CAP-680, 1♂, 26.vi-7.vii.2000, CAP-685, 1♂, 11-25.ix.2000, CAP-846, 1♂, 15-23.x.2000, CAP-849, 1♂, 17.xii-2.i.2001, CAP-1320, 1♂, 15-29.i.2001, CAP-1123, A. Parente, A. Alvarado, 150 m, Malaise trap (LACM, UNCB), PNN Amacayacu, San Martin, 3.82°S 70.26°W, 1♂, 17-30.vii.2000, CAP-701, 1♂, 7-15.ii.2001, CAP-2038, 1♂, CAP-2036, B. Amado, D. Chota, Malaise trap, 150 m, 1♂, 15.x.2001, CAP-2266, D. Chota, sweeping (LACM, UNCB); Vaupés: Est. Biológica Mosiro-Itajura (Caparú), Antigua Cabaña, 1.07°S 69.52°W, 1♂, 3-10.xi.2003, CAP-4429, 1♂, 17-24.xi.2003, CAP-4435, J. Pinzón, Malaise trap, Est. Biológica Mosiro-Itajura (Caparú), Igapo, 1.07°S 69.52°W, 1♂, 7-22.x.2002, L. Benavides, 60 m, Malaise trap, CAP-3395 (LACM, UNCB). COSTA RICA: Puntarenas: Rd. to Rincon, 24 km W Pan-American Hwy, 1♂, iii-iv.1989, P. Hanson, I. Gauld, 200 m, Malaise trap (LACM).

Dohrniphora decrescens sp.n.

Figs 57–58

Description. *Body length:* 1.7 mm. *Head*: Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.5 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.49 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with group of about 20 ventral peglike setae; more distally with concavity that tapers apically and small ventral tooth (Figs 57–58). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites brown. Venter of abdomen brown, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This species has a long, tapering concavity on the posterior face of the hind femur,

as does *D. incisuralis* Loew and some of the new species described below. It differs from all of these species by the shape of the concavity and the arrangement of the peglike setae (Figs 57–58). It is most similar to *D. subsulcata* Borgmeier & Prado (a species without hind tibial setae), but the concavity in *D. decrescens* has a pointed, toothlike process that is absent in *D. subsulcata*.

Derivatio nominis. Latin *decresco* for lessening, referring to the tapered concavity on the hind femur.

Distribution. Brazil, Colombia, Ecuador, Peru.

Material. Holotype ♂. PERU: Madre de Dios, Tambopata Research Center, 13.14°S 69.61°W, 1.i.2001, D. Feener, 300 m, Malaise trap, W-S-11 [LACM ENT 231460] (MUSM). – Paratypes. BRAZIL: Amazonas: Manaus, PDBFF, 3.13°S 60.02°W, Res. 1301, 1♂, 2.x.1985, R.L.N.1, B. Klein, Malaise trap (INPA). COLOMBIA: Amazonas: PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 29.v-6.vi.2000, CAP-692, B. Amado, 150 m, Malaise trap; Vaupés: Est. Biológica Mosiro-Itajura (Caparú), Igapo, 1.07°S 69.52°W, 1♂, 3-10.xi.2003, J. Pinzón, 60 m, Malaise trap, CAP-4428 (LACM, UNCB). ECUADOR: Napo: Yasuni Res. Stn., 0°40.566'S 76°23.851'W, 1♂, 4-9.v.2003, C. Brammer, 250 m, Malaise trap (LACM).

Dohrniphora dentifemur sp.n.

Figs 59–60

Description. *Body length:* 3.5 mm. *Head*: Frons blackish-brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.44 head width. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron dark brown. Wing membrane darkened apically. Costa 0.56 wing length. Halter whitish yellow. Legs mostly brown, forelegs light brown. Forecoxa in lateral view light brown. Foretibia with five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa dark brown dorsally, light brown ventrally. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with peglike setae arranged in transverse double row and three along ventral margin; more distally emarginate, with small sharply-pointed ventral tooth (Figs 59–60). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 blackish-brown, lighter medially. Tergites 2–6 blackish-brown. Venter of abdomen gray, with sparse setae. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This large, dark brown species can be recognized by the combination of a single hind tibial seta, the arrangement of the peglike setae, and the presence of a thornlike tooth on the ventral margin of the hind femur (Figs 59-60).

Derivatio nominis. Latin *dentis* for tooth and femur, referring to the small, thornlike tooth on the ventral margin of the hind femur.

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: Rondonia, ca 60 km SE of Ariquemes, Fazenda Rancho Grande, 10°17'S 62°52'W, 3-8.viii.1997, J.M. Heraty, 187 m, H97-82, Malaise trap S end [LACM ENT 092053] (MZSP).

Dohrniphora diaspora sp.n.

Figs 61–62, 205

Description. *Body length:* 2 mm. *Head:* Frons orange, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.5 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/4 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown to brown. Wing membrane unmarked. Mean costal length 0.55 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with 25 peglike setae in and around shallow concavity that does not extend far below ventral margin (Figs 61–62). Hind tibia with three anterodorsal setae (Fig. 205). *Abdomen:* Abdominal tergite 1 orange. Tergites 2–6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species can be recognized by the three hind tibial setae (Fig. 205) and the peglike setae scattered around a shallow concavity (Figs 61-62). It could be considered part of the *D. alvarengai* species complex (see Differential diagnosis for *D. alvarengai*).

Derivatio nominis. Greek *diaspora* for scattering, referring to the scattered peglike setae on the hind femur. This word is used as a noun in apposition, and does not vary with gender.

Distribution. Costa Rica.

Material. Holotype ♂. COSTA RICA: Puntarenas: Las Alturas, 8.95ºN, 82.83ºW, ix-xi.1992, P. Hanson, Malaise trap [LACM ENT 134043] (LACM). —Paratype. COSTA RICA:

Puntarenas: Sirena, 8.48ºN, 83.60ºW, 1♂, 28.vi-1.vii.2000, Z. Falin, FIT (LACM).

Dohrniphora diplocantha Borgmeier

Figs 63–64, 208

Dohrniphora diplocantha Borgmeier, 1960: 268, fig. 12. – Borgmeier & Prado 1975: 24, fig. 37.

Description. *Body length*: 1.6–2.2 mm. *Head:* Frons light brown ventrally, darker dorsally, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.5 head width; range 0.48–0.51. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum brown, setae broken. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.51–0.53. Halter yellow. Legs mostly light brown. Forecoxa in lateral view light brown. Foretibia with three anterodorsal setae. Foretarsomeres slightly enlarged, inflated. Midcoxa darker yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with single row of about 6 peglike setae along ventral margin and more dorsal group of about 20; more distally with small transverse carina (Figs 63–64). Hind tibia with two anterodorsal setae (Fig. 208). *Abdomen:* Abdominal tergite 1 yellow, brown medially. Tergites 2–3 mostly yellow, except brown laterally and medially; 4–5 brown, with thin yellow posterior margin; 6 mostly yellow and dark brown laterally, or like 4 and 5. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium light brown, hypandrium brown to dark brown, and cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species can be recognized by the distribution of peglike setae and the shape of the small carina on the hind femur (Figs 63–64). Borgmeier & Prado's (1975) illustration looks significantly different from that of Borgmeier (1960), and might represent another species.

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: Santa Catarina: Nova Teutônia, [no date], F. Plaumann [barcode: LACM ENT 209695]) (MZSP; examined). – BRAZIL: Minas Gerais: Aguas Vermelhas, 1♂, xii.1983, M. Alvarega (CMNH); São Paulo: São Jose dos Campos, 1♂, 30.viii-6.ix.1997, 1♂, 7-14.ix.1997, E.R. DePaula (EMUS, LACM).

Dohrniphora divaricata (Aldrich)

Figs 65–66

Phora divaricata Aldrich, 1896: 437.
Dohrniphora divaricata: Borgmeier 1961: 111.
Dohrniphora venusta: Brues 1915: 95.
Dohrniphora cornuta: Schmitz 1929: 22, 25, 32.
Dohrniphora diffusa Borgmeier, 1960: 281–282, fig. 35. Synonymized by Borgmeier 1961: 111.
Dohrniphora obscuriventris Borgmeier, 1925: 105. Synonymized by Disney & Kistner 1997.
Dohrniphora cavifemur Borgmeier, 1969: 1–2, Figs 1–2, (in part, female only). Synonymized by Kung & Brown 2006.

Description. *Body length*: 1.7–2.5 mm. *Head:* Frons dark brown, second row of setae concave (slightly). Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.47–0.54. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane unmarked. Mean costal length 0.51 wing length; range 0.48–0.54. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with five anterodorsal setae (however, other specimens without hind tibial setae have four). Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow; moderately developed, truncate. Posterior face of hind femur with large group of about 27 basal peglike setae; more distally with broad, shallow concavity (Figs 65–66). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 light brown. Tergites 2-4 dark brown with yellow anterior and posterior margins; 5–6 dark brown. Venter of abdomen whitish yellow, segments 3–6 brown laterally, with few setae, larger on posterior margin of segment 5. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the dark midcoxa that contrasts with the light-colored pleuron, the relatively large, yellow hind coxal lobe, the large basal group of peglike setae, and the large shallow concavity apical to the peglike setae (Figs 65–66). Most specimens of this species lack hind tibial setae, but we examined one specimen (LACM

ENT 090371) that has a single tibial seta present on each hind leg. Variation in this species was discussed by KUNG & BROWN (2006).
Distribution. Widespread in South America, Central America, and the Caribbean.

Material (specimen with hind tibial setae). PANAMA: Canal Zone, Barro Colorado Island, 9.17°N 79.83°W, 1♂, 17-24.viii.1994, J. Pickering, Malaise trap #2438 (LACM).

Dohrniphora erugata sp.n.

Figs 67–68

Description. *Body length*: 2.9 mm. *Head:* Frons blackish-brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.52 head width. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, slightly darker, with two setae; anterior seta 3/4 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane darkened slightly apically. Mean costal length 0.48 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe brown; moderately developed, truncate. Posterior face of hind femur with elongate, ventrobasal group of about 14 peglike setae not more than three deep; more distally with subtransverse carina (Figs 67–68). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites brown, with thin yellow posterior margin. Venter of abdomen yellow, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This large, mostly dark brown species can be recognized by the single hind tibial seta and the hind femur, with relatively long peglike setae in an elongate group and a small carina (Figs 67–68).
Derivatio nominis. Latin *erugatus* for smooth, referring to the relatively flat surface of the base of the hind femur.
Distribution. Ecuador, French Guiana.

Material. Holotype ♂, ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 069385] (LACM). – Paratypes. FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 2♂, i.2006, J. Cerda, 300 m, Malaise traps (2) (LACM).

Dohrniphora feeneri sp.n.

Figs 69–70

Description. *Body length:* 3.1–3.2 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.47 head width; range 0.46–0.48. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 3/4 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.53–0.55. Halter whitish yellow. Legs mostly brown. Forecoxa in lateral view brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa brown. Hind coxal lobe brown; only slightly developed. Posterior face of hind femur with basal row of about 9 peglike setae; more distally with carinate concavity with long distal extension (Figs 69–70). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 dark brown, yellow medially. Tergites 2–6 dark brown. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This is a large, almost completely dark brown species whose hind femur has a *D. incisuralis*-like ventral groove, similar to that of *D. decrescens*, *D. gaimarii* sp.n., *D. transversa* sp.n., and others. It differs from all these species, including the most similar *D. gaimarii*, by having dark brown legs (other species have yellowish legs) and peglike setae arranged in a single row (Figs 69–70).
Derivatio nominis. Named for our colleague, Dr. Don Feener, for his help in obtaining phorid specimens for our projects.
Distribution. Costa Rica.

Material. Holotype ♂. COSTA RICA: Puntarenas: Rd. to Rincon 24 km W Pan-American Hwy, iii-iv.1989, P. Hanson, I. Gauld, 200 m, Malaise trap [LACM ENT 098286] (LACM). – Paratype. COSTA RICA: Puntarenas: Rd. to Rincon 24 km W Pan-American Hwy, 1♂, v.1989, P. Hanson, I. Gauld, 200 m, Malaise trap (LACM).

Dohrniphora gaimarii sp.n.

Figs 71–72

Description. *Body length*: 2.56–2.64 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.45 head width; range 0.45–0.47. Flagellomere 1 rounded-

oval, brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron dark brown. Wing membrane darkened apically. Mean costal length 0.5 wing length; range 0.49–0.52. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; round. Posterior face of hind femur with about 21 peglike setae arranged in elongate triangle; more distally with posteriorly curved carina at apical 1/3 of peglike setae (Figs 71–72). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 mostly dark brown, yellow medially and along anterior and posterior margins. Tergites 2–6 dark brown, with thin yellow posterior margin. Venter of abdomen dark brown, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is another dark brown species with a long, *D. incisuralis*-like ventral groove on the hind femur. It is most similar to *D. transversa* (Figs 115–116) but the hind femur of *D. gaimarii* has a more curved carina and the pattern of peglike setae is slightly different (Figs 71–72).

Derivatio nominis. Named for Dr. Steve Gaimari, co-collector of the two known specimens.

Distribution. Bolivia.

Material. Holotype ♂. BOLIVIA: La Paz: 40 km N Caranavi, Cumbre Alto Beni, 15.83 ºS, 67.56ºW, 15-21.iv.2004, S. Gaimari, M. Hauser, 1600 m, Malaise trap [LACM ENT 215613] (CBFC). —Paratype. BOLIVIA: La Paz: 40 km N Caranavi, Cumbre Alto Beni, 15.83 ºS, 67.56ºW, 1♂, 15-21.iv.2004, S. Gaimari, M. Hauser, 1600 m, Malaise trap (LACM).

Dohrniphora gigantea (Enderlein)

Figs 73–74, 211

Phora gigantea Enderlein, 1912: 18.
Dohrniphora gigantea: Schmitz 1923: 54. – Borgmeier 1925: 94–95; 1960: 261, fig. 2.
Diploneura gigantea: Enderlein 1924: 273.
Diploneura (*Dohrniphora*) *gigantea*: Schmitz 1929: 32, 108; 1949: 204, fig. 139 (1).
Dohrniphora rubriventris Borgmeier, 1923b; 580; 1925: 95, fig. 1, pl. I fig. 1. Synonymized by Borgmeier 1960: 261.

Description. *Body length*: 2.8–3.6 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.44 head width; range 0.4–0.48. Flagellomere 1 oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/4 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.5–0.56. Halter whitish yellow. Legs mostly brown, hind leg slightly darker. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe brown; short, with ventral projection. Posterior face of hind femur with triangular group of about 17 relatively widely-spaced, peglike setae; distal to peglike setae with spinuli-filled cavity (Fig. 73–74). Hind tibia with three anteroventral setae and two to four anterodorsal setae (Fig. 211). *Abdomen:* Abdominal tergite 1 brown to dark brown. Tergites 2–6 orange, except in some specimens tergite 6 dark brown. Venter of abdomen orange, with sparse setae. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is the most easily identified New World *Dohrniphora*, with its dark brown thorax and bright orange abdomen. The structure of the posterior face of the hind femur (Figs 73–74) is similar to that of *D. anteroventralis,* but the two are easily separated by body color.

Distribution. New World tropics.

Material. Holotype ♂, BRAZIL: Santa Catarina, Lüderwaldt [barcode: LACM ENT 229313] (Polish Academy of Sciences, Warsaw, Poland; examined). The holotype is in extremely poor condition, lacking the head, part of one wing, most of the abdomen, and some leg segments. – BOLIVIA: La Paz: Mapiri, Sarampioni, 1♂, iii.1903, 700 m (MZSP), 10 km S Mapiri, 15.35°S 68.23°W, 1♂, 11.iv.2001, B. Brown, G. Kung, 500 m (LACM), 40 km N Caranavi, Cumbre Alto Beni, 15.83°S 67.56°W, 1♂, 7-15.ix.2004, 1♂, 15-21.iv.2004, S. Gaimari, M. Hauser, 1600 m, Malaise trap (LACM), nr. Chulumani, Apa Apa Reserve, 16.37°S 67.51°W, 1♂, 2.iv.2001, B. Brown, G. Kung, 2000 m (LACM). BRAZIL: Rio de Janeiro: Petrópolis, 1♂, 10.ii.1923, 1♂, 9.vi.1923, Ronchi (MZSP), Rio de Janeiro, 1♀, 1♂, 3.i.1928, O. Conde (MZSP, USNM), Itatiaia, 1♀, ii.1941, R.C. Shannon, 1200 m (USNM); Santa Catarina: Nova Teutonia, 27°11'S 52°23'W, 1♂, [no date], 1♀, 193x, 1♂, 194x, F. Plaumann (MCZC); São Paulo: São Paulo, 1♀, xii.1940, M. Carrera (MZSP). COLOMBIA: Chocó: PNN Utría, Sendero Cocalito, 6.02°N 77.33°W, 1♀, 26.xii-1.ii.2001, J. Pérez, 20 m, Malaise trap, CAP-1342; Huila: PNN Cueva de los Guácharos, Cabaña Cedros, 1.62°N 76.10°W, 1♀, 21.i-15.ii.2002, CAP-2925, 1♀, 1♂, 4-18.ii.2002, CAP-3036, 1♀, 1♂, 18.i-7.iii.2002, CAP-3037, C. Crotes, J. Urbano, 2100 m, Malaise trap, PNN Cueva de los Guácharos, Mirador, 1.62°N 76.10°W, 1♀, 18.ii-7.iii.2002, CAP-3039, F. Quevedo, Malaise trap; Nariño: RN La Planada, Parc. Permanente, 1.25°N 78.25°N 1♂, 9-12.viii.2004, D. Arias, 1930 m, sweeping, CAP-4903, RN La Planada, Via

Hondón, 1.25°N 78.25°N 1♂, 14-20.i.2004, G. Oliva, 1930 m, Malaise trap, CAP-4359; Norte de Santander, ANU Los Estoraques, Bosque Piritama, 8.23°N 73.25°W, 1♂, 29.x-18.xi.2003, CAP-4603, 2♂, 27.iv-25.v.2004, CAP-4604, J. Vargas, 1850 m, Malaise trap, Mun. Cucutilla, Vda Carrizal, Cuenca Qda. Proveda, 7.48°N 72.85°W, 1♂, 18.ii-3.iv.2002, CAP-3106, A. Santamaria, 2100 m, Malaise trap; Risaralda: SFF Otún Quimbaya, Cuchillo Camino, 4.72°N 75.58°S 2♀, 4-14.iv.2003, G. López, 2050 m, Malaise trap, CAP-3679, SFF Otún Quimbaya, Robledal, 4.73°N 75.58°S 1♂, 11-27.x.2003, G. López, 1980 m, Malaise trap, CAP-4182; Valle de Cauca: PNN Farallones de Cali, Alto Anchicaya, 3.43°N 76.80°W, 1♂, 1.viii-10.x.2000, CAP-1104, 1♂, 8-21.xi.2000, CAP-114, 900 m, 2♂, 21.xi-19.xii.2000, CAP-1545, 900 m, 1♂, 19.xii-2.i.2001, CAP-1539, 650 m, 1♀, 16-30.i.2001, CAP-1534, 900 m, 1♂, 30.i-13.ii.2001, CAP-1531, 900 m, 1♂, 27.iii-24.iv.2001, CAP-1895, 730 m, 1♂, 24.iv-8.v.2001, CAP-1898, 730 m, 1♀, 8.v-19.vi.2001, CAP-1894, 900 m, 1♂, 19.vi-3.vii.2001, CAP-1889, 730 m, 1♂, 19.vi-3.vii.2001, CAP-1890, 1♂, 3-17.vii.2001, CAP-2833, 730 m, 1♂, 3-17.vii.2001, CAP-2835, 650 m, 1♂, 17-31.vii.2001, CAP-2837, 900 m, 1♀, 1♂, 17-31.vii.2001, CAP-2838, 900 m, 1♂, 31.vii-14.viii.2001, CAP-2830, 650 m, 1♂, 31.vii-14.viii.2001, CAP-2832, 900 m, 1♂, 11.ix-16.x.2001, CAP-2867, 650 m, 2♂, 16-31.x.2001, CAP-2892, 650 m, 1♂, 13.xi-11.xii.2001, CAP-2886, 900 m, S. Sarria, Malaise trap, PNN Farallones de Cali, Cgto. La Meseta, 3.57°N 76.67°W, 1♂, 27.viii.10.ix.2003, S. Sarria, 1960 m, Malaise trap, CAP-4549, PNN Farallones de Cali, La Meseta, 3.57°N 76.67°W, 1♂, 27.viii-10.ix.2003, CAP-4570, 1♂, 10-25.ii.2004, CAP-4566, S. Sarria, 2200 m, Malaise trap (SEMC, LACM, UNCB). COSTA RICA: Alajuela: Res. Biol. San Ramon, 10.22°N 84.62°W, 1♂, vii-viii.1995, 1♂, iv-v.2000, P. Hanson, 900 m, Malaise trap (LACM), Est. Biol. San Ramon, 10.06°N 84.50°W, 1♂, 7-9.vii.2000, J. Ashe, R. Brooks, Z. Falin, FIT #84 (LACM), 5 km W San Ramon, 10.06°N 84.5°W, 2♂, vii.1997, O. Castro, 1200 m, Malaise trap (LACM), 20 km S Upala, 1♂, 21.vi.1991, F.D. Parker (EMUS); Cartago: 4 km NE Cañon, Genesis II, 9.71°N 83.91°W, 1♀, 3♂, iv.1996, P. Hanson, 2350 m, Malaise trap (LACM, MUCR), La Cangreja, 9.8°N 83.97°W, 1♂, vi-vii.1992, P. Hanson, 1950 m, Malaise trap (LACM), La Suiza de Turrialba, 1♀, viii.1924, 1♀, 1♂, ix.1926, P. Schild (USNM), Tapanti, 9.76°N 83.78°W, 2♀, 6♂, 17-20.vii.2000, J. Ashe, R. Brooks, Z. Falin, FIT, 1♂, 17-20.vii.2000, J. Ashe, R. Brooks, 1200 m, FIT #192 (LACM); Guanacaste: 3 km SE R. Naranjo, 1♂, 1.xi.1991, 1♂, 20-29.xi.1991, 1♂, 28.xi-5.xii.1991, 1♂, 1-5.vi.1992, 1♂, 1-10.vii.1992, 1♂, 22-24.vii.1992, 1♂, 1-10.xii.1992, 1♂, 24-26.v.1993, 3♂, 4.vi.1993, 1♂, 18-23.vi.1993, 1♂, 1-5.ix.1993, F.D. Parker (EMUS, LACM); Limón: 16 km W Guapiles, 10.15°N 83.92°W, 1♂, viii-ix.1989, P. Hanson, 400 m, Malaise trap (LACM); Puntarenas: Monteverde, Finca Canada, 4♂, 28.v-1.vi.1988, B.V. Brown, 1700 m, Malaise trap, clearcut (LACM), Monteverde, 1♂, 1-5.vi.1988, B.V. Brown, 1700 m, Malaise trap, stunted forest (LACM), Monteverde, 1♀, 3♂, 1-5.vi.1988, B.V. Brown, 1700 m, Malaise trap, clearcut/cloud forest (LACM), Monteverde Biol. Stn., 10.33°N 84.79°W, 1♂, 9-18.iii.1995, B. Brown, 1700 m, Malaise trap, 1♂, 26-28.v.1998, B. Brown, V. Berezovskiy, 1500 m, Malaise trap #5 (LACM); San José: Braulio Carrillo N.P., 9.5 km E Tunel, 2♂, iv.1989, P. Hanson, 1000 m, Malaise trap, Braulio Carrillo N.P., 10.12°N 8397°W, 2♂, x-xii.1989, 4♂, i-iii.1990, P. Hanson, 1000 m, Malaise trap (LACM, MUCR), C. Nara, NE Quepos, 1♂, 16.vii.1975, W.J. Hanson (EMUS), 14 km N San Isidro, 9.37°N 83.7°W, 1♂, 20-23.vi.1974, J. Donahue, Malaise trap (LACM), Zurquí de Moravia, 10.05°N 84.02°W, 1♂, x-xi.1990, 1♂, v.1991, 1♀, 3♂, vi.1992, 2♀, 3♂, iii.1993, 4♂, 1-15.vi.1993, 2♂, ix-x.1993, 1♂, v.1994, 1♀, 1♂, iv.1995, 1♀, 14♂, v.1995, 1♀, 7♂, vi.1995, 1♂, viii.1995, 2♂, ix.1995 (Malaise trap #2), 2♂, x.1995, 1♀, 2♂, i.1996, 1♂, iii.1996, P. Hanson, 1600 m, Malaise trap (LACM, MUCR). ECUADOR: Napo: Baeza, 0.6°S 77.87°W, 1♂, 15-19.v.1987, B. Brown, L. Coote, 1550 m, Malaise trap (LACM); Pichincha: E. Sto. Domingo, 11♂, 6-12.v.1990, W.J. Hanson (EMUS), 17 km E. Sto. Domingo, above Tinalandia, 9♀, 2♂, 7.v.1987, B.V. Brown, 1250 m, ravine, wet montane forest (LACM, QCAZ), 17 km E. Sto. Domingo, above Tinalandia, 1♀, 9-13.v.1987, B.V. Brown, L. Coote, 1150 m, Malaise trap, montane forest (LACM), 17 km E. Sto. Domingo, Tinalandia, 1♂, 6-13.v.1987, B. V. Brown, 710 m, clubhouse windows (LACM). HONDURAS: Olancho: PN La Muralla, 15 km NW La Union, 15.12°N 86.75°W, 1♂, i.1995, R. Cordero, 1450 m, FIT (LACM). NICARAGUA: Matagalpa: Fuente Pura, 13.02°N 85.92°W, 2♂, vi.1993, 1♀, 6.vii.1994, J.M. Maes, 1500 m, Malaise trap (LACM). PANAMA: Darien: Cana Pierre Trail, 7.72°N 77.7°W, 1♀, 2♂, 7-8.vi.1996, J. Ashe, R. Brooks, 1200 m, FIT (LACM); San Blas: Nusagandi Reserve, 9.33°N 79.0°W, 1♂, 22-29.i.1994, #2058, 2♀, 16-23.iv.1994, #2862, 1♂, 11-18.vi.1994, #2878, J. Pickering, 400 m, Malaise trap (LACM, MIUP). PERU: Madre de Dios: Pakitza, 11.94°S 71.28°W, 1♂, 18-23.ii.1992, MT#3, 1♂, 23-28.ii.1992, MT#2, B. Brown, D. Feener, Malaise trap (LACM); San Martin: Tarapoto, Yurimaguas Rd km 20, 6.57°S 76.33°W, 1♂, iv.2003, C. Rasmussen, 900 m (LACM). VENEZUELA: Aragua: PN Henri Pittier, Pico Guacamayo, 10.44°N 67.56°W, 1♀, 10♂, 15-30.xi.1997, T. Pape, 1830 m, Malaise trap (LACM, ZMUC), Lara: Yacambu, 2♀, 6♂, 7.v.1981, H. Townes, 1200 m, 1♂, 10.v.1981, H. Townes, 1200 m, Malaise trap.

Dohrniphora incisuralis (Loew)

Figs 75–76, 213

Phora incisuralis LOEW, 1866: 52.
Dohrniphora incisuralis: BRUES 1915: 95. – BORGMEIER 1960: 262, fig. 3; 1963: 64–65, fig. 75.

Description. *Body length:* 2.1–3.1 mm. *Head*: Frons blackish-brown, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.48 head width; range 0.47–0.54. Flagellomere 1 rounded-oval, orange to brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum blackish-brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron dark brown.

Wing membrane unmarked. Mean costal length 0.5 wing length; range 0.47–0.54. Halter whitish yellow. Legs mostly light brown hind leg darker. Forecoxa in lateral view light brown. Foretibia with six to seven anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; rounded dorsally, with narrow ventral process. Posterior face of hind femur with triangular group of about 14 peglike setae bordered posteriorly by rounded carina; distal to peglike setae with long, narrowing sulcus (Figs 75–76). Hind tibia with four to six anteroventral setae (Fig. 213). *Abdomen:* Abdominal tergite 1 light to dark brown, darker laterally, with thin yellow posterior margin. Tergites 2–6 dark brown with thin yellow posterior margin. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by its hind tibia, which has a row of anteroventral setae only, and the long carinate groove on the venter of the hind femur (Figs 75–76).

Distribution. Costa Rica, North America.

Material. Holotype ♂, USA: District of Columbia [no other data] [barcode: LACM ENT 226127] (MCZC; examined). Little remains of the type, except a wing and a hind tibia. – CANADA: Ontario: Chatham, 1♂, 11.ix.1928, A.B. Baird (CNCI), Foote's Bay, shore of Lake Joseph, 1♀, 28.vii-9.viii.1985, B.V. Brown, Malaise Head, deciduous forest, Foote's Bay, shore of Lake Joseph, 2♂, 11-30.viii.1985, 30.viii-15.ix.1985, B.V. Brown, Malaise trap, 2nd growth, deciduous, Guelph, Dairy Bush, 4♀, 12-26.ix.1984, B.V. Brown, intercept trap, deciduous forest, Guelph, South Arboretum, 1♂, 21-25.vii.1984, 1♂, 22.vii-6.viii.1985, 1♀, 14-19.viii.1985, B.V. Brown, Malaise Head (wet), in deciduous forest, Guelph, South Arboretum, 1♀, 18-20.vii.1984, 1♀, 22-25.vii.1984, B.V. Brown, Malaise pans, in deciduous forest, Guelph, South Arboretum, 1♂, 25.vi-3.vii.1985, 1♀, 3-9.vii.1985, 4♂, 13-22.vii.1985, 2♂, 10-14.viii.1985, 1♂, 19-27.viii.1985, B.V. Brown, Malaise Head (wet), at forest edge, Guelph, South Arboretum, 1♀, 9-13.vii.1985, 1♂, 13-22.vii.1985, 1♀, 1♂, 10-14.viii.1985, 2♂, 14-19.viii.1985, B.V. Brown, Malaise trap wet, shrubby forest, Guelph, South Arboretum, 1♀, 11-18.vii.1984, B.V. Brown, water traps (LACM), Ottawa, 1♂, 16.viii.1974, 1♂, 27.vii.1989, 1♂, 29.vii.1989, J.R. Vockeroth, Ottawa, 45.42°N 75.72°W, 26.vii.1987, J. Cumming, Malaise trap (CNCI). COSTA RICA: Alajuela: 5 km W San Ramon, 10.06°N 84.05°W, 2♂, i.1997, O. Castro, Malaise trap, 1200 m; San José: 1♀, vii, H. Schmidt [no other data] (USNM), Escazu, 1♂, 3-16.vii.1988, F.D. Parker (EMUS), San Antonio de Escazú, 9.9°N 84.15°W, 1♂, v-vi.1998, 1♂, x.1998, 1♂, iii.1999, W. Eberhard, 1300 m, Malaise trap (LACM, MUCR). MEXICO: Chiapas: Palenque, 2♂, 10.ix.1974, G. Bohart, W. Hanson (EMUS); Jalisco: Puerto Vallarta, 1♂, 25.i.1984, G.E. Bohart (EMUS); Nayarit: San Blas, La Bajada, 1♂, 11-14.iii.1987, J. Kirkley (EMUS); Nuevo Leon: 5 mi. S. Linares, 1♂, 24.ii.1972, F. Parker, D. Miller (EMUS); Tamaulipas: Gómez Farias, Est. Los Cedros, 23.05°N 99.15°W, 1♂, 31.iii.2002, 2♂, 1.iv.2002, A. Córdoba-Torres, 340 m, Malaise trap, 2♂, 23.iv.2002, S. Triapitsyn, V. Berezovskiy, 340 m, Malaise trap (LACM); Veracruz: Catemaco, 3♂, 6.ix.1974, G. Bohart, W. Hanson (EMUS), Jalapa, 1♀, 1♂, 1-6.viii.1961, R. & K. Dreisbach (MZSP). USA: Alabama: Dallas Co., Flatwood, 1♀, 10.vi.1917, at light, J. Bequaert (USNM); Connecticut: Redding, 1♀, 30.vii.1932, A.L. Melander (USNM); District of Columbia: Washington D.C., 1♀, 18.x.1912, R.C. Shannon (USNM); Florida: Archbold Biol. Stn., 1♂, 28.iv.1967, B.V. Peterson (CNCI); Ch. HBR, 1♀, [no other data] (MCZC); Little River, 1♀, 1.xii.1912, F.K. Knab (USNM); Alachua Co., Gainesville, 29.62°N 82.35°W, 1♂, 8-22.xii.1986, W. Mason, Malaise trap (LACM); Georgia: Tifton, 1♀, 16.x.1896, A.L. Melander collection, 1961, Malaise trap, 1♀, 17.x.1896 (USNM); Indiana: Tippecanoe Co., Lafayette, 1♂, 2.x.1918, J.M. Aldrich (MZSP); Kentucky: Franklin Co., Cove Springs Park, 38.22°N 84.85°W, 1♂, 26.v-28.vii.2005, Lindsay, Edelen, Malaise trap (LACM), Menifee Co., nr Frenchburg, 37.98°N 83.68°W, 1♀, 1♂, 24.vi-7.vii.1997, Abnee, Sharkey, Malaise trap (LACM), Nelson Co., nr. Holy Cross, 1♂, 28.v.1985, 1♂, 1.vi.1985, 2♂, 6.vi.1985, 1♀, 23.vi.1985, 1♂, 26.vi.1985, G.A. Dahlem, ex. Malaise trap (LACM); Louisiana: Opelousas, 1♂, iv.1897, collection J.M. Aldrich (USNM); Maryland: Chain Bridge, 1♂, 12.ix.1913, R.C. Shannon (USNM), Hyattsville, 1♂, 1.ix.1912, Knab & Malloch (USNM), Plummers Island, 1♀, 4.viii.1912, 2♀, 15.viii.1919, H. Barber, 1♀, 30.v.1913, R.C. Shannon, 1♀, 3.viii.1915, at light, R.C. Shannon, 2♀, 17.vii.1914, Schwarz & Barber, near Plummers Island, 2♀, 1♂, 30.vii.1914, 1♀, 5.viii.1914, 1♀, 12.viii.1914, R.C. Shannon, at light (USNM), Calvert Co.,1♀, 1.viii.1985, D.M. Wood, Malaise trap (CNCI), Prince Georges Co., Beltsville, 93.03°N 76.92°W, 1♂, 15.v.1991, D. Smith, Malaise trap (LACM); Massachusetts: Middlesex Co., Holliston, 1♂, 6.viii.[no year], N. Banks (MZSP); Michigan: Bay Co., 1♀, 19.vii.1960, R.R. Dreisbach (MZSP), Livingston Co., Hamburg, 1♀, 1.ix.1930, G. Steyskal (USNM), Midland Co., 1♀, 12-16.vii.1960, R.R. Dreisbach (MZSP), Wayne Co., Grosse Ile, 2♀, 1.vii.1949, G. Steyskal (USNM); Mississippi: Agr. Col, 1♀, 6.v.1921, F.M. Hull (MCZC), Oxford, 1♂, .19 (no other date info), F.M. Hull (CNCI), Summit, 1♀, 9.ix.1928, L.J. Goodgame (USNM); Montana: Atherton, 1♀, July [no other data] (MCZC); New Jersey: Burlington Co., Mt. Misery, 39.92°N 74.52°W, 1♂, 13-25.ix.1992, J. Gelhaus, Malaise trap (LACM); North Carolina: Blowing Rock to Linsville, 1♀, 8.ix.1930, N. Banks, 3,000-4,000 ft. (MCZC); Onslow, Jacksonville, 1♂, 8.ix.1972, G.E. Bohart (EMUS); Ohio: Pike Co., Benton Twnp., 1♂, 4.viii.1979, G.A. Dahlem (LACM); South Carolina: Hilton Head Is., 1♂, 18.vii.1965, H.F. Howden (CNCI); Tennessee: Knox Co., U.T. Farm, 1♀, 1.vi.1951, (19), 1♀, 17.viii.1951, (313), H.B. Reed (USNM); Virginia: Great Falls, 1♀, 25.vi.1909, H.L. Viereck, 1♀, 3.vi.1923, C.T. Greene (USNM), Falls Church, Holmes Run, 23.viii.1960, W.W. Wirth, light trap (USNM), Rosslyn, 1♀, 11.vii.1913, R.C. Shannon (USNM), Fairfax Co., Huntley Meadows Park, 36.7°N 77.1°W, 1♂, 19.v-6.vi.1991, 1♀, 1♂, 12.vi.1991, 1♂, 4-28.ix.1991, B. Brown, Malaise trap (LACM), Fairfax Co., Springfield, 38.77°N 77.18°W, 1♀, 11.vi.1991, G. Courtney, blacklight (LACM).

Dohrniphora inutilis Borgmeier & Prado

Dohrniphora inutilis BORGMEIER & PRADO, 1975: 27, fig. 43.

Material. Holotype ♂, BRAZIL: Acre, Cruzeiro do Sul, ii-iii.1973, black light trap (MZSP; not examined). The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study.

We have seen no material that matches the illustrations in the original description.

Dohrniphora kleini sp.n.

Figs 77–78

Description. *Body length*: 2 mm. *Head:* Frons brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.48 wing length. Halter whitish yellow. Legs mostly light brown. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe whitish yellow; round, small. Posterior face of hind femur with triangular group of 16 peglike setae and ventral curved, dark carina; more distally with ventral rectangular protrusion, the distal margin of which interrupts ventral margin of femur (Figs 77–78). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 brown. Tergites 2–6 brown with yellow anterior and posterior markings. Venter of abdomen whitish yellow, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species has the posterior face of the hind femur similar to that of *D. fuscicoxa* Borgmeier, a species that lacks hind tibial setae. It differs in the shape of the lobe distal to the peglike setae, the more curved carina distal to the peglike setae (Figs 77-78) (in *D. fuscicoxa* it is nearly straight), and the color of the hind coxa, which is dark brown in *D. fuscicoxa*.

Derivatio nominis. Named for the collector of the holotype specimen.

Distribution. Brazil.

Material. Holotype ♂. BRAZIL: Amazonas: Manaus, PDBFF. Res. 1112, 3.13°S 60.02°W, 22.x.1985, B. Klein, Malaise trap, R.C.O. [LACM ENT 232170] (INPA).

Dohrniphora koehleri sp.n.

Figs 79–80, 185

Description. *Body length*: 1.6–2 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.49 head width; range 0.48–0.5. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane unmarked. Mean costal length 0.51 wing length; range 0.5–0.53. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe brown; moderately developed, truncate. Posterior face of hind femur with elongate ventrobasal group of 12 peglike setae; distal to peglike setae with small concavity with posterior, short, rounded tooth (Figs 79–80). Hind tibia with one anterodorsal seta (Fig. 185). *Abdomen:* Abdominal tergite 1 dark brown. Tergites 2–6 dark brown. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. The arrangement of peglike setae on the posterior face of the hind femur (Figs 79-80) of this species is similar to that figured for *D. simplex* BORGMEIER & PRADO (1975), a species lacking hind tibial setae. In *D. koehleri*, however, the peglike setae extend extremely far basally, there is a distal groove on the hind femur (said to be absent from *D. simplex* by BORGMEIER & PRADO), and the body color is dark brown (light brown in *D. simplex*).

Derivatio nominis. Named for our much-appreciated illustrator Brian Koehler.

Distribution. Costa Rica, Ecuador.

Material. Holotype ♂. COSTA RICA: Puntarenas: 3 km W. Rincon de Osa, iii.1989, P. Hanson, 10 m, Malaise trap [LACM ENT 049380] (LACM). – Paratypes. COSTA RICA: Puntarenas: 3 km W. Rincon de Osa, 1♂, iii.1989, P. Hanson, 10 m, Malaise trap (LACM). ECUADOR: Pichincha: E. Sto. Domingo, 1♂, 6-12.v.1990, W.J. Hanson (EMUS).

Dohrniphora longirostrata group

Figs 81–82

Remarks. This group is characterized by the unusually long proboscis and thickened costal vein of the female (see Morphbank accession # 142922, 142923), as well as the elongate setae on the posterior face of the hind femur of the male (as shown for *D. longiros-*

trata (Enderlein) in Figs 81–82). The six species of this group were treated previously by Kung & Brown (2005). A further undescribed species will be treated in a future paper.

Dohrniphora metatarsalis Borgmeier & Prado

Dohrniphora metatarsalis Borgmeier & Prado, 1975: 28–29, Figs 44–46.

Material. Holotype ♂, BRAZIL: Pernambuco: Caruaru, v.1972, J. Lima, Malaise trap (MZSP; not examined). The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study.

We have seen no material that matches the illustrations in the original description.

Dohrniphora membranea sp.n.

Figs 83–84, 218

Description. *Body length*: 1.9–2 mm. *Head:* Frons blackish-brown, second row of setae slightly concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.48 head width; range 0.45–0.51. Flagellomere 1 rounded-oval, slightly enlarged, brown. Palpus of normal size, brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 3/4 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.49 wing length; range 0.47–0.5. Halter brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three to five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe brown; only slightly developed. Posterior face of hind femur with about 16 basal setae; more distally with spinuli-filled concavity; distal and basal to concavity with white, possibly membranous areas (Figs 83–84). Hind tibia with three to five anteroventral setae (Fig. 218). *Abdomen:* Abdominal tergites brown. Venter of abdomen dark brown, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This dark brown species is easily recognized by the hind tibia, which has 3–5 anteroventral setae only, and the posterior face of the hind femur, which has a spinuli-filled concavity with flanking areas of thin membrane that appear white in dried specimens (Figs 83–84).

Derivatio nominis. Latin *membraneus* for skinlike, referring to the white areas bordering the spinuli-filled concavity.

Distribution. Middle elevation sites in Bolivia, Colombia, Costa Rica, and Venezuela.

Material. Holotype ♂, COSTA RICA: San José: Zurquí de Moravia, 10.05ºN, 84.02ºW, vi.1995, P. Hanson, 1600 m, Malaise trap [LACM ENT 091631] (LACM). —Paratypes. BOLIVIA: La Paz: 40 km N Caranavi, Cumbre Alto Beni, 15.83 ºS, 67.56ºW, 1♂, 15-19.iv.2003, B. Brown, S. Marcotte, 1600 m, Malaise trap, forest, 1♂, 15-17.iv.2004, S. Gaimari, M. Hauser, 1600 m, Malaise trap (CBFC). COLOMBIA: Nariño: RN La Planada, Parc. Permanente, 1.25°N 78.25°W, 1♂, 9-12.viii.2004, D. Arias, 1930 m, sweeping, CAP-4903; Risaralda: SFF Otún Quimbaya, Robledal, 4.73°N 75.58°W, 7♂, 11-27.x.2003, G. López, 1980 m, Malaise trap, CAP-4182 (LACM, UNCB). COSTA RICA: San José: Zurquí de Moravia, 10.05ºN, 84.02ºW, 1♂, i.1996, P. Hanson, 1600 m, Malaise trap (LACM). VENEZUELA: Lara: Yacambu, 1♂, 7.v.1981, H. Townes, Malaise trap, 1200 m (LACM).

Dohrniphora mississippiensis Khalaf

Figs 85–86

Dohrniphora mississippiensis Khalaf, 1971: 274–275, fig. 1.

Description. *Body length:* 2.2 mm. *Head:* Frons dark brown, second row of setae slightly concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Frons 0.49 head width. Flagellomere 1 rounded-oval, brown. Palpus of normal size, brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Costa 0.51 wing length. Halter light brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe brown; well-developed, round. Posterior face of hind femur with double row of peglike setae removed dorsally from ventral margin by imbricate lobe; more distally with deep spinuli-filled concavity bordered posteriorly by carina (Figs 85–86). Hind tibia with one anterodorsal seta (one leg without seta). *Abdomen:* Abdominal tergites dark brown. Venter of abdomen dark brown, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is a completely dark brown species that is recognized by the dark brown hind coxal lobe, the peglike setae arranged in a relatively dorsal double row above an imbricate lobe, and the more distal spinuli-filled concavity (Figs 85–86). Most specimens of this species lack hind tibial setae, but we examined one specimen (LACM ENT 129353) from Colombia with a single hind tibial seta on each

leg. We compared this specimen with the holotype of *D. mississippiensis* Khalaf (from Gainesville, Mississippi, USA) and found them to be conspecific.

This structure of the posterior face of the hind femur of this species resembles that of *D. lamellifera* Borgmeier, but in the latter the peglike setae are in a larger group that extends to the ventral margin of the hind femur. Also, *D. mississippiensis* resembles somewhat the illustration for *D. irregularis* Borgmeier & Prado, but the latter is a yellow species.

Distribution. Colombia, Costa Rica, USA.

Material (specimen with hind tibial setae). COLOMBIA: Chocó: PNN Utría, Sendero Cocalito, 6.02°N 77.33°W, 1♂, 18-28.ix.2000, J. Pérez, 20 m, Malaise trap, CAP-824 (LACM).

Dohrniphora papei sp.n.

Figs 87–88, 222

Description. *Body length*: 2.2 mm. *Head:* Frons orange, brown dorsally, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Frons 0.5 head width. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/3 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Costa 0.51 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with 3 anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe whitish yellow; only slightly developed. Posterior face of hind femur with shallow concavity bordered by 23 peglike setae arranged in basal group, distal line, and more distal group (Figs 87–88). Hind tibia with three anterodorsal setae (Fig. 222). *Abdomen:* Abdominal tergite 1 orange, brown medially. Abdominal Tergites 2–6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen orange, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species could be considered part of the *D. alvarengai* species complex (see Differential diagnosis for that species). It is distinctive because of the three hind tibial setae (Fig. 222) and the peglike setae of the posterior face of the hind femur (Figs 87-88), which are arranged in a small basal group with a straight dorsal line and a larger distal group, all around a concavity.

Derivatio nominis. Named for Thomas Pape, one of the co-collectors.

Distribution. Ecuador.

Material. Holotype ♂, ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 112208] (LACM).

Dohrniphora paraguayana Brues

Figs 7–8, 27–28, 89–90, 223

Phora paraguayana BRUES, 1907: 400–401, pl. 8 fig. 9.
Dohrniphora paraguayana: BRUES 1915 p. 96. – BORGMEIER, 1960: 269, fig. 13.
Diplonevra (*Dohrniphora*) *paraguayana*: SCHMITZ 1929: 108.
Dohrniphora conspicua BORGMEIER, 1923: 628; 1925: 99–101, pl. 1 fig. 2. Synonymized by BORGMEIER 1960: 269.
Diploneura (*Dohrniphora*) *conspicua*: SCHMITZ 1929: 108. – BRUES, 1932: 134 (Trinidad).
Diploneura (*Dohrniphora*) *anterodorsalis* SCHMITZ, 1928: 28–29; 1929: 108. Synonymized by BORGMEIER 1960: 269.

Description. *Body length*: 2.1–2.5 mm. *Head:* Frons light brown, second row of setae concave. Frons with more fine setulae than other species (Figs 7); with sparse microscopic processes producing subshiny surface (Figs 7–8). Mean frontal width 0.49 head width; range 0.43–0.51. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown, with posterior 1/3 darker in some specimens. Scutellum brown, with three setae; anterior and posterior setae subequal, 2/5 length of middle seta. Pleuron yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.47–0.55. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; large, rounded, forming median cuplike concavity (Figs 27–28). Posterior face of hind femur with three closely-placed peglike setae near ventral margin; without further ornamentation (Figs 89–90). Hind tibia with row of five to eight anterodorsal setae (Fig. 223). *Abdomen:* Abdominal tergites mostly dark brown, yellow medially and along anterior and posterior margins. Venter of abdomen yellow, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is easily recognized by the hind tibia, with its row of several anterodorsal setae (Fig. 223), and the posterior face of the hind femur, with its few closely placed peglike setae (Figs 89–90).

Distribution. New World tropics.

Material. Syntypes. PARAGUAY: Asunción, 2♀, ix-x.[no other date], Vezényi, Anisits (Hungarian National Museum; not examined, probably destroyed during Hungarian Revolt). As *D. paraguayana* is an easily-recognized species whose identity is not in doubt, we see no reason to designate a neotype at this time. —ARGENTINA: Misiones: Reserva de Vida Silvestre Urugua-í, 25.97°S 54.11°W, 1♂, 29.xi-2.xii.2003, B. Brown, G. Kung, 400 m, Malaise trap #1 (LACM). BOLIVIA: S. Inicua R. Alto Beni, 2♂, 15-18.i.1976, L.E. Pena, 1100 m (CNCI). BRAZIL: Amapá: Serra do Navio, 1♂, 2.i.1959, C. P. Forattini (MZSP); Amazonas: 010 km, 31 Embrapa, 1♂, 26.ix.1990, L.P. Albuquerque, J.E. Binda, Arm. Shannon, Capoeira, Isc fruta (INPA), S. Izabel, R. Negro, Pico da Neblina, 1♂, 8-13.x.1990, J.A. Rafael, J. Vidal, 300 m, Malaise trap (INPA); Manaus, PDBFF, 3.13°S 60.02°W, Res. 1113, 4♂, 10.x.1985, B. Klein, Malaise trap R.C.O., Res. 1210, 1♂, 14.xi.1985, B. Klein, Malaise trap R.L.E., Res. 1210, 1♂, 28.xi.1985, B. Klein, Malaise trap R.L.O., Res. 1301, 1♂, 27.xi.1985, B. Klein, Malaise trap R.L.N.1. (INPA, LACM); Manaus, Res. Ducke, 1♂, 05-16.viii.1994, F. Xavier, Malaise trap, 1♂, 7-21.xii.1994, J.A. Rafael, J. Vidal, suspensa, 20 m (INPA); Espirito Santo: Aracruz, 19.80°S 40.28°W, 1♂, v.1993 M. Bragança, 60 m, Malaise trap, *Eucalyptus* plantation (LACM); Maranhão: Ribamar Fiquene, 2♂, 13.xii.2001, J.A. Rafael, F.L. Oliveira, J. Vidal, Malaise trap (INPA); Matto Grosso: West border, 1♀, v.1931, R.C. Shannon (USNM); Minas Gerais: Aguas Vermelhas, 1♂, xii.1983, M. Alvarenga (CMNH); Minas Gerais: Belo Horizonte, UFMG, 2♂, 25.v-11.vi.1993, S. Gaimari, Malaise trap (LACM), Estacão Ecológica, UFMG campus, clear trail 60 m in from road, nr swamp, 2♂, 25-29.v.1993, 1♂, 29.v-1.vi.1993, 1♂, 11-15.vi.1993, 1♂, 15-18.vi.1993, 3♂, 18-23.vi.1993, 1♂, 23-28.vi.1993, 1♂, 12-15.vii.1993, 1♂, 19-22.vii.1993, S.D. Gaimari, Malaise trap (LACM); Minas Gerais: near Timoteo, 1♂, 1-8.vii.1999, 1♂, 23.viii.1999, Eurico R. DePaula (EMUS); Rio de Janiero: Belfort Roxo, 2♀, 13.v.1935, 1♀, v.1935, 1♂ [no date], ex. nido *Atta sexdens* (MZSP), Petrópolis, 1♀, 31.v.1922, 1♂, 10.ii.1923, 1♂, 14.iii.1923, Ronchi (MZSP), Rio de Janiero, 1♂, 8.viii.1933, T. Borgmeier (MCZC), 1♂, 22.xii.1957, T. Borgmeier (MZSP); Rondonia: 62 km SE Ariquemes, 3♂, 17-24.iii.1989, 2♂, 8-20.xi.1994, 4♂, 7-18.xi.1995, W.J. Hanson, 1♂, 1-14.xi.1997, B. Dozier (EMUS); Roraima: Pacaraima, 4.47°N 61.14°W, 2♂, 30.vi.1988, J. Rafael, Shannon trap (INPA, LACM); Roraima: Rio Uraicoera, Ilha de Maraca, 3.37°N 61.43°W, 9♂, 2-13.v.1987, J. Rafael, J. Brasil, L. Aquino, Malaise trap (INPA, LACM); São Paulo: Barueri, 1♂, 25.vii.1958, K. Lenko (MZSP), São Paulo, 1♂, 3.xi.1929, T. Borgmeier (MZSP), 1♂, 10.x.1952, [collectors illegible] (MZSP). COLOMBIA: Amazonas, PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 4-11.xii.2000, A. Parente, 150 m, Malaise trap, CAP-1117; Amazonas, PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 26.ii.2001, D. Chota, sweeping, CAP-1632; Amazonas, PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 19.xi-3.xii.2001, D. Chota, Malaise trap, CAP-2768; Bolivar: SFF Los Colorados, El Mirador, 9.90°N 75.12°W, 1♂, 22.ix-7.x.2001, E. Deulufeut, Malaise trap, CAP-2165; Chocó: PNN Los Katíos, Centro Admin., 7.85°N 77.13°W, 1♂, 29.v-13.vi.2003, P. Lópes, 30 m, Malaise trap, CAP-3760, PNN Utría, Cocalito, 6.02°N 77.33°W, 1♂, 30.x-26.xii.2000, J. Pérez, 20 m, Malaise trap, CAP-1344; Vichada: PNN Tuparro, Cerro Tomas, 5.35°N 67.85°W, 3♂, 29.xi-8.xii.2000, W. Villalba, 140 m, Malaise trap, CAP-1059 (LACM, UNCB). COSTA RICA: Alajuela: Alberge de Heleconia, 10.71°N 85.04°W, 1♂, 16-21.v.2000, B. Brown, 1700 m, Malaise trap #1 (LACM), Atenas, Plancillo, 21.83°N 49.03°W, 1♂, v.1999, M. Alpizar, 800 m, Malaise trap (LACM), 20 km S Upala, 1♂, 17.ix.1990, 1♂, 1-10.iv.1991, 2♂, 11-20.iv.1991, 1♂, 10-21.v.1991, 1♂, 12.vi.1991, 1♂, 12-13.vi.1991, 1♂, 21.vi.1991, F.D. Parker; Cartago: Turrialba, CATIE, 1♂, 25-29.ii.1980, H. Howden, 600 m (CNCI), Turriabla, CATIE, 1♂, 26-29.vi.1986, G. Bohart, W. Hanson; Guanacaste: 3 km SE R. Naranjo, 1♂, 8.xi.1991, 1♂, xii.1991, 2♂, 1-4.iv.1992, 2♂, iv.1992, 1♂, 11.v.1992, 1♂, 24.v.1992, 7♂, v.1992, 1♂, 1-5.vi.1992, 1♂, 17-24.vi.1992, 2♂, vi.1992, 1♂, 21-31.vi.1992, 2♂, 1-10.viii.1992, 1♂, 1-10.ii.1993, 1♂, 19-25.ii.1993, 1♂, 20.v.1993, F.D. Parker (EMUS, LACM); Heredia: Chilamate, 1♂, v.1989, P. Hanson, 75 m, Malaise trap (LACM); La Selva Biol. Stn., 9♂, 16-23.v.1988, 9♂, 23-26.v.1988, B.V. Brown, 40 m, Malaise trap, 1° forest, SSO 50 (SEMC, LACM, MUCR, ZMUC), 1♂, 15.iii.1993, M/01/32, 1♂, 18.v.1993, M/01/96, 1♂, 3-19.v.1993, M/12/106, 1♂, 14.vi-1.vii.1993, M/01/136, ALAS, 40 m, Malaise trap (INBC); Limon: 4 km NE Bribri, 9.63°N 82.82°W, 1♂, xii.1989-iii.1990, P. Hanson, Malaise trap (LACM); Limón: Hamburg Farm, Reventazon, 1♀ [no other data] (MZSP); Puntarenas: Corcovado NP, Sirena, 8.46°N 83.59°W, 2♂, 28.vi.2000, 3♂, 28.vi-1.vii.2000, Z. Falin, 30 m, FIT (LACM), Rio Paraisos, Alberge de Pecori, 9.56°N 84.12°W, 1♂, 15-17.ii.2003, B. Brown, E. Zumbado, 400 m, Malaise trap #2 (LACM); San José: Ciudad Colon, 9.92°N 84.25°W, 1♂, iv-v.1990, P. Hanson, 800 m, Malaise trap (LACM). ECUADOR: Napo: Coca, Napo R., 1♂, 12.iv-30.v.1965, 3♂, v.1965, L. Pena, 250 m (CNCI); Tena, 1♂, 20-27.v.1987, B.V. Brown, 500 m, windows (LACM); Yasuni N.P., PUCE, Yasuni Research Stn., 0.67°S 76.39°W, ♂, 3-20.xi.1998, 1♂, 3-20.xi.1998, T. Pape, B. Viklund, 220 m, Malaise trap, 1♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap in rainforest (LACM, QCAZ), Yasuni Res. Stn., 0°40.566'S 76°23.851'W, 30.ix-11.x.2002, C. Brammer 250 m, Malaise trap (EMUS); Pastaza: Pompeya, Napo R., 1♂, 14-22.v.1965, L. Pena (CNCI). FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 2♂, xi.2005, 2♂, i.2006, 1♂, ii.2006, J. Cerda, Malaise traps (2) (LACM). GUYANA: Berbice: Dubulay Ranch, 5.68°N 57.86°W, 1♂, 15-23.i.1999, B. Brown, M. Sharkey, Malaise trap #4, Dubulay Ranch, 5.66°N 57.88°W, 1♂, 165-20.i.1999, B. Brown, M. Sharkey, Malaise trap #5 (LACM). PANAMA: Canal Zone: Barro Colorado Is., 9.17°N 79.83°W, 2♂, 17-25.vi.1992, #678, 1♂, 7-14.x.1992, #955, 1♂, 24-31.iii.1993, #959, 1♂, 12-19.i.1994, #2407, 1♂, 7-21.ix.1994, #2441, 1♂, 5-12.vi.1996, #6012, J. Pickering, Malaise trap (LACM, MIUP), 2♂, 6-10.vii.2000, S. Chatzimanolis, FIT #56 (LACM); Barro Colorado Is., 2♀, 4♂, 30.x.1985, D.H. Feener Jr., on stingless bee nest, #1033 (LACM), Gamboa, 1♂, 8-10.viii.1986, 2♂, 14-17.viii.1986, 1♂, 21-25.viii.1986, C.R. Nelson (EMUS). PARAGUAY: Villarica, 4♀, 10♂, ix, F. Schade (no other data) (MCZC, MZSP). PERU: Cuzco: Quincemil, 1♂, 13-31.viii.1962, L. Pena, 780 m (CNCI), Quincemil, 4♂, 1-15.xi.1962, L. Pena, 700 m (CNCI), Madre de Dios: Avispas, 3♂, 1-15.x.1962,

L. Pena, 400 m (CNCI). TRINIDAD: 2♂, 25.xi.1928, J.G. Myers, T28 (MCZC, MZSP); Arima Valley, Simla Stn., 2♂, 2-10.vi.1977, P. Feinsinger, Malaise trap (LACM), Simla Res. Stn., 1♂, 2-15.vi.1981, Hanson, Clemons (EMUS). VENEZUELA: Aragua: 2 km N Ocumare de la Costa, 1♂, 12.iii-2.iv.1981, A.S. Menke, L. Hollenberg (USNM).

Dohrniphora parvidentata sp.n.

Figs 91–92, 225

Description. *Body length*: 1.8–2.2 mm. *Head:* Frons orange, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.5 head width; range 0.47–0.51. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/5 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown to brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.49–0.52. Halter yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with about 18 peglike setae arranged in basal group and apically extended line; ventrally with concavity extended below ventral margin of femur and with posterior tooth (Figs 91–92). Hind tibia with two anterodorsal setae (Fig. 225). *Abdomen:* Abdominal tergite 1–6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is *D. metatarsalis*-group species can be recognized by the posterior face of the hind femur, with peglike setae arranged in a basal group and dorsal single extended line, and the ventral margin with a small tooth and a deep, curved emargination (Figs 91–92).

Derivatio nominis. Latin *parvus* for small and *dentatus* for toothed, referring to the process on the ventral margin of the hind femur.

Distribution. Peru.

Material. Holotype ♂. PERU: Madre de Dios: Tambopata Research Center, 13.14°S 69.61°W, 20.vii.2001, B. Brown, G. Kung, Malaise trap #5 [LACM ENT 077612] (MUSM). – Paratypes. PERU: Madre de Dios: Tambopata Research Center, 13.14°S 69.61°W, 1♂, 1.i.2001, D. Feener, 300 m, Malaise trap, W-S-11, 1♂, 16-22.vii.2001, MT#2, 1♂, 16-22.vii.2001, MT#3, 1♂, 16-20.vii.2001, 2♂, 20.vii.2001, MT#5, B. Brown, G. Kung, Malaise trap (LACM, MUSM).

Dohrniphora patawaensis sp.n.

Figs 93–94

Description. *Body length:* 3.2 mm. *Head:* Frons blackish-brown, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface subshiny. Frons 0.43 head width. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum blackish-brown. Scutellum blackish-brown, setae absent in single specimen available. Pleuron dark brown, except proepisternum and anepisternum blackish-brown. Wing membrane darkened apically (entire wing darkened especially along veins). Costa 0.56 wing length. Halter whitish yellow. Legs dark brown. Forecoxa in lateral view dark brown. Foretibia with six anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa blackish-brown. Midfemur unmodified. Hind coxa dark brown. Hind coxal lobe dark brown, shiny; only slightly developed (rounded). Posterior face of hind femur with elongate basal group of about 15 peglike setae on raised area; more distally with sinuous margin with two larger, thicker setae; between two setae with whitish raised area forming small tooth (Figs 93-94). Hind tibia with one anterodorsal setae (and hind tibia with all setae longer than usual). *Abdomen:* Abdominal tergites blackish-brown. Venter of abdomen blackish-brown, with sparse setae. Male terminalia blackish-brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is a large, almost completely dark brown species that can be recognized by the single hind tibial seta and the structure of the posterior face of the hind femur, which has a pair of ventral, spinelike setae (Figs 93-94). Additionally, in dried specimens, the swollen area around the carina is contrastingly white in color and possibly membranous.

Derivatio nominis. Named for the type locality.

Distribution. French Guiana.

Material. Holotype ♂. FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, i.2006, J. Cerda, 300 m, Malaise traps (2) [LACM ENT 234160] (LACM).

Dohrniphora perdita Borgmeier & Prado

Figs 95–96, 227

Dohrniphora perdita BORGMEIER & PRADO, 1975: 35, fig. 55.

Description. *Body length*: 2.1 mm. *Head*: Frons brown, second row of setae slightly concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Frons 0.55 head width. Flagellomere 1 rounded-oval, orange. Palpus of

normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax*: Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/5 length of posterior seta. Pleuron yellow. Wing membrane unmarked. Costa 0.52 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with three anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal group of about 21 peglike setae at mid-depth of femur on raised area; more distally with elongate, nearly transverse group of 17 smaller, more pointed thick setae (Figs 95-96). Hind tibia with two anteroventral setae and three longer anterodorsal setae (Fig. 227). *Abdomen*: Abdominal tergite 1 brown. Tergites 2-6 blackish-brown with anterior margin of tergite 2 and all posterior margins yellow. Venter of abdomen yellow, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This light-colored species is easily recognized by the distribution of the peglike setae on the posterior face of the hind femur (Figs 95-96). There is a basal group of rounded setae and a more distal group of shorter, pointed setae. A sinuous carina extends over the dorsal margin of both groups of setae.

Distribution. Brazil.

Material. Holotype ♂, BRAZIL: São Paulo: Botucatu, 1972, O. J. Chamma, light (MZSP; not examined). The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study. —BRAZIL: Rondonia: 62 km SE Ariquemes, 1♂, 13-25.iv.1992, W.J. Hanson (LACM).

Dohrniphora polleti sp.n.

Figs 97–98

Description. *Body length*: 2.6 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.48 head width. Flagellomere 1 rounded-oval, brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, setae absent in single specimen available. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Costa 0.48 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia of one leg with four anterodorsal setae, the other leg with five. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; moderately developed, truncate. Posterior face of hind femur with basal rectangular group of about 20 peglike setae distally bordered with darkened carina; ventral margin with elongate, tapered concavity with small bulge dorsobasally (Figs 97-98). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites dark brown with thin yellow posterior margin. Venter of abdomen gray, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This dark brown species is similar to *D. subsulcata*, a species without hind tibial setae, but the shape of the elongate, tapered concavity is different, with *D. polleti* having a bulge near the base (Figs 97-98).

Derivatio nominis. Named for Marc Pollet, who has helped us obtain material for our projects.

Distribution. French Guiana.

Material. Holotype ♂. FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, ii.2006, J. Cerda, 300 m, Malaise traps (2) [LACM ENT 234245] (LACM).

Dohrniphora rafaeli sp.n.

Figs 99–100, 232

Description. *Body length*: 2.2 mm. *Head:* Frons light brown, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Frons 0.39 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum light brown, setae broken. Pleuron yellow, except proepisternum and dorsum of anepisternum brown. Wing membrane unmarked. Costa 0.53 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa darker yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with rectagular group of about 20 well-spaced peglike setae (Figs 99–100). Hind tibia with two anterodorsal setae (Fig. 232). *Abdomen:* Abdominal tergite 1 brown. Tergites 2–5 mostly yellow with blackish-brown lateral markings; tergite 6 yellow. Venter of abdomen yellow, with sparse setae (segment 5 with four longer, thicker setae). Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species can be recognized by the two anterodorsal setae of the hind tibia (Fig. 232), as well as the posterior face of the hind femur (Figs 99–100), which lacks concavities or carinae and has peglike setae arranged in an elongate triple row. The hind femur is similar to that of *D. tarsalis* Borgmeier, a species lacking hind tibial setae, but which also has enlarged foretarsomeres. Be-

sides the difference in hind tibial setation, *D. tarsalis* is a dark brown species, whereas *D. rafaeli* is mostly light-colored.

Derivatio nominis. Named for the collector, who has also kindly arranged the loan of many specimens for our study.

Distribution. Brazil.

Material. Holotype ♂. BRAZIL: Roraima: Pacaraima, 25.vi-5.vii.1988, J.A. Rafael [LACM ENT 079609] (INPA).

Dohrniphora sarmientoi sp.n.

Figs 101–102, 233

Description. *Body length*: 2.1–2.4 mm. *Head:* Frons dark brown, lighter ventrally; one specimen with lighter setal bases, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.46 head width; range 0.45–0.47. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown to brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane darkened apically. Mean costal length 0.51 wing length; range 0.49–0.52. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three to four anterodorsal setae. Foretarsomeres slender,,elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; short, with ventral projection. Posterior face of hind femur with basal group of approximately 9–14 peglike setae on slightly raised area; more distally with ventral, brown-colored concavity surrounded by carinae, and posteriorly with short, rounded ventral tooth (Figs 101–102). Hind tibia with three anterodorsal setae (Fig. 233). *Abdomen:* Abdominal tergite 1 light brown. Abdominal tergites 2–6 light brown, dark brown laterally. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium light brown, hypandrium brown to dark brown, and cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See the discussion in the Differential diagnosis for *D. consimilis* about this and other species similar to *D. angularis*. The hind tibial setation (Fig. 233), with two large setae and one smaller between them, is the clearest distinguishing character that separates *D. sarmientoi* from other, similar species.

Derivatio nominis. Named for Carlos Sarmiento, in thanks for his help with our work in Colombia.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Valle de Cauca: PNN Farallones de Calí, Anchicaya, 3.43°N 76.80°W, 11.ix-16.x.2001, S. Sarria, 650 m, Malaise trap, CAP-2867 [LACM ENT 184760] (UNCB). —Paratypes.COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 1♂, vii.1988, M. Kelsey, Malaise trap, varzea forest, 1♂, 8-12.iii.2000, M. Sharkey, total sweep sample (LACM, UNCB).

Dohrniphora shannoni Borgmeier

Figs 103–104

Dohrniphora shannoni BORGMEIER, 1961: 14–16, fig. 21.

Description. *Body length*: 1.7–2 mm. *Head:* Frons dark brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.5 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane unmarked. Costa 0.5 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; short, with ventral projection. Posterior face of hind femur with about 25 ventrobasal peglike setae; more distally with concavity bordered with dark rounded carina that forms small ventral tooth (Figs 103–104). Hind tibia with one anterodorsal seta, usually none. *Abdomen:* Abdominal tergite 1 dark brown. Abdominal tergites 2–6 as tergite 1. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the single hind tibial seta and the structure of the posterior face of the hind tibia, with an elongate group of peglike setae and a more distal, rounded carinate concavity (Figs 103–104). Most specimens of this species lack hind tibial setae, but we examined one specimen (LACM ENT 154267) that has a single tibial seta present on each hind leg.

Distribution. Amazonian South America.

Material (specimen with hind tibial setae). ECUADOR: Napo: Yasuni Research Station, 0.7°S 76.39°W, 1♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap, 220 m (LACM).

Dohrniphora sinaloensis sp.n.

Figs 105–106, 235

Description. *Body length*: 1.6–1.9 mm. *Head:* Frons brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing shiny surface. Mean frontal width 0.51 head width; range 0.5–0.54. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/3 length of posterior seta. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.51–0.53. Halter light brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three anterodorsal setae. Foretarsomeres slightly thickened, elongate. Midcoxa slightly darker. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe not developed. Posterior face of hind femur with basal triangular group of about nine and dorsal row of about eight peglike setae; more distally with shallow concavity with carinate, folded distal margin (Figs 105–106). Hind tibia with two anterodorsal setae (Fig. 235). *Abdomen:* Abdominal tergite 1 light brown. Tergites 2–5 light brown with dark brown lateral markings; tergite 6 light brown. Venter of abdomen light brown, with sparse setae. Male terminalia with epandrium light brown, hypandrium brown to dark brown, and cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This is possibly a *D. metatarsalis*-group species, but with the foretarsomeres only slightly thickened. It is a light-colored species with a dark frons; the hind femur has the peglike setae in a distinctive basal group with a posterodorsal extension (Figs 105–106).

Derivatio nominis. Named for the type locality.

Distribution. Mexico.

Material. Holotype ♂. MEXICO: Sinaloa: 20 mi. E Concordia, 4.viii.1964, W.R.M. Mason, 3000' [LACM ENT 215206] (CNCI). —Paratypes. MEXICO: Sinaloa: 20 mi. E Concordia, 2♂, 4.viii.1964, W.R.M. Mason, 3000' (CNCI, LACM).

Dohrniphora sinepigra sp.n.

Figs 107–108, 236

Description. *Body length*: 1.8–2.3 mm. *Head:* Frons dark brown, slightly convex. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.5–0.57. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/4 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.51 wing length; range 0.47–0.53. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three to four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe dorsally situated, with black, rounded, cuplike lobe and narrow, ventral yellow process. Posterior face of hind femur without peglike setae; with shallow, dorsally curved carina at base of ventral margin (Figs 107–108). Hind tibia with three anterodorsal setae (Fig. 236). *Abdomen:* Abdominal tergite 1 brown. Tergites 2–6 dark brown. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This dark brown species can be recognized by the lack of peglike setae on the hind femur (Figs 107–108), the three hind tibial setae (Fig. 237), and the well-developed hind coxal lobe.

Derivatio nominis. Latin *sine* (without) and *epigrus* (peg), referring to the lack of peglike setae on the posterior face of the hind femur.

Distribution. Brazil, Costa Rica, Ecuador.

Material. Holotype ♂. COSTA RICA: Heredia: La Selva Biol. Stn., 23-26.v.1988, B.V. Brown, 40 m, Malaise trap, 1° forest, CES 200 [LACM ENT 113026] (LACM). —Paratypes. BRAZIL: Amazonas: Manaus. PDBFF, Res. 1210, 3.13°S 60.02°W, 1♂, 17.x.1985, R.L.E., 1♂, 30.x.1985, R.C.N.2, 2♂, 30.x.1985, R.C.S.2, 2♂, 31.x.1985, R.L.O., 1♂, 28.xi.1985, R.L.O., B. Klein, Malaise trap (INPA, LACM). COSTA RICA: Alajuela: 20 km , S. Upala, 1♂, 15.vii.1990, 1♂, 21-30.iv.1991, F.D. Parker (EMUS, LACM); Guanacaste: 3 km SE Rio Naranjo, 1♂, 22-25.i.1993, 1♂, 21.v.1993, F.D. Parker (EMUS, LACM); Heredia: La Selva Res. Stn., 1♂, 11-17.vi.1986, G. Bohart, W. Hanson (EMUS), La Selva Biol. Stn., 1♂, 21.iv-1.v.1989, B. Brown, D. Feener, 40 m, Malaise trap, 1° forest, SSO 1500, 1♂, 20-27.iii.1995, B. Brown, J. Cantley, Malaise trap, CCC 850 (LACM). ECUADOR: Zamora Chinchipe: Rio Bombuscaro, 4.12°S 78.98°W, 1♂, 26.vi-4.vii.1996, P. Hibbs, 1000 m, Malaise trap (LACM).

Dohrniphora sinopi Prado

Dohrniphora sinopi Prado, 1976: 566–567, Figs 13–16.

Material. Holotype ♂, BRAZIL: Matto Grosso: SINOP (Sociedade Imobiliaria Norte do Paraná, S.A.), 12.52°S 55.62°W, x.1974, M. Alvarenga, Malaise trap (MZSP; not examined). The specimen has not yet been returned to the MZSP by Prado, so was unavailable for study.

We have seen no material that matches the illustrations in the original description.

Dohrniphora smithi sp.n.

Figs 109–110, 238

Description. *Body length*: 2.5–2.8 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.48 head width; range 0.46–0.5. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, with proepisternum and anepisternum slightly darker. Wing membrane slightly darkened apically. Mean costal length 0.51 wing length; range 0.49–0.53. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with three to four anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with ventrobasal group of about 14 peglike setae; more distally with broad, straight-edged lobe with distal rounded tooth (Figs 109–110). Hind tibia with three to five small anteroventral and five to six longer anterodorsal setae (Fig. 238). *Abdomen:* Abdominal tergite 1 orange, brown medially. Tergites 2–6 orange, with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. With its enlarged foretarsomeres, this species is somewhat similar to those in the *D. metatarsalis* group, but it has the frons subshiny, not shiny, and has anteroventral hind tibial setae present. It is easily recognized as a large yellow species with a dark frons, the hind tibia with a complete row of anterodorsal setae and several anteroventral setae on the basal 1/2 (Figs 109-110), and the hind femur with a large rectangular lobe.

Derivatio nominis. Named for our collaborator in the study of phorid phylogeny, Dr. Paul Smith.

Distribution. Colombia, Peru.

Material. Holotype ♂. PERU: Madre de Dios: Tambopata Research Center, 13.14°S 69.61°W, 16-22.viii.2001, B. Brown, G. Kung, Malaise trap #4 [LACM ENT 077983] (MUSM). – Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 12-16.vi.2000, CAP-697, 1♂, 30-vii-8.viii.2000, CAP-836, 1♂, 16-24.viii.2000, CAP-842, 1♂, 24.viii-1.ix.2000, CAP-837, B. Amado, 150 m, Malaise trap (LACM, UNCB).

Dohrniphora sulcatula Borgmeier

Figs 111–112

Dohrniphora sulcatula BORGMEIER, 1960: 283–284, fig. 38.

Description. *Body length*: 1.8–2 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.49 head width. Flagellomere 1 rounded-oval, brown. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 2/3 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Costa 0.53 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with ventral row of five to six flattened peglike setae; at middepth with basal rounded, darkened carina above which there are four long thin setae; more dorsally with group of about 20 longer, thicker setae; with dark transverse carina distal to dorsal setae; ventrobasal margin sinuous; surface with elongate transverse striations between ventral peglike setae and dorsal setal group, with some extending into ventral groove (Figs 111–112). Hind tibia with one anterodorsal seta, usually with none. *Abdomen:* Abdominal tergites dark brown. Venter of abdomen gray, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can easily be recognized by the posterior face of the hind femur (Figs 111–112), which has a single line of peglike setae ventrally, a group of more dorsal, thinner setae, and strongly striate exoskeleton between them. Most specimens of this species lack hind tibial setae, but we examined one specimen (LACM ENT 073706) that has a single tibial seta present.

Distribution. Widespread in Neotropical Region.

Material (specimen with hind tibial seta). COLOMBIA: Amazonas: PNN Amacayacu, San Martin, 3.82°S 70.26°W, 1♂, 22-30.iv.2000, B. Amado, Malaise trap, CAP-90, 150 m (LACM).

Dohrniphora townesi sp.n.

Figs 113–114, 240

Description. *Body length:* 3.12 mm. *Head:* Frons blackish-brown, with lighter setal bases and ventral margin, slightly concave. Frons with fine, sparse

setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown, darkening posteriorly. Scutellum brown, with two setae; anterior seta 3/4 length of posterior seta. Pleuron light brown. Wing membrane unmarked. Mean costal length 0.52 wing length. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with six anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa slightly darker. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; large, rounded, forming median cuplike concavity. Posterior face of hind femur with about 40 peglike setae arranged in blunt, elongate rectangle; ventrally with truncate projection with posterior tooth (Figs 113–114). Hind tibia with three anterodorsal setae and four anteroventral setae (Fig. 240). *Abdomen:* Abdominal tergite 1 dark brown, with whitish yellow anterior and posterior margins. Abdominal tergites 2–6 as tergite 1. Venter of abdomen whitish yellow, segments 3–6 brown laterally, with sparse setae. Male terminalia dark brown, cercus brown; apical setae of cercus not enlarged.

Differential diagnosis. This large species is easily recognized by the hind tibia, with its anterodorsal and anteroventral setae, and the structure of the posterior face of the hind femur, with its large, rectangular group of peglike setae over a rectangular ventral flange (Figs 113–114).

Derivatio nominis. Named for Dr. Henry Townes, the collector.

Distribution. Venezuela.

Material. Holotype ♂. VENEZUELA: Yacambo, 10.v.1981, 1200 m, H. K. Townes, Malaise trap [LACM ENT 233383] (LACM).

Dohrniphora transversa sp.n.

Figs 115–116

Description. *Body length*: 1.9–2.7 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.46 head width; range 0.43–0.48. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum dark brown. Scutellum dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.49–0.54. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe light brown; only slightly developed. Posterior face of hind femur with basal triangular group of about 18 peglike setae, more distal depression and transverse carina; more distally with shallower, tapering, elongate depression (Figs 115-116). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites dark brown, with thin yellow posterior margin. Venter of abdomen gray, with sparse setae. Male terminalia dark brown, except cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This dark brown species is easily recognized by the combination of one hind tibial seta and the straight transverse carina on the posterior face of the hind femur (Figs 115-116). It is similar to *D. gaimarii*, a species that has a more curved carina.

Derivatio nominis. Latin *transversus* for crosswise, referring to the orientation of the carina on the hind femur.

Distribution. Brazil, Colombia, French Guiana, Panama.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 19.xi-3.xii.2001, D. Chota, 150 m, Malaise trap, CAP-2768 [LACM ENT 173345] (UNCB). —Paratypes. BRAZIL: Rondonia: 62 km SE Ariquemes, 1♂, 8-20.xi.1994, W.J. Hanson (LACM). COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 3-17.ix.2001, CAP-2241, 2♂, 3-17.xii.2001, CAP-2769, 1♂, 11-19.iii.2001, CAP-2036, B. Amado, D. Chota, 150 m, Malaise trap; PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 17-30.vii.2000, CAP-701, 2♂, 30.vii-8.viii.2000, CAP-836, 1♂, 16-24.viii.2000, CAP-842, 1♂, 1-8.ix.2000, CAP-841, 1♂, 16-24.ix.2000, CAP-840, 1♂, 24.ix-2.x.2000, CAP-883, 1♂, 26.x-3.xi.2000, CAP-1125, 2♂, 5-19.xi.2001, CAP-2763, B. Amado, D. Chota, 150 m, Malaise trap (EMUS, LACM, MCZC, UNCB, USNM, ZMUC); Chocó: PNN Utría, Sendero Cocalito, 6.02°N 77.33°W, 1♂, 26.xii-1.ii.2001, J. Pérez, 20 m, Malaise trap, CAP-1342 (LACM). ECUADOR: Napo: Napo R., Coca, 1♂, v.1965, L. Pena, 250 m (CNCI); Pastaza: Napo R., Pompeya, 1♂, 14-22.v.1965, L. Pena (CNCI). FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 1♂, ii.2006, J. Cerda, 300 m, Malaise traps (2) (LACM). PANAMA: Canal Zone: Barro Colorado Is., 9.15°N 79.85°W, 1♂, 8-15.ix.1993, #1672, 1♂, 31.vii-7.viii.1996, #6737, J. Pickering, Malaise trap (LACM).

Dohrniphora utriensis sp.n.

Figs 117–118

Description. *Body length*: 1.7 mm. *Head:* Frons dark brown, second row of setae slightly concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Frons 0.52 head width. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical

setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron light brown, except proepisternum and anepisternum brown. Wing membrane unmarked. Costa 0.49 wing length. Halter brown. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe light brown; only slightly developed. Posterior face of hind femur with ventrobasal group of about 20 peglike setae; more distally with spinuli-filled concavity bordered by carina (Figs 117–118). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergites brown. Venter of abdomen light brown, with two large setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This small brown species can be recognized by the combination of a single hind tibial seta and the posterior face of the hind femur (Figs 117–118), which has a spinuli-filled concavity distal to an elongate triple row of peglike setae.

Derivatio nominis. Named for the type locality.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Chocó: PNN Utría, Centro Visitantes, 6.02°N 77.35°W, 28.ix-15.x.2000, J. Pérez, 20 m, Malaise trap, CAP-815 [LACM ENT 129318] (UNCB).

Dohrniphora ventralis Borgmeier & Prado

Figs 119–120

Dohrniphora ventralis BORGMEIER & PRADO, 1975: 26–27, fig. 47.

Description. *Body length*: 1.8–2.8 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with dense microscopic processes producing subshiny surface. Mean frontal width 0.46 head width; range 0.43–0.48. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.51–0.53. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with three to five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa dark brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe brown; well-developed, round. Posterior face of hind femur with extremely basal group of 3 short peglike setae on small raised area and more distal, triangular group of about 20 longer peglike setae; more distally with slight depression (Figs 119–120). Hind tibia with one anterodorsal seta. *Abdomen:* Abdominal tergite 1 dark brown, with thin yellow posterior margin. Abdominal tergites 2–6 as tergite 1. Venter of abdomen gray, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This brown species can be recognized by the posterior face of the hind femur (Figs 119–120), which has peglike setae arranged in a large triangular group, plus a smaller, more basal group of three on a small raised area. Most specimens of this species lack hind tibial setae, but we examined six specimens that have a single tibial seta present on each hind leg.

Distribution. Brazil, Colombia, French Guiana.

Material (specimens with hind tibial setae). COLOMBIA: Amazonas: 22 km NW Leticia, 4.04°S 69.99°W, 1♂, 6-7.ix.1997, B. Brown, G. Kung, Malaise trap #2, 22 km NW Leticia, 4.04°S 69.99°W, 1♂, 6-7.ix.1997, B. Brown, G. Kung, Malaise trap #3 (LACM, UNCB); Huila: PNN Cueva de los Guácharos, Mirador, 1.63°N 76.10°W, 1♂, 2-5.xii.2001, D. Campos, 1980 m, Malaise trap, CAP-2534 (LACM); Meta: PNN Macarena, Caño Curía, 3.35°N 73.93°W, 1♂, 29.xii-1.i.2002, D. Campos, 460 m, Malaise trap, CAP-2619 (UNCB); Vichada: PNN El Tuparro, Centro Adm. 1♂, 5.35°N 67.86°W, 1♂, 19-29.vi.2000, W. Villalba, 140 m, Malaise trap #17, CAP-268 (LACM). FRENCH GUIANA: Regina: Kaw Mt., Patawa, 4.55°N 52.17°W, 1♂, ii.2006, J. Cerda, 300 m, Malaise traps (2) (LACM).

Dohrniphora wangae sp.n.

Figs 121–122, 241

Description. *Body length*: 2.2–2.5 mm. *Head:* Frons blackish-brown, some with lighter setal bases, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.45 head width; range 0.43–0.48. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum brown to dark brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron yellow to light brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.5–0.54. Halter whitish yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slightly enlarged, inflated. Midcoxa brown to dark brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe yellow; short, with ventral projection. Posterior face of hind femur with about ten basal setae on small raised area; more distally with ventral concavity and blunt, rounded tooth (Figs 121–122). Hind tibia with four to six anterodorsal setae (Fig. 241). *Abdomen:*

Abdominal tergite 1 orange, brown medially. Abdominal tergites 2–6 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen yellow, with sparse setae. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See the discussion in the Differential diagnosis for *D. consimilis* about this and other species similar to *D. angularis*. The strongly rounded concavity and almost completely absent carina on the hind femur (Figs 121–122), combined with the presence of four to six hind tibial setae (Fig. 241), distinguish this species from the others.

Derivatio nominis. Named for Melanie Wang, who helped collect phorids for our projects.

Distribution. Colombia, Ecuador.

Material. Holotype ♂. ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 112102] (LACM). — Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 17-30.vii.2000, CAP-701, B. Amado, 150 m, Malaise trap (UNCB). ECUADOR: Napo: Yasuni Res. Stn., 0°40.566'S 76°23.851'W, 1♂, 4-9.v.2003, C. Brammer, 250 m, Malaise trap (EMUS).

Dohrniphora wilkinsoni sp.n.

Figs 123–124, 242

Description. *Body length*: 2–2.5 mm. *Head:* Frons orange, second row of setae concave. Frons with fine, sparse setulae; with microscopic processes present, but surface shiny. Mean frontal width 0.47 head width; range 0.45–0.51. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 1/6 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum brown. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.48–0.54. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with three anterodorsal setae. Foretarsomeres enlarged, inflated. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with basal transverse row of three setae and double row of ten setae extended apically; ventrally with rounded concavity projecting below level of ventral margin; posteriorly with transverse carina (Figs 123–124). Hind tibia with two anterodorsal setae (Fig. 242). *Abdomen:* Abdominal tergite 1 orange, tergites 2–5 with dark brown lateral margins. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium light brown to yellow, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This *D. metatarsalis*-group species can be recognized by the two hind tibial setae (Fig. 242), plus the peglike setae of the posterior face of the hind femur that are arranged in a basal, transverse line of three, and a more distal double line (Figs 123–124).

Derivatio nominis. Named for Elliot Wilkinson, who helped us obtain phorid specimens for our projects.

Distribution. Colombia, Ecuador.

Material. Holotype ♂. ECUADOR: Napo: Yasuni N.P., PUCE Yasuni Research Stn., 0.67°S 76.39°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 068348] (LACM). —Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 21-28.viii.2000, A. Parente, Malaise trap, CAP-844, 11-25.ix.2000, CAP-846, 1♂, 30.x-11.xi.2000, CAP-852, A. Parente, 150 m, Malaise trap; PNN Amacayacu, San Martin, 3.82°S 70.26°W, 1♂, 5-19.xi.2001, D. Chota, 150 m, Malaise trap, CAP-2763; Caquetá: PNN Chiribiquete, Pto. Abeja, Bosque 7, 0.07°N 72.43°W, 2♂, 12-26.xi.2000, J. Forero, 310 m, Malaise trap, CAP-952; Vaupés: Est. Biológica Mosiro-Itajura (Caparú), Igapo, 1.07°S 69.52°W, 1♂, 7-22.x.2002, L. Benavides, 60 m, Malaise trap, CAP-3395 (LACM, UNCB). ECUADOR: Napo: Yasuni N.P., PUCE Yasuni Research Stn., 0.67°S 76.39°W, 3♂, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap (LACM, QCAZ, ZMUC); Zamora Chinchipe: Rio Bombuscaro, 4.12°S 78.98°W, 1♂, 26-29.vi.1996, P. Hibbs, 1250 m, Malaise trap (LACM).

Dohrniphora xiei sp.n.

Figs 125–126

Description. *Body length*: 1.6–1.9 mm. *Head:* Frons dark brown, with lighter setal bases, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.49–0.53. Flagellomere 1 rounded-oval, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown to brown. Wing membrane unmarked. Mean costal length 0.48 wing length; range 0.46–0.49. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe light brown; elongate, narrow, posteriorly pointed. Posterior face of hind femur with basal group of eight peglike setae; more distally with shallow cavity bordered by darkened transverse carina and with deeper, more ventral concavity (Figs 125–126). Hind tibia with one anterodorsal seta. *Abdomen:*

Abdominal tergite 1 yellow, brown medially. Tergites 2–6 dark brown with yellow anterior and posterior margins and yellow median stripe. Venter of abdomen whitish yellow, with sparse setae. Male terminalia brown, hypandrium darker, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See the discussion in the Differential diagnosis for *D. consimilis* about this and other species similar to *D. angularis*. The extremely long carina and relatively dorsal position of the peglike setae on the hind femur (Figs 125–126), combined with the single hind tibial seta, distinguish this species from the others.

Derivatio nominis. Named for the LACM Entomology Collections Manager, Weiping Xie, who has supported our work on phorids in numerous ways.

Distribution. Brazil, Colombia, Ecuador, Panama, Peru.

Material. Holotype ♂, ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 112436] (LACM). —Paratypes. BRAZIL: Amazonas: Manaus, PDBFF. Res. 1208, 3.13°S 60.02°W, 1♂, 1.x.1985, R.C.S., 1♂, 15.x.1985, R.L.E., B. Klein, Malaise trap (INPA, LACM). COLOMBIA: Amazonas: PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 12-16.vi.2000, CAP-697, B. Amado, 150 m, Malaise trap (LACM). PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 1♂, 1.vii.2000, S. Chatzimanolis, FIT #59 (LACM). PERU: Madre de Dios: Pakitza, 11.94°S 71.28°W, 1♂, 23-28.ii.1992, B. Brown, D. Feener, Malaise trap #3; Tambopata Research Center, 13.14°S 69.61°W, 1♂, 16-22.vii.2001, B. Brown, G. Kung, Malaise trap #1 (LACM).

Dohrniphora yasuniensis sp.n.

Figs 127–128, 243

Description. *Body length*: 2.2–2.8 mm. *Head:* Frons dark brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.47 head width; range 0.45–0.48. Flagellomere 1 rounded-oval, light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 1/2 length of posterior seta. Pleuron brown, except proepisternum and anepisternum dark brown. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.52–0.53. Halter whitish yellow. Legs light brown. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; rounded ventrally. Posterior face of hind femur with ventrobasal group of about eight sparsely-spaced peglike setae; more distally with transverse carina and emarginate ventral margin (Figs 127–128). Hind tibia with four anterodorsal setae (Fig. 243). *Abdomen:* Abdominal tergites brown. Venter of abdomen brown, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This large, dark brown species can be recognized by the four anterodorsal setae on the hind tibia (Fig. 243) and the posterior face of the hind femur bearing an irregular double row of peglike setae and a more distal raised carina (Figs 127–128). It is most similar to *D. clariloba*, from which it differs by the arrangement of the peglike setae on the posterior face of the hind femur.

Derivatio nominis. Named for the type locality.

Distribution. Ecuador.

Material. Holotype ♂, ECUADOR: Napo: Yasuni NP, PUCE Station, 0.63°S 76.6°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 110373] (LACM). – Paratypes. ECUADOR: Napo: Yasuni Res. Stn., 0°40.566'S 76°23.851'W, 2♂, 4-9.v.2003, C. Brammer, 250 m, Malaise trap (EMUS, LACM).

Dohrniphora zomerysis sp.n.

Figs 129–130, 244

Dohrniphora plaumanni: BORGMEIER & PRADO 1976: 20–21 (in part, male only).

Description. *Body length*: 1.6 mm. *Head:* Frons brown, yellow dorsally and ventrally, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.53 head width. Flagellomere 1 rounded-oval, yellow. Palpus enlarged, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two setae; anterior seta 1/5 length of posterior seta. Pleuron yellow. Wing membrane unmarked. Costa 0.53 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with three anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal group of 13 peglike setae; more distally with short, deep concavity and posterior group of 5 short, thin setae (Figs 129–130). Hind tibia with three anteroventral and three anterodorsal setae (Fig. 244). *Abdomen:* Abdominal tergite 1 brown. Tergites 2-3 mostly brown, yellow medially; 4–6 brown. Venter of abdomen yellow, with two long setae on posterior margin of segment 5. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is most similar to *D. smithi*, from which it differs by the relatively deep

carina, and more distal group of thinner setae (Figs 129–130).

Borgmeier & Prado described the holotype specimen of *D. zomerysis* as the previously unknown male of *D. plaumanni* Borgmeier, a species described previously from females from Mato Grosso. It is highly questionable, in our opinion, that the male of *D. zomerysis,* from the Central Amazon, is conspecific with these females.

Derivatio nominis. Greek *zomerysis* for soup ladle, referring to the concavity on the posterior face of the hind femur. This word is used as a noun in apposition, and does not vary with gender.

Distribution. Brazil.

Material. Holotype ♂. BRAZIL: Amazonas: Manaus [no other data] [LACM ENT 215743] (MZSP).

Dohrniphora pyricornis group

The following species form a potentially monophyletic group of small, mostly yellow-colored *Dohrniphora*. They are also characterized by the presence of subequal scutellar setae, and anterior to anteroventral setae on the hind tibia.

Dohrniphora adriani Disney

Figs 9, 131–132, 186

Dohrniphora adriani Disney, 1983: 452–453, Figs 1–4.

Description. *Body length*: 1.6–1.8 mm. *Head:* Frons brown, setal bases lighter, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.52 head width; range 0.49–0.52. Flagellomere 1 tapered, elongate, yellow to light brown (Fig. 9). Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.52–0.55. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with ventral row of 10 peglike setae, rounded basal group of nine and distal group of four setae; more distally with rounded carina and rounded tooth projecting below ventral margin (Figs 131-132). Hind tibia with three to five anterior to anteroventral setae. *Abdomen:* Abdominal tergite 1 yellow. Abdominal tergite 2 mostly yellow with or without brown maculae; 3 yellow; 4–5 brown with or without yellow medially; 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus differentiated, longer and thicker than other cercal setae.

Differential diagnosis. This species is distinguished by the structure of the posterior face of the hind femur, with peglike setae arranged in a basal and smaller distal group with a ventral line connecting them and more distally with a carinate ventral lobe (Figs 131–132). Unlike the similar *D. conica* Borgmeier, there is no strong transverse sulcus between the two groups of setae.

Distribution. Panama.

Material. Holotype ♂, PANAMA: Canal Zone: Pipeline Road, 31.iii.1978, E. Broadhead, fogging *Luehea seemannii* tree [barcode: LACM ENT 226263] (CUMZ; examined). – PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 1♂, 31.vii-7.viii.1996, #325, J. Pickering, Malaise trap (LACM), Gamboa, 1♂, 14-17.viii.1986, C.R. Nelson (EMUS); Darien: Cruce de Mono, 7.92°N 77.62°W, 4♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM, MIUP).

Dohrniphora broadheadi Disney

Figs 13, 133–134, 194

Dohrniphora broadheadi Disney, 1983: 453–454, Figs 5–7.

Description. *Body length*: 1.4–1.7 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.54 head width; range 0.5–0.55. Flagellomere 1 rounded-oval, yellow to light brown. Palpus of normal size (Fig. 13), yellow to orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow to light brown. Scutellum yellow to light brown, posterior seta broken or absent in all specimens, but scutellar setae probably subequal. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.51–0.54. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; round, cuplike. Posterior face of hind femur with ventral row of six peglike setae, basal group of eight setae, and api-

cal group of two to three setae (Figs 133–134). Hind tibia with one to three anterior to anteroventral setae (Fig. 194). *Abdomen:* Abdominal tergite 1 yellow. Abdominal tergites 2–3 like tergite 1; 4–5 mostly brown, yellow medially; 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is recognized by the pattern of peglike setae on the posterior face of the hind femur (Figs 133–134). It is extremely similar to *D. incomitata* sp.n., but that species has longer labella (Fig. 14) and other characters mentioned in the key.

Distribution. Colombia, Panama.

Material. Holotype ♂, PANAMA: Canal Zone: Pipeline Road, 31.iii.1978, E. Broadhead, fogging *Luehea seemannii* tree [barcode: LACM ENT 226262] (CUMZ; examined). – COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 1♂, 3-5.ix.1997, M. Sharkey, Malaise trap; Chocó: PNN Utría, 5.35°N 67.86°W, 1♂, 5-19.vii.2000, J. Perez, Malaise trap #1, CAP-332, PNN Utría, Centro de Visitantes, 6.02°N 77.35°W, 1♂, 15.viii-7.ix.2000, J. Perez, Malaise trap, 2 m, CAP-820; Magdalena: PNN Tayrona, Zaino, 11.33°N 74.03°W, 3♂, 28.iv-13.v.2000, CAP-133, 4♂, 14-29.vi.2000, CAP-240, R. Henriquez, Malaise trap, 50 m (LACM, UNCB).

Dohrniphora circularis sp.n.

Figs 135–136, 198

Description. *Body length*: 1.4–1.7 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.5–0.54. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.52–0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with rounded basal lobe and 19 peglike setae arranged in circle; more distally with rounded, membranous area (Figs 135–136). Hind tibia with three to six anterior to anteroventral setae (Fig. 198). *Abdomen:* Abdominal tergite 1 brown. Tergites 2–5 brown, yellow anteriorly; tergite 6 mostly yellow, brown anteromedially. Venter of abdomen whitish yellow, with dark brown lateral markings on segments 1–6, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is recognized by the rounded ventral lobe bearing an encircling group of peglike setae on the posterior face of the hind femur (Figs 135–136). The more distal rounded area of membrane is also distinctive. Other species with rounded lobes have the pegs arranged differently and lack the membranous area.

Derivatio nominis. Latin *circularis* for round, referring to the pattern of peglike setae on the hind femur.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, total sweep sample [LACM ENT 111403] (UNCB). – Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 4♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 20.iv.2001, CAP-1635, 1♂, 28.v.2001, CAP-1887, D. Chota, A. Parente, 150 m, sweeping (LACM, UNCB).

Dohrniphora cocaensis sp.n.

Figs 137–138, 200

Description. *Body length*: 1.2–1.5 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.6 head width; range 0.57–0.65. Flagellomere 1 pyriform, yellow to orange. Palpus of normal size, yellow to orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two setae; anterior seta 3/4 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.55 wing length; range 0.52–0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; rounded, well-develope. Posterior face of hind femur with row of eight peglike setae along ventral margin; more dorsally with 12 and distally six small setae; more distally with three peglike setae on ventral margin; all preceding structures on lobe with central shallow concavity; distal to lobe with rounded toothlike process (Figs 137–138). Hind tibia with two to three anterior to anteroventral setae (Fig. 200). *Abdomen:* Abdominal tergite 1 yellow, brown laterally. Tergites 2–6 mostly yellow, with brown laterally and sometimes medially. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species has peglike setae arranged similarly to those of *D. broadheadi*, *D. incomitata*, and *D. sinuousa*, but has the distal process more rounded and more separated from the most distal peglike setae (Figs 137-138) than in those species.
Derivatio nominis. Named for the locality where most specimens were collected.
Distribution. Brazil, Colombia, Ecuador.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, total sweep [LACM ENT 067770] (UNCB). –Paratypes. BRAZIL: Rondonia: 62 km SE Ariquemes, 2♂, 17-24.iii.1989, W.J. Hanson, 180 m (EMUS, LACM). ECUADOR: Napo: Napo River, Coca, 6♂, v.1965, L. Peña, 250 m (CNCI, LACM).

Dohrniphora conica Borgmeier

Figs 10–11, 139–140, 201

Dohrniphora conica Borgmeier, 1960: 265–266, fig. 8 (incorrectly given as fig. 9 in original description).

Description. *Body length*: 1.4–1.7 mm. *Head:* Frons brown, setal bases lighter, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.51–0.56. Flagellomere 1 pyriform to tapered, elongate, yellow (Figs 10–11). Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.54 wing length; range 0.51–0.56. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four to five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal triangular group of 14 peglike setae, 11 on ventral margin, and 5 in distal group; proximal and distal groups of setae separated by transverse sulcus; more distally with rounded carina (Figs 139–140). Hind tibia with three to four anterior to anteroventral setae (Fig. 201). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–3 mostly yellow with or without brown maculae; 4–5 mostly brown with yellow medially; 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus differentiated, longer and slightly thicker than other cercal setae.

Holotype ♂, PANAMA: Panama City, 1937, C. H. Dunn [barcode: LACM ENT 224521] (MZSP; examined).
Differential diagnosis. *Dohrniphora conica* is most similar to *D. adriani*; see Differential diagnosis for that species.
Distribution. Ecuador, Panama.

Material. ECUADOR: Pastaza: Napo River, Pompeya, 14-22.v.1965, L. Peña (CNCI). PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 1♂, 9.vii.1923, R. C. Shannon (MZSP), 1♂, 17-24.iii.1993, #958, 1♂, 31.vii-7.viii.1996, #325, 1♂, 20-27.xi.1996, #7085, J. Pickering, Malaise trap (LACM, MIUP), Cano Saddle, Gatun Lake, 1♂, 9.vii.1923, R. C. Shannon (MZSP); Darien: Cruce de Mono, 7.92°N 77.62°W, 2♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM, MIUP).

Dohrniphora curticerca sp.n.

Figs 141–142, 204, 245

Description. *Body length*: 1.4 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.58 head width. Flagellomere 1 pyriform, light brown. Palpus of normal size, whitish yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two setae; anterior seta 3/4 length of posterior seta. Pleuron whitish yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Costa 0.54 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; short, with ventral projection. Posterior face of hind femur with about 23 peglike setae arranged in ventrobasal oval group; more distally with blunt projection and long narrow groove on ventral margin (Figs 141–142). Hind tibia with one anterior and one anteroventral seta (Fig. 204). *Abdomen:* Abdominal tergite 1 light brown. Tergites 2-5 mostly brown; tergite 6 light brown. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium and hypandrium yellow basally, brown apically; cercus yellow, extremely short (Fig. 245); apical setae of cercus long, but not strongly differentiated from other cercal setae.
Differential diagnosis. This species is distinguished by the peglike setae on a small, oval raised pad near the base of the posterior face of the hind femur (Figs 141-142), the short, basally directed process more distally, and the short cercus (Fig. 245).

Derivatio nominis. Latin *curtus* for short, referring to the short cercus.
Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 8-12.iii.2000, B. Brown, G. Kung, M. Sharkey, Malaise #1 (UNCB).

Dohrniphora didyma sp.n.

Figs 143–144, 206

Description. *Body length*: 1.4–1.8 mm. *Head:* Frons brown, setal bases lighter, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.51–0.54. Flagellomere 1 tapered, elongate, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.55 wing length; range 0.5–0.56. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with rounded basal lobe, basal rectangular group of peglike setae, short ventral line of setae and usually longer line of dorsal setae; more distally with isolated ventral seta (Figs 143–144). Hind tibia with four to five anterodorsal to anteroventral setae (Fig. 206), varies among and within specimens. *Abdomen:* Abdominal tergite 1 yellow. Tergite 2 yellow anteriorly, brown posteriorly; 3–5 mostly yellow, brown to dark brown laterally; 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.
Variation. Some specimens have more or less complete dorsal and ventral lines of peglike setae. For instance, some specimens lack the penultimate dorsal, distal seta, leaving the most dorsal, distal seta isolated. Many specimens have a further ventral setae that makes the ventral line more complete than in the specimen in Figs 143–144.
Differential diagnosis. This species is recognized by the rounded ventral lobe on the posterior face of hind femur, which has a distinctive basal group of peglike setae, usually a long dorsal line, and a short ventral line with an isolated ventral seta (Figs 143–144). The most similar species, *D. penai* sp.n., has a single basal group of peglike setae and a single isolated seta. It is possible that *D. penai* is just a variation of *D. didyma*, but we prefer to recognize it as a separate species at this time.
Derivatio nominis. Greek *didymos* for double, referring to the two lines (one dorsal, one ventral) of peglike setae extending apically from the basal group.
Distribution. Colombia, Ecuador.

Material. Holotype ♂. ECUADOR: Sucumbios: Sacha Lodge, 0.50°S 76.50°W, 13-25.vii.1994, P. Hibbs, Malaise trap, 270 m [LACM ENT 036192] (LACM). – Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 4♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 16.iv.2001, D. Chota, sweeping, 150 m, CAP-1634, PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 19-26.vi.2000, CAP-698, 1♂, 2-15.i.2001, CAP-1319, B. Amado, Malaise trap, 150 m. ECUADOR: Sucumbios: Sacha Lodge, 0.50°S 76.50°W, 2♂, 14-24.iii.1994, 1♂, 14-24.v.1994, 1♂, 24.v-3.vi.1994, P. Hibbs, Malaise trap, 270 m (LACM, QCAZ).

Dohrniphora digitata sp.n.

Figs 145–146, 207

Description. *Body length*: 1.8 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.53 head width. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, setae broken. Pleuron yellow, except anepisternum and proepisternum darker. Wing membrane unmarked. Costa 0.52 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with group of 18 ventrobasal peglike setae; ventral margin more distally with broad rounded emargination and narrow, rounded tooth (Fig. 145-146). Hind tibia with two anteroventral setae (Fig. 207). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2-3 mostly yellow, brown laterally and medially; 4-5 brown; 6 mostly yellow, brown laterally. Venter of abdomen whitish yellow, except brown laterally on segments 2-6, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.
Differential diagnosis. This species is recognized by the curved, fingerlike process on the ventral margin of the hind femur, along with the more basal emargination adjacent to it (Figs 145-146). The hind femur is similar to that of *D. microlobata* sp.n., but the latter has a sinuous ventral margin basal to the ventral process (Figs 163-164).
Derivatio nominis. Latin *digitatus* for having fingers, referring to the fingerlike process of the hind femur

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, Malaise trap, total sweep [LACM ENT 067827] (UNCB).

Dohrniphora emmesta sp.n.

Figs 147–148, 209

Description. *Body length*: 1.3–1.5 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.57 head width; range 0.53–0.58. Flagellomere 1 pyriform, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.55 wing length; range 0.53–0.56. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with expanded, rounded basal lobe with group of 25 setae; more distally with rounded carina (Figs 147–148). Hind tibia with three to four anterior to anteroventral setae (Fig. 209). *Abdomen:* Abdominal tergite 1 brown, yellow medially. Tergites 2–5 brown or brown with yellow anteriorly and medially; 6 yellow with brown markings. Venter of abdomen whitish yellow, with brown laterally and segments 2–6, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is recognized by the large round lobe filled with setae on the posterior face of the hind femur (Figs 147-148). The somewhat similar *D. circularis* has setae arranged on the periphery of the lobe and has a more distal, membranous area.

Derivatio nominis. Greek *emmestos* for filled full, referring to the large number of setae in the rounded lobe on the hind femur.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, total sweep sample [LACM ENT 111439] (UNCB). —Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 2♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 2-15.x.2001, D. Chota, Malaise trap, 150m, CAP-2248 (LACM, UNCB).

Dohrniphora femoralis Borgmeier

Figs 5–6, 12, 23–24, 149–150, 210

Dohrniphora femoralis Borgmeier, 1960: 265, Figs 5–6

Description. *Body length*: 1.3–1.6 mm. *Head:* Frons brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface (Figs 5–6). Mean frontal width 0.51 head width; range 0.46–0.51. Flagellomere 1 rounded-oval (Fig. 12), light brown. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.49–0.56. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with three to four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; narrow basally, triangular (Figs 23–24). Posterior face of hind femur with ventrobasal group of about 15 peglike setae and large basal concavity from dorsal to ventral margin; more distally with broad, rounded emargination on ventral margin bounded by proximal truncated process and apical rounded tooth (Figs 149–150). Hind tibia with two to three anterior to anteroventral setae (Fig. 210). *Abdomen:* Abdominal tergite 1 brown. Tergites 2–5 brown, some with yellow anteriorly; 6 yellow to brown. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. *Dohrniphora femoralis* belongs to a group of species, including *D. mesofemoralis* sp.n., *D. rachelae* Disney, and *D. stenobasalis* sp.n., that have distinctive concavities that occupy much of the base of the hind femur (Figs 149-150). Of these, *D. mesofemoralis* is easily distinguished by the structure of its midfemur (Figs 17-18), with its long posteroventral setae. The posterior face of the hind femur of both *D. femoralis* and *D. stenobasalis* has a more basal, truncate ventral process, followed by a more rounded, larger process. In contrast, *M. rachelae* has only a single, rounded ventral process. *Dohrniphora stenobasalis* is easily distinguished from *D. femoralis* by the remarkable excavation of the dorsobasal margin of the hind femur.

Distribution. Colombia, Panama.

Material. Holotype ♂, PANAMA: Darien: Patino Point, 16.viii.1952, F. S. Blanton [barcode: LACM ENT 226235] (USNM; examined). – COLOMBIA: Magdalena: PNN Tay-

rona, Cañaveral, 11.33°N 74.03°W, 1♂, 30.i-21.ii.2001, R. Henriquez, Malaise trap, CAP-1347, PNN Tayrona, Zaino, 11.33°N 74.03°W, 3♂, 28.iv-13.v.2000, CAP-133, 2♂, 14-29.vi.2000, CAP-240, 4♂, 28.vi-17.vii.2000, CAP-301, 2♂, 14-30.viii.2000, CAP-564, 2♂, 22-29.i.2001, CAP-1208, 5♂, 29.i-21.ii.2001, CAP-1349, R. Henriquez, Malaise trap (EMUS, SEMC, LACM, MCZC, UNCB, USNM, ZMUC). PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 1♂, 9.vii.1923, R. C. Shannon (MZSP), 1♂, 30.x-6.xi.1996, J. Pickering, Malaise trap, #7027 (LACM), Mojinga Swamp, Fort Sherman, 1♂, xi.1951, F. S. Blanton, light trap (MZSP); Darien: Cruce de Mono, 7.92°N 77.62°W, 2♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM, MIUP), Patino Point, 1♂, 1.ix.1952, F. S. Blanton (MZSP); Panama: Panama City, 1♂, 1.iv.1923, 4♂, 5.iv.1923, R. C. Shannon (MZSP).

Dohrniphora hamartia sp.n.

Figs 151–152, 212

Dohrniphora pyricornis: BRUES, 1944. – BORGMEIER 1961: 13–14, Figs 17, 19, 26 (in part, paratype only).

Description. *Body length*: 1.5–1.52 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.51–0.52. Flagellomere 1 pyriform, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.52–0.55. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa darker yellow. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal group of about 34 peglike setae; more distally with broad shallow excavation on ventral margin and slightly rounded carina forming broad triangular ventral tooth (Figs 151–152). Hind tibia with three anterior to anteroventral setae (Fig. 212). *Abdomen:* Abdominal tergite 1 yellow, with faint brown lateral marking. Tergites 2–3 yellow, 4–5 brown, 6 yellow; all segments with some brown markings, older specimen (LACM ENT 202181) with tergites all dark brown. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the large group of basal setae and the more distal, carinate tooth (Figs 151–152). It differs significantly from *D. pyricornis*, with which BRUES (1944) grouped one specimen as a paratype. BORGMEIER (1961) later illustrated the paratype specimen, confusing the identity of *D. pyricornis*. We examined the holotype of *D. pyricornis* and established that it is a different species than the paratype.

Derivatio nominis. Greek *hamartia* for fault or mistake, referring to Borgmeier's mistaken identification of at least one specimen of this species. This word is used as a noun in apposition, and does not vary with gender.

Distribution. Colombia, Peru.

Material. Holotype ♂. COLOMBIA: Amazonas: Leticia, 24.ii-1.iii.1974, H. E. Howden [LACM ENT 224455] (CNCI). – Paratype. PERU: Upper Rio Pachitea, 1♂ 21.vii.1920, Cornell University Expedition, Lot 569 (MCZC).

Dohrniphora incomitata sp.n.

Fig. 14, 153–154, 214

Description. *Body length*: 1.5–1.6 mm. *Head:* Frons brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.58 head width; range 0.58–0.59. Flagellomere 1 pyriform, light brown. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. Labellum unusually elongate, longer than palpus (Fig. 14). *Thorax:* Scutum light brown. Scutellum light brown, setae absent in both specimens. Pleuron whitish yellow, except proepisternum and anepisternum brown. Wing membrane unmarked. Mean costal length 0.52 wing length; range 0.5–0.53. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with three to four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; round, small. Posterior face of hind femur with row of eight peglike setae along ventral margin; more dorsally with six peglike setae and distal group of three small setae; more distally with three peglike setae on ventral margin; with rounded distal carina; all preceding structures surrounding shallow concavity (Fig. 153–154). Hind tibia with two to three anterior to anteroventral setae (Fig. 214). *Abdomen:* Abdominal tergites brown. Venter of abdomen yellowish brown, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is extremely similar to *D. broadheadi*, but differs by small details in the pattern of peglike setae (Figs 153-154), in lacking the lighter setal bases on the frons (present in *D. broad-*

headi), and in the much longer labellum (Fig. 14). The latter state is similar to the condition in female *Dohrniphora*, and is thus a remarkable difference from what is found in *D. broadheadi*; nevertheless, it is possible that they are different morphological variants of a single species.

Derivatio nominis. Latin *incomitatus* for alone, referring to the isolated distal peglike setae in this species.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 9.iii.2000, M. Sharkey, total sweep [LACM ENT 067744] (UNCB). – Paratype. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 9.iii.2000, M. Sharkey, total sweep (LACM).

Dohrniphora inornata sp.n.

Figs 155–156, 215, 246

Description. *Body length*: 1.3–1.6 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.5 head width; range 0.47–0.52. Flagellomere 1 pyriform, light brown. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.57 wing length; range 0.55–0.58. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; short, with ventral projection placed unusually dorsally on hind coxa. Posterior face of hind femur with basal triangular group of 23 setae and shallow, short groove more distally (Figs 155–156). Hind tibia with three to four anterior to anteroventral setae (Fig. 215). *Abdomen:* Abdomen tergites brown. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus differentiated, longer and thicker than other cercal setae (Fig. 246).

Differential diagnosis. This species is distinguished by its extraordinarily plain posterior face of the hind femur (Figs 155–156). Unlike most other species, it has a basal triangular group of peglike setae, and only a shallow, linear groove more distally.

Derivatio nominis. Latin *inornatus* referring to the relatively plain hind femur.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, total sweep sample [LACM ENT 067758] (UNCB). – Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 4♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 28.v.2001, A. Parente, sweeping, CAP-1887; Caquetá: Rio Cuñare, PNN Chiribiquete, 0.52°N 72.63°W, 1♂, 10-14.xi.2000, E. González, M. Ospina, Malaise trap, 300 m, CAP-959; Putumayo: PNN La Paya, Cabaña Chagra, 0.12°N 74.93°W, 1♂, 1-15.x.2001, E. Lozano, Malaise trap, 320 m, CAP-2442 (LACM, UNCB).

Dohrniphora lacunosa sp.n.

Figs 157–158, 216

Description. *Body length*: 1–1.4 mm. *Head:* Frons brown, second row of setae straight. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.48–0.54. Flagellomere 1 rounded-oval, yellow; in some specimens, darker basally. Palpus of normal size, light brown, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.49–0.53. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; short, with large ventral projection to large and lobelike. Posterior face of hind femur with basal triangular group of 13 peglike setae on raised triangular area; more distally with shallow, broad concavities dorsally and ventrally (Figs 157–158). Hind tibia with one to three anterior to anteroventral setae (Fig. 216). *Abdomen:* Abdominal tergites mostly yellow; 4–5 brown. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is most similar to *D. inornata*, which differs in having the posterior face of the hind femur relatively flat and with more (20 or more) peglike setae (Figs 155–156).

There is some variation in the shape of the hind femur and the hind coxal lobe, leading us to suspect that this species might actually represent a species complex.

Derivatio nominis. Latin *lacunosus* for full of hollows, referring to the two small concavities on the ventral margin of the hind femur.

Distribution. Colombia, Guyana, Panama.

Material. Holotype ♂. PANAMA: Canal Zone: Barro Colorado Is., 9.17°N 79.83°W, 20-27.xi.1996, J. Pickering, Malaise trap, #7088 [LACM ENT 114841] (LACM). – Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, Matamata 3.82°S 70.26°W, 2♂, 8-12.iii.2000, M. Sharkey, total sweep sample, 1♂, 25.vi.2001, PNN Amacayacu, San Martín, 3.82°S 70.26°W, 1♂, 29.v-6.vi.2000, B. Amado, Malaise trap, 150 m, CAP-692, 1♂, 12-16.vi.2000, B. Amado, Malaise trap, 150 m, CAP-697; Caquetá: PNN Chiribiquete, Pto. Abeja, 0.07°N 72.43°W, 7♂, 12-19.xi.2000, J. Forrero, Malaise trap, 300 m, CAP-954; Chocó: PNN Utría, Centro de Visitantes, 6.02°N 77.35°W, 1♂, 15.viii-7.ix.2000, J. Pérez, Malaise trap, 2 m, CAP-820; Magdalena: PNN Tayrona, Zaino, 11.33°N 74.03°W, 1♂, 28.iv-13.v.2000, CAP-133, 2♂, 14-29.vi.2000, CAP-240, 2♂, 28.vi-17.vii.2000, CAP-301, 2♂, 14-30.viii.2000, CAP-564, 8♂, 29.i-21.ii.2001, CAP-1349, R. Henriquez, Malaise trap (CNCI, EMUS, SEMC, LACM, MCZC, UNCB, USNM, ZMUC). GUYANA: Berbice: Warniabo Creek, Dubulay Ranch, 5.66°N 57.88°W, 1♂, 16-20.i.1999, B. Brown, M. Sharkey, Malaise trap #5, 1♂, 16-20.i.1999, B. Brown, M. Sharkey, Malaise trap #9 (LACM). PANAMA: Canal Zone: Barro Colorado Is., 9.17°N 79.85°W, 1♂, 7-14.x.1992, #955, 1♂, 18-25.ix.1996, #6894, J. Pickering, Malaise trap (LACM, MIUP); Darien: Cruce de Mono, 7.92°N 77.62°W, 1♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM).

Dohrniphora lobata Borgmeier

Figs 159–160, 217

Dohrniphora lobata BORGMEIER, 1960: 269–270, fig. 14.

Description. *Body length*: 1.6-1.9 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.55 head width; range 0.51-0.56. Flagellomere 1 tapered, elongate, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.56 wing length; range 0.55-0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur not modified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with triangular basal lobe with convex proximal margin; ventral margin with 14 peglike setae, basally with triangular group of 10 peglike setae and distally with group of 8-12 peglike setae (Figs 159-160). Hind tibia with four to six anterodorsal to anteroventral setae (Fig. 217). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2-3 yellow with or without brown laterally; 4-5 brown, yellow medially; 6 yellow. Venter of abdomen whitish yellow, with long setae posteriorly on segments 3-5. Male terminalia with epandrium mostly yellow, brown ventrally, hypandrium brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species is similar to others with a large, triangular lobe on the posterior face of the hind femur, especially *D. paralobata* sp.n. and *D. probolaina* sp.n. Unlike the others, *D. lobata* has a basal triangular group of peglike setae, a ventral line, and a distal group (Figs 159-160). The peglike setae of *D. paralobata* are arranged in a basal group plus a single ventral line, whereas those of *D. probolaina* are arranged in a basal group and a ventral line three peglike setae deep. Additionally, the proximal margin of the triangular lobe is concave in *D. probolaina*, but convex in *D. lobata* and *D. paralobata*.

Distribution. Brazil, Colombia, Suriname.

Material. Holotype ♂, SURINAME: Mazaruni River, Geijskes [barcode: LACM ENT 228658] (MZSP). – BRAZIL: Belem: Pará, 2♂, vii.1965, H.S. Lopes (MZSP). COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 27.iii-3.iv.2000, A. Parente, Malaise trap, 150 m, CAP-78 (LACM).

Dohrniphora mesofemoralis sp.n.

Figs 17–18, 25–26, 161–162, 219

Description. *Body length*: 1.4–1.7 mm. *Head:* Frons brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.49 head width; range 0.46–0.51. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum slightly darker. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.51–0.54. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur narrowed basally, expanded apically; posterior face with long ventral setae at midlength (Figs 17–18). Hind coxa whitish yellow. Hind coxal lobe yellow; elongate, triangular with dorsal point (Figs 25–26). Posterior face of hind femur with shallow basal depression and basal triangular group of 11 peglike setae; also with more dorsal and shallower distal depressions (Figs 161–162). Hind tibia with two to three anterior to anteroventral setae (Fig. 219). *Abdomen:* Abdominal tergite 1 brown. Tergites 2–3 yellow or brown, 4–5 brown, 6 yellow. Venter of abdomen whitish yellow, with sparse setae.

Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See Differential diagnosis for *D. femoralis* for characters separating species of the *D. femoralis* group. This species is distinguished from all other Neotropical *Dohrniphora* that we have examined by the long posteroventral setae on the midfemur (Figs 17–18).

Derivatio nominis. Greek *mesos* for middle, referring to the group of setae on the midfemur.

Distribution. Colombia, Panama.

Material. Holotype ♂. PANAMA: Darien: Cruce de Mono, 7.92°N 77.62°W, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap (LACM). —Paratypes. COLOMBIA: Chocó: PNN Utría, Sendero Boroboro, 6.02°N 77.35°W, 1♂, 26.xii-1.ii.2001, J. Perez, Malaise trap, 20 m, CAP-1465; Magdalena: PNN Tayrona, Zaino, 11.33°N 74.03°W, 1♂, 28.iv-13.v.2000, CAP-133, 1♂, 14-29.vi.2000, CAP-240 1♂, 14-30.viii.2000, CAP-564, 1♂, 30.viii-20.ix.2000, CAP-624, R. Henriquez, Malaise trap, 50 m (LACM, UNCB). PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 1♂, 25.ix-2.x.1996, J. Pickering, Malaise trap, #6917 (MIUP).

Dohrniphora microlobata sp.n.

Figs 161–162, 220

Description. *Body length*: 1.8 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.52 head width. Flagellomere 1 pyriform, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron light brown, probably darkened and discolored due to preservation. Wing membrane unmarked. Costa 0.53 wing length. Halter yellow. Legs light brown. Forecoxa in lateral view light brown. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa light brown. Hind coxal lobe not developed. Posterior face of hind femur with basal group of about 26 peglike setae; with more distal concavity with blunt convex protrusion at midlength and more distal tooth whose posterior margin is formed by curved carina (Figs 161–162). Hind tibia with three anterior to anteroventral setae. Abdominal tergites brown, yellow posteriorly. Venter of abdomen light brown, with sparse setae. Male terminalia brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species most closely resembles *D. digitata*, but has an extra, convex protrusion between the peglike setae and the ventral tooth (Figs 161–162).

Derivatio nominis. Greek *mikros* for small and *lobos* for lobe, referring to the small lobe between the peglike setae and usual more distal lobe.

Distribution. Ecuador.

Material. Holotype ♂. ECUADOR: Napo: Napo River, Coca, v.1965, L. Peña, 250 m [LACM ENT 222608] (CNCI).

Dohrniphora ovibarba sp.n.

Figs 163–164, 221

Description. *Body length*: 1.9 mm (no range). *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.5-0.52. Flagellomere 1 pyriform, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum light brown. Scutellum light brown, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow, except proepisternum and anepisternum light brown. Wing membrane unmarked. Mean costal length 0.55 wing length; range 0.52-0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal group of 22 peglike setae and more distal, finlike lobe (appearing only as carina and rounded tooth with light microscopy) (Figs 163-164). Hind tibia with two to three anterior to anteroventral setae (Fig. 221). *Abdomen:* Abdominal tergite 1 yellow, with faint brown lateral marking. Tergites 2-3 mostly yellow, brown laterally, with or without brown medially; 4-5 mostly brown with or without yellow anteriorly and posteriorly; 6 mostly yellow with brown laterally and anteriorly. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the oval group of peglike setae and the rounded, more distal lobe on the posterior face of the hind femur (Figs 163-164). It differs from the similar species *D. hamartia* by the rounded apex of the ventral tooth and the rounded, smaller group of peglike setae.

Derivatio nominis. Latin *ovum* for egg and *barbi* for beard, referring to the oval-shaped group of peglike setae at the base of the hind femur.

Distribution. Colombia, Ecuador.

Material. Holotype ♂, ECUADOR: Napo: Yasuni N.P., PUCE, Yasuni Research Stn., 0.67°W, 76.39°W, 3-20.xi.1998, T. Pape, B. Viklund, Malaise trap [LACM ENT 112998] (LACM). – Paratype. COLOMBIA: Vichada: PNN

El Tuparro, 5.35°N 67.86°W, 1♂, 15-20.vi.2000, M. Sharkey, sweep sample (UNCB).

Dohrniphora paralobata sp.n.

Figs 165–166, 224

Description. *Body length*: 1.7–2 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.51–0.55. Flagellomere 1 pyriform, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker yellow. Wing membrane unmarked. Mean costal length 0.56 wing length; range 0.54–0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with triangular basal lobe with convex proximal margin; ventral margin with 16 peglike setae, basally with 14 setae in more dorsal group (Figs 165–166). Hind tibia with four to six anterodorsal to anteroventral setae (Fig. 224). *Abdomen:* Abdominal tergite 1 yellow, with faint brown transverse marking. Tergites 2–3 like tergite 1; 4–5 mostly brown, yellow medially; 6 yellow. Venter of abdomen whitish yellow, with long setae posteriorly on segements 3–5. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus long, but not strongly differentiated from other cercal setae.

Differential diagnosis. See Differential diagnosis for *D. lobata* for a discussion of species similar to this species. In contrast to other species *D. paralobata* is distinguished by its basal group and ventral single line of peglike setae (Figs 165-166).

Distribution. Colombia, Ecuador.

Material. Holotype ♂. ECUADOR: Sucumbios: Sacha Lodge, 0.50°S 76.50°W, 23.vi-3.vii.1994, P. Hibbs, Malaise trap, 270 m [LACM ENT 041425] (LACM). —Paratypes. COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 8-12.iii.2000, M. Sharkey, total sweep, 1♂, 26.ii.2001, CAP-1632, 1♂, 28.v.2001, CAP-1887, 1♂, 3.xii.2001, CAP-2777, D. Chota, A. Parente, 150 m, sweeping, PNN Amacayacu, Mocagua, 3.82°S 70.26°W, 1♂, 7-14.viii.2000, A. Parente, Malaise trap, 150 m, CAP-677; Magdalena: PNN La Paya, Nacimiento, Qda Blanca, 0.02°S 75.20°W, 1♂, 24-25.ix.2001, D. Campos, Malaise trap, 330 m, CAP-3078 (LACM, UNCB). ECUADOR: Pastaza: Napo R., Pompeya, 1♂, 14-22.v.1965, L. Peña (CNCI).

Dohrniphora penai sp.n.

Figs 167–168, 226

Description. *Body length*: 1.5–1.7 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.51–0.51. Flagellomere 1 tapered, elongate, orange. Palpus of normal size, orange, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum brown. Scutellum brown, with two setae; anterior seta 3/4 length of posterior seta. Pleuron yellow, except proepisternum and dorsum of anepisternum brown. Wing membrane unmarked. Mean costal length 0.56 wing length; range 0.55–0.58. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Midfemur unmodified. Hind coxa yellow. Hind coxal lobe not developed. Posterior face of hind femur with basal lobe bearing group of 15 peglike setae, one more distal peglike seta and two smaller, thinner setae basal to large group (Figs 167–168). Hind tibia with three anterodorsal and three smaller anteroventral setae (Fig. 226). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–5 mostly yellow with blackish-brown lateral markings; tergite 6 yellow. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus long, but not strongly differentiated from other cercal setae.

Differential diagnosis. This species is recognized by the rounded ventral lobe on the posterior face of the hind femur, which has a distinctive basal triangular group of peglike setae, with a more distal, isolated ventral seta (Figs 167–168). See Differential diagnosis of *D. didyma* for a discussion of the similarities of these two species.

Derivatio nominis. Named for the collector, Luis Peña.

Distribution. Ecuador.

Material. Holotype ♂. ECUADOR: Pastaza: Napo River, Pompeya, 14-22.v.1965, L. Peña, 250 m [LACM ENT 166530] (CNCI). – Paratype. ECUADOR: Pastaza: Napo River, Pompeya, 1♂, 14-22.v.1965, L. Peña, 250 m (LACM).

Dohrniphora pickeringi sp.n.

Figs 171–172, 228

Description. *Body length*: 1.6 mm. *Head:* Frons brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.54 head width. Flagellomere 1 rounded-oval, yellow. Palpus of

normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker yellow. Wing membrane unmarked. Costa 0.54 wing length. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with double row of 25 peglike setae along ventral margin and more medial, dorsal group of 9; more distally with rounded carina (Figs 171–172). Hind tibia with three anterior to anteroventral setae (Fig. 228). *Abdomen:* Abdominal tergite 1 yellow, with faint brown lateral marking. Tergites 2–3 yellow, brown laterally and faintly brown transversely; 4–5 brown with yellow medially; 6 yellow with brown anterolaterally. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the distinctive pattern of peglike setae on the posterior face of the hind femur, which consists of a double row along the ventral margin with a more dorsal group at midlength (Figs 171–172).

Derivatio nominis. Named for John Pickering, who has collected many interesting phorids in his BCI Malaise traps.

Distribution. Panama.

Material. Holotype ♂. PANAMA: Canal Zone: Barro Colorado Island, 9.17°N 79.83°W, 23.ii-2.iii.1994, J. Pickering, Malaise trap, #2369 [LACM ENT 089256] (LACM).

Dohrniphora plaumanni Borgmeier

Dohrniphora plaumanni Borgmeier, 1960: 261–262, fig. 19.

Material. Holotype ♀, BRAZIL: Matto Grosso: Rio Caraguatá, iii.1953, F. Plaumann (MZSP; examined).

Remarks. This is a species known only from female specimens. Further specimens were noted by Borgmeier & Prado (1975: 20–21), but their identity is questionable and the male they described is herein treated as a new species (see *D. zomerysis*). Based on our current knowledge, female specimens cannot be identified, so specimens under this name are currently unrecognizable.

Dohrniphora probolaina sp.n.

Figs 173–174, 229

Description. *Body length*: 1.7–1.8 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.52 head width; range 0.51–0.52. Flagellomere 1 tapered, elongate, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, setae broken, but probably subequal as anterior seta long. Pleuron whitish yellow, except proepisternum and anepisternum darker yellow. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.51–0.54. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe not developed. Posterior face of hind femur with large basal triangular lobe with concave proximal margin, as well as basal group of 14 and more ventral group of 24 peglike setae (Figs 173–174). Hind tibia with four to six anterodorsal to anteroventral setae (Fig. 229). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–6 with 2–3 yellow with or without brown laterally; 4–5 brown, yellow medially; 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See the Differential diagnosis for *D. lobata* for a discussion of this species. It differs from its relatives by the concave proximal margin of the triangular lobe and the large number of peglike setae, two or more deep, along the ventral margin (Figs 173–174).

Derivatio nominis. Greek *probolos* (with an arbitrary feminine suffix) for a projecting object, referring to the large lobe on the hind femur.

Distribution. Colombia, Ecuador.

Material. Holotype ♂. ECUADOR: Sucumbios: Sacha Lodge, 0.50°S 76.50°W, 4-14.iii.1994, P. Hibbs, Malaise trap, 270 m [LACM ENT 036653] (LACM). – Paratype. COLOMBIA: Amazonas: PNN Amacayacu, San Martín, 3.82°S 70.26°W, 22-30.iv.2000, B. Amado, Malaise trap, 150 m, CAP-90 (UNCB).

Dohrniphora pyricornis Brues

Figs 175–176, 230

Dohrniphora pyricornis BRUES, 1944: 151–153 (holotype only).

Notes on synonymy. When BORGMEIER (1961) reviewed some Neotropical *Dohrniphora*, he apparently only examined the paratype specimen of *D. pyricornis* housed at the MCZC. Unfortunately, the holotype at Cornell University was a different species than the paratype, and the paratype of *D. pyricornis* that BORGMEIER (1961) figured is a new species, *D. hamartia*, that we describe in this paper.

Description. *Body length*: 1.5–1.9 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.53 head width; range 0.51–0.57. Flagellomere 1 tapered, elongate, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.57 wing length; range 0.54–0.57. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four to five anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with expanded, rounded basal lobe with ventral row of 13 peglike setae and basal triangular group of 18 more dorsal setae (Figs 175–176). Hind tibia with four anterior setae (Fig. 230). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–5 yellow, brown laterally, lateral markings on 2–3 fainter, tergite 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus differentiated, longer and thicker than other cercal setae.

Differential diagnosis. This species can be recognized by the distinctively-shaped basal lobe on the posterior face of the hind femur, which is rounded, but angular distally (Figs 175-176). It also has a basal triangular group and single ventral line of peglike setae.

Distribution. Brazil, Colombia, Peru.

Material. Holotype ♂, PERU: Upper Rio Pachitea, 21.vii.1920, Cornell University Expedition, Lot 607 Sub 142 [barcode LACM ENT 073052] (Cornell University; examined). —BRAZIL: Amazonas: Manaus, R. Ducke, 1♂, 13.iii.1990, J. Vidal, Malaise trap (INPA). COLOMBIA: Amazonas: PNN Amacayacu, San Martin, 3.82°S 70.26°W, 1♂, 19-26.vi.2000, B. Amado, Malaise trap, CAP-698, 1♂, 8-12.iii.2000, M. Sharkey, total sweep sample (LACM, UNCB).

Dohrniphora rachelae Disney

Figs 177–178, 231

Dohrniphora rachelae DISNEY, 1983: 454-455, Figs 8–9.

Description. *Body length*: 1.6 mm. *Head:* Frons brown, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.57 head width. Flagellomere 1 rounded-oval, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow. Wing membrane unmarked. Costa 0.53 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with three to four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; narrow basally, rounded. Posterior face of hind femur with about 15 setae along ventral margin in uneven double row; with large shallow cavity encompassing entire basal 1/4; more distally with transverse carina and short rounded tooth ventrally (Figs 177–178). Hind tibia with two anteroventral setae (Fig. 231). *Abdomen:* Abdominal tergite 1 yellow, with faint brown lateral marking. Tergites 2–3 yellow, faintly brown laterally; 4–5 brown; 6 mostly yellow, except brown anteriorly. Venter of abdomen yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See the Differential diagnosis of *D. femoralis* for discussion of similar species. *Dohrniphora rachelae* is recognized by the concave dorsal margin of the posterior face of the hind femur, and the single, blunt toothlike process ventrally (Figs 177–178).

Distribution. Colombia, Ecuador, Panama.

Material. Holotype ♂, PANAMA: Canal Zone: Pipeline Road, 31.iii.1978, E. Broadhead, fogging *Luehea seemannii* tree [LACM ENT 226142] (CUMZ; examined). —COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 2♂, 3-5.ix.1997, M. Sharkey, Malaise trap, 1♂, 8-12.iii.2000, 1♂, 9.iii.2000, M. Sharkey, total sweep sample (LACM, UNCB). ECUADOR: Napo: Napo R., Coca, 1♂, v.1965, L. Pena, 250 m (CNCI).

Dohrniphora sensibilis Borgmeier & Prado

Dohrniphora sensibilis BORGMEIER & PRADO, 1975: 25, fig. 40.

Material. Holotype ♂, BRAZIL: Acre, Cruzeiro do Sul, ii-iii.1973, black light trap (MZSP; not examined). The speci-

men has not yet been returned to the MZSP by Prado, so was unavailable for study.

We have seen no material that matches the illustrations in the original description.

Dohrniphora sharkeyi sp.n.

Figs 179–180, 234

Description. *Body length*: 1.5 mm. *Head:* Frons dark brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Frons 0.54 head width. Flagellomere 1 tapered, elongate, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron yellow. Wing membrane unmarked. Costa 0.59 wing length. Halter yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; only slightly developed. Posterior face of hind femur with expanded, broad lobe bearing ventral row of 11 peglike setae, more basal triangular group of 6 setae and more apical group of 3-4 setae (note that the leg is distorted by drying in Figs 179-180). Hind tibia with three to four anterior setae (Fig. 234). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–3 mostly yellow with transverse brown markings, 4–5 dark brown, 6 yellow. Venter of abdomen whitish yellow with brown lateral markings from tergites on segments 2–6, with setae of posterior margins of segments 4–6. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species can be recognized by the structure of the posterior face of the hind femur (Figs 179–180), which has a shallow rounded lobe with peglike setae arranged in a basal group, ventral line, and small apicodorsal group.

Derivatio nominis. Named for Michael Sharkey, who collected many of the *D. pyricornis*-group specimens in his sweep samples.

Distribution. Colombia.

Material. Holotype ♂. COLOMBIA: Amazonas: PNN Amacayacu, 3.82°S 70.26°W, 8-12.iii.2000, M. Sharkey, total sweep sample [LACM ENT 111357] (UNCB).

Dohrniphora sinuosa Borgmeier

Figs 181–182, 237

Dohrniphora sinuosa Borgmeier, 1960: 266–267, fig. 9 (incorrectly given as fig. 8 in the original description).

Description. *Body length*: 1.6–2 mm. *Head:* Frons brown, setal bases lighter, second row of setae slightly concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.51 head width; range 0.49–0.54. Flagellomere 1 pyriform, orange. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two subequal setae; anterior seta only slightly shorter than posterior. Pleuron whitish yellow, except proepisternum and anepisternum darker. Wing membrane unmarked. Mean costal length 0.53 wing length; range 0.51–0.55. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view whitish yellow. Foretibia with four anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa yellow. Midfemur unmodified. Hind coxa whitish yellow. Hind coxal lobe yellow; narrow basally, rounded, slightly curved dorsally. Posterior face of hind femur with ventral line of 14 peglike setae, plus basal triangular group of 10 and distal group of 5 setae; more distally with slightly curved carina; ventral margin with shallow, curved emargination (Figs 181–182). Hind tibia with two to three anterior to anteroventral setae (Fig. 237). *Abdomen:* Abdominal tergite 1 yellow, with faint brown lateral marking. Tergite 2 yellow with brown transverse marking; 3–5 mostly yellow with brown laterally; 6 yellow, with or without brown laterally. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. This species differs from the similar *D. broadheadi* and *D. incomitata* by the shape of the hind femur, which is relatively flat and without a strong sulcus between the basal and distal groups of peglike setae (Figs 181–182).

Distribution. Colombia, Panama.

Material. Holotype ♂, PANAMA: Canal Zone, Fort Clayton, 22.ix.1952, F. S. Blanton [barcode: LACM ENT 073271] (USNM; examined). —COLOMBIA: Amazonas: PNN Amacayacu, Matamata, 3.82°S 70.26°W, 1♂, 8-12.iii.2000, M. Sharkey, Malaise trap, total sweep (LACM);

Magdalena: PNN Tayrona, Cañaveral, 11.33°N 74.03°W, 1♂, 29.vi-17.vii.2000, CAP-300, 1♂, 30.i-21.ii.2001, CAP-1347, R. Henriquez, Malaise trap, PNN Tayrona, Zaino, 11.33°N 74.03°W, 1♂, 28.iv-13.v.2000, CAP-133, 5♂, 28.vii-14.viii.2000, CAP-567, 2♂, 14-30.viii.2000, CAP-564, 2♂, 30.viii-20.ix.2000, CAP-624, 2♂, 20-29.ix.2000, CAP-625, 5♂, 29.i-21.ii.2001, R. Henriquez, Malaise trap (EMUS, SEMC, LACM, MCZC, UNCB, USNM, ZMUC). PANAMA: Darien: Cruce de Mono, 7.92°N 77.62°W, 1♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap, Cruce de Mono, 7.92°N 77.62°W, 2♂, 6.ii-4.iii.1993, R. Cambra, J. Coronado, yellow pans (LACM, MIUP).

Dohrniphora stenobasalis sp.n.

Figs 183–184, 239

Description. *Body length*: 1.2–1.3 mm. *Head:* Frons brown, second row of setae concave. Frons with fine, sparse setulae; with sparse microscopic processes producing subshiny surface. Mean frontal width 0.47 head width; range 0.47–0.47. Flagellomere 1 pyriform, yellow. Palpus of normal size, yellow, with long, thick apical setae and shorter, thinner ventral setae. *Thorax:* Scutum yellow. Scutellum yellow, with two setae; anterior seta 3/4 length of posterior seta. Pleuron yellow. Wing membrane unmarked. Mean costal length 0.5 wing length; range 0.5–0.5. Halter whitish yellow. Legs mostly yellow. Forecoxa in lateral view yellow. Foretibia with two to three anterodorsal setae. Foretarsomeres slender, elongate. Midcoxa light brown. Mid-femur unmodified. Hind coxa yellow. Hind coxal lobe yellow; narrow basally, triangular (narrower than in *D. femoralis*). Posterior face of hind femur with oval ventrobasal group of about 15 peglike setae; more distally with broad truncate lobe and more distal large, rounded-triangular lobe; femur deeply excavated on dorsobasal 1/3; with large shallow medial concavity (Figs 183–184). Hind tibia with two anteroventral setae (Fig. 239). *Abdomen:* Abdominal tergite 1 yellow. Tergites 2–3 yellow, 4–5 brown, 6 yellow. Venter of abdomen whitish yellow, with sparse setae. Male terminalia with epandrium yellow, hypandrium dark brown, cercus yellow; apical setae of cercus not enlarged.

Differential diagnosis. See differential diagnosis of *D. femoralis* for recognition of species closely related to *D. stenobasalis*. This species is easily separated from all other known New World *Dohnriphora* by the strong dorsal excavation of the hind femur (Figs 183-184).

Derivatio nominis. Greek *stenos* for narrow and *basis* for base, referring to the shape of the base of the hind femur.

Distribution. Panama.

Material. Holotype ♂. PANAMA: Darien: Cruce de Mono, 7.92°N 77.62°W, 6.ii-4.iii.1993, R. Cambra, J. Coronado, Malaise trap [LACM ENT 049596] (LACM). —Paratype. PANAMA: San Blas: Nusagandi Reserve, 9.33°N 79.00°W, 1♂, 14-21.v.1994, J. Pickering, Malaise trap, #2871 (LACM).

6. Key to males of *Dohrniphora* species with hind tibial setae

Note: This key does not include *D. inutilis* Borgmeier & Prado, *D. metatarsalis* Borgmeier & Prado, *D. sensibilis* Borgmeier & Prado, and *D. sinopi* Prado. These are all species for which we have no material and for which the types are not available for study. It also excludes *D. plaumanni* Borgmeier, a species known only from female specimens.

Illustrations and explanations for terms used for *D. longirostrata*-group species (couplets 17–21) are in KUNG & BROWN (2005).

1. Abdomen, including tergites, bright orange; rest of body dark brown; hind tibia with 3–4 anterodorsal setae and 2–3 anteroventral setae ..... ***D. gigantea* (Enderlein)**

\- Abdomen variously colored, but not bright orange and contrasting with brown thorax; tibial setae various **2**

2. Foretarsomere 1, and often other foretarsomeres, enlarged, inflated, sometimes only slightly so as in some specimens of *D. alvarengai* species complex from French Guiana, but usually as in Fig. 15 (one borderline case, *D. diplocantha*, is keyed both ways); mostly light-colored species with shiny yellow or light brown frons (two species have shiny dark brown frons); hind tibia usually with 2 anterodorsal setae, but some specimens with 3–4 anterodorsal setae; hind tibia without anteroventral setae; foretibia usually with 3 anterodorsal setae; *D. metatarsalis* group **3**

\- Foretarsomere 1 not enlarged, as slender as tarsomeres on other legs (Fig. 16) or if enlarged (*D. smithi*), hind tibia with anteroventral setae present; color various; number of hind tibial setae various, some species with only 1 seta, and some with anterior to anteroventral setae; foretibia usually with 4 anterodorsal setae **14**

3. Hind femur with large, toothlike process on large ventral lobe that extends below ventral margin of femur (Figs 55–56, 91–92) **4**

\- Hind femur usually lacking toothlike process, but if present (Figs 41–42, 49–50) then not part of large ventral lobe **5**

4. Peglike setae arranged in irregular double to triple line (Figs 55–56) ..... ***D. cootei* sp.n.**

- Peglike setae on hind femur arranged in proximal group and distal single line (Figs 91–92) ..... ***D. parvidentata*** **sp.n.**

5. Peglike setae arranged in double to triple line around rounded concavity (Figs 31–32) ..... ***D. alvarengai*** **Prado species complex**
- Peglike setae arranged differently **6**

6. Peglike setae arranged in basal transverse group of 3, with dorsal longitudinal double to triple row (Figs 123–124) ..... ***D. wilkinsoni*** **sp.n.**
- Peglike setae arranged differently 7

7. Hind femur like that of *D. angularis*, with peglike setae arranged in basal triangular group (Figs 45–46); ventrally with deep, carinate concavity; frons brown ..... ***D. brunneifrons*** **sp.n.**
- Hind femur not as above; concavity, if present, shallow; frons usually yellow, but in one species brown **8**

8. Hind femur with prominent carina distal to peglike setae (Figs 39–42, 49–50, 63–-64) **9**
- Hind femur lacking carina (Figs 61–62, 87–88, 99–100) **12**

9. Peglike setae arranged in basal group with dorsally arching distal line (Figs 39–40) ..... ***D. arcuata*** **sp.n.**
- Peglike setae arranged differently **10**

10. Peglike setae in elongate, dorsal group with single line along ventral margin of hind femur (Figs 63–64) ..... ***D. diplocantha*** **Borgmeier, in part**
- Peglike setae arranged differently **11**

11. Peglike setae arranged in sinuous line; ventral margin of hind femur basal to carinate lobe extremely sinuous (Figs 41–42) ..... ***D. bisetalis*** **Borgmeier**
- Peglike setae arranged in irregular group; ventral margin of hind femur basal to carinate lobe evenly curved (Figs 49–50) ..... ***D. cerdai*** **sp.n.**

12. Peglike setae arranged in small proximal group, distal line and larger distal group all surrounding concavity (Figs 87–88) ..... ***D. papei*** **sp.n.**
- Peglike setae more scattered **13**

13. Peglike setae relatively scattered around shallow concavity (Figs 61–62) ..... ***D. diaspora*** **sp.n.**
- Peglike setae in elongate triple row, not surrounding cavity (Figs 99–100) ..... ***D. rafaeli*** **sp.n.**

14. Hind tibia with 1 large basal anterodorsal seta (as in Fig. 185) **15**
- Hind tibia with more than 1 anterodorsal to anteroventral setae (e.g., Figs 186-244) **38**

15. Posterior face of hind femur with only 2–3 long setae near base (Fig. 82); *D. longirostrata* group. **16**
- Hind femur with more, shorter peglike setae **21**

16. Proximal apex narrowed, directed dorsally (Fig. 82) ..... ***D. longirostrata*** **Borgmeier**
- Proximal apex not dorsally directed; narrow or broad **17**

17. Ventrobasal concavity with round, dark, dorsal carina extended continuously from distal margin of ventral tooth to proximal apex (Kung & Brown, 2005, fig. 6) ..... ***D. oricilla*** **Kung & Brown**
- Ventrobasal concavity without dark carina or, if present, it does not extend from ventral tooth to proximal apex **18**

18. Distal margin of ventral tooth without dark, dorsally directed carina; ventral margin of ventrobasal concavity evenly curved (Kung & Brown, 2005, fig. 2) ..... ***D. apharea*** **Kung & Brown**
- Distal margin of ventral tooth continuous with dark, dorsally directed carina; ventral margin of ventrobasal concavity sinuous **19**

19. Proximal apex broadly rounded with dorsal carina extended distally to near middle of concavity (Kung & Brown, 2005, fig. 3) ..... ***D. bicostula*** **Kung & Brown**
- Proximal apex narrower, without carina **20**

20. Proximal apex elongate; ventral margin strongly dorsally angled; proximal setae straight, relatively thick (Kung & Brown, 2005, fig. 7) ..... ***D. perpendicularis*** **Kung & Brown**
- Proximal apex short; ventral margin more gradually curved; proximal setae slightly curved, relatively thin (Kung & Brown, 2005, figs 4–5) ..... ***D. conlanorum*** **Kung & Brown**

21. Hind femur with peglike setae in single ventral row; more dorsally with scattered group of several thinner setae (Figs 111–112) ..... ***D. sulcatula*** **Borgmeier**
- Hind femur with peglike setae arranged differently, and without such dorsal setae **22**

22. Hind femur with large, round, carinate, spinuli-filled concavity distal to peglike setae; peglike setae arranged in elongate group (Figs 85–86, 117–118) **23**
- Hind femur usually without concavity, but if present then not spinuli-filled, not round, not carinate, and peglike setae not in elongate row **24**

23. Hind coxal lobe well developed, dark brown; peglike setae separated from ventral margin of femur by membranous, imbricate lobe; spinuli-filled concavity relatived square in shape (Figs 85–86); pleuron completely dark brown ..... ***D. mississippiensis*** **Khalaf**
- Hind coxal lobe extremely small; peglike setae not underlain by imbricate lobe; spinuli-filled concavity round (Figs 117–118); pleuron at least partly light colored ..... ***D. utriensis*** **sp.n.**

24. Peglike setae arranged in elongate group along ventral margin of hind femur; with small carina distal to pegs (Figs 67–68); large, dark brown species ..... ***D. erugata*** **sp.n.**

- Peglike setae and carinae (if present) otherwise; size and color various **25**

25. Hind femur with strongly-curved carina surrounding small concavity distal to elongate group of peglike setae along ventral margin (Figs 103–104) ..... ***D. shannoni*** **Borgmeier**

- Hind femur with different arrangement of carinae and peglike setae **26**

26. Hind femur nearly flat, with at most broad, shallow concavity distal to peglike setae; ventral margin of hind femur entire, unmodified **27**

- Hind femur with more modifications, including carinae, concavities, and projecting ventral teeth. **28**

27. Peglike setae arranged in rounded, well-spaced group of about 30 (Figs 65–66) ..... ***D. divaricata*** **(Aldrich)**

- Peglike setae arranged in tight, triangular group, with few setae extremely close to base of femur (Figs 119–120) ..... ***D. ventralis*** **Borgmeier & Prado**

28. Hind femur with about 30 peglike setae arranged in round, basal group; more distally with small, ventral concavity with short apical tooth (Figs 33–34) ..... ***D. anchicayensis*** **sp.n.**

- Hind femur with fewer peglike setae (20 or less) but if in large, round basal group (Figs 97–98) then without closed ventral concavity; other species with concavities various **29**

29. Hind femur with elongate-rounded, closed ventral concavity; peglike setae in small group well dorsal to ventral margin of femur; more distally with curved, transverse carina extending dorsally from posterior margin of concavity (Figs 125–126) ..... ***D. xiei*** **sp.n.**

- Hind femur with long, tapered, open concavity (e.g., Figs 57–58) **30**

30. Hind femur with truncate ventral process between peglike setae and elongate, tapered concavity; peglike setae in basal group underlain by curved carina (Figs 77–78) ..... ***D. kleini*** **sp.n.**

- Hind femur with pointed ventral process or none; peglike setae various **31**

31. Hind femur with peglike setae in curved double row; ventral margin with small, toothlike spine (Figs 59–60); large, mostly dark brown species ..... ***D. dentifemur*** **sp.n.**

- Hind femur with peglike setae arranged otherwise; ventral margin with or without spine; size and color various **32**

32. Posterior face of hind femur dark brown, like rest of body; large species **33**

- Posterior face of hind femur light brown; size various **34**

33. Hind femur with single row of peglike setae (at least distally) along ventral margin; dorsal margin of elongate, tapered concavity strongly carinate, appearing black in dried specimens; ventral margin without ventrally directed large thornlike setae (Figs 69–70) ..... ***D. feeneri*** **sp.n.**

- Hind femur with peglike setae arranged oval group; dorsal margin of concavity not strongly carinate, but with area of white membrane (visible in dried specimens) between two ventrally projecting, thornlike setae (Figs 93–94) ..... ***D. patawaensis*** **sp.n.**

34. Hind femur with pointed process on ventral margin (Figs 57–58, 71–72) or hind femur with strong transverse carina (Figs 115–116) **35**

- Hind femur lacking pointed process or strong transverse carina (Figs 79–80, 97–98) **37**

35. Ventral tooth not associated with strong dorsally extending carina that bisects ventral concavity (Figs 57–58) ..... ***D. decrescens*** **sp.n.**

- Ventral tooth associated with strong dorsally extending carina that bisects ventral concavity (Figs 71–72, 115–116) **36**

36. Carina curved, extending farther below ventral margin of hind femur (Figs 71–72) ..... ***D. gaimarii*** **sp.n.**

- Carina straight, ending at ventral margin of hind femur (Figs 115–116) ..... ***D. transversa*** **sp.n.**

37. Peglike setae in rounded group surrounded by carina (Figs 97–98) ..... ***D. polleti*** **sp.n.**

- Peglike setae in linear group not more than 2 deep, not surrounded by carina (Figs 79–80) ..... ***D. koehleri*** **sp.n.**

38. Hind tibia with anterodorsal setae only **39**

- Hind tibia with anterior to anteroventral setae **49**

39. Hind tibia with 5-6 anterodorsal setae **40**

- Hind tibia with 2-4 anterodorsal setae **41**

40. Hind femur with few (2–3) small peglike setae extremely close together (Figs 89–90) ..... ***D. paraguayana*** **(Brues)**

- Hind femur with about 10 widely spaced peglike setae in a basal, triangular group (Figs 121–122) ..... ***D. wangae*** **sp.n.**

41. Hind femur without peglike setae or conspicuous carinae (Figs 107–108) ..... ***D. sinepigra*** **sp.n.**

- Hind femur with peglike setae present **42**

42. Hind tibia with 4 anterodorsal setae **43**

- Hind tibia with 2–3 anterodorsal setae **44**

43. Peglike setae in long group relatively close to ventral margin of hind femur (Figs 127–128) ..... ***D. yasuniensis*** **sp.n.**

- Peglike setae in short, basal group separated from ventral margin of hind femur (Figs 51–52) ..... ***D. clariloba*** **sp.n.**

44. Midcoxa dark brown, strongly contrasting with yellow pleuron; scutum usually dark brown; peglike setae in small round area at base of femur;

with almost rectangular concavity distal to peglike setae (e.g., Figs 53–54) **45**

- Midcoxa yellow to dark yellow, more similar to pleuron and other coxae; scutum yellowish; peglike setae and concavities various **46**

45. Hind tibia with 2 anterodorsal setae ..... ***D. consimilis* sp.n.**

- Hind tibia with 3 anterodorsal setae ..... ***D. sarmientoi* sp.n.**

46. Peglike setae arranged in single line along venter of hind femur (Figs 47–48) ..... ***D. cambuquira* Borgmeier**

- At least some peglike setae grouped **47**

47. Peglike setae arranged in extremely tight, small basal triangular group, without radiating lines; with large, rounded ventral concavity immediately posterior to peglike setae, and more distal, toothlike carinate lobe (Figs 43–44)..... ..... ***D. bispinosa* Borgmeier & Prado**

- Peglike setae in looser group with at least one extended line of setae; with rounded toothlike process distal to peglike setae (Figs 63–64, 105–106) **48**

48 Peglike setae arranged in dorsal group and ventral line (Figs 63–64) ..... ***D. diplocantha* Borgmeier, in part**

- Peglike setae arranged basal group with more dorsal, distally extended line (Figs 105–106) ..... ***D. sinaloensis* sp.n.**

49. Dark brown species (at least scutum and upper part of pleuron dark brown) **50**

- Yellow to light brown species **53**

50. Hind tibia with both anteroventral and anterodorsal setae (Fig. 187) ..... ***D. adusta* Borgmeier**

- Hind tibia with anteroventral setae only (e.g., Fig. 189) **51**

51. Peglike setae in elongate group, longer than deep (Figs 35–36) ..... ***D. anterospinalis* Borgmeier**

- Peglike setae in short group, not much longer than deep **52**

52. Concavity apical to peglike setae long, apically tapered, shallow (Figs 75–76) ..... ***D. incisuralis* (Loew)**

- With deep, round spinuli-filled concavity surrounded by white-colored membrane apical to peglike setae (Figs 83–84) ..... ***D. membranea* sp.n.**

53. Usually large species over 2 mm in length or, in one exceptional, smaller species, with anterior scutellar seta only one-fifth length of posterior seta **54**

- Small species around 1.5 mm in length; scutellar setae subequal; *D. pyricornis* group **58**

54. Hind tibia with anteroventral setae only; frons with silver sheen; posterior face of hind femur with spinuli-filled concavity distal to peglike setae (Figs 37–38); abdominal tergites 2–6 orange with dark brown lateral markings ..... ***D. anteroventralis* Borgmeier** (in part, large specimens)

- Hind tibia with both anterodorsal and anteroventral setae; frons without silver sheen; posterior face of hind femur not as above; color of abdominal tergites various **55**

55. Ventral margin of hind femur smooth, not interrupted by basal lobe; peglike setae in two transverse groups; basal group well-separated from ventral margin of femur; distal group smaller and with thinner setae (Figs 95–96) ..... ***D. perdita* Borgmeier & Prado**

- Ventral margin of hind femur interrupted by basal, truncate lobe (Figs 109–110, 113–114, 129–130); setation of hind femur different, or if similar (*D. zomerysis*) then with deep concavity posterior to basal group of peglike setae (Figs 129–130) .. **56**

56. Peglike setae in large, longitudinal group above elongate rectangular ventral lobe (Figs 113–114) ..... ***D. townesi* sp.n.**

- Peglike setae in more basal group, basal to shorter ventral lobe (e.g., Figs 109–110) **57**

57. Posterior face of hind femur with group of 5 smaller setae distal to deep concavity (Figs 129–130); with 4 anterodorsal and 3 anteroventral hind tibial setae ..... ***D. zomerysis* sp.n.**

- Posterior face of hind femur with shallow concavity and lacking distal group of smaller setae (Figs 109–110); with 6 anterodorsal and 5 anteroventral hind tibial setae ..... ***D. smithi* sp.n.**

58. Midfemur with group of long posteroventral setae (Figs 17–18); peglike setae arranged in small triangular group placed extremely basally on hind femur (Figs 161–162); hind coxal lobe well developed, with pointed dorsal apex (Figs 25–26) ..... ***D. mesofemoralis* sp.n.**

- Midfemur without long posteroventral setae; peglike setae and hind coxal lobe various **59**

59. Hind femur with large, triangular lobe (Figs 159–160, 167–168, 173–174) and margin deeply emarginate posterior to lobe **60**

- Hind femur with smaller, round, or no lobe ... **62**

60. Peglike setae along ventral margin of lobe 2–3 deep (Figs 173–174); proximal margin of lobe concave ..... ***D. probolaina* sp.n.**

- Peglike setae at some point in single line along ventral margin of lobe; proximal margin of lobe convex (Figs 159–160, 167–168) **61**

61. Peglike setae distally in single line along ventral margin of lobe (Figs 167–168) ..... ***D. paralobata* sp.n.**

- Peglike setae in basal group, single line, and smaller distal group (Figs 159–160) ..... ***D. lobata* Borgmeier**

62. Cercus short, almost round (Fig. 245); peglike setae in rounded group on slight oval expansion of venter of hind femur; more distally with small rounded toothlike process (Figs 141–142); hind coxal lobe well developed ... ***D. curticerca*** **sp.n.**
- Cercus longer (e.g., Fig. 246); setae, processes and hind coxal lobe various **63**

63. Peglike setae form proximal group, ventral line one peg deep, and more distal group (e.g., Figs 133–134, 139–140) **64**
- Peglike setae form different arrangement, one of the above elements lacking or differing (ventral line may be two peglike setae deep, distal group may be lacking, etc.) **69**

64. Peglike setae arranged on large, rounded lobe that projects strongly below ventral margin of femur and that is strongly incised posterior to peglike setae (Figs 179–180); hind coxal lobe not developed (as in Figs 21–22) ..... ***D. sharkeyi*** **sp.n.**
- Peglike setae not on strongly projecting lobe; hind coxal lobe various, prominent (as in Figs 23–28) or not developed **65**

65. Hind coxal lobe well developed; apical setae of cercus subequal to other cercal setae **66**
- Hind coxal lobe not developed; apical setae of cercus longer, thicker, darker in color than other cercal setae (e.g., Fig. 246) **68**

66. Surface of hind femur relatively flat between proximal and distal group of peglike setae; without gap between ventral line and distal group of peglike setae (Figs 181–182) ..... ***D. sinuosa*** **Borgmeier**
- With strong sulcus between proximal and distal groups of peglike setae; gap present (missing peglike setae) between ventral line and distal group of peglike setae (Figs 133–134, 153–154) **67**

67. Labellum elongate, longer than palpus (Fig. 14); darker colored, largely brown dorsally; frons with setal bases undifferentiated ..... ***D. incomitata*** **n. sp**
- Labellum shorter, subequal in length to palpus (Fig. 13); lighter colored species, with considerable yellow color dorsally; frons with light-colored setal bases ..... ***D. broadheadi*** **Disney**

68. Surface of hind femur relatively flat between proximal and distal group of peglike setae (Figs 131–132) ..... ***D. adriani*** **Disney**
- With strong sulcus between proximal and distal groups of peglike setae (Figs 139–140) ..... ***D. conica*** **Borgmeier**

69. Hind femur with large, rounded, basal peglike-seta-bearing lobe that projects strongly below ventral margin of femur (Figs 135–136, 143–144, 147–148, 169–170, 175–176); hind coxal lobe not developed (as in Figs 21–22) **70**
- Hind femur without such large lobe; hind coxal lobe various **74**

70. Peglike setae arranged in basal group plus single isolated, more distal seta (Figs 169–170)..... ..... ***D. penai*** **sp.n.**
- Peglike setae arranged otherwise, at least with lines of peglike setae extending from basal group; isolated seta present or absent **71**

71. Peglike setae form basal group with long dorsal and shorter ventral single lines; with one isolated, distal peglike seta ventrally (Figs 143–144) ..... ***D. didyma*** **sp.n.**
- Peglike setae arranged otherwise; ventral setae in more complete lines **72**

72. Peglike setae form basal group and ventral single line (Fig. 176) ..... ***D. pyricornis*** **Brues**
- Peglike setae arranged otherwise **73**

73. Peglike setae form circle around periphery of rounded lobe; with more distal membranous area (Figs 135–136) ..... ***D. circularis*** **sp.n.**
- Peglike setae form large group throughout lobe; lacking more distal membranous area (Figs 147–148) ..... ***D. emmesta*** **sp.n.**

74. Ventral margin of hind femur with well-developed, carinate, spinuli-filled concavity distal to peglike setae (Figs 37–38) ..... ***D. anteroventralis*** **Borgmeier** (in part, small specimens)
- Ventral margin of hind femur different, ventral concavities, if present, not carinate and not filled with spinuli **75**

75. Ventral margin of hind femur with blunt, proximal protrusion and narrower, distal protrusion (Figs 149–150, 183–184); hind coxal lobe well developed (e.g., Figs 23–24) **76**
- Ventral margin at most with one large protrusion; hind coxal lobe various **77**

76. Base of hind femur greatly narrowed, excavate (Fig. 183) ..... ***D. stenobasalis*** **sp.n.**
- Base of hind femur not narrowed (Fig. 149) ..... ***D. femoralis*** **Borgmeier**

77. Hind femur with deep, rounded notch distal to peglike setae but proximal to curved, digitiform lobe (Figs 145–146) ..... ***D. digitata*** **sp.n.**
- Hind femur without such deep notch between peglike setae and lobe **78**

78. Hind femur deeply concave on proximal 1/4 (Fig. 177); hind coxal lobe well developed; peglike setae in small, linear group (Fig. 178) ..... ***D. rachelae*** **Disney**
- Hind femur not deeply concave; hind coxal lobe and peglike setae various **79**

79. Hind femur without carina distal to peglike setae **80**
- Hind femur with carina distal to peglike setae, sometimes forming ventrally directed process **81**

80. Frons with light-colored setal bases contrasting sharply with darker surrounding areas; posterior face of hind femur almost completely flat, except for short, shallow groove distal to peglike setae (Fig. 155); with about 20 peglike setae (Fig. 156) ..... ***D. inornata* sp.n.**

- Frons with setal bases undifferentiated; posterior face of hind femur with concavities dorsally and ventrally (Fig. 157, although difficult to see in this Figure); with about 13 peglike setae (Fig. 158) ..... ***D. lacunosa* sp.n.**

81. Well-developed hind coxal lobe present; hind femur with proximal group, dorsal and ventral lines, and small distal group of peglike setae (Figs 137–138) ..... ***D. cocaensis* sp.n.**

- Hind coxal lobe absent; hind femur with peglike setae arranged differently **82**

82. Narrow, short, shallow emargination present between peglike setae and carinate lobe; peglike setae arranged in double row along ventral margin, with more dorsal group near midlength of ventral row (Figs 171–172) ..... ***D. pickeringi* sp.n.**

- Broad, rounded, deeper emargination widely separating peglike setae and carinate lobe (e.g., Figs 163–164); peglike setae various **83**

83. Hind femur with sinuous, convex protrusion between peglike setae and carinate lobe (Figs 163–164) ..... ***D. microlobata* sp.n.**

- Hind femur with smooth emargination between peglike setae and carinate lobe (Figs 151–152, 165–166) **84**

84. Peglike setae arranged in large, triangular group (Figs 151–152) ..... ***D. hamartia* sp.n.**

- Peglike setae arranged in oval, basal group (Figs 165–166) ..... ***D. ovibarba* sp.n.**

7. Conclusions

The New World fauna of *Dohrniphora* species with hind tibial setae is incompletely known, and probably many undescribed species still exist. Prior to this revision, only 31 species, or 37% of the current total of this group were known. Extrapolating this number to the entire genus, we estimate that there is a total of at least 230 New World species of *Dohrniphora*.

The fauna is further dominated by several species that account for large percentages of our 2,391 examined specimens (Tab. 1). The remaining species account for 2% or less of the specimens each. This domination of the catch could be a reflection of higher susceptibility of certain species to being collected, and it might be significant that all of them are relatively large flies. Some other relatively large species are extremely rare, however. Of the dominant species, *D. incisuralis* is over-represented because it occurs in North America, where much more collecting has taken place, and the *D. alvarengai* species complex is an assemblage of potentially many species whose individual contributions to the total would be much smaller. In the Neotropical Region, the dominant species are clearly *D. oricilla*, *D. anteroventralis*, *D. paraguayana*, *D. gigantea*, and *D. conlanorum*. Two of these, *D. oricilla* and *D. conlanorum*, are species of the *D. longirostrata* group. Two others, *D. anteroventralis* and *D. gigantea*, have a hind femoral structure that is similar to each other and they are possibly closely related. If the domination of these species is real, and not a collecting artifact, it would be interesting to know the attributes that allow them to dominate the fauna.

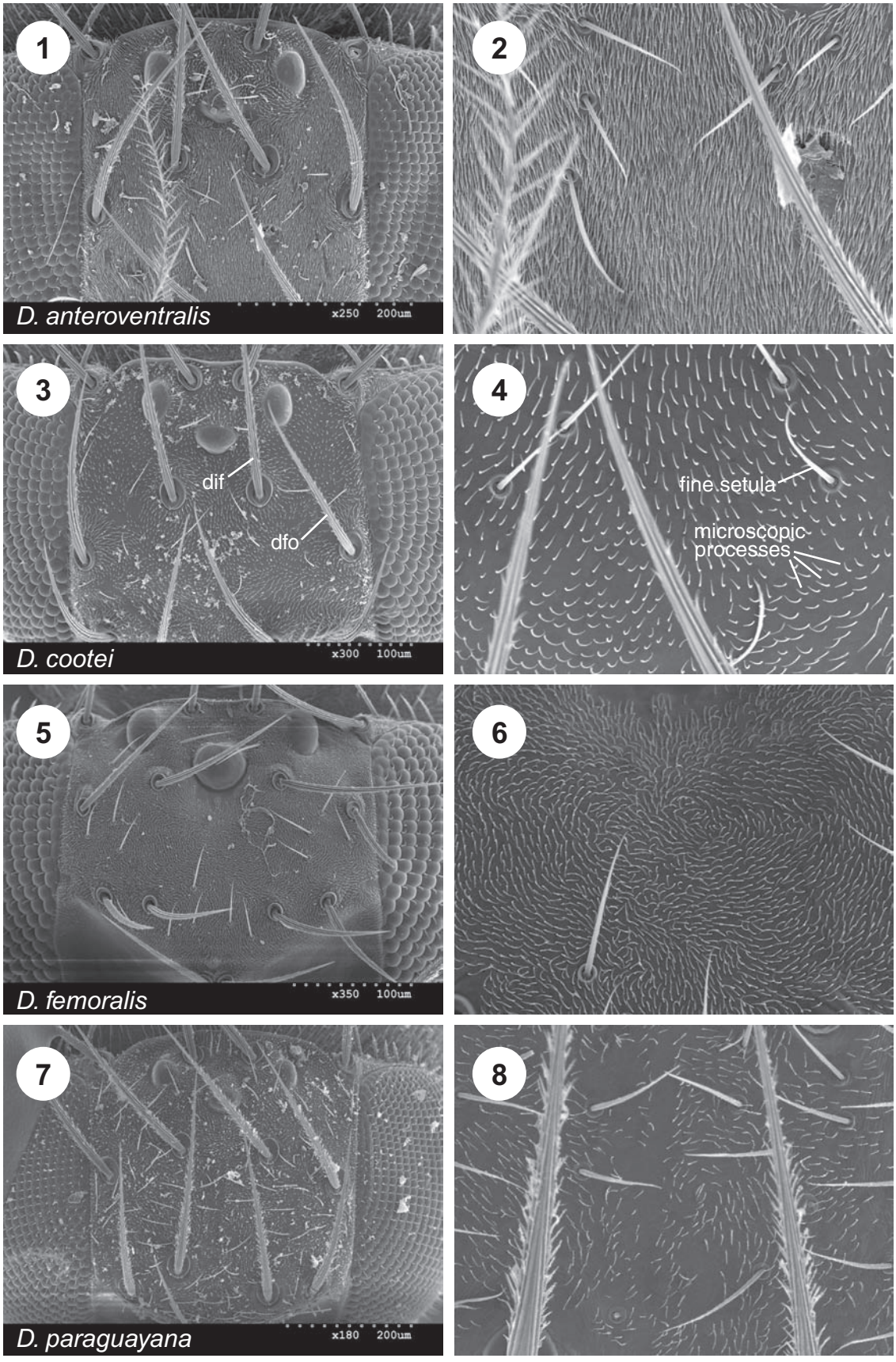
Tab. 1. Commonest species of *Dohrniphora* with hind tibial setae, including species treated herein, as well as those from Kung & Brown (2005).

Name	% of examined specimens
D. oricilla Kung & Brown	36
D. anteroventralis Borgmeier	13
D. paraguayana Brues	9
D. gigantea (Enderlein)	9
D. incisuralis (Loew)	5
D. alvarengai species group	5
D. conlanorum Kung & Brown	4

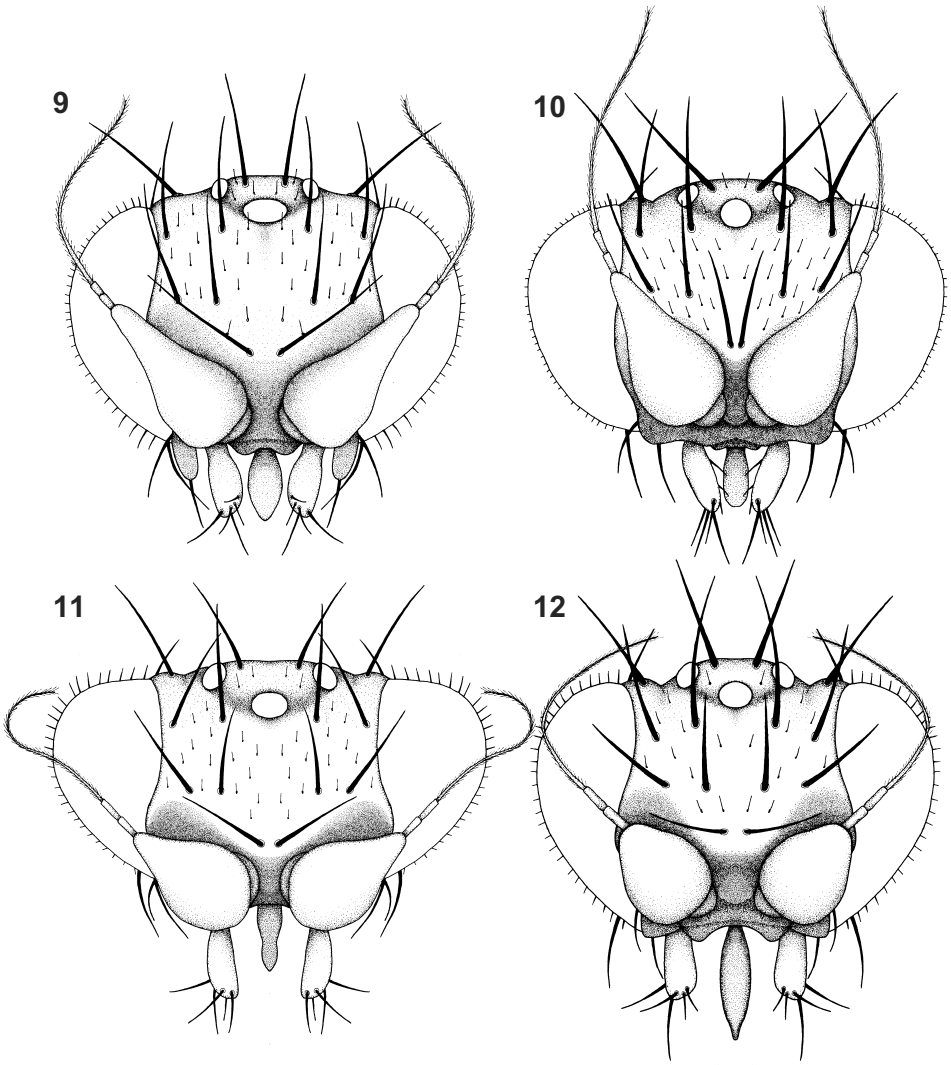
Species concepts within this genus are still poorly developed. In particular, the *D. alvarengai* species complex and species resembling *D. angularis* are problematic, and require further consideration. Molecular data and further collecting of specimens is probably necessary to solve these problems, and we hope that further studies of these species will be undertaken.

8. Acknowledgements

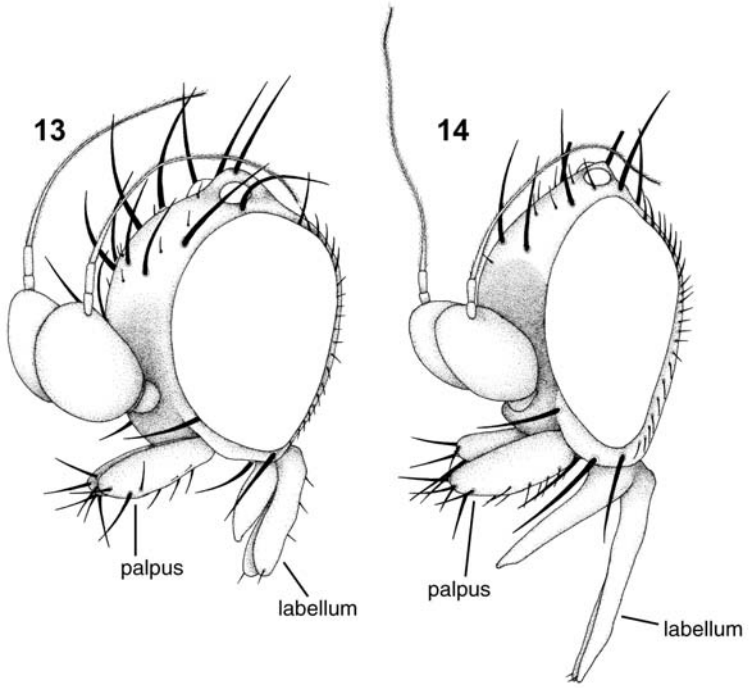
We thank Dr. Howard Don Cameron for help with derivation of names. Drawings were expertly prepared and manipulated by Brian Koehler, who also prepared and posted color images on MorphBank. We thank Vladimir Berezovskiy for technical assistance, and J. Pickering for help in hosting locality data at *discoverlife.org*. Field work in Colombia was funded by National Science Foundation (NSF) grants DEB-9972024 and 0205982 to M. Sharkey and B. Brown. NSF grants BSR-9025024, DEB-9401069, DEB-9706976, and DEB-0072702 funded the Arthropods of La Selva (ALAS) project. J. Pickering's work on Barro Colorado Island was funded by the Smithsonian Environmental Sciences Program. Work in Costa Rica was supported in part by support to INBio by the Biodiversity Resources Development Project (CR-GE-39876), funded by Global Environmental Facilities through its implementing agency the World Bank. Our research on phorid flies is currently funded by NSF grant DEB-0516420 to B. Brown and P. Smith. NSF grant DBI-0216506 allowed purchase of an SEM at the LACM.



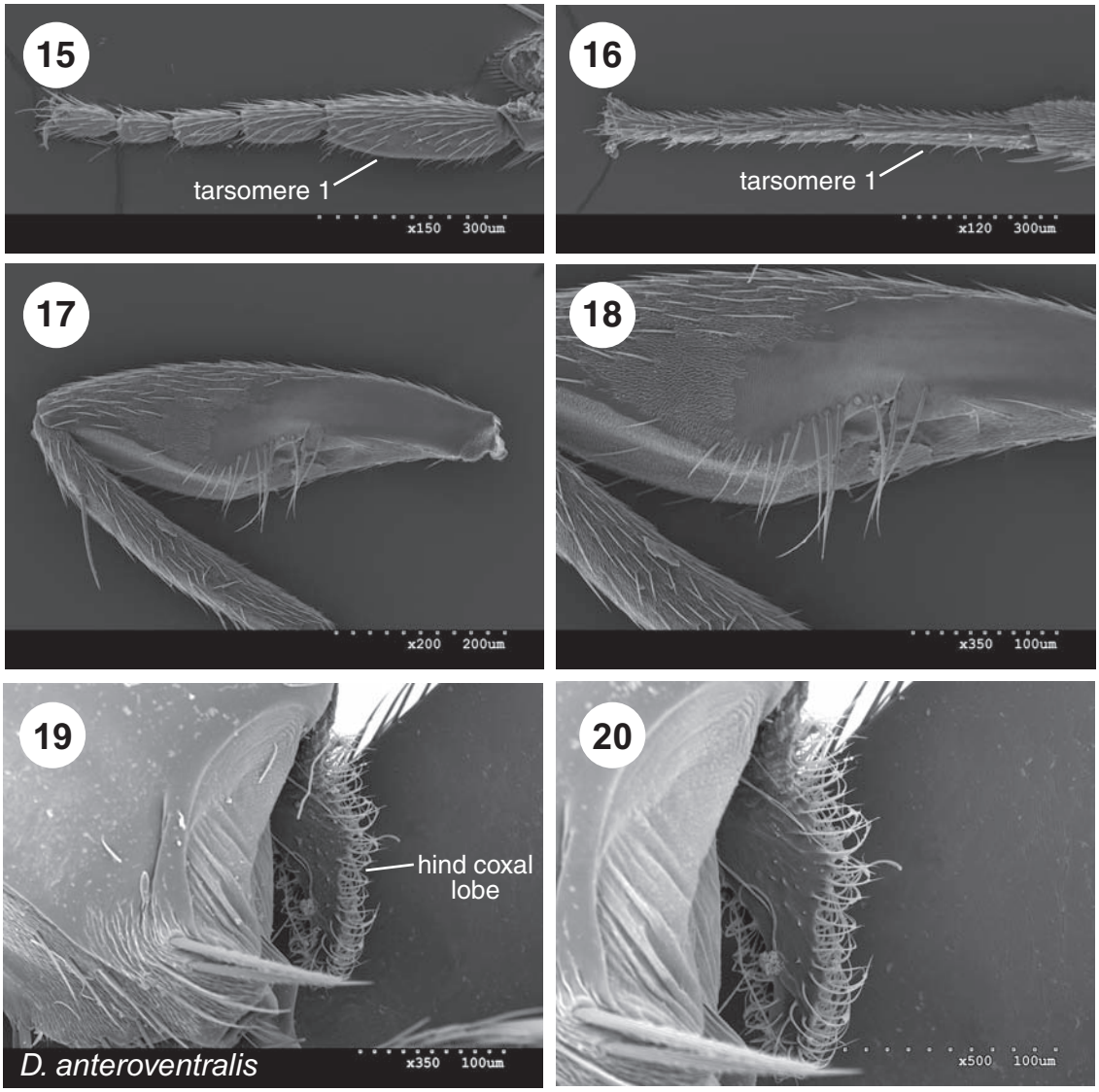
Figs 1–8. Scanning electron micrographs, frons, low magnification and high magnification. **1–2**: *Dohrniphora anteroventralis* Borgmeier, 1960. **3–4**: *D. cootei* sp.n. 5–6: *D. femoralis* Borgmeier, 1960. **7–8**: *D. paraguayana* (Brues, 1907). **dfo** – dorsal fronto-orbital setae; **dif** – dorsal interfrontal setae.



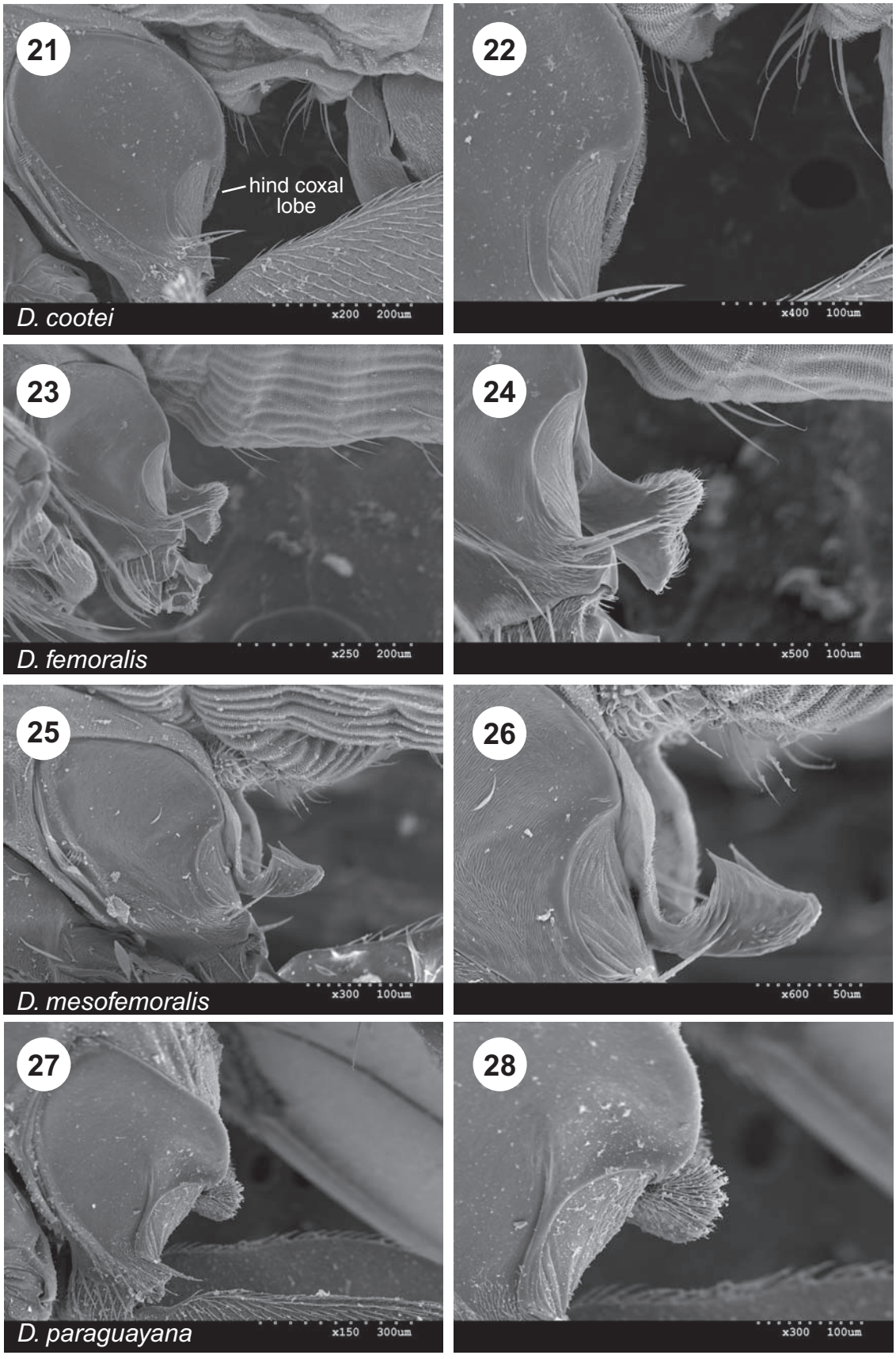
Figs 9–12. Heads, anterior view. **9**: *Dohrniphora adriani* Disney, 1983. **10**: *D. conica* Borgmeier, 1960. **11**: *D. conica* Borgmeier, 1960. **12**: *D. femoralis* Borgmeier, 1960.



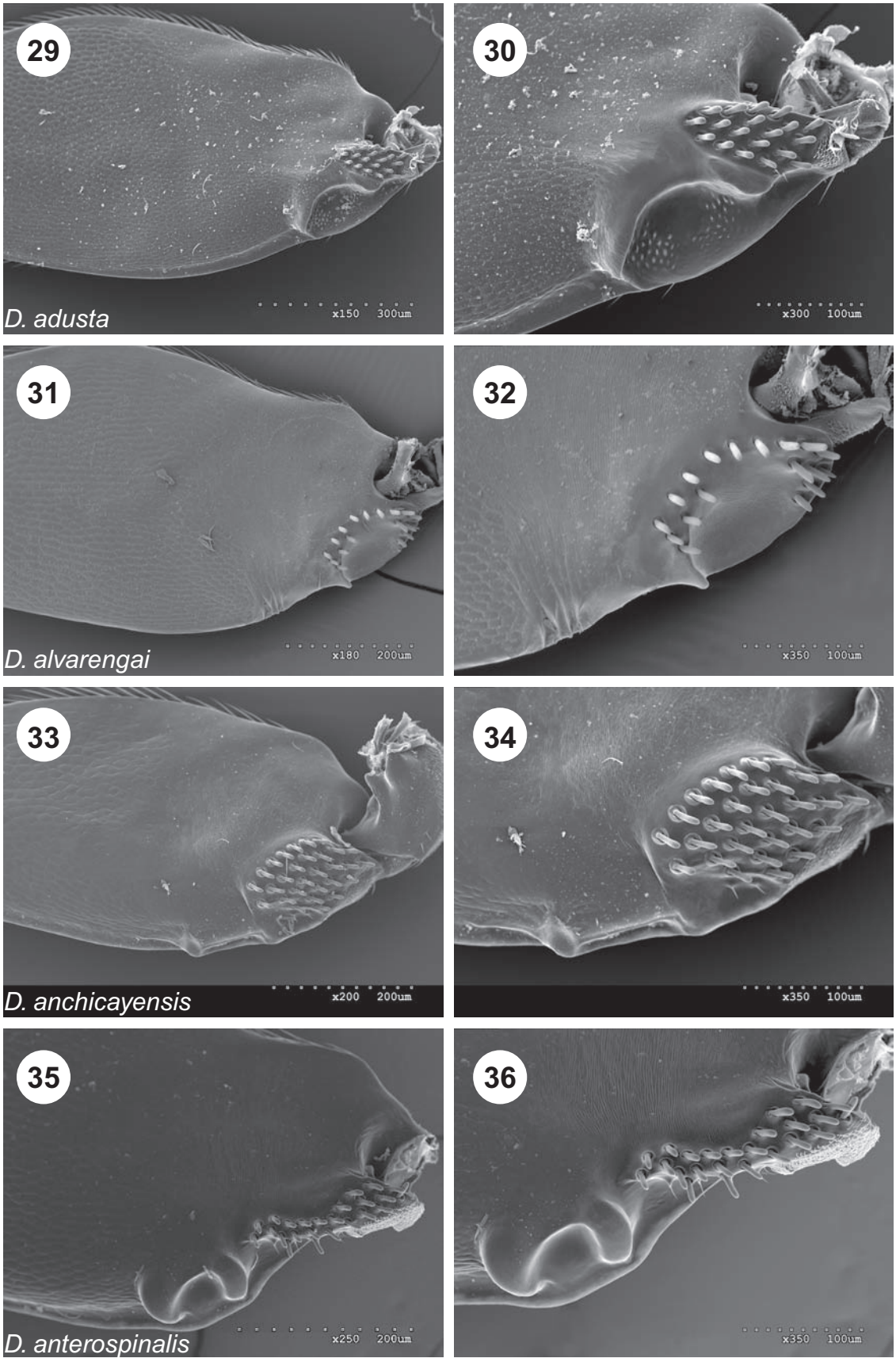
Figs 13–14. Heads, lateral view. **13**: *Dohrniphora broadheadi* Disney, 1983. **14**: *D. incomitata* sp.n.



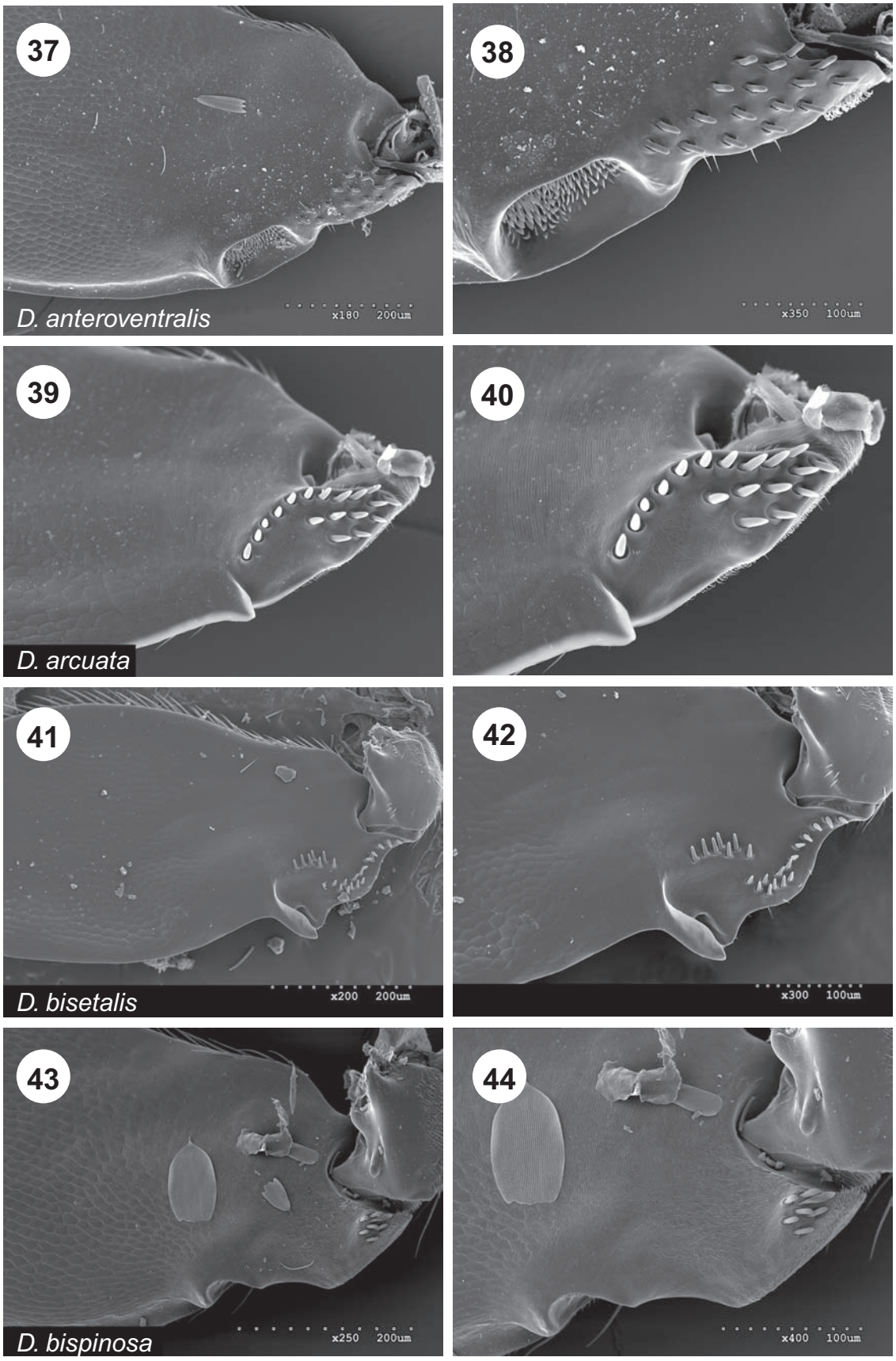
Figs 15–20. Scanning electron micrographs. **15**: *Dohrniphora alvarengai*-group; foretarsus. **16**: *D. anteroventralis* Borgmeier, 1960; foretarsus. **17–18**: *D. mesofemoralis* sp.n.; midfemur, posterior view, low magnification and high magnification. **19–20**: *D. anteroventrali*s Borgmeier, 1960; hind coxae, lateral view, left: low magnification, right: high magnification.



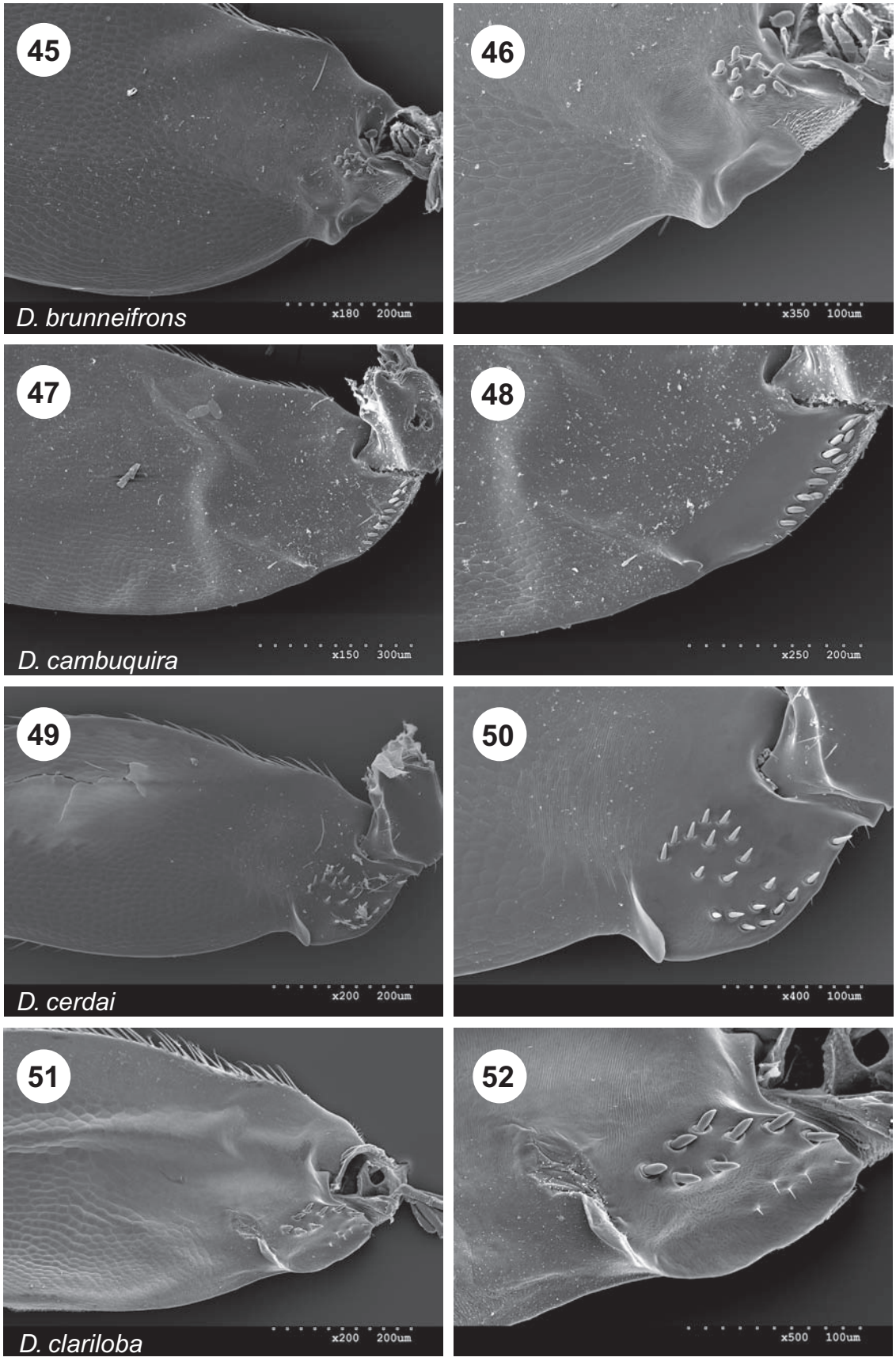
Figs 21–28. Scanning electron micrographs, hind coxae, lateral view, low magnification and high magnification. **21–22**: *D. cootei* sp.n. **23–24**: *D. femoralis* Borgmeier, 1960. **25–26**: *D. mesofemoralis* sp.n. **27–28**: *Dohrniphora paraguayana* (Brues, 1907); hind coxa, lateral view, low magnification and high magnification.



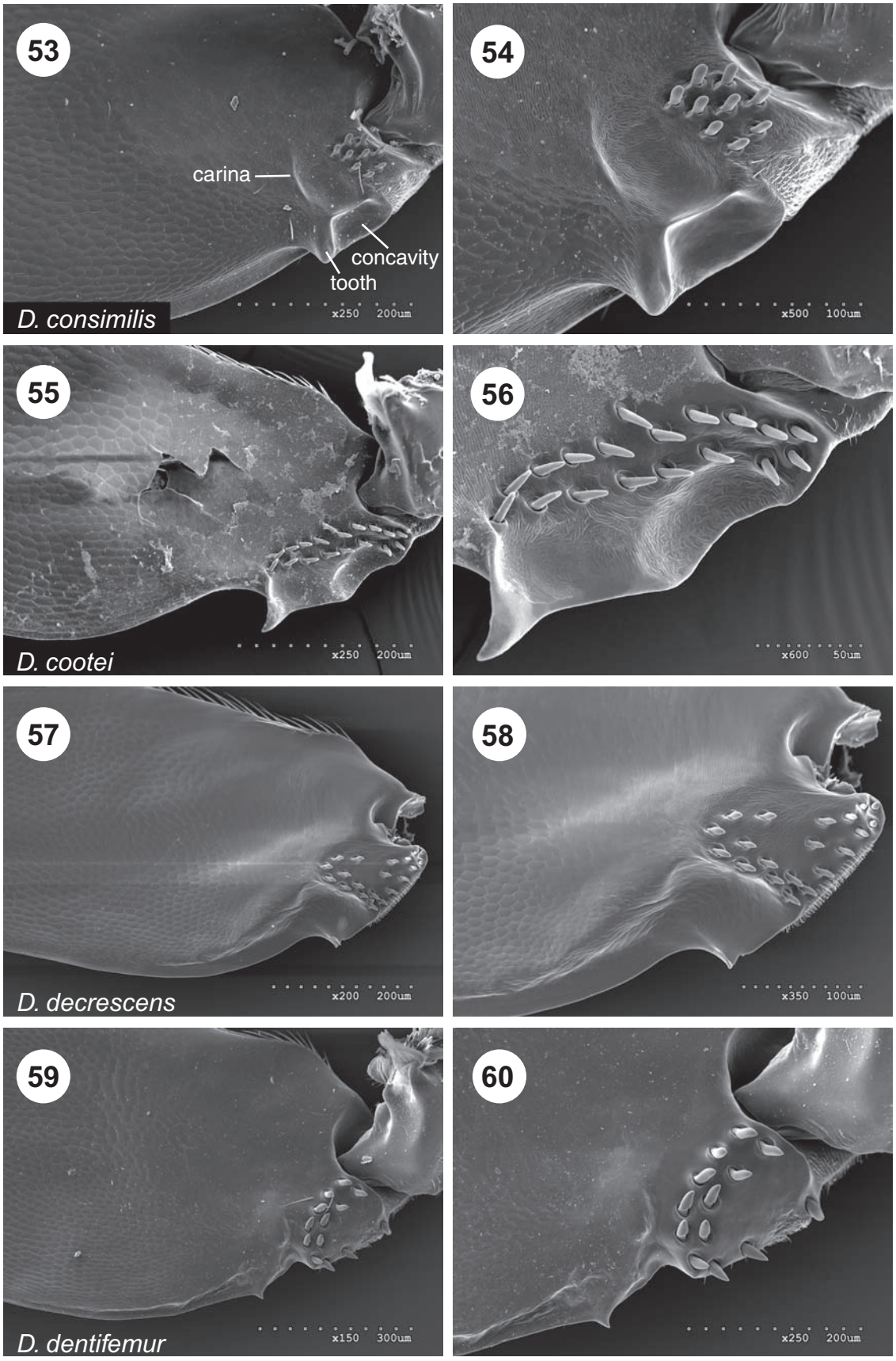
Figs 29–36. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **29–30**: *Dohrniphora adusta* Borgmeier, 1925. **31–32**: *D. alvarengai*-group. **33–34**: *D. anchicayensis* sp.n. **35–36**: *D. anterospinalis* Borgmeier, 1923.



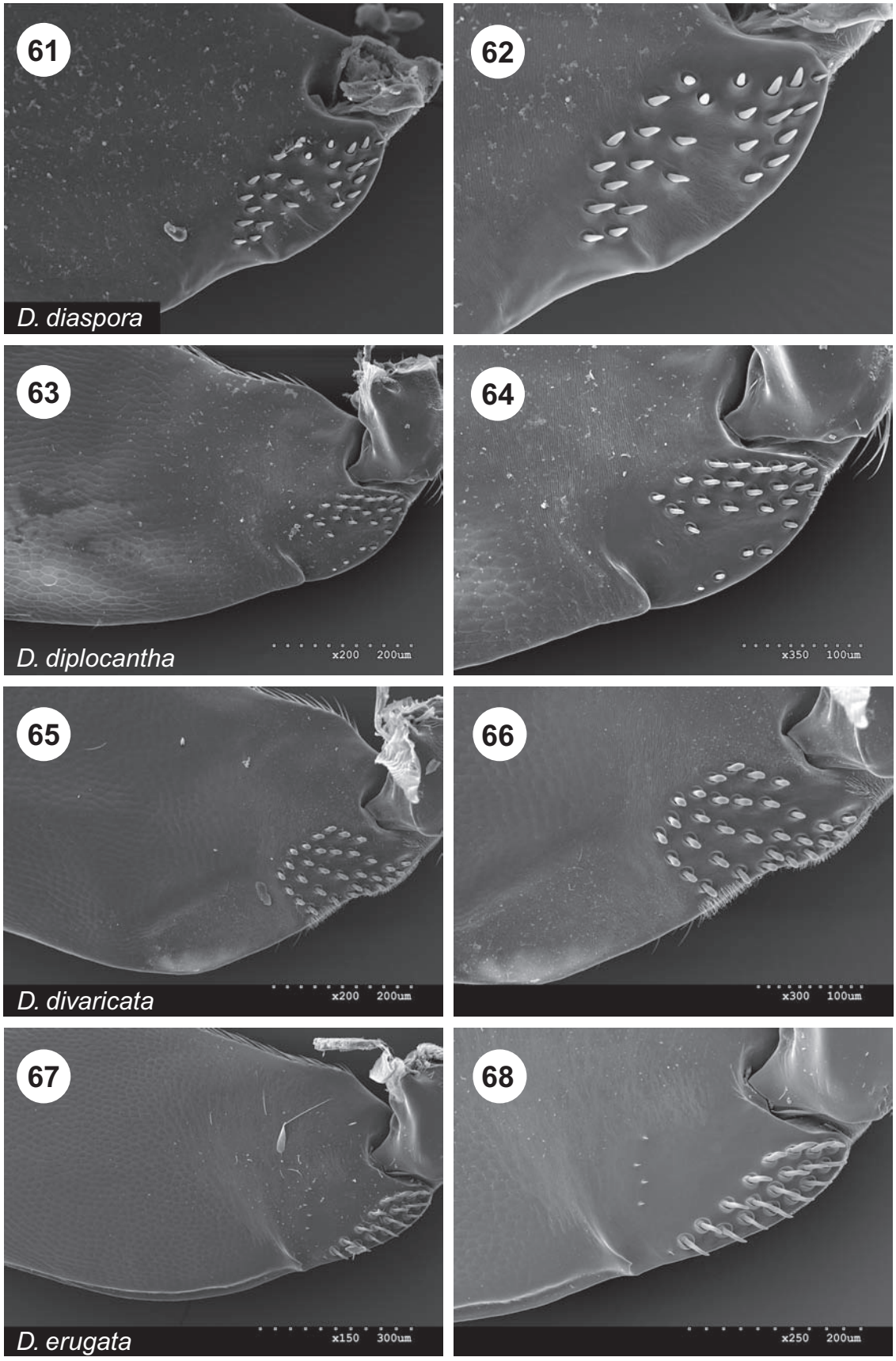
Figs 37–44. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **37–38**: *Dohrniphora anteroventralis* Borgmeier, 1960. **39–40**: *D. arcuata* sp.n. **41–42**: *D. bisetalis* Borgmeier, 1923. **43–44**: *D. bispinosa* Borgmeier & Prado, 1975.



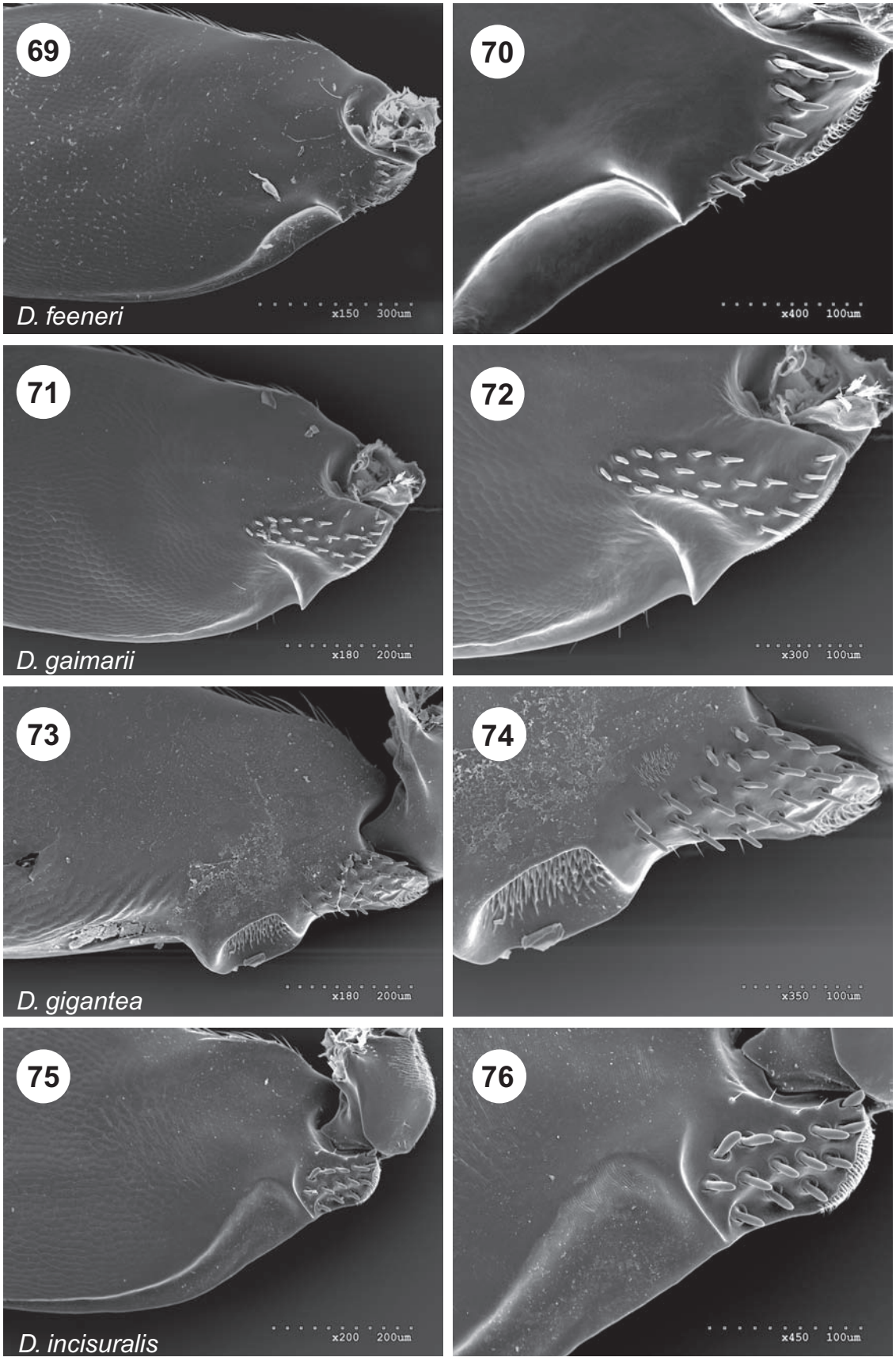
Figs 45–52. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **45–46**: *Dohrniphora brunneifrons* sp.n. **47–48**: *D. cambuquira* Borgmeier, 1960. **49–50**: *D. cerdai* sp.n. **51–52**: *D. clariloba* sp.n.



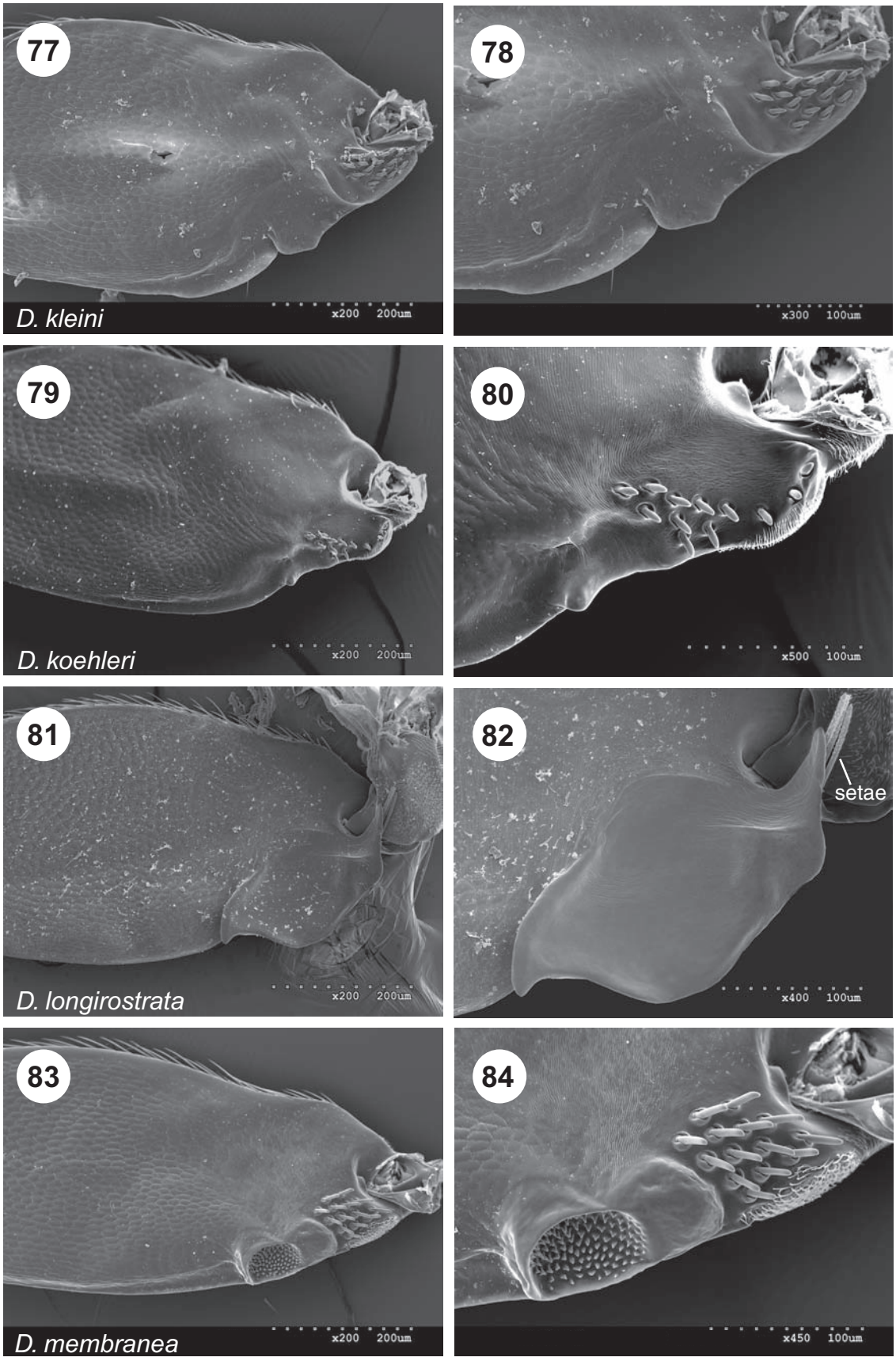
Figs 53–60. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **53–54**: *Dohrniphora consimilis* sp.n. **55–56**: *D. cootei* sp.n. **57–58**: *D. decrescens* sp.n. **59–60**: *D. dentifemur* sp.n.



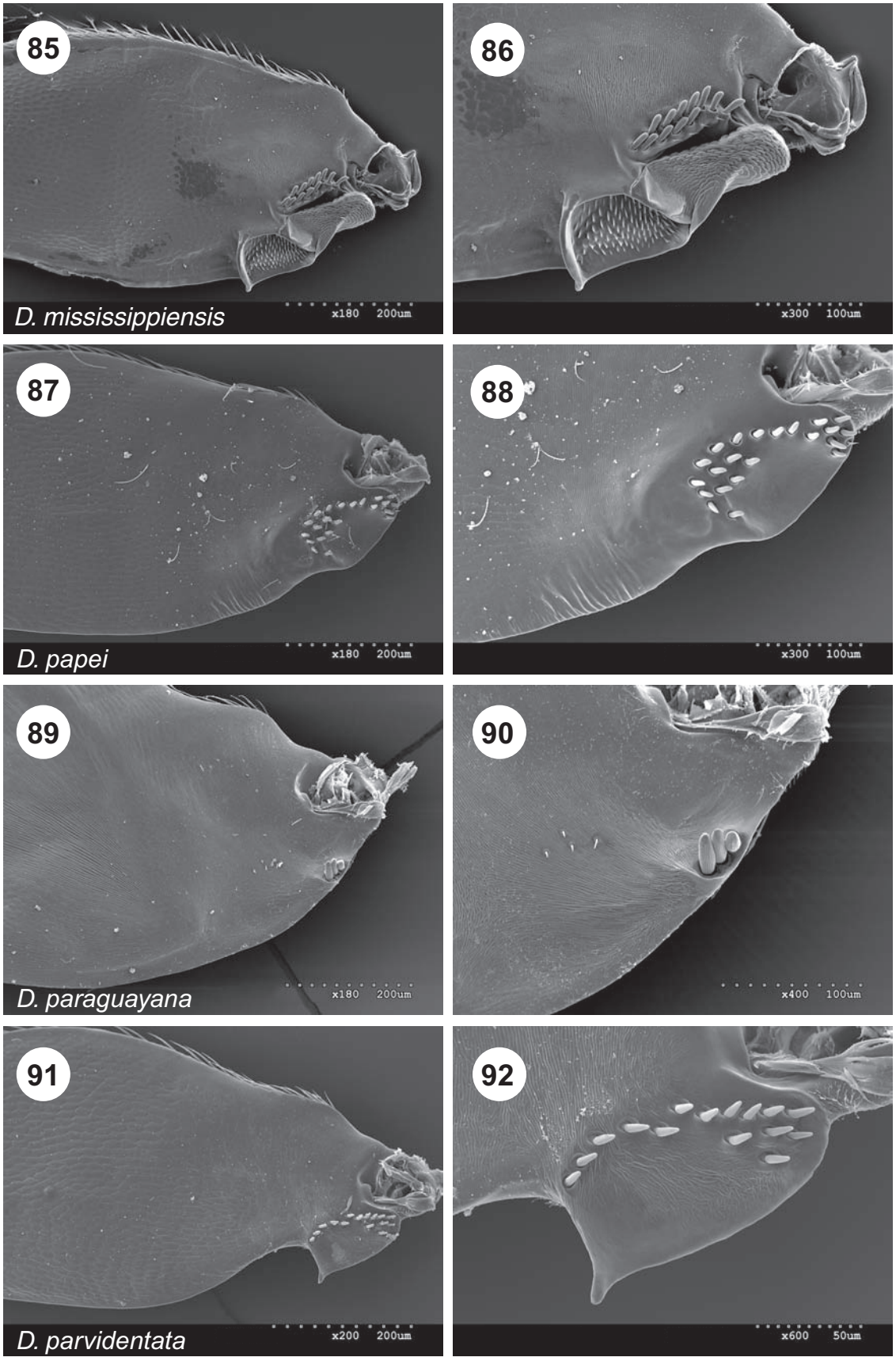
Figs 61–68. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **61–62**: *Dohrniphora diaspora* sp.n. **63–64**: *D. diplocantha* Borgmeier, 1960. **65–66**: *D. divaricata* (Aldrich, 1896). **67–68**: *D. erugata* sp.n.



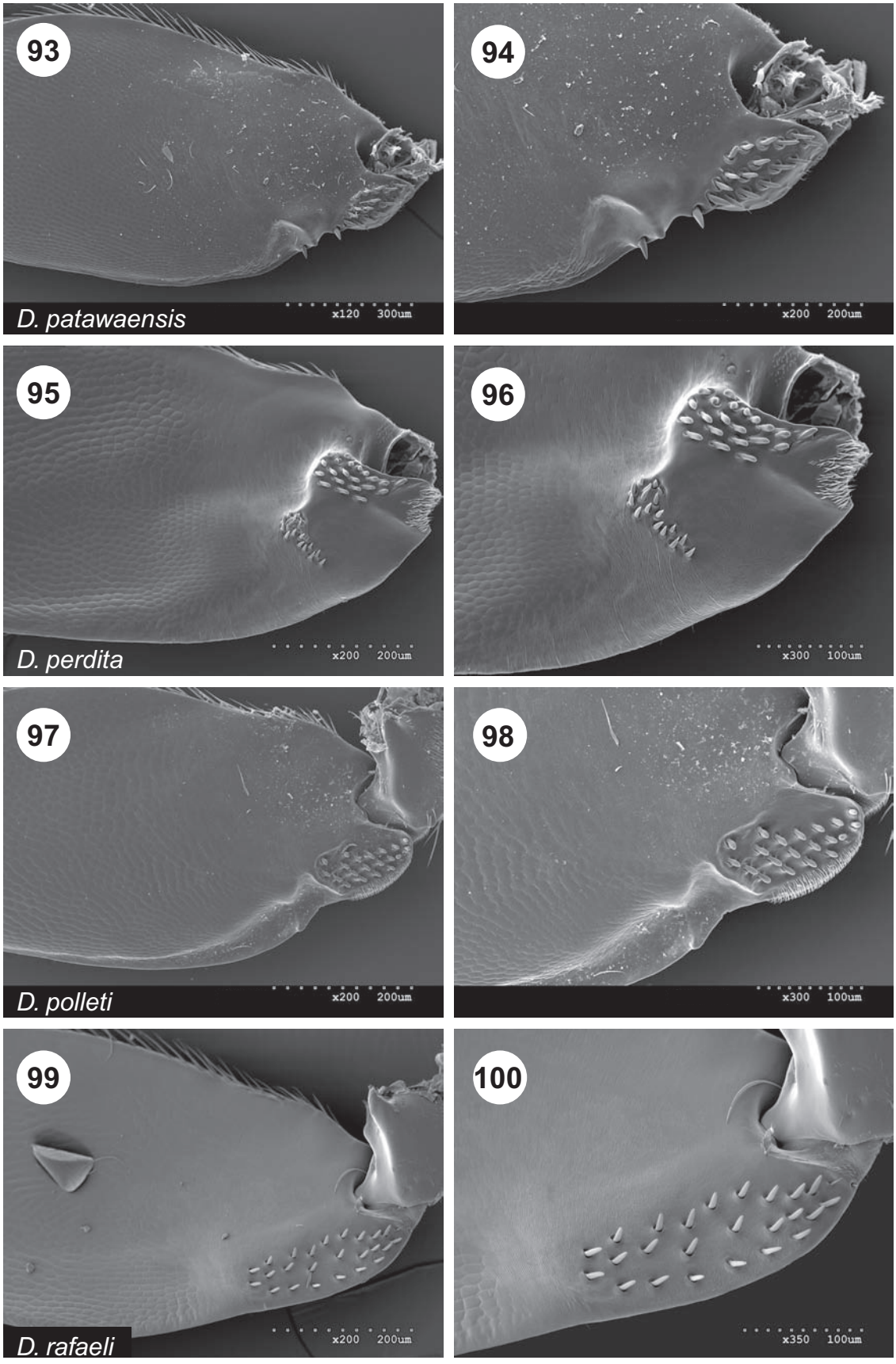
Figs 69–76. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **69–70**: *Dohrniphora feeneri* sp.n. **71–72**: D. *gaimarii* sp.n. **73–74**: *D. gigantea* (Enderlein, 1912). **75–76**: *D. incisuralis* (Loew, 1866).



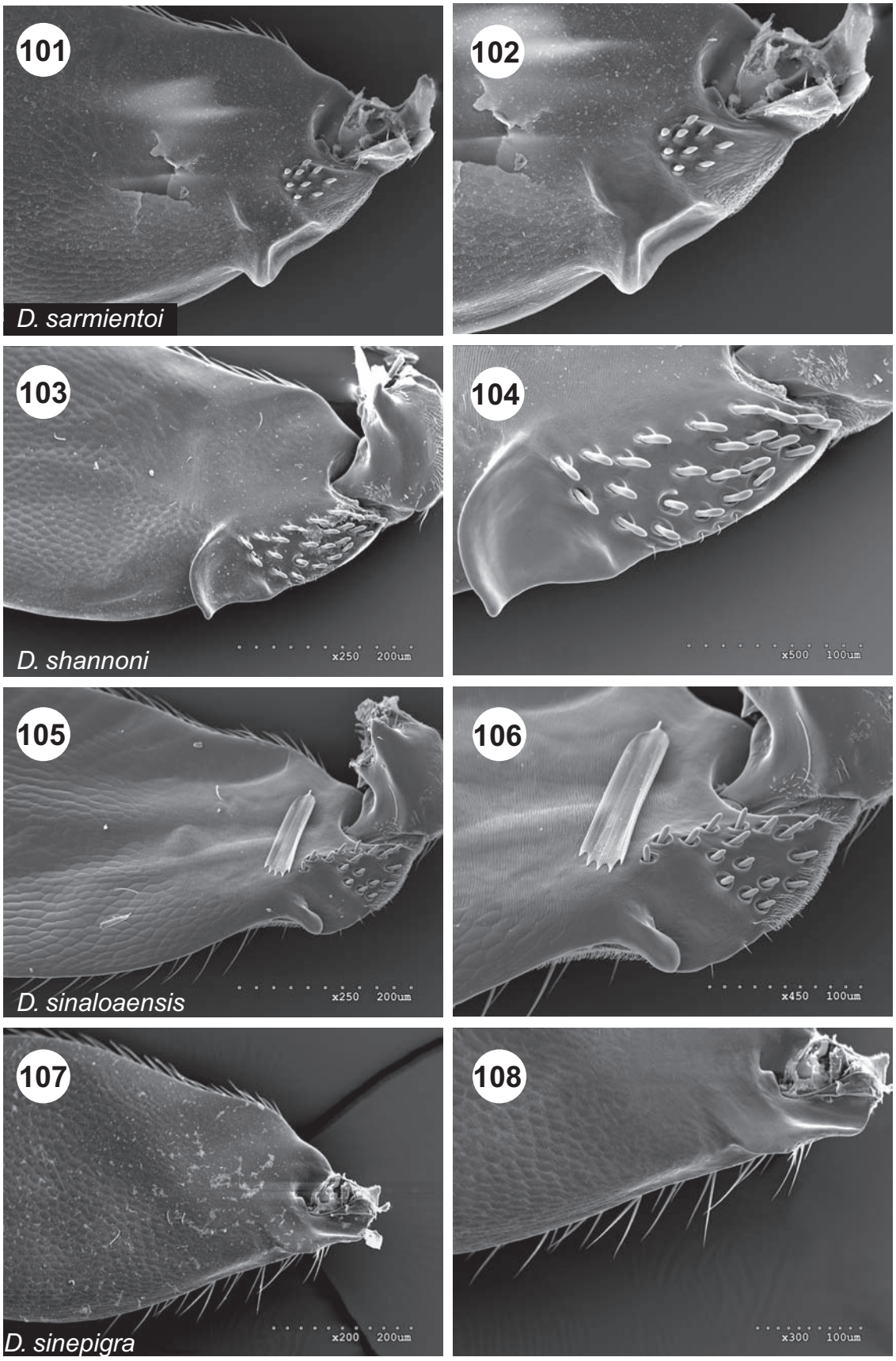
Figs 77–84. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **77–78**: *Dohrniphora kleini* sp.n. **79–80**: *D. koehleri* sp.n. **81–82**: *D. longirostrata* (Enderlein, 1912). **83–84**: *D. membranea* sp.n.



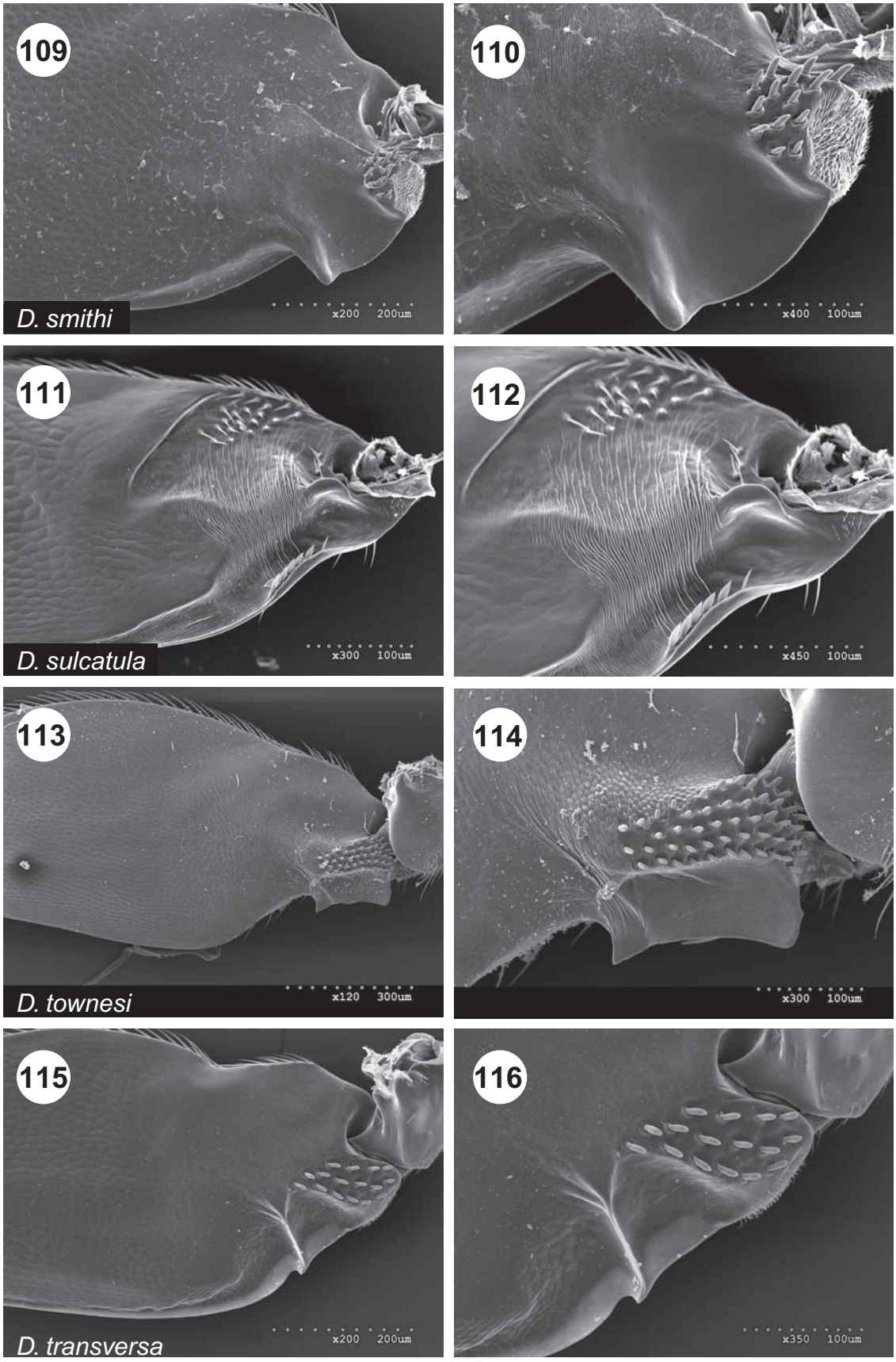
Figs 85–92. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **85–86**: *Dohrniphora mississippiensis* Khalaf, 1971. **87–88**: *D. papei* sp.n. **89–90**: *D. paraguayana* (Brues, 1907). **91–92**: *D. parvidentata* sp.n.



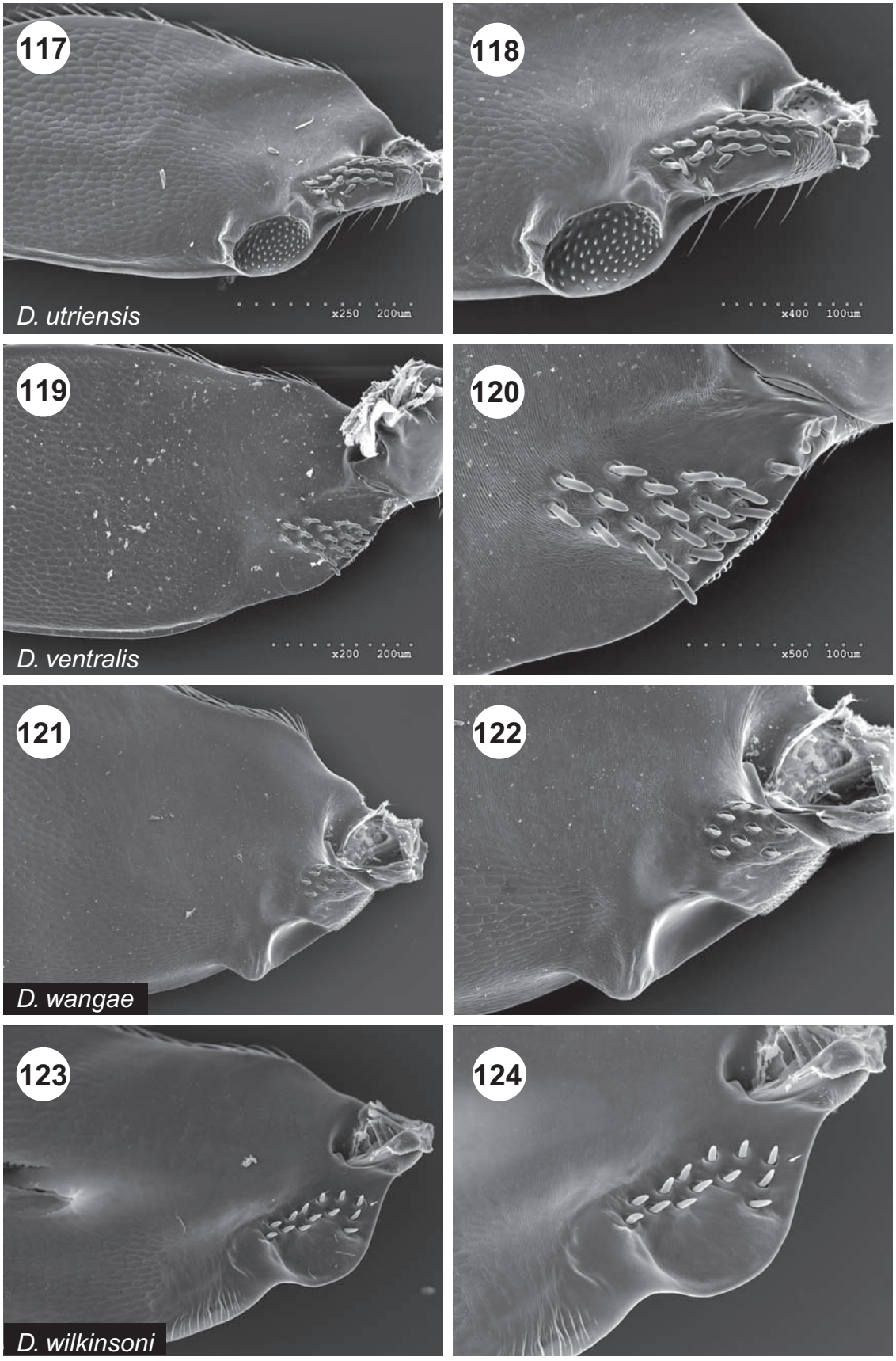
Figs 93–100. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **93–94**: *Dohrniphora patawaensis* sp.n. **95–96**: *D. perdita* Borgmeier & Prado, 1975. **97–98**: *D. polleti* sp.n. **99–100**: *D. rafaeli* sp.n.



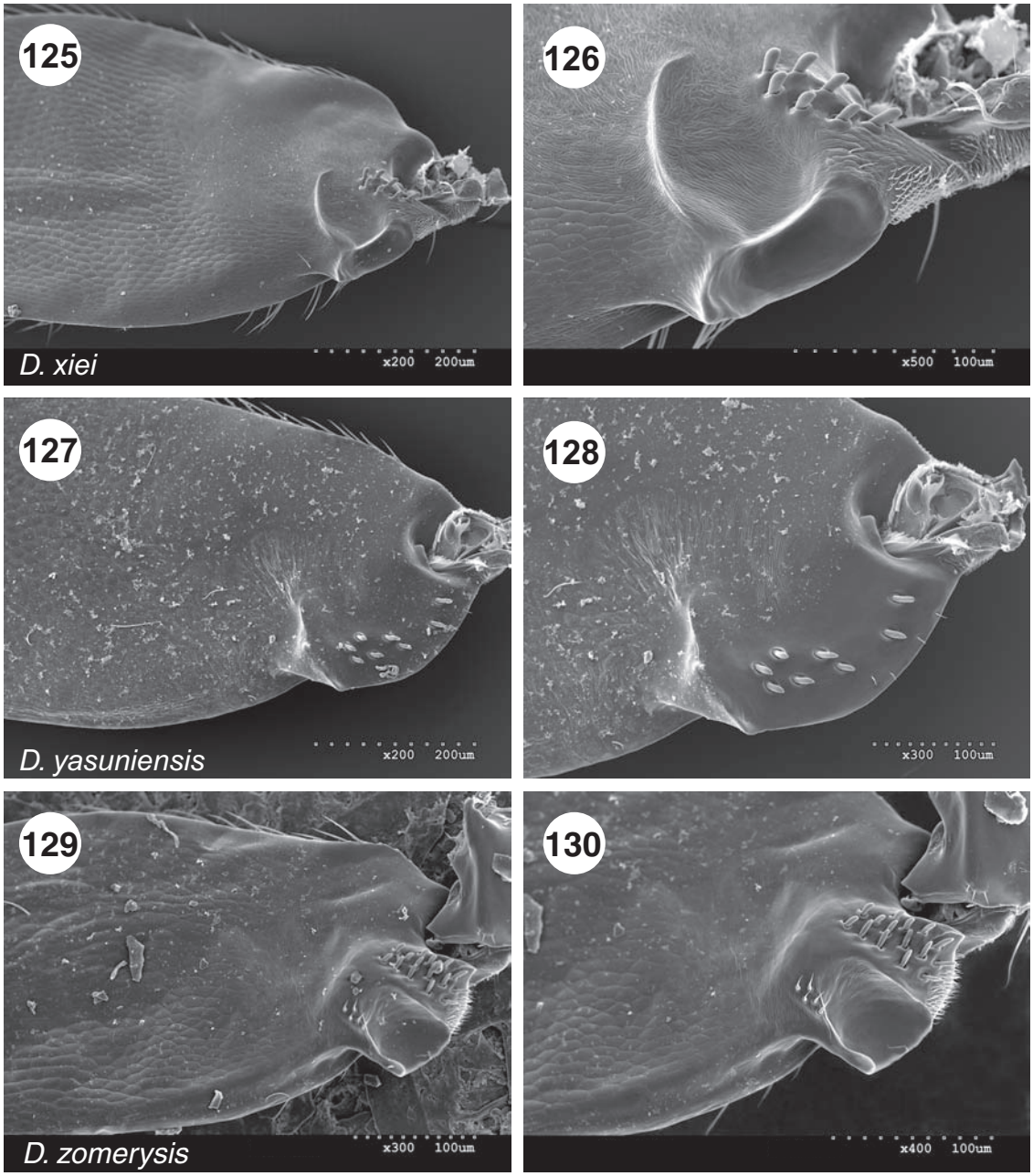
Figs 101–108. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **101–102**: *Dohrniphora sarmientoi* sp.n. **103–104**: *D. shannoni* Borgmeier, 1961. **105–106**: *D. sinaloaensis* sp.n. **107–108**: *D. sinepigra* sp.n.



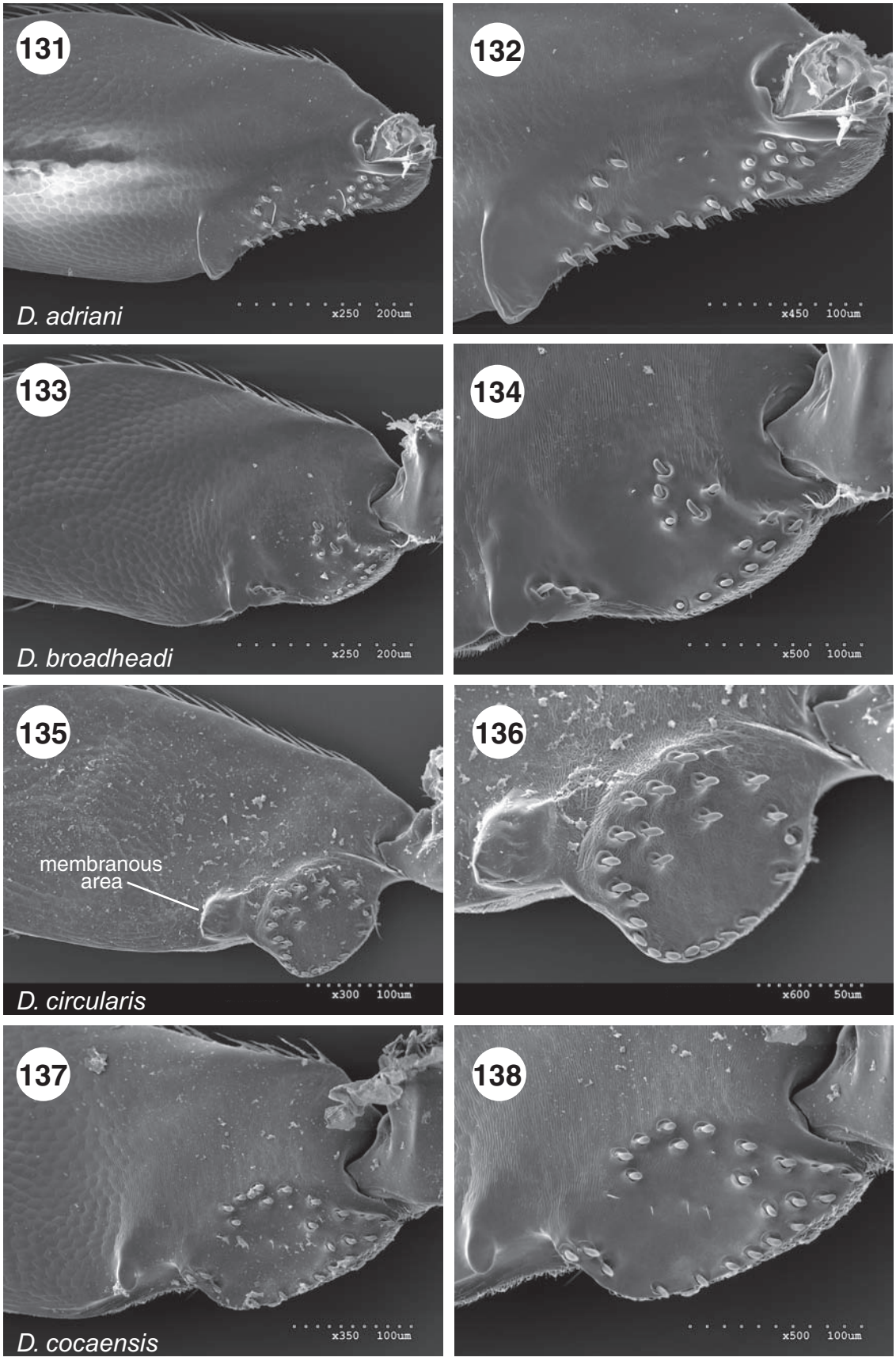
Figs 109–116. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **109–110**: *Dohrniphora smithi* sp.n. **111–112**: *D. sulcatula* Borgmeier, 1960. **113–114**: *D. townesi* sp.n. **115–116**: *D. transversa* sp.n.



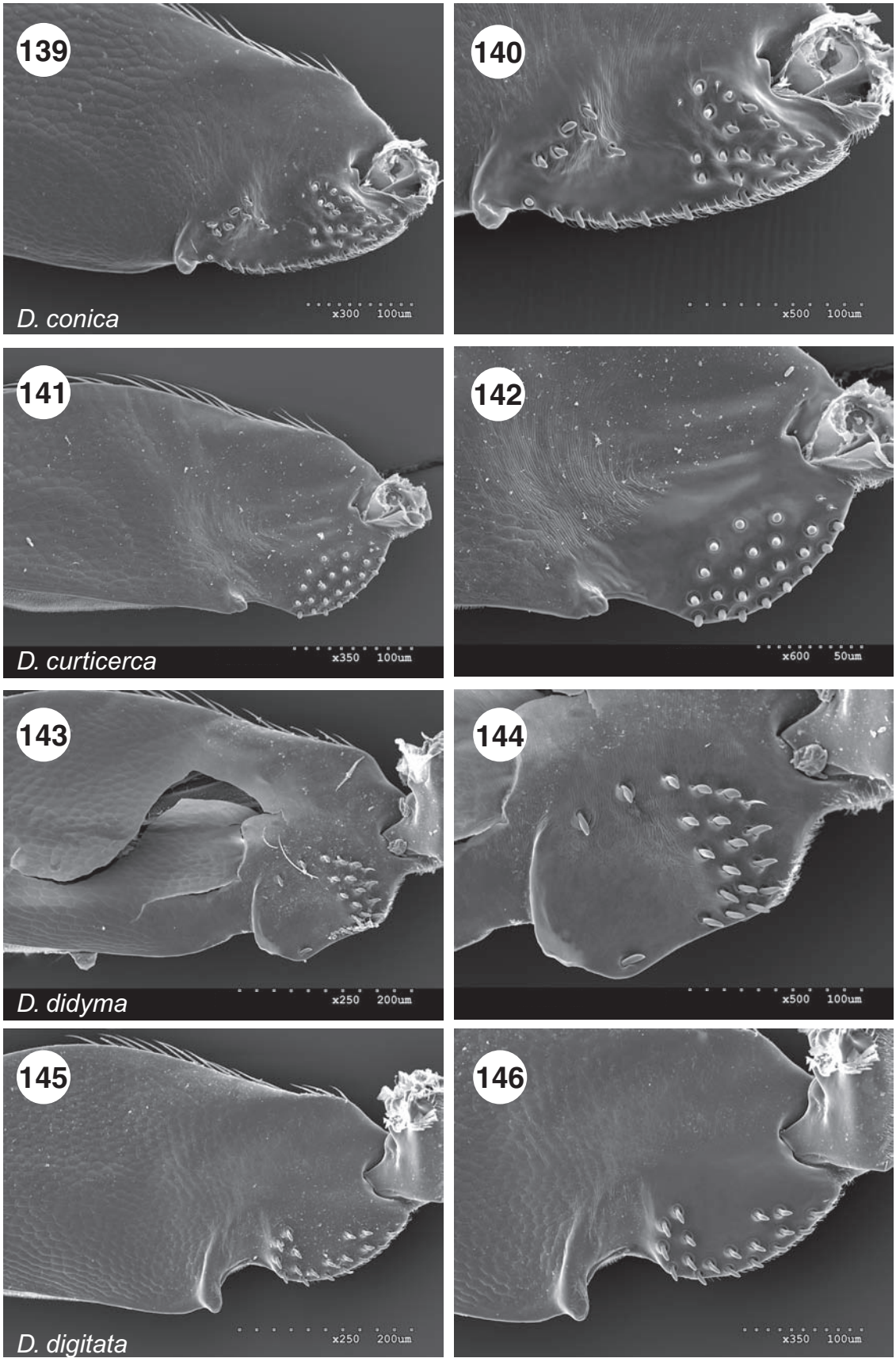
Figs 117–124. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **117–118**: *Dohrniphora utriensis* sp.n. **119–120**: *D. ventralis* Borgmeier & Prado, 1975. **121–122**: *D. wangae* sp.n. **123–124**: *D. wilkinsoni* sp.n.



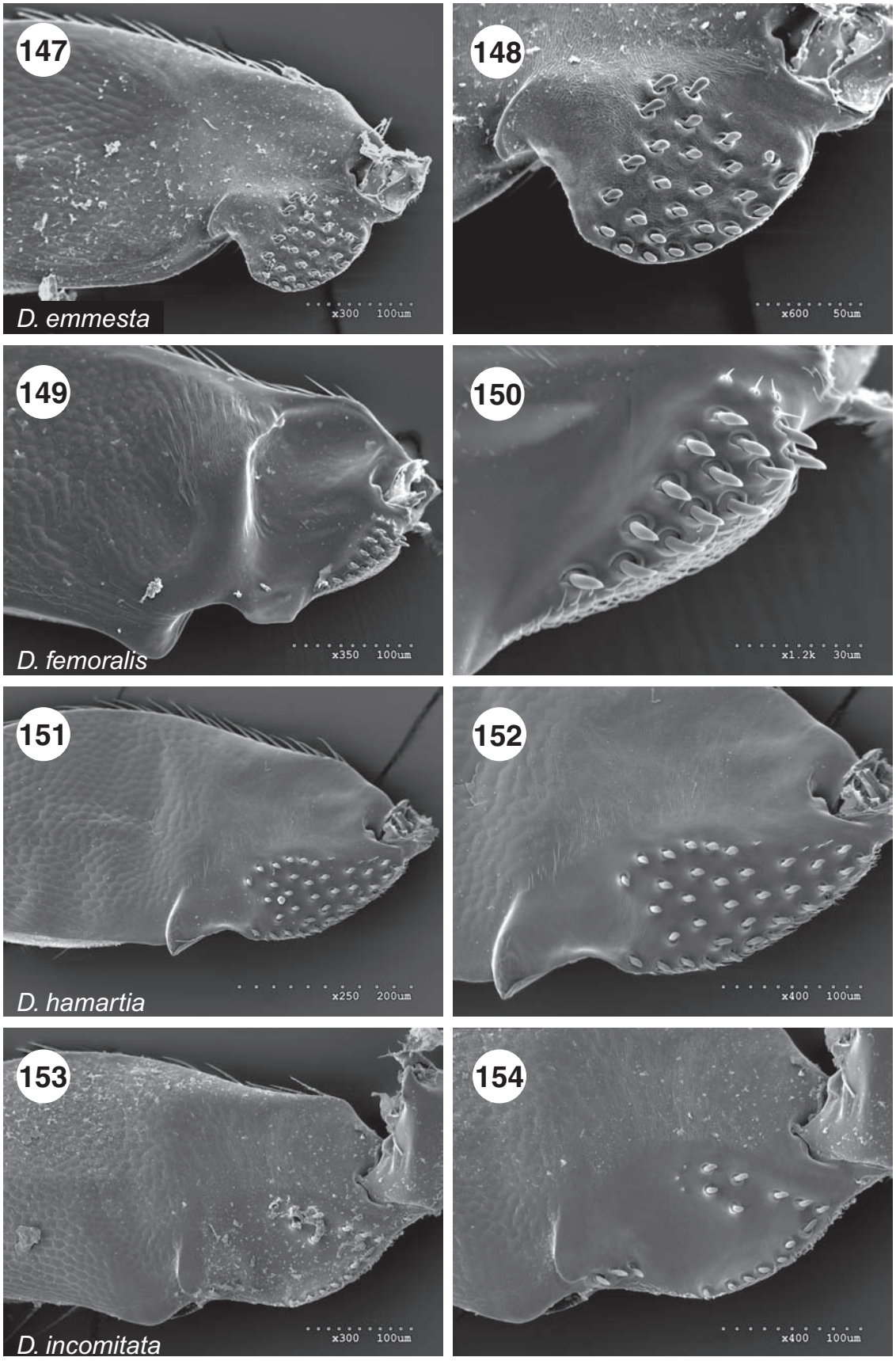
Figs 125–130. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **125–126**: *Dohrniphora xiei* sp.n. **127–128**: *D. yasuniensis* sp.n. **129–130**: *D. zomerysis* sp.n.



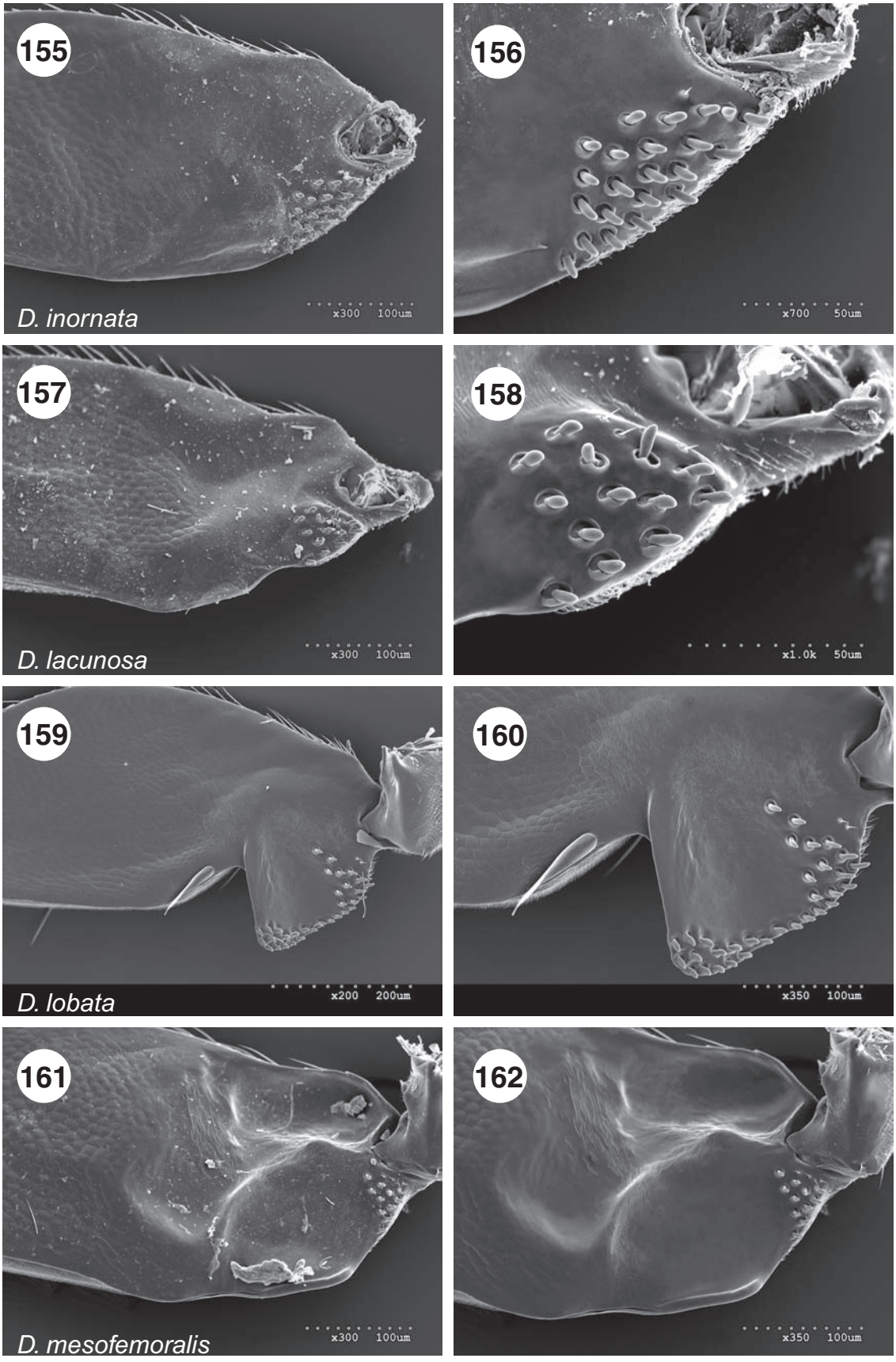
Figs 131–138. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **131–132**: *Dohrniphora adriani* Disney, 1983. **133–134**: *D. broadheadi* Disney, 1983. **135–136**: *D. circularis* sp.n. **137–138**: *D. cocaensis* sp.n.



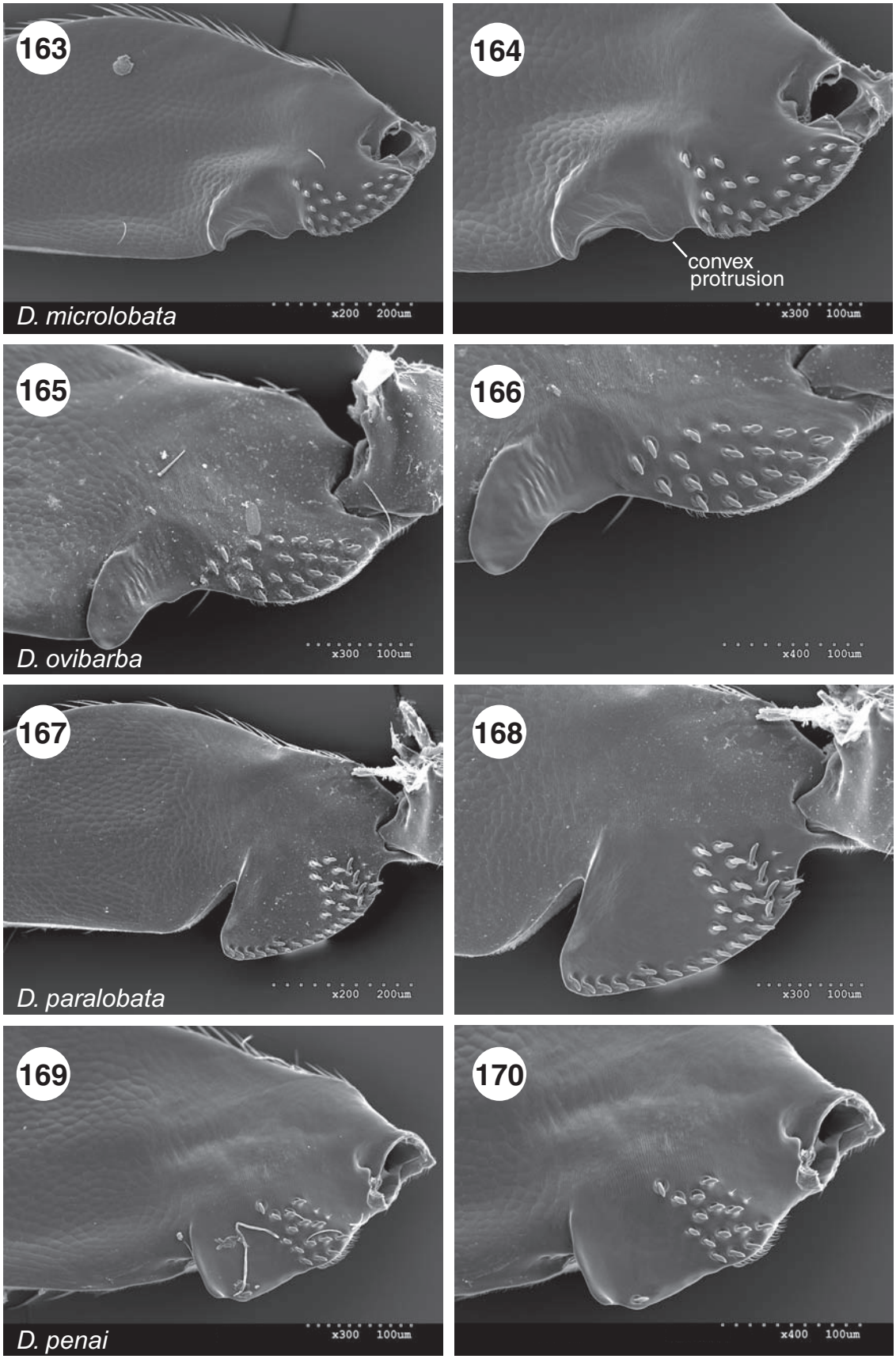
Figs 139–146. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **139–140**: *Dohrniphora conica* Borgmeier, 1960. **141–142**: *D. curticerca* sp.n. **143–144**: *D. didyma* sp.n. **145–146**: *D. digitata* sp.n.



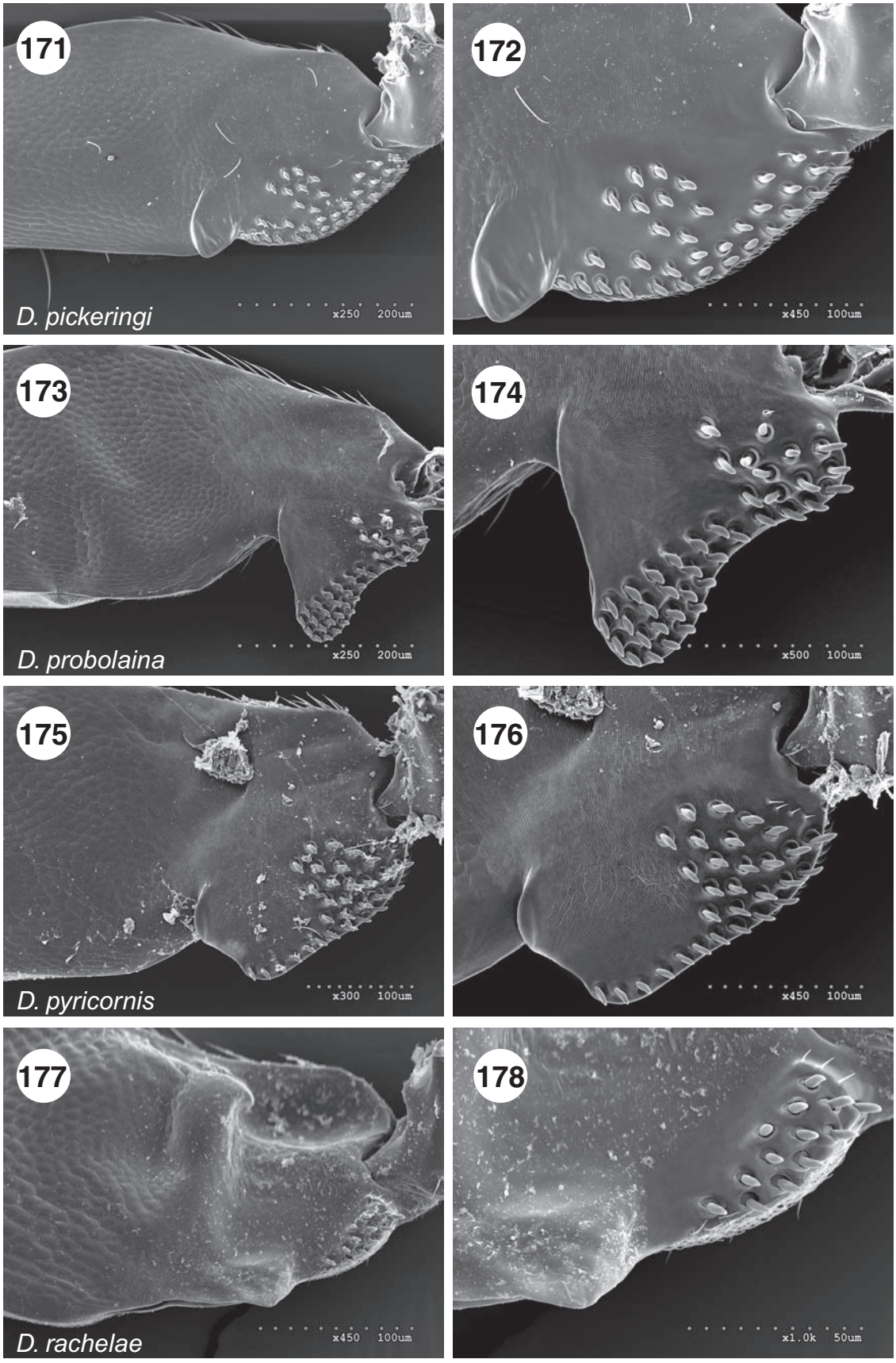
Figs 147–154. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **147–148**: *Dohrniphora emmesta* sp.n. **149–150**: *D. femoralis* Borgmeier, 1960. **151–152**: *D. hamartia* sp.n. **153–154**: *D. incomitata* sp.n.



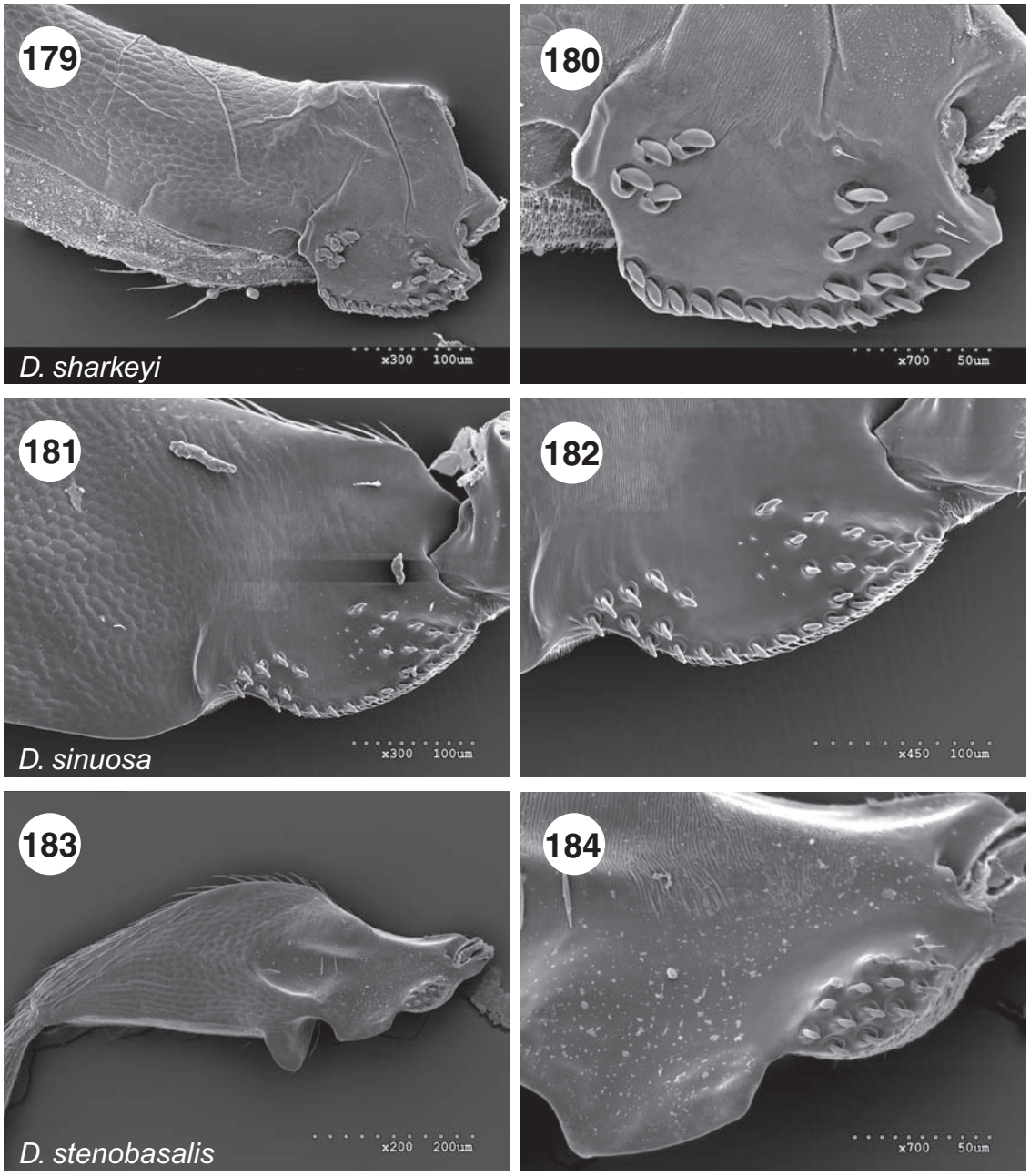
Figs 155–162. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **155–156**: *Dohrniphora inornata* sp.n. **157–158**: *D. lacunosa* sp.n. **159–160**: *D. lobata* Borgmeier, 1960. **161–162**: *D. mesofemoralis* sp.n.



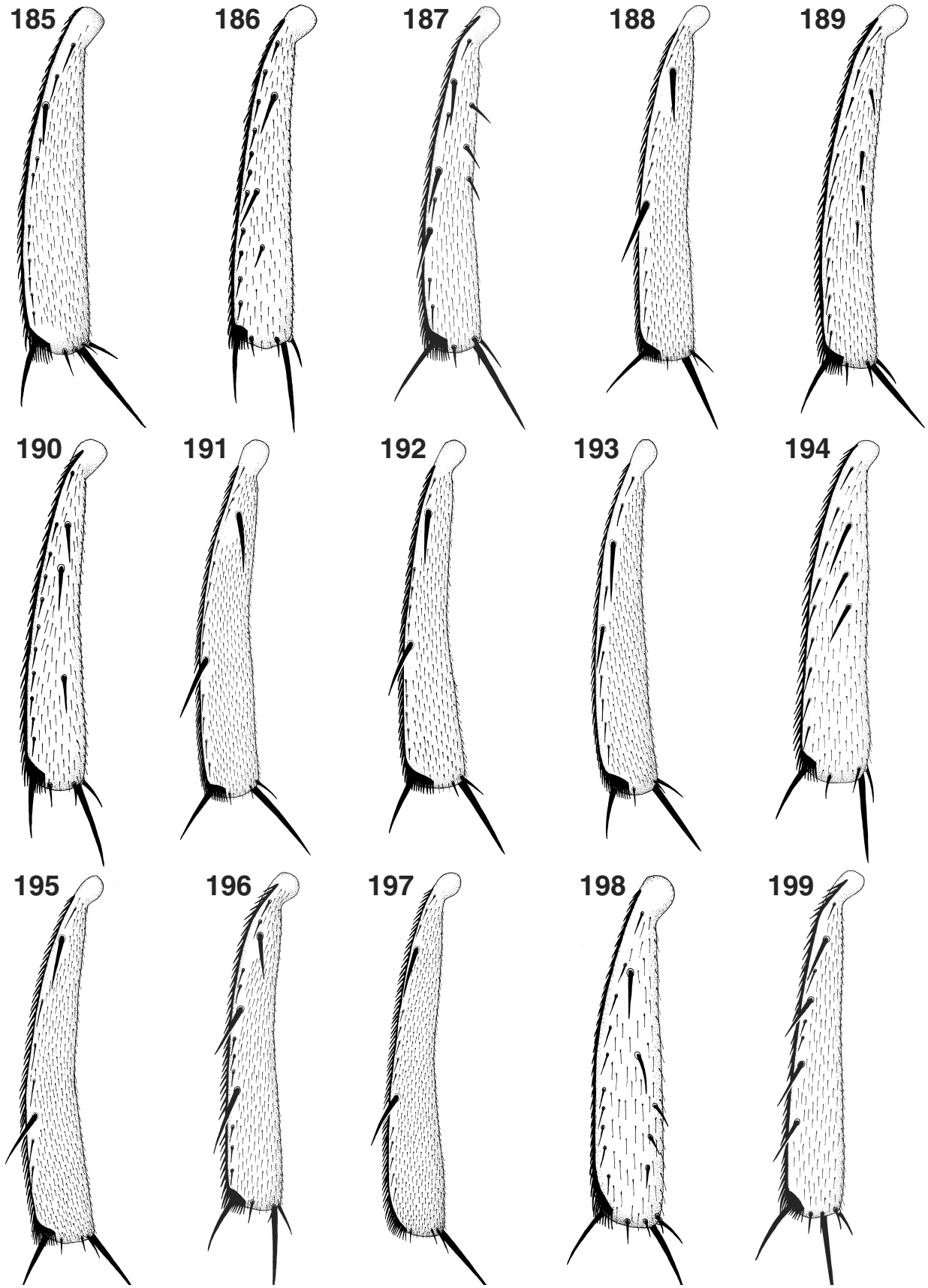
Figs 163–170. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **163–164**: *Dohrniphora microlobata* sp.n. **165–166**: *D. ovibarba* sp.n. **167–168**: *D. paralobata* sp.n. **169–170**: *D. penai* sp.n.



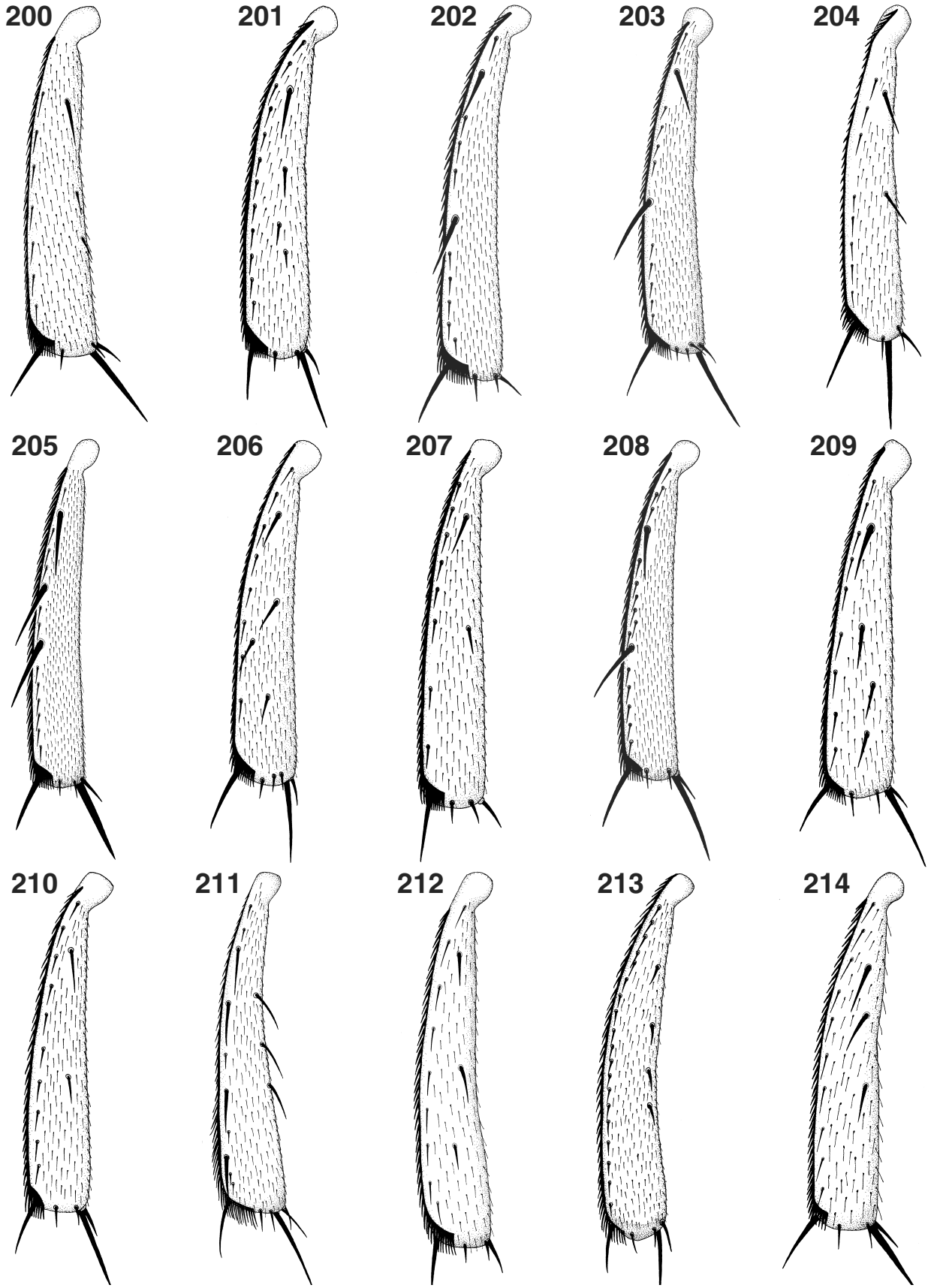
Figs 171–178. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **171–172**: *D. pickeringi* sp.n. **173–174**: *D. probolaina* sp.n. **175–176**: *D. pyricornis* (Brues, 1944). **177–178**: *Dohrniphora rachelae* Disney, 1983.



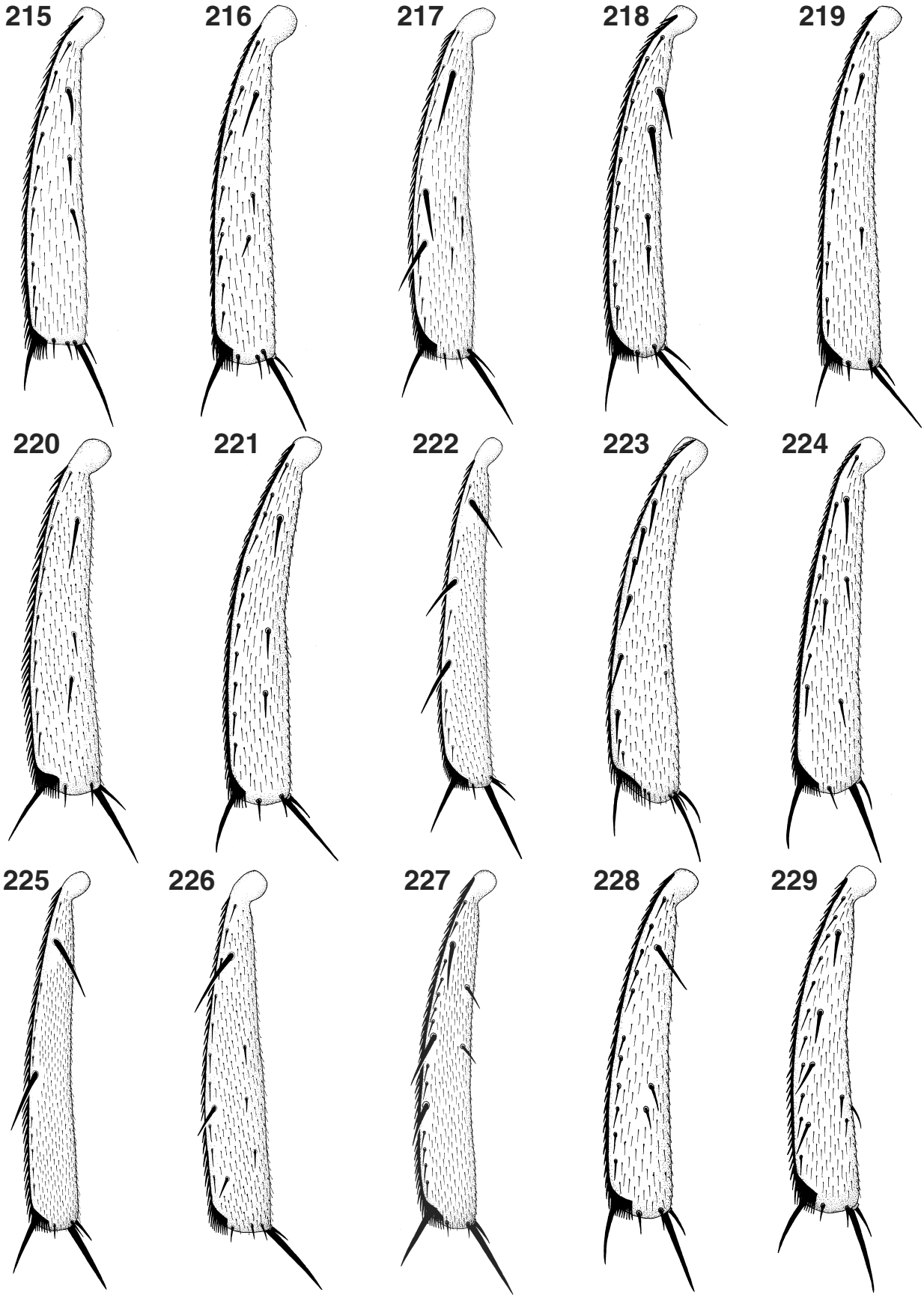
Figs 179–184. Scanning electron micrographs, hind femora, posterior view, low magnification and high magnification. **179–180**: *D. sharkeyi* sp.n. [leg distorted]. **181–182**: *D. sinuosa* Borgmeier, 1960. **183–184**: *D. stenobasalis* sp.n.



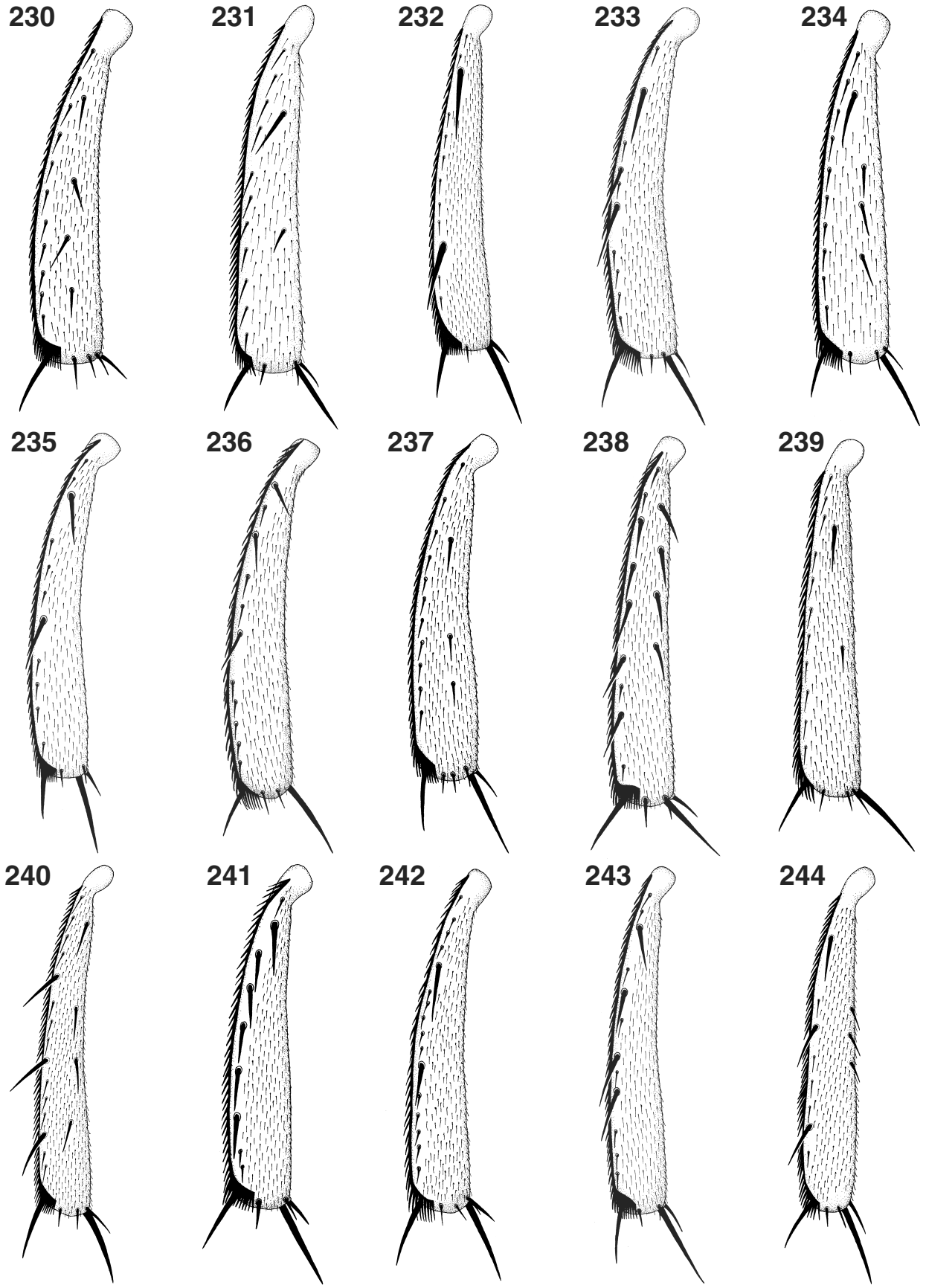
Figs 185–199. Hind tibiae, anterior view. **185**: *Dohrniphora koehleri* sp.n. **186**: *D. adriani* Disney, 1983. **187**: *D. adusta* Borgmeier, 1925. **188**: *D. alvarengai*-group. **189**: *D. anterospinalis* Borgmeier, 1923. **190**: *D. anteroventralis* Borgmeier, 1960. **191**: *D. arcuata* sp.n. **192**: *D. bisetalis* Borgmeier, 1923. **193**: *D. bispinosa* Borgmeier & Prado 1975. **194**: *D. broadheadi* Disney 1983. **195**: *D. brunneifrons* sp.n. **196**: *D. cambuquira* Borgmeier, 1960. **197**: *D. cerdai* sp.n. **198**: *D. circularis* sp.n. **199**: *D. clariloba* sp.n.



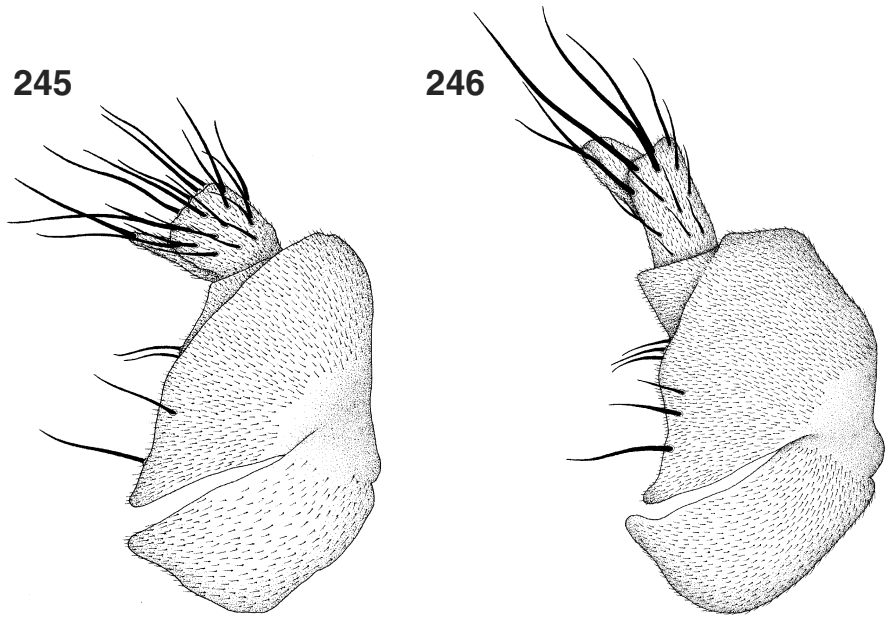
Figs 200–214. Hind tibiae, anterior view. **200**: *Dohrniphora cocaensis* sp.n. **201**: *D. conica* Borgmeier, 1960. **202**: *D. consimilis* sp.n. **203:** *D. cootei* sp.n. **204**: *D. curticerca* sp.n. **205**: *D. diaspora* sp.n. **206**: *D. didyma* sp.n. **207**: *D. digitata* sp.n. **208**: *D. diplocantha* Borgmeier, 1960. **209**: *D. emmesta* sp.n. **210**: *D. femoralis* Borgmeier, 1960. **211**: *D. gigantea* (Enderlein, 1912). **212**: *D. hamartia* sp.n. **213**: *D. incisuralis* (Loew, 1866). **214**: *D. incomitata* sp.n.



Figs 215–229. Hind tibiae, anterior view. **215**: *Dohrniphora inornata* sp.n. **216**: *D. lacunosa* sp.n. **217**: *D. lobata* Borgmeier, 1960. **218**: *D. membranea* sp.n. **219**: *D. mesofemoralis* sp.n. **220**: *D. microlobata* sp.n. **221**: D. *ovibarba* sp.n. **222**: *D. papei* sp.n. **223**: *D. paraguayana* (Brues, 1907). **224**: *D. paralobata* sp.n. **225**: *D. parvidentata* sp.n. **226**: *D. penai* sp.n. **227**: *D. perdita* Borgmeier & Prado, 1975. **228**: *D. pickeringi* sp.n. **229**: *D. probolaina* sp.n.



Figs 230–244. Hind tibiae, anterior view. **230**: *D. pyricornis* (Brues, 1944). **231**: *D. rachelae* Disney, 1983. **232**: *D. rafaeli* sp.n. **233**: *D. sarmientoi* sp.n. **234**: *D. sharkeyi* sp.n. **235**: *D. sinaloaensis* sp.n. **236**: *D. sinepigra* sp.n. **237**: *D. sinuosa* Borgmeier, 1960. **238**: *D. smithi* sp.n. **239**: *D. stenobasalis* sp.n. **240**: *D. townesi* sp.n. **241**: *D. wangae* sp.n. **242**: *D. wilkinsoni* sp.n. **243**: *D. yasuniensis* sp.n. **244**: *D. zomerysis* sp.n.



Figs 245–246. Male genitalia, right lateral view. **245**: *D. curticerca* sp.n. **256**: *D. inornata* sp.n.

9. References

ALDRICH, J.M. 1896. Phoridae, Diptera of St. Vincent (West Indies). – Transactions of the Entomological Society of London (1896): 435–438.

BARNES, J.K. 1990. Life history of *Dohrniphora cornuta* (Bigot) (Diptera: Phoridae), a filth-inhabiting humpbacked fly. – Journal of the New York Entomological Society **98**: 474–483.

BORGMEIER, T. 1923a. Contribuição para o conhecimento dos Phorideos do Brasil. – Archivos do Museu Nacional, Rio de Janeiro **24**: 323–346, 11 Figs.

BORGMEIER, T. 1923b. Notas sôbre Phorideos brasileiros. – Vozes de Petrópolis **17**: 580–582, 628–630, 741–742, 794–796, 848–850, 957–958.

BORGMEIER, T. 1925. Novos subsidios para o conhecimento da familia Phoridae. – Archivos do Museu Nacional, Rio de Janeiro **25**: 85–281.

BORGMEIER, T. 1960. Gefluegelte und ungefluegelte Phoriden aus der neotropischen Region, nebst Beschreibung von sieben neuen Gattungen (Diptera, Phoridae). – Studia Entomologica **3**: 257–374.

BORGMEIER, T. 1961. Weitere Beitraege zur Kenntnis der neotropischen Phoriden, nebst Beschreibung einiger *Dohrniphora*-Arten aus der indo-australischen Region (Diptera: Phoridae). – Studia Entomologica **4**: 1–112.

BORGMEIER, T. 1963. Revision of the North American phorid flies. Part I. The Phorinae, Aenigmatiinae and Metopininae, except *Megaselia* (Diptera, Phoridae). – Studia Entomologica **6**: 1–256.

BORGMEIER, T. 1969a. Bredin-Archbold-Smithsonian Biological Survey of Dominica. The Phoridae of Dominica, W. I. – Smithsonian Contributions to Zoology **23**: 1–69.

BORGMEIER, T. 1969b. New or little-known phorid flies, mainly of the Neotropical Region.-Studia Entomologica **12**: 33–132.

BORGMEIER, T. & A.P. DO PRADO. 1975. New or little-known Neotropical phorid flies, with description of eight new genera (Dipt. Phoridae). – Studia Entomologica **18**: 3–90.

BRUES, C.T. 1907. Some new exotic Phoridae. – Annales Musei Nationalis Hungarici **5**: 400–413.

BRUES, C.T. 1915. A synonymic catalogue of the dipterous family Phoridae. – Bulletin of the Wisconsin Natural History Society **12**: 85–152.

BRUES, C.T. 1932. Phoridae associated with ants and termites in Trinidad. – Psyche **39**: 134–138.

BRUES, C.T. 1944. New Neotropical Phoridae. – Psyche **51**: 151–161.

DISNEY, R.H.L. 1983. Four new species of *Dohrniphora* (Diptera: Phoridae) from Panama. – Entomologica Scandinavica **14**: 452–456.

DISNEY, R.H.L. 1990. Key to *Dohrniphora* males (Diptera: Phoridae) of the Australasian and Oriental Regions with descriptions of new species. – Zoological Journal of the Linnean Society **99**: 339–387.

DISNEY, R.H.L. 1995. Cave Phoridae (Diptera) of Trinidad. – Giornale Italiano di Entomologia **6** (1993): 417–436.

DISNEY, R.H.L. 2003. Revision of the Afrotropical species of *Dohrniphora* Dahl (Diptera: Phoridae). – Zootaxa **196**: 1–24.

DISNEY, R.H.L. & S.M. BERGHOFF. 2005. New species and new records of scuttle flies (Diptera: Phoridae) associated with army ants (Hymenoptera: Formicidae) in Trinidad and Venezuela. – Sociobiology **45**: 887–898.

DISNEY, R.H.L. & J.P.E.C. DARLIGTON. 2000. Alate termites (Isoptera: Termitidae) parasitized by a scuttle fly (Diptera: Phoridae). – Sociobiology **35**: 63–78.

Disney, R.H.L. & D.H. Kistner. 1997. New species and new host records of Phoridae (Diptera) associated with termites (Isoptera: Termitidae). – Sociobiology **30**: 1–33.

Disney, R.H.L. & D.H. Kistner. 1998. New species and new records of myrmecophilous Phoridae (Diptera). – Sociobiology **31**: 291–349.

Eberhard, W.G. 1985. Sexual selection and animal genitalia. – Harvard University Press, Cambridge, Massachusetts & London, England. xii + 244 pp.

Eberhard, W.G. 1991. Copulatory courtship and cryptic female choice in insects.-Biological Reviews of the Cambridge Philosophical Society **66**: 1-31.

Eberhard, W.G. 1994. Evidence for widespread courtship during copulation in 131 species of insects and spiders, and implications for cryptic female choice. – Evolution **48**: 711–733.

Enderlein, G. 1912. Die Phoridenfauna Süd-Brasiliens. – Stettiner Entomologische Zeitung **73**: 16-45

Enderlein, G. 1924. Zur Klassifikation der Phoriden und über vernichtende Kritik. – Entomologische Mitteilungen **13**: 270–281.

Khalaf, K.T. 1971. Phoridae (Diptera) from Louisiana and Mississippi. – The Florida Entomologist **54**: 273–276.

Kung, G. & B.V. Brown. 2005. New species of *Dohrniphora* related to *D. longirostrata* (Diptera: Phoridae). – Annals of the Entomological Society of America **98**: 55–62.

Kung, G. & B.V. Brown. 2006. Review of the Caribbean species of *Dohrniphora* Dahl (Diptera: Phoridae). – Journal of Natural History **40**: 1931–1945.

Loew, H. 1866. Diptera Americae septentrionalis indigena. Centuria septima. – Berliner Entomologische Zeitschrift (1866): 1–54.

Prado, A.P. do 1976. Records and descriptions of phorid flies, mainly of the Neotropical Region (Diptera; Phoridae). – Studia Entomologica **19**: 561–609.

Rettenmeyer, C. W. & R. D. Akre 1968. Ectosymbiosis between phorid flies and army ants. – Annals of the Entomological Society of America **61**: 1317–1326.

Schmitz, H. 1923. Typenstudien an Phoriden. Jaarboek van het Natuurhistorisch Genootschap in Limburg. 1920–1923: 49–59.

Schmitz, H. 1927. Revision der Phoridengattungen, mit Beschreibung neuer Gattunge und Arten. Natuurhistorisch Maandblad **16**: 30–40, 45–50, 59–65, 72–79, 92–100, 110–116, 128–132, 142–148, 164, 176.

Schmitz, H. 1928. Neue *Diploneura-* und *Megaselia*-Arten. – Zoologische Mededeelingen **11**: 28–36.

Schmitz, H. 1929. Revision der Phoriden. – F. Dümmler, Berlin & Bonn. 211 pp.

Schmitz, H. 1949. Phoridae. Pp. 193–240. – *In*: E. Lindner (ed.), Die Fliegen der palaearktischen Region. Lieferung 160. – E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart.