

The Andean Goblin Spiders of the New Genus *Scaphidysderina* (Araneae, Oonopidae), With Notes on *Dysderina*

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ABSTRACT

Dysderina Simon is one of the largest of the classical genera of goblin spiders, containing numerous species that have been associated only because they are heavily scutate gamasomorphines with long, paired spines on the ventral surface of the anterior tibiae and metatarsi. The Old World species that have been assigned to the genus are wildly misplaced, and the New World fauna constitutes a complex of over 225 species belonging to at least nine genera. The northern Andes house a highly diverse fauna, both of *Dysderina* itself and of closely related genera. The new genus *Scaphidysderina* is established for one of those related but distinct Andean groups, characterized by a crenulated sternum and by the reduction or loss of the dorsal abdominal scutum in females. Seventeen new species are described from Peru (*S. manu*, *S. pagoreni*, *S. scutata*, *S. cajamarca*), Ecuador (*S. tayos*, *S. loja*, *S. molleturo*, *S. tapiai*, *S. pinocchio*, *S. palenque*, *S. tandapi*, *S. napo*, *S. baerti*, *S. cotopaxi*, *S. andersoni*), and Colombia (*S. hormigai*, *S. iguaque*). Males of several species show remarkable modifications of the chilum and chelicerae; the chilum is sometimes enlarged to form a conspicuous snout, and the chelicerae often bear a heavily sclerotized, dorsally directed spine. A second new genus, *Costarina*, is established to contain the most commonly encountered species that have been misplaced in *Dysderina*; *Dysderina plena* O. P.-Cambridge, from Mexico, is chosen as the type species, and 15 additional taxa, all described from Central America by Chickering, are transferred from *Dysderina* to *Costarina*: *D. abdita*, *D. belinda*, *D. concinna*, *D. dura*, *D. humphreyi*, *D. improvisa*, *D. intempina*, *D. meridina*, *D. obtina*, *D. potena*, *D. recondita*, *D. rigida*, *D. seclusa*, *D. silvatica*, and *D. watina*.

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INTRODUCTION

The goblin spider genus *Dysderina* Simon (1891) is one of the largest of the classical oonopid genera, containing heavily scutate species notable for having several pairs of very long spines under the anterior tibiae and metatarsi (as in figs. 155, 156, 193, 194). The group currently includes 44 species (Platnick, 2011) from far-flung regions: the Neotropics, Africa, the Philippines, and the Caroline Islands. This wide distribution, however, is merely an artifact. Examination of the types of most of the described species, and much additional material, indicates that there is a distinctive complex of genera closely allied to *Dysderina*, but that the Old World taxa are wildly misplaced, and are not even members of that complex, much less of *Dysderina* itself.

Members of the *Dysderina* complex share characteristic male genitalia. The palpal bulb is inflated and is usually completely fused to the cymbium, with no trace of a seam (figs. 16, 18, 145, 147); the embolus originates subdistally and is often elaborate in shape (figs. 22–24). The complex appears to include more than 225 species, belonging to at least nine genera, found from Mexico and the West Indies south to Argentina.

Dysderina has been misconstrued throughout its history. Simon (1891) designated *Oonops principalis* Keyserling (1881), described from Colombia (as “Neu-Granada”), as the type species. In that paper, Simon identified specimens from Saint Vincent and from Venezuela as belonging to *D. principalis*, but those specimens are all misidentified (i.e., none of them actually belong to Keyserling’s species). For example, Simon’s Venezuelan specimens of “*D. principalis*” include representatives of four species, belonging to two different genera, and not a single one of those four species is actually congeneric (much less conspecific) with *D. principalis*.

Under Article 70.3 of the International Code of Zoological Nomenclature, authors who discover such misidentifications of type species have the option of selecting either the nominal species, or one of those misidentified as that species by the original author of the genus, to be the type. In this case, the problem was addressed first (albeit only implicitly) by Chickering (1968), who recognized that Simon’s specimens from Saint Vincent do not belong to *D. principalis*, and described them as a new species, *D. soltina*. We initially viewed this choice as totally unproblematic, because *D. principalis*, *D. soltina*, and most of the other species assigned to *Dysderina* by Chickering (1968) share a distinctive sternal morphology; in both sexes, the sternum typically bears three conspicuous, elevated, transverse ridges (fig. 3).

However, although the sternal ridges are presumably synapomorphic (as they are unknown in other spiders), further study of the substantial available collections indicates that the taxa that have such ridges constitute more than one genus. The holotype (and only known specimen) of *D. principalis* has a distinct groove connecting the two anterior spiracles, and a second distinct groove connecting the two posterior spiracles (fig. 5; because *D. principalis* is poorly known, we present here several images of its holotype, as figs. 1–12). There are many species that resemble *D. principalis* in both sternal and spiracular characters, and also share with that species a characteristic form of the male palp. We therefore consider *Dysderina* to include only those species that share the sternal, spiracular, and palpal conformation of *D. principalis*. Under

this interpretation, many species currently placed in *Dysderina*, including some of those most commonly encountered in collections, will have to be transferred to other genera (generic names are already available for some of these misplaced species).

If one were to depart from Chickering's choice of *D. principalis* as the type species, and regard instead as the type species one of those misidentified as *D. principalis* by Simon (1891), little nomenclatorial stability could be gained, as no more than six of the specific names considered by Chickering (1968) to belong to *Dysderina* would remain in the genus, no matter which of Simon's misidentified species was chosen. Moreover, there is already a generic name available for those of Simon's misidentified taxa that do have the sternal ridges (and are therefore closest to the traditional concept of *Dysderina*); those species actually belong to *Simonoonops* Harvey (2002), a genus that occurs in Venezuela and the Lesser Antilles.

We therefore see no reason to depart from Simon's original designation (and Chickering's subsequent treatment) of *D. principalis* (Keyserling) as the type species. This means, however, that the large group of Mexican and Central American species that have been assigned to *Dysderina* in the past are among the taxa that have been misplaced. Because these taxa represent a majority of the specimens that have been identified as *Dysderina* in collections, we establish below a new genus, *Costarina*, to contain this assemblage.

The northern Andes house a highly diverse fauna, both of *Dysderina* itself and of other *Dysderina*-like taxa; some of these genera seem to be Andean endemics, but others may occur also in Venezuela, Bolivia, and/or Brazil. Many of the Andean species are notable because the females lack the dorsal abdominal scutum that is found in the males of those species and in both sexes of all other members of the complex. In this respect, they resemble the species of *Scaphiella* Simon (1891) and its relatives.

The present paper deals with one of these groups, here described as *Scaphidysderina*. Its members are united by sternal morphology; in both sexes, the surface of the sternum lacks the transverse ridges found in *Dysderina* and its closest relatives, but is highly crenulated (figs. 15, 116). In some species, the postepigastric scutum of females extends up the sides of the abdomen (figs. 69, 233), producing a taco-shaped appearance much like that of female *Scaphiella*.

The 17 species here assigned to *Scaphidysderina* all appear to be undescribed. Aside from *D. principalis*, there are six other species from the Andean countries that are currently placed in *Dysderina*. Three of them are from Colombia: *D. globosa* (Keyserling, 1877), *D. propinqua* (Keyserling, 1881), and *D. similis* (Keyserling, 1881); their types have been examined, and do not belong to *Scaphidysderina*. Keyserling also described three species from Peru: *D. desultrix* (Keyserling, 1881), *D. machinator* (Keyserling, 1881), and *D. montana* (Keyserling, 1883). The types of those three species were supposed to be deposited in Warsaw but are not currently in that collection (Dominika Mierzwa, in litt.) or with the Keyserling material in London, and are either lost or destroyed. Of those taxa, *D. machinator* was based on a male; Keyserling's illustration of the palp shows a separate palpal bulb and cymbium, and the species is clearly not a member of the *Dysderina* complex. Keyserling's figure of *D. montana* suggests that this female has a small postepigastric scutum confined

to the spiracular area, indicating that this species belongs to one of the other Andean genera, rather than to *Scaphidysderina*. The description of *D. desultrix* indicates that the female has a dorsal scutum, and that the sternum has lateral elevations, again suggesting that it belongs to a different genus.

Among the *Scaphidysderina* species known from females, only one, *S. scutata* from Peru, has a dorsal scutum on the abdomen. That scutum (fig. 52) is much smaller in size, and much more weakly sclerotized, than those found in females of all the described members of the *Dysderina* complex, suggesting that the scutum has been lost independently within *Scaphidysderina*, and that *S. scutata* may be the sister group of all the remaining species.

Among those remaining species, several closely resemble the female of *S. scutata* in sternal morphology, with the surface of the sternum highly and irregularly crenulated (figs. 15, 39). However, in a group of 10 species (*S. cajamarca*, *S. tayos*, *S. molleturo*, *S. tapiai*, *S. pinocchio*, *S. palenque*, *S. tandapi*, *S. napo*, *S. andersoni*, and *S. hormigai*), the raised portions of the sternal crenulations are thickened, forming a system of anastomosing ridges (figs. 126, 139, 175). Two additional groups can be recognized within that distinctive cluster. Two of the three species that are known only from females (*S. tayos* and *S. napo*) share a pair of enlarged tubercles situated at the rear of the pars cephalica (figs. 67, 231). These tubercles resemble the carapace spikes found in some of the species of another member of the *Dysderina* complex, the genus *Neoxyphinus* Birabén (1953). We presume that the enlarged tubercles will also occur in the males of these two species, but they are not known, in either sex, in any of the other species treated below. Those two species, *S. tayos* and *S. napo*, are also united by having the largest, most *Scaphiella*-like postepigastric scuta within the genus (figs. 69, 233), and by their long, narrow, and distally expanded anterior genitalic process (figs. 73, 237).

Four of the other species with anastomosing sternal ridges (all but *S. cajamarca*, *S. molleturo*, *S. andersoni*, and *S. hormigai*) share the most elaborate modifications of the cephalothorax within the genus. *Scaphidysderina* species all seem to have the chilum fused to the clypeus (figs. 58, 173). In males of these four species, the chilum is extraordinarily enlarged, forming a snout that projects over the base of chelicerae (figs. 91, 92). The monophyly of this group of snouted species (*S. tapiai*, *S. pinocchio*, *S. palenque*, and *S. tandapi*) is also supported by a female genitalic character, the presence of thickened, heavily sclerotized apodemes with anteriorly directed tips (figs. 105, 111, 135, 223).

The males of the snouted species also have elaborately modified chelicerae. The anterior surface of the paturon bears a deep excavation, situated medially; on the inner margin of the excavation, there is a highly sclerotized spine that projects back toward the clypeus (figs. 125, 140). The males of *S. cajamarca* and *S. andersoni* also have such a spine on at least one chelicera (figs. 58, 290), and the male of *S. hormigai* has even more elaborately modified chelicerae (figs. 269, 272); similar modifications might also occur, of course, in the unknown males of *S. tayos*, *S. napo*, and *S. molleturo*.

Interestingly, the males of *S. baerti* and *S. cotopaxi* also have the cheliceral spines (figs. 239, 241), even though they lack the anastomosing sternal ridges; those two species plus *S. iguaque* are united by the presence of prominent, tuberculate setal bases on the sternum (figs. 240, 249,

281) and may thus together represent the sister group of the 10 species with anastomosing sternal ridges. Of the remaining species, *S. manu*, *S. pagoreni*, and *S. loja* have the postepigastric scutum of females entirely fused with the epigastric scutum (just as in all the known males), and share a long, narrow, and distally unexpanded anterior genitalic process (figs. 30, 36, 81). They may together represent the sister group of all the species other than *S. scutata* (which shows only a slight separation of the postepigastric scutum at its far lateral edge, but is presumably the most basal member of the genus, since it still retains a reduced dorsal abdominal scutum in females).

Our methods follow those of Platnick and Dupérré (2009a, 2009b); the species are treated geographically, beginning in southern Peru and proceeding northward. Only differences from the males (beyond the obvious lack of male cheliceral and endite modifications) are mentioned in the descriptions of females. Scans were taken from uncoated right male palps, and the images were flipped for consistency. All measurements are in mm. High-resolution versions of the images, the geocoded locality data, and a distribution map for each species will be available on the goblin spider Planetary Biodiversity Inventory (PBI) project's website (<http://research.amnh.org/oonopidae>).

COLLECTIONS EXAMINED

AMNH	American Museum of Natural History, New York, NY
BMNH	Natural History Museum, London, England
CAS	California Academy of Sciences, San Francisco, CA
FMNH	Field Museum of Natural History, Chicago, IL
IAVH	Instituto Alexander von Humboldt, Bogotá, Colombia
ICN	Instituto de Ciencias Naturales, Universidad Nacional, Bogotá, Colombia
KBIN	Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, Belgium
MACN	Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina
MELM	Museo de Entomología, Universidad Nacional Agraria, La Molina, Peru
MUSM	Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru
QCAZ	Museum of Invertebrates, Pontificia Universidad Católica, Quito, Ecuador

Scaphidysderina, new genus

TYPE SPECIES: *Scaphidysderina palenque*, new species.

ETYMOLOGY: The generic name is a contraction of “*Scaphiella*-like *Dysderina*” and is feminine in gender.

DIAGNOSIS: Members of this genus can easily be recognized by their highly crenulated sternum (figs. 15, 68). They also differ from those of *Dysderina* in lacking both a spinneret scutum and a groove connecting either the anterior or posterior spiracles (compare figs. 5, 27).

DESCRIPTION: Total length of males 1.9–2.7, of females 2.1–3.2. Carapace red-brown, without color pattern; sternum and mouthparts orange-brown, sternum without color pat-

tern; abdominal scuta orange, abdominal soft portions white, without color pattern; legs usually yellow, without color pattern (except in *S. tayos*, where coxae, trochanters, and basal two-thirds of femora orange, more distal portions of legs yellow). **Cephalothorax:** Carapace broadly oval in dorsal view, anteriorly narrowed to between 0.5 and 0.75 times its maximum width, pars cephalica strongly elevated in lateral view, anterolateral corners without extension or projections, pars thoracica with rounded posterolateral corners, without depressions or radiating rows of pits, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes (except in females of *S. tayos* and *S. napo*, which have pair of elevated tubercles at rear of pars cephalica, figs. 67, 231); elevated portion of pars cephalica with low tubercles around midline, surrounded by U-shaped smooth area, sides granulate (figs. 136, 137, 172, 173); fovea absent, lateral margin straight, rebordered (figs. 138, 174), with sharply pointed denticles projecting past lateral margin in dorsal view; plumose setae near posterior margin of pars thoracica absent; nonmarginal pars cephalica and pars thoracica setae light, needlelike, scattered; marginal setae light, needlelike. Clypeus margin strongly rebordered, sinuous in front view, vertical in lateral view, high, ALE separated from edge of carapace by their radius or more, median projection present; setae light, needlelike. Chilum undivided, fused to clypeus, with or without apparent seam. Eyes six, well developed, ALE largest, ALE oval, PME squared, PLE oval; posterior eye row straight or slightly recurved from above, procurved from front; ALE usually separated by their radius to diameter (but by less than their radius in *S. loja* and *S. molleturo*), ALE-PLE separated by less than ALE radius, PME touching throughout most of their length, PLE-PME separated by less than PME radius. Sternum wider than long, not fused to carapace, surface highly crenulated (figs. 15, 39), raised portions of crenulations often forming anastomosing ridges (figs. 139, 175); median concavity absent, without hair tufts, without radial furrows between coxae I-II, II-III, III-IV, radial furrow opposite coxae III absent, without pits, microsculpture present everywhere but front, sickle-shaped structures absent, posterior margin extending posteriorly beyond anterior edges of coxae IV as single extension, anterior corner unmodified, lateral margin with infracoxal grooves and anterior and posterior openings, distance between coxae approximately equal, extensions of precoxal triangles absent, lateral margins with bridges to coxae, without posterior hump; setae sparse, light, needlelike, densest laterally, originating from surface. Chelicerae slightly divergent, anterior face with swelling; males usually with promarginal tooth (figs. 140, 141), sometimes with dorsally directed spine (fig. 140), females usually with one promarginal and one retrolateral tooth (figs. 176, 177); fang without toothlike projections, directed medially, shape normal, without prominent basal process, tip unmodified; setae light, needlelike, densest medially; paturon inner margin with pairs of enlarged setae, distal region unmodified, posterior surface unmodified, promargin with row of flattened setae, inner margin unmodified, laminate groove absent. Labium triangular, not fused to sternum, anterior margin indented at middle (fig. 178), same as sternum in sclerotization; with six or more setae on anterior margin, subdistal portion with unmodified setae. Endites same as sternum in sclerotization, those of males distally excavated, with short ventral and longer dorsal processes (figs. 142, 242); serrula present in single

row in females (figs. 179, 182), apparently reduced in males (fig. 143). Labrum long, distally narrowed, with long and short setae (figs. 144, 180, 181). Female palp without claw (fig. 195) or spines; patella without prolateral row of ridges; tibia with three trichobothria (fig. 186); tarsus unmodified (figs. 184, 185). **Abdomen:** ovoid, without long posterior extension, rounded posteriorly, interscutal membrane rows of small sclerotized platelets absent; dorsum soft portions white, without color pattern. Book lung covers large, ovoid, without setae, anterolateral edge unmodified. Posterior spiracles not connected by groove. Pedicel tube medium, ribbed, scutopedicel region unmodified, scutum extending far dorsal of pedicel, plumose hairs absent, matted setae on anterior ventral abdomen in pedicel area absent, cuticular outgrowths near pedicel absent. Dorsal scutum present in males, strongly sclerotized, without color pattern, not fused to epigastric scutum, middle surface smooth, sides smooth, anterior half without projecting denticles; dorsal scutum present in females only in *S. scutata*, where small, weakly sclerotized (fig. 52). Epigastric scutum strongly sclerotized, surrounding pedicel, not protruding, small lateral sclerites absent, without lateral joints in females. Postepigastric scutum strongly sclerotized, almost semicircular, fused to epigastric scutum in males and some females, anterior margin unmodified, with short posteriorly directed lateral apodemes. Spinneret scutum absent; supraanal scutum absent. Abdominal dorsal, epigastric, and postepigastric setae dark, needlelike; epigastric area setae uniform in size (fig. 187); dense patch of setae anterior to spinnerets absent; interscutal membrane with setae. Colulus present, tiny, with pair of setae. Anterior lateral spinnerets bisegmented, posterior medians unisegmented, posterior laterals bisegmented (figs. 151, 189); spigots scanned only in *S. palenque*, anterior laterals with one major ampullate gland spigot plus four piri-form gland spigots in male (fig. 152), five in female (fig. 190); posterior medians with two minor ampullate gland spigots plus two aciniform gland spigots in male (fig. 153), 12 in female (fig. 191); posterior laterals with two minor ampullate gland spigot plus three aciniform gland spigots in male (fig. 154), 15 in female (fig. 192). **Legs:** femur IV not thickened, same size as femora I–III, all femora rugose (figs. 155–158, 193, 194, 196); patella plus tibia I shorter than carapace, tibia I unmodified, tibia IV ventral scopula and specialized hairs on ventral apex absent, metatarsi I, II mesoapical comb absent, metatarsi III, IV weak ventral scopula absent. Leg spines present on femur I (and sometimes II); anterior tibiae and metatarsi with several pairs of very long spines (figs. 155, 156, 193, 194). Tarsi without inferior claw. Superior claws with four or five large teeth on median and lateral surfaces (figs. 164–171, 201–207). Trichobothrial base with numerous parallel ridges (fig. 159). Tarsal organ with three sensillae on legs I, II (figs. 160, 161, 197, 198), two on legs III, IV, palp (figs. 149, 162, 163, 183, 199, 200). **Genitalia:** Male epigastric region with sperm pore small, triangular with rounded angles, situated between anterior and posterior spiracles, rebordered, furrow without Ω -shaped insertions, without setae (fig. 150). Male palp of normal size, not strongly sclerotized, right and left palps symmetrical, proximal segments pale orange, cymbium and bulb yellow; embolus dark, prolateral excavation absent, bifid, with elaborate projections; trochanter minute, unmodified; femur of normal size, two or more times as long as trochanter, without posteriorly rounded lateral dilation, attaching to patella basally; patella

shorter than femur, not enlarged, without prolateral row of ridges, setae unmodified; tibia with three trichobothria (fig. 148); cymbium ovoid in dorsal view, completely fused with bulb, no seam visible (figs. 145–147), not extending beyond distal tip of bulb, plumose setae absent, without stout setae or distal patch of setae; bulb elongated, 1.0–1.5 times as long as cymbium, stout. Female genitalia with strong apodemes (fig. 188), atrium varying from long ovoid to short slit, anterior genitalic process narrow throughout its length, basally widened, or widened throughout its length.

DISTRIBUTION: Known only from the Andean nations (Peru, Ecuador, and Colombia); found on both slopes of the Andes, at elevations up to 3865 m.

KEY TO SPECIES OF SCAPHIDYSDERINA

1. Pair of enlarged tubercles present at rear of pars cephalica (figs. 67, 231).....2
 - Without enlarged tubercles.....3
2. Male unknown; female with epigastric and postepigastric scuta reaching almost to top of abdomen (fig. 233).....*napo*
 - Male unknown; female with epigastric and postepigastric scuta shorter (fig. 69).....*tayos*
3. Sternum with anastomosing ridges (figs. 115, 116).....4
 - Sternum crenulated but without anastomosing ridges (figs. 15, 39).....17
4. Males with chilum enlarged into prominent snout (figs. 91, 94); females with genitalic apodemes heavily sclerotized, with anteriorly directed tips (figs. 105, 111).....5
 - Males with chilum much smaller (figs. 58, 269); females with genitalic apodemes directed posteriorly (figs. 89, 267).....12
5. Males.....6
 - Females.....9
6. Embolus with triangular projection on dorsal flange (figs. 96, 146, 214).....7
 - Embolus with rounded projection on dorsal flange (figs. 117, 121).....*pinocchio*
7. Projection near base of dorsal flange of embolus (figs. 146, 214).....8
 - Projection near middle of dorsal flange of embolus (figs. 96, 98).....*tapii*
8. Tip of embolus relatively thick (figs. 127, 129).....*palenque*
 - Tip of embolus relatively thin (figs. 215, 217).....*tandapi*
9. Genitalia with anteriorly extended, narrow process (figs. 105, 135).....10
 - Genitalia without such a process (figs. 111, 223).....11
10. Tip of anterior genitalic process narrow, directly dorsally (fig. 135).....*palenque*
 - Tip of anterior genitalic process wider, bifid (fig. 105).....*tapii*
11. Anterior genitalic elements relatively wide (fig. 223).....*tandapi*
 - Anterior genitalic elements relatively narrow (fig. 111).....*pinocchio*
12. Males (those of *S. molleturo* unknown).....13
 - Females (those of *S. cajamarca* unknown).....15
13. Chelicerae with enlarged median process (figs. 269, 272).....*hormigai*

- Chelicerae without such a process (figs. 58, 290).....14
- 14 Embolus relatively narrow (figs. 291, 293); Ecuador.....*andersoni*
 - Embolus relatively wide (figs. 62, 64); Peru.....*cotopaxi*
- 15. Postepigastric scutum much longer than genitalic atrium (figs. 264, 297).....16
 - Postepigastric scutum scarcely longer than genitalic atrium (fig. 86).....*molleturo*
- 16. Anterior genitalic elements relatively wide (fig. 300).....*andersoni*
 - Anterior genitalic elements relatively narrow (fig. 267).....*hormigai*
- 17. Sides of sternum with enlarged tubercles (figs. 240, 249).....18
 - Sternum without enlarged tubercles.....20
- 18. Males with relatively narrow embolus (figs. 243, 245); female genitalic apodemes relatively short (figs. 228, 229).....*baerti*
 - Males with relatively wide embolus (figs. 252, 283); female genitalic apodemes relatively long (figs. 260, 261; females of *S. iguaque* unknown).....19
- 19. Ventral flange of embolus smooth (fig. 283); females unknown.....*iguaque*
 - Ventral flange of embolus serrated (fig. 252); female genitalic apodemes relatively long (figs. 260, 261).....*cotopaxi*
- 20. Males (those of *S. scutata* and *S. loja* unknown).....21
 - Females.....22
- 21. Most ventral of the distal embolar processes relatively long, narrow (fig. 22).....*manu*
 - Most ventral of the distal embolar processes relatively short, wide (fig. 45).....*pagoreni*
- 22. Dorsal abdominal scutum present (fig. 52).....*scutata*
 - Dorsal abdominal scutum absent.....23
- 23. Postepigastric scutum much longer than genitalic atrium (figs. 27, 33).....24
 - Postepigastric scutum scarcely longer than genitalic atrium (fig. 78).....*loja*
- 24. Anterior genitalic process relatively wide (fig. 30).....*manu*
 - Anterior genitalic process relatively narrow (fig. 36).....*pagoreni*

Scaphidysderina manu, new species

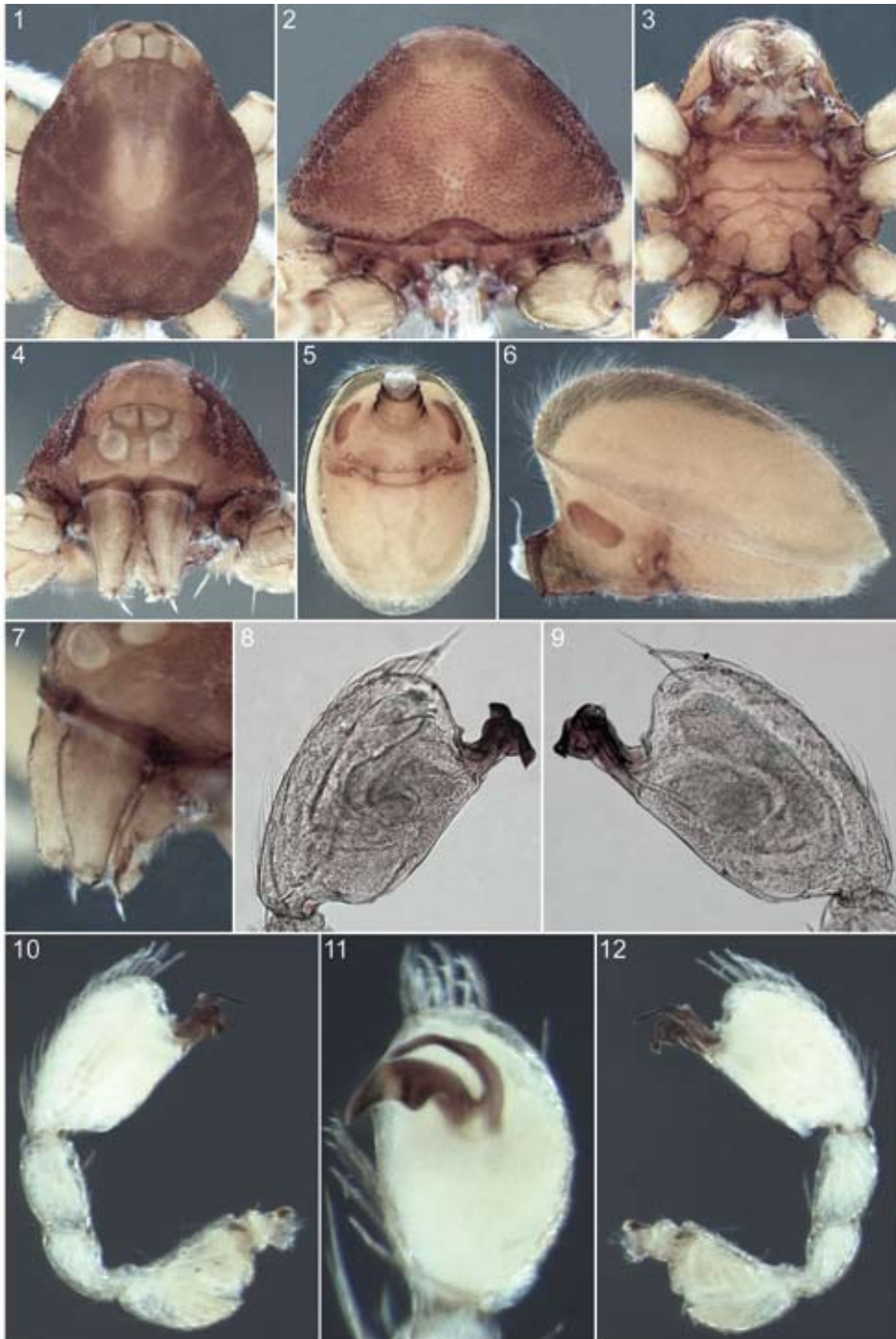
Figures 13–30

TYPE: Male holotype taken in leaf litter at rotten logs at km 165 on Manu Road, Consuelo, Cusco, Peru (Oct. 1, 1982; L. Watrous, G. Mazurek), deposited in FMNH (33573, PBI_OON 10080).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This seems to be the sister species of *S. pagoreni*; males share an intricately spined embolus, but those of *S. manu* have the most ventral of the distal embolar processes both longer and narrower (fig. 22) than in *S. pagoreni*; females also have similarly constructed genitalia, but in *S. manu* the anterior process is wider (fig. 30) than in *S. pagoreni*.

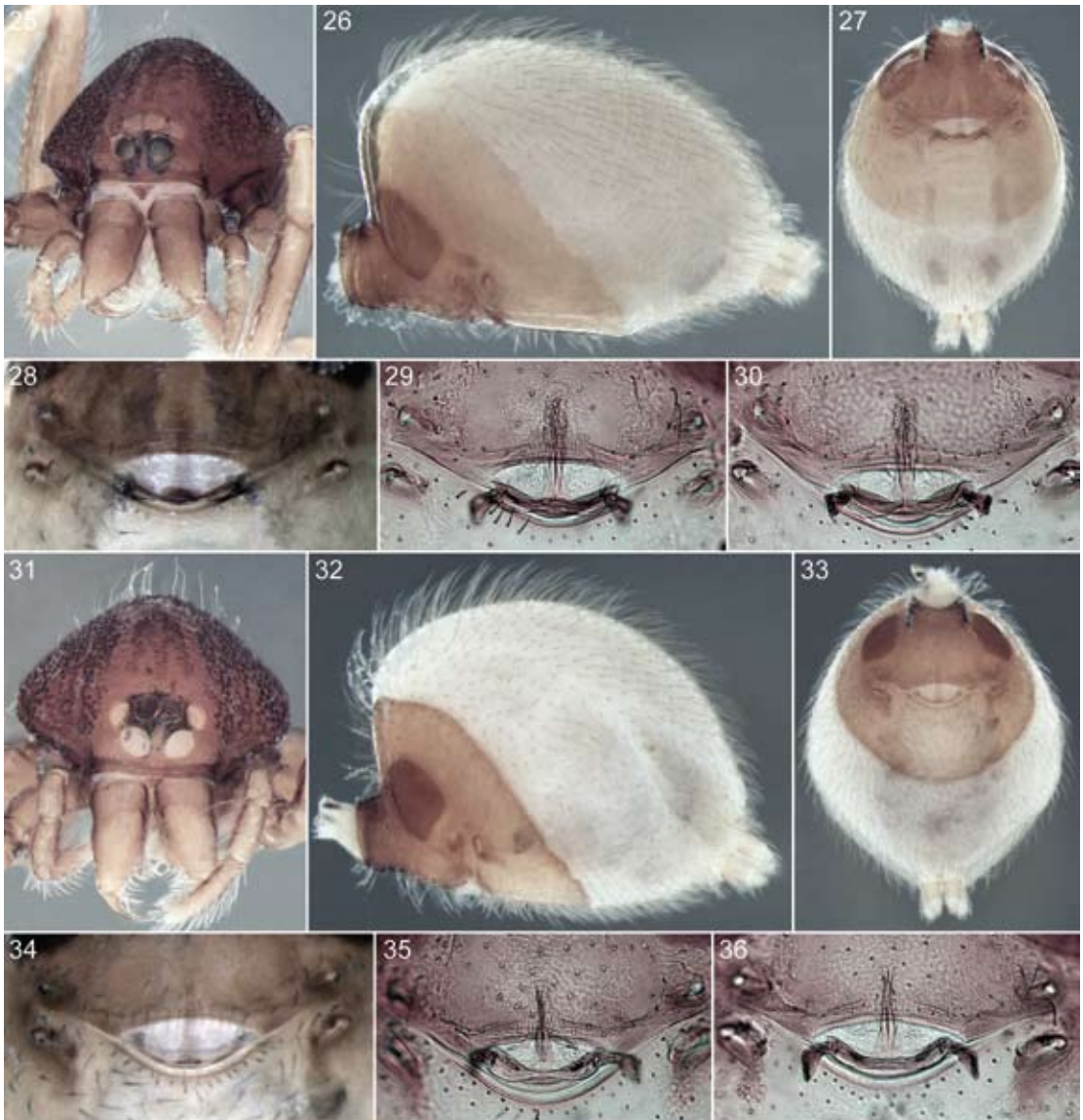
MALE (PBI_OON 10080, figs. 13–24): Total length 2.11. Chilum triangular, seam present, extending distance about equal to clypeus height. Sternum anterior margin with interrupted



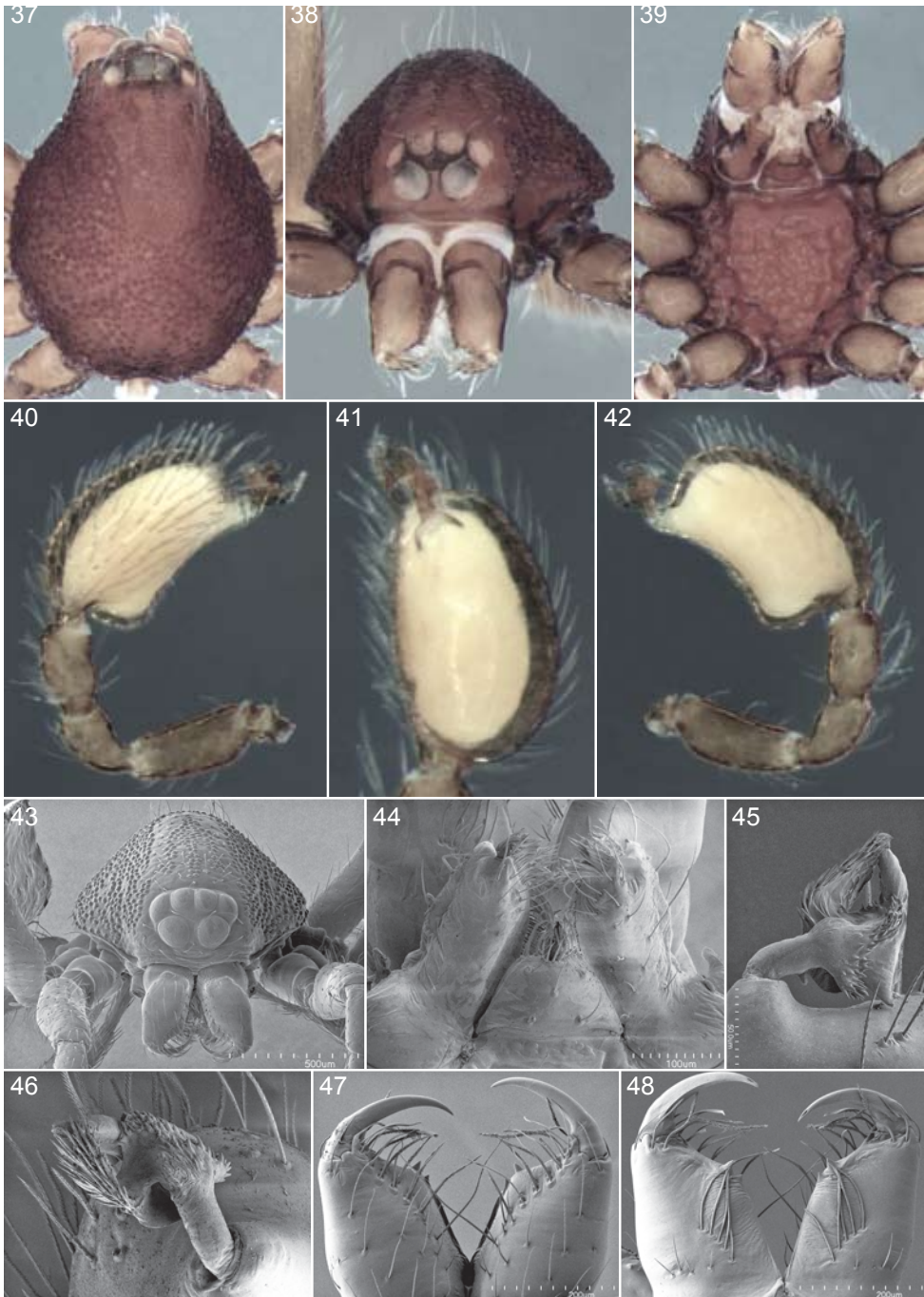
FIGS. 1–12. *Dysderina principalis* (Keyserling), male holotype. 1. Carapace, dorsal view. 2. Same, posterior view. 3. Sternum and mouthparts, ventral view. 4. Carapace, anterior view. 5. Abdomen, ventral view. 6. Same, lateral view. 7. Chelicerae and endites, lateral view. 8, 10. Left palp, prolateral view. 9, 12. Same, retrolateral view. 11. Same, ventral view.



FIGS. 13–24. *Scaphidysderina manu*, new species, male. 13. Carapace, dorsal view. 14. Same, anterior view. 15. Sternum and mouthparts, ventral view. 16. Left palp, prolateral view. 17. Same, ventral view. 18. Same, retrolateral view. 19. Chelicerae, anterior view. 20. Same, posterior view. 21. Labium and endites, ventral view. 22. Embolus, retrolateral view. 23. Same, oblique ventral view. 24. Same, ventral view.



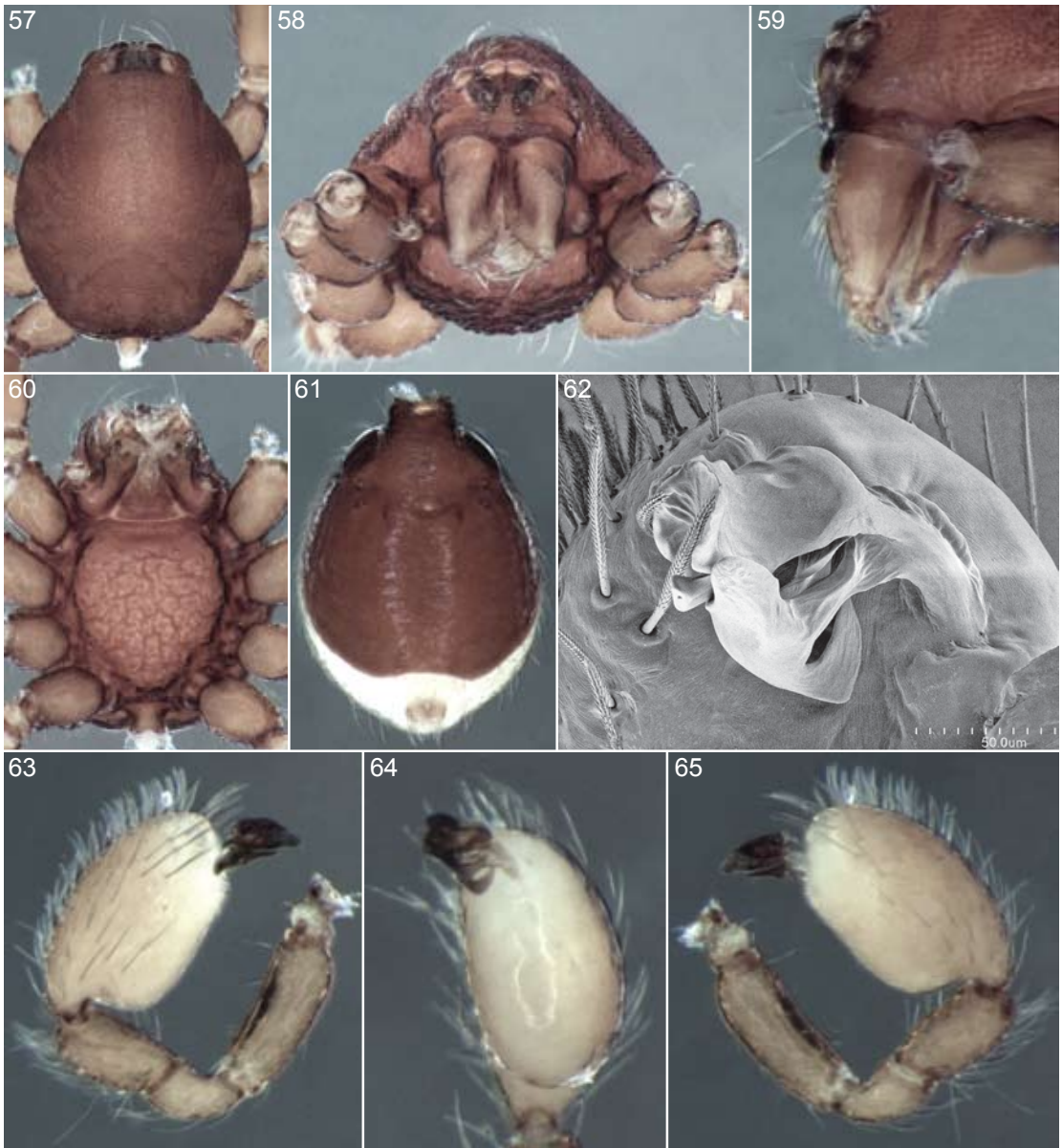
FIGS. 25–36. 25–30. *Scaphidysderina manu*, new species, female. 31–36. *S. pagoreni*, new species, female. 25, 31. Carapace, anterior view. 26, 32. Abdomen, lateral view. 27, 33. Same, ventral view. 28, 34. Epigastric area, ventral view. 29, 35. Digested genitalia, ventral view. 30, 36. Same, dorsal view.



FIGS. 37–48. *Scaphidysderina pagoreni*, new species, male (37–46) and female (47, 48). 37. Carapace, dorsal view. 38, 43. Same, anterior view. 39. Sternum and mouthparts, ventral view. 40. Left palp, prolateral view. 41. Same, ventral view. 42. Same, retrolateral view. 44. Labium and endites, ventral view. 45. Embolus, retrolateral view. 46. Same, ventral view. 47. Chelicerae, anterior view. 48. Same, posterior view.



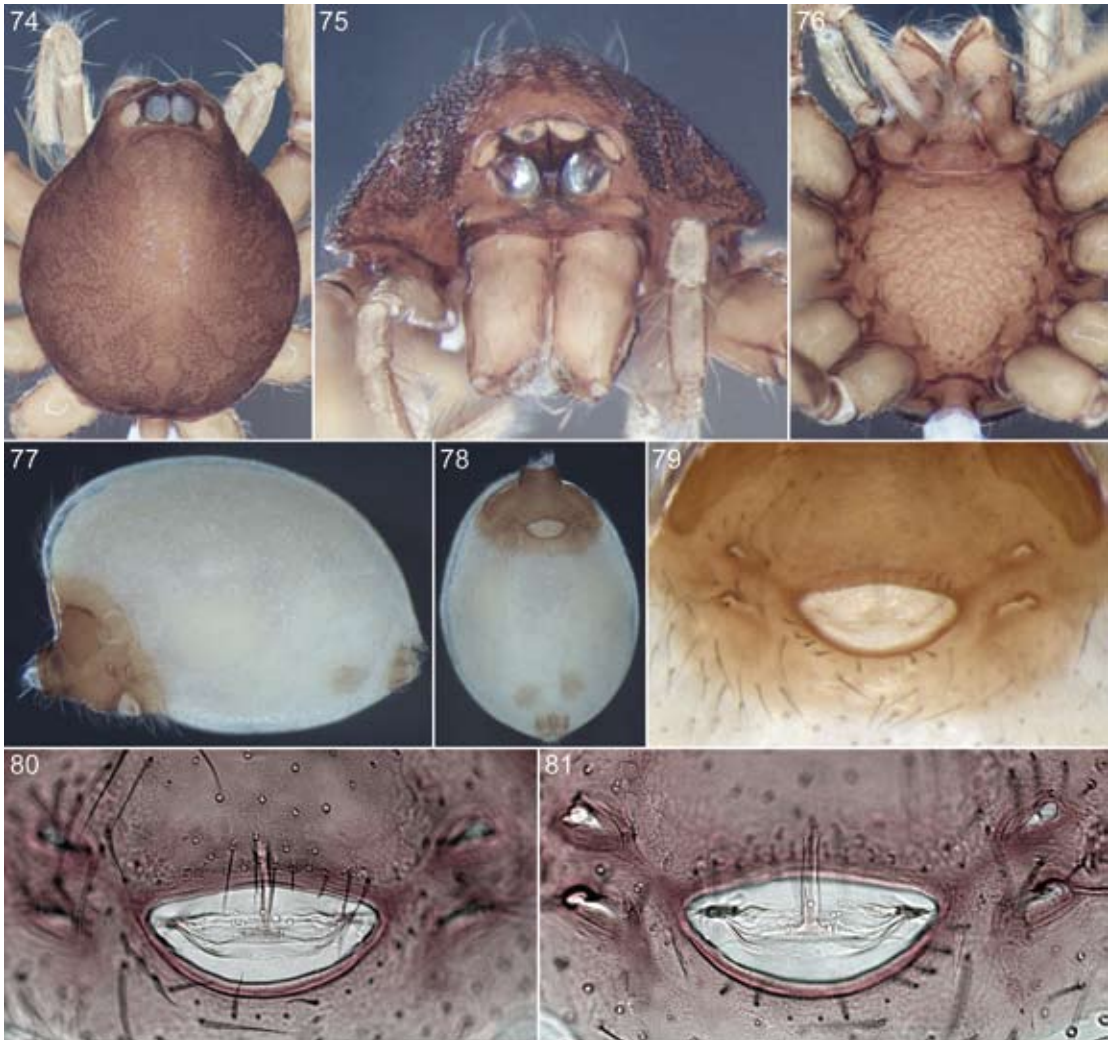
FIGS. 49–56. *Scaphidysderina scutata*, new species, female. 49. Carapace, dorsal view. 50. Same, anterior view. 51. Sternum and mouthparts, ventral view. 52. Abdomen, lateral view. 53. Same, ventral view. 54. Epigastric area, ventral view. 55. Digested genitalia, ventral view. 56. Same, dorsal view.



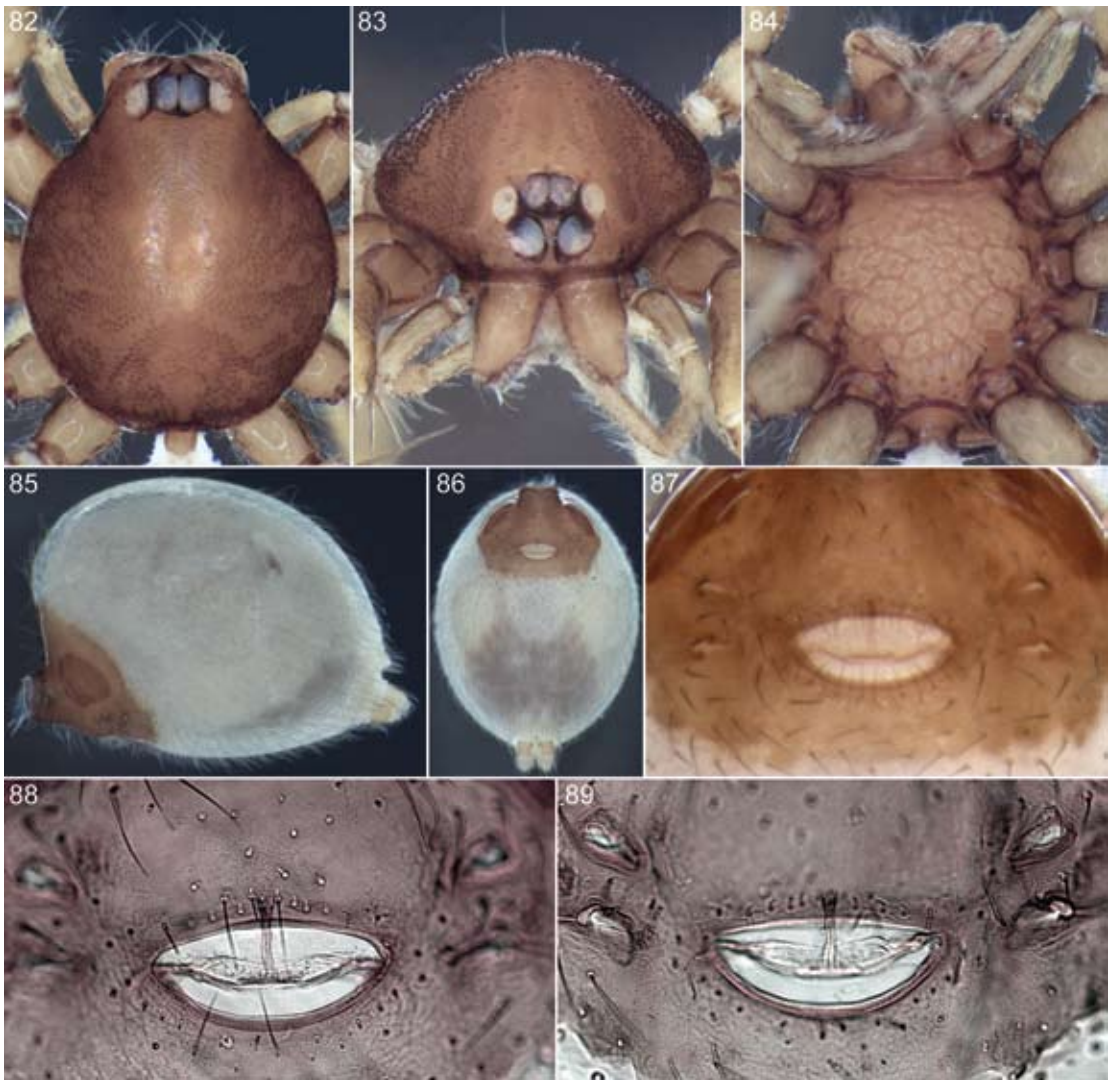
FIGS. 57–65. *Scaphidyserina cajamarca*, new species, male. 57. Carapace, dorsal view. 58. Same, anterior view. 59. Chelicera and endite, lateral view. 60. Sternum and mouthparts, ventral view. 61. Abdomen, ventral view. 62. Embolus, ventral view. 63. Left palp, prolateral view. 64. Same, ventral view. 65. Same, retrolateral view.



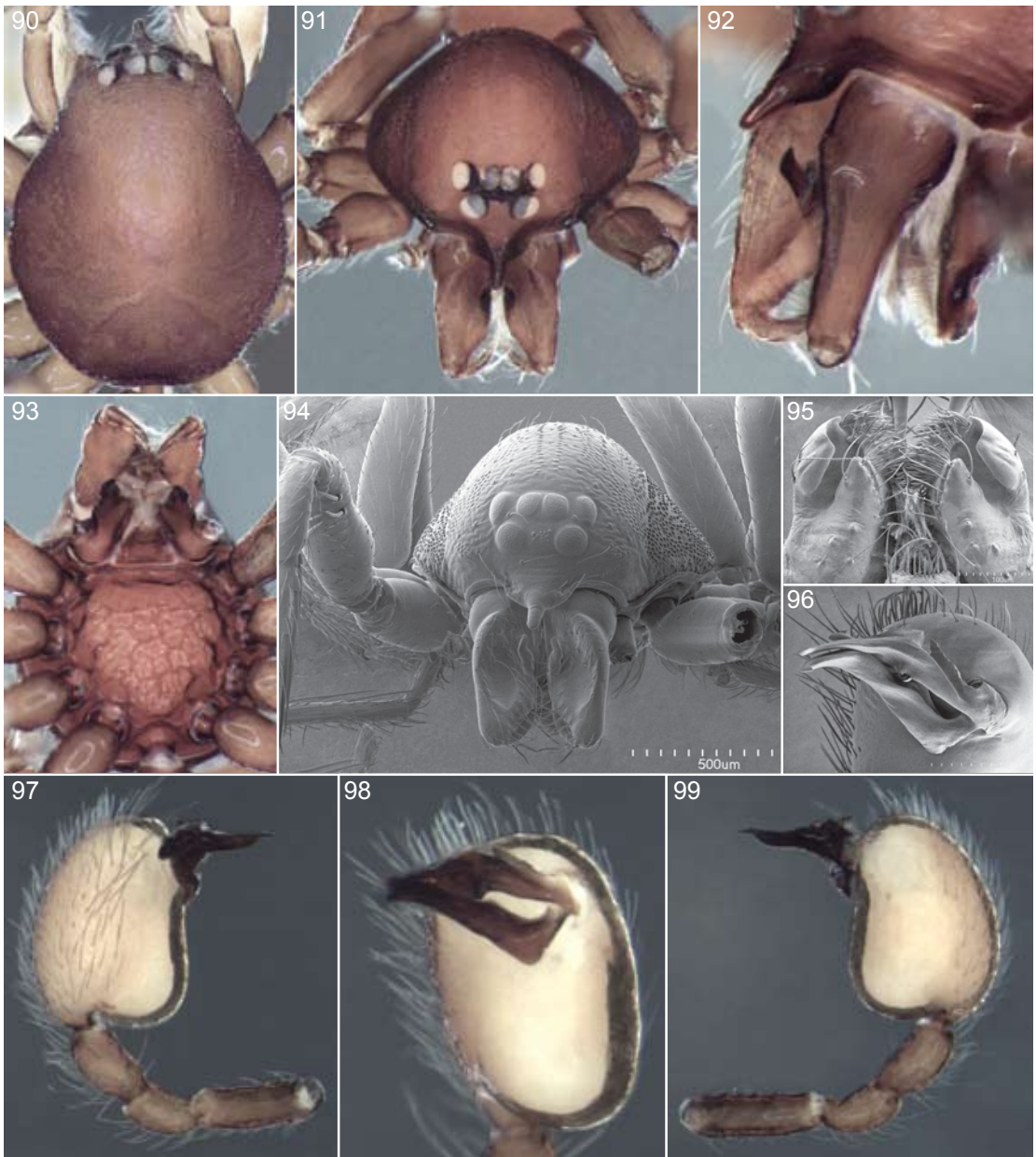
FIGS. 66–73. *Scaphidysderina tayos*, new species, female. 66. Carapace, dorsal view. 67. Same, anterior view. 68. Sternum and mouthparts, ventral view. 69. Abdomen, lateral view. 70. Same, ventral view. 71. Epigastric area, ventral view. 72. Digested genitalia, ventral view. 73. Same, dorsal view.



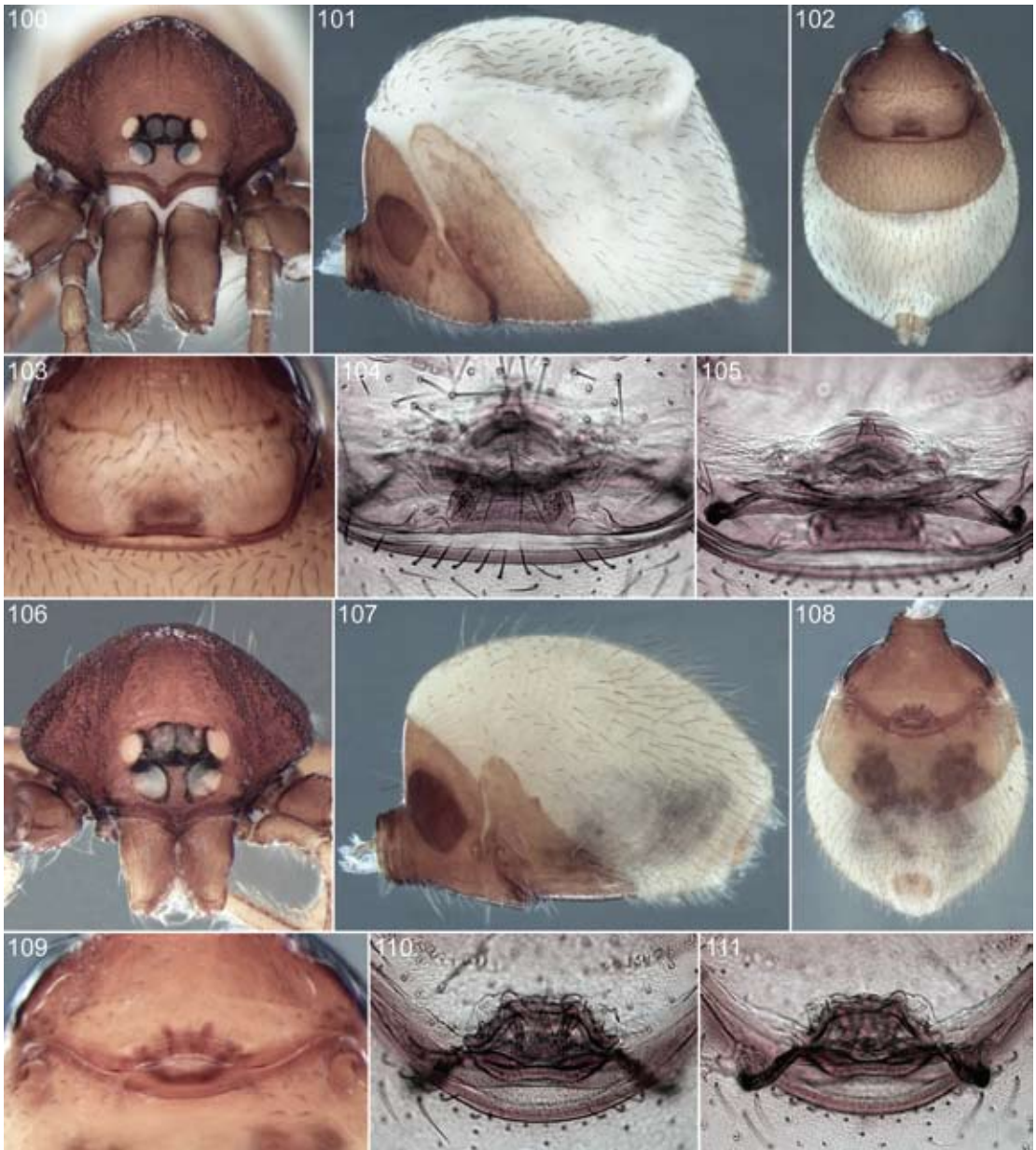
FIGS. 74–81. *Scaphidysderina loja*, new species, female. 74. Carapace, dorsal view. 75. Same, anterior view. 76. Sternum and mouthparts, ventral view. 77. Abdomen, lateral view. 78. Same, ventral view. 79. Epigastric area, ventral view. 80. Digested genitalia, ventral view. 81. Same, dorsal view.



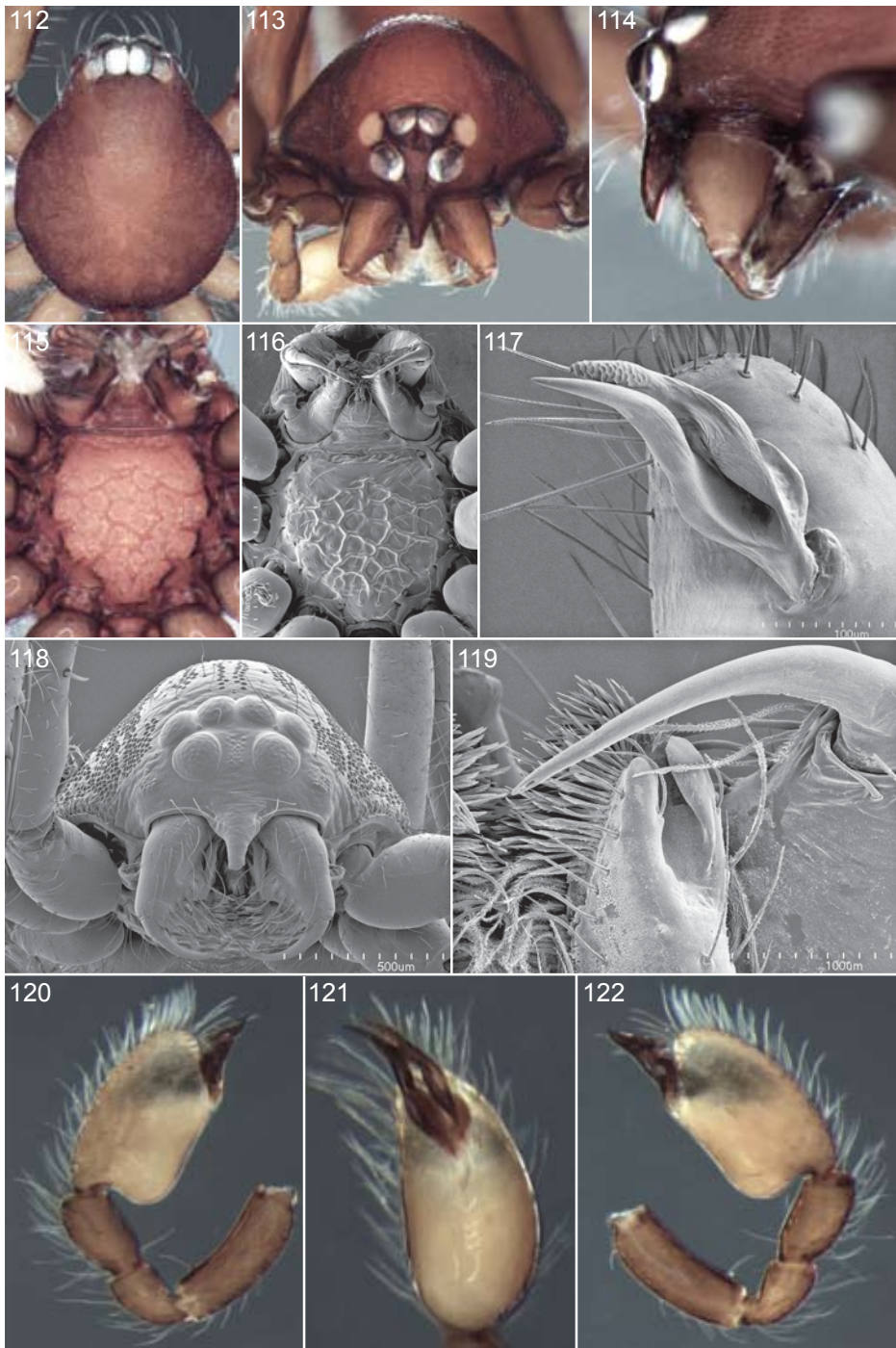
FIGS. 82–89. *Scaphidysderina molleturo*, new species, female. **82.** Carapace, dorsal view. **83.** Same, anterior view. **84.** Sternum and mouthparts, ventral view. **85.** Abdomen, lateral view. **86.** Same, ventral view. **87.** Epigastric area, ventral view. **88.** Digested genitalia, ventral view. **89.** Same, dorsal view.



FIGS. 90–99. *Scaphidysderina tapiai*, new species, male. **90.** Carapace, dorsal view. **91, 94.** Same, anterior view. **92.** Chelicerae and endite, lateral view. **93.** Sternum and mouthparts, ventral view. **95.** Endites, ventral view. **96.** Embolus, ventral view. **97.** Left palp, prolateral view. **98.** Same, ventral view. **99.** Same, retrolateral view.



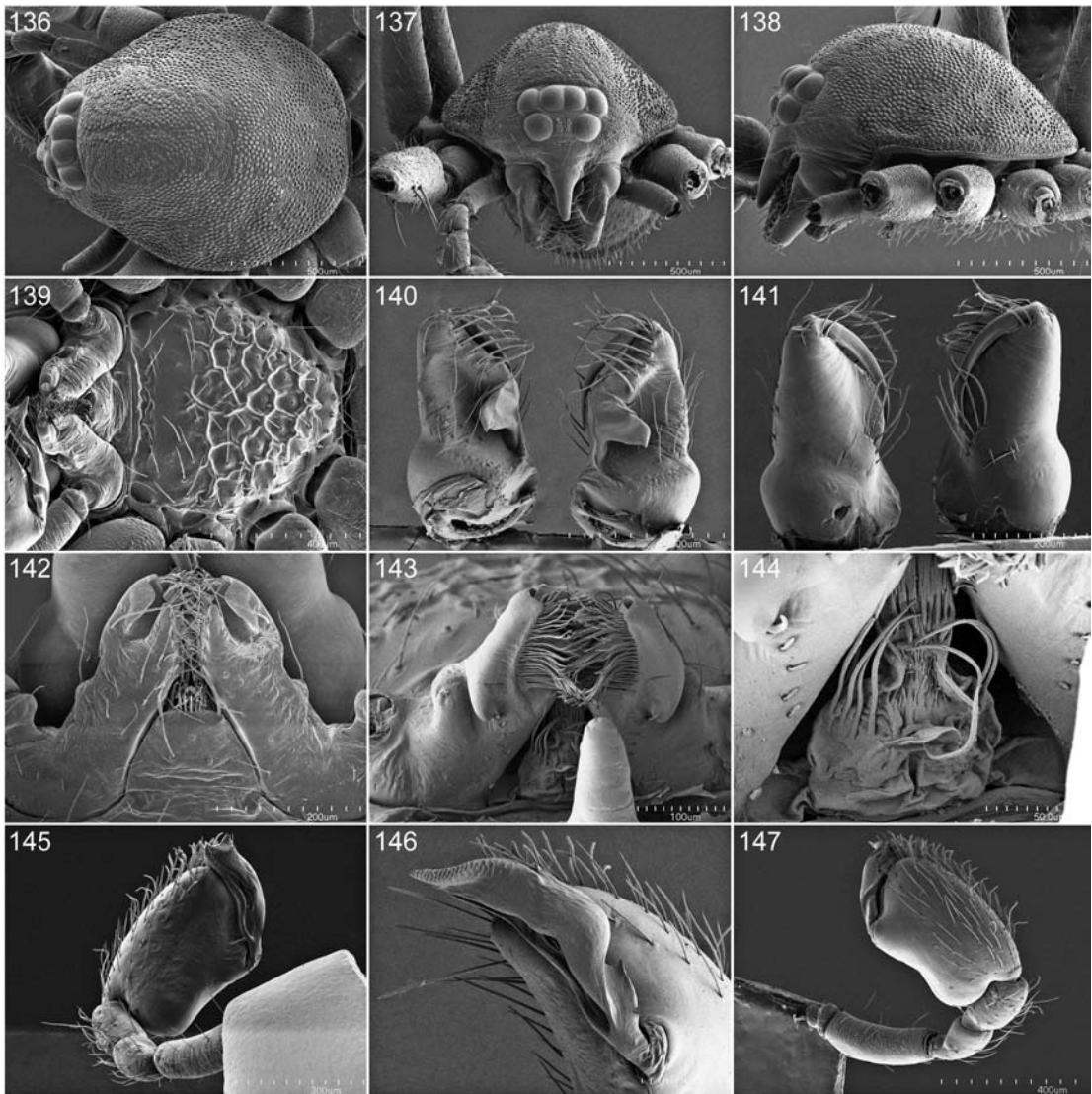
FIGS. 100–111. 100–105. *Scaphidysderina tapiai*, new species, female. 106–111. *S. pinocchio*, new species, female. **100, 106.** Carapace, anterior view. **101, 107.** Abdomen, lateral view. **102, 108.** Same, ventral view. **103, 109.** Epigastric area, ventral view. **104, 110.** Digested genitalia, ventral view. **105, 111.** Same, dorsal view.



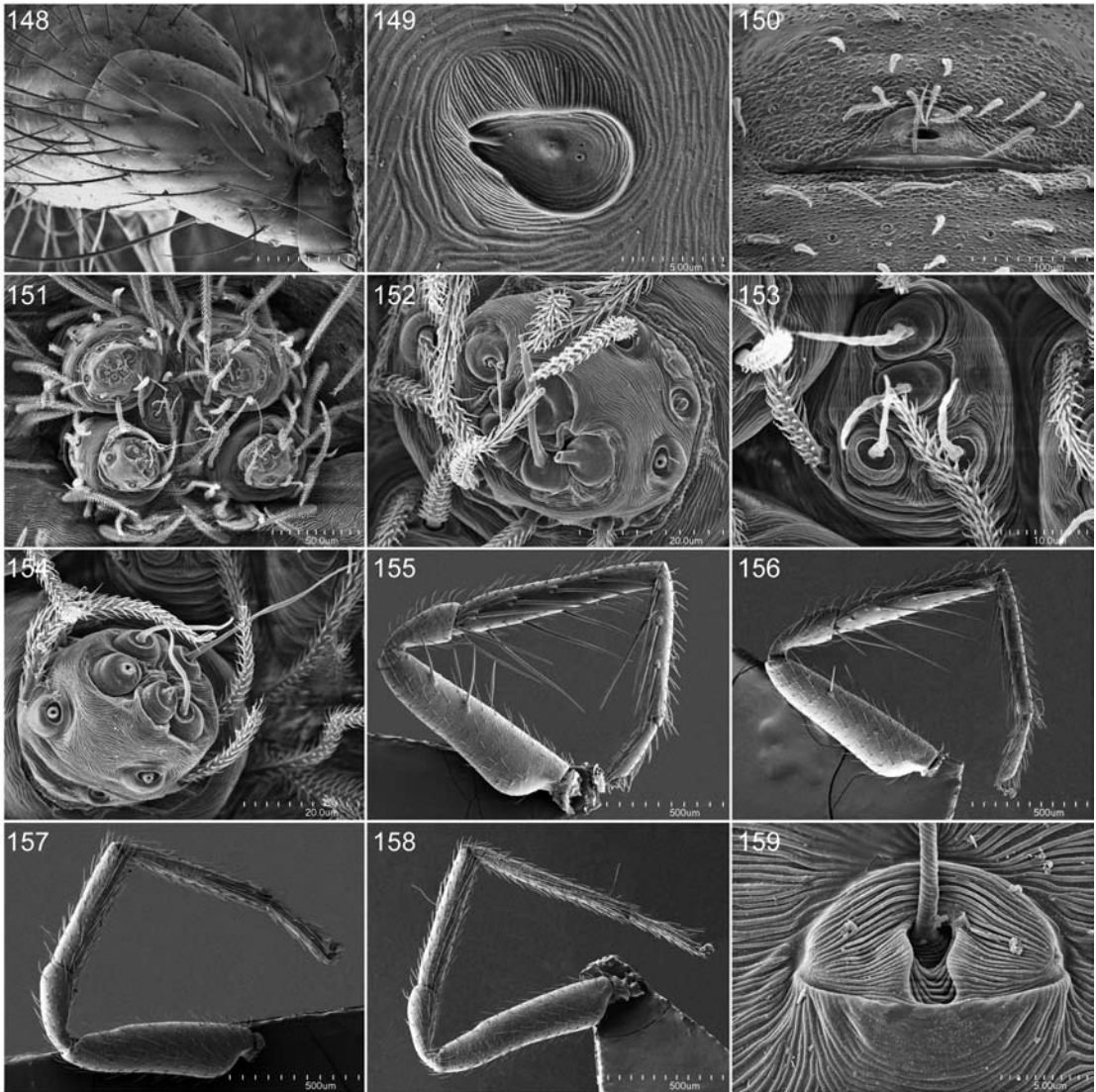
FIGS. 112–122. *Scaphidysderina pinocchio*, new species, male. 112. Carapace, dorsal view. 113, 118. Same, anterior view. 114. Chelicera and endite, lateral view. 115, 116. Sternum and mouthparts, ventral view. 117. Embolus, ventral view. 119. Anterior tip of endite, ventral view. 120. Left palp, prolateral view. 121. Same, ventral view. 122. Same, retrolateral view.



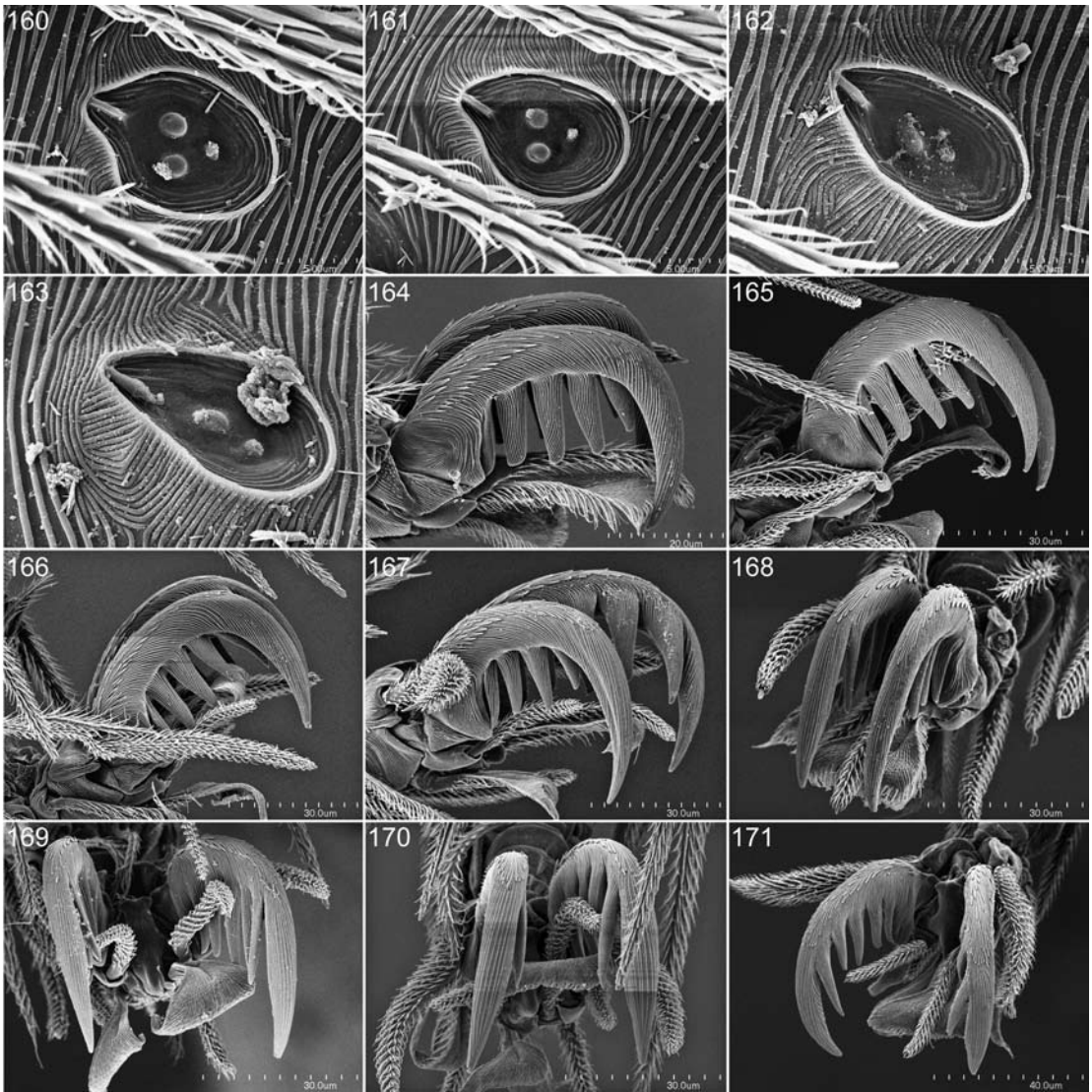
FIGS. 123–135. *Scaphidysderina palenque*, new species, male (123–129) and female (130–135). 123. Carapace, dorsal view. 124, 130. Same, anterior view. 125. Chelicerae and endite, lateral view. 126. Sternum and mouthparts, ventral view. 127. Left palp, prolateral view. 128. Same, ventral view. 129. Same, retrolateral view. 131. Abdomen, lateral view. 132. Same, ventral view. 133. Epigastric area, ventral view. 134. Digested genitalia, ventral view. 135. Same, dorsal view.



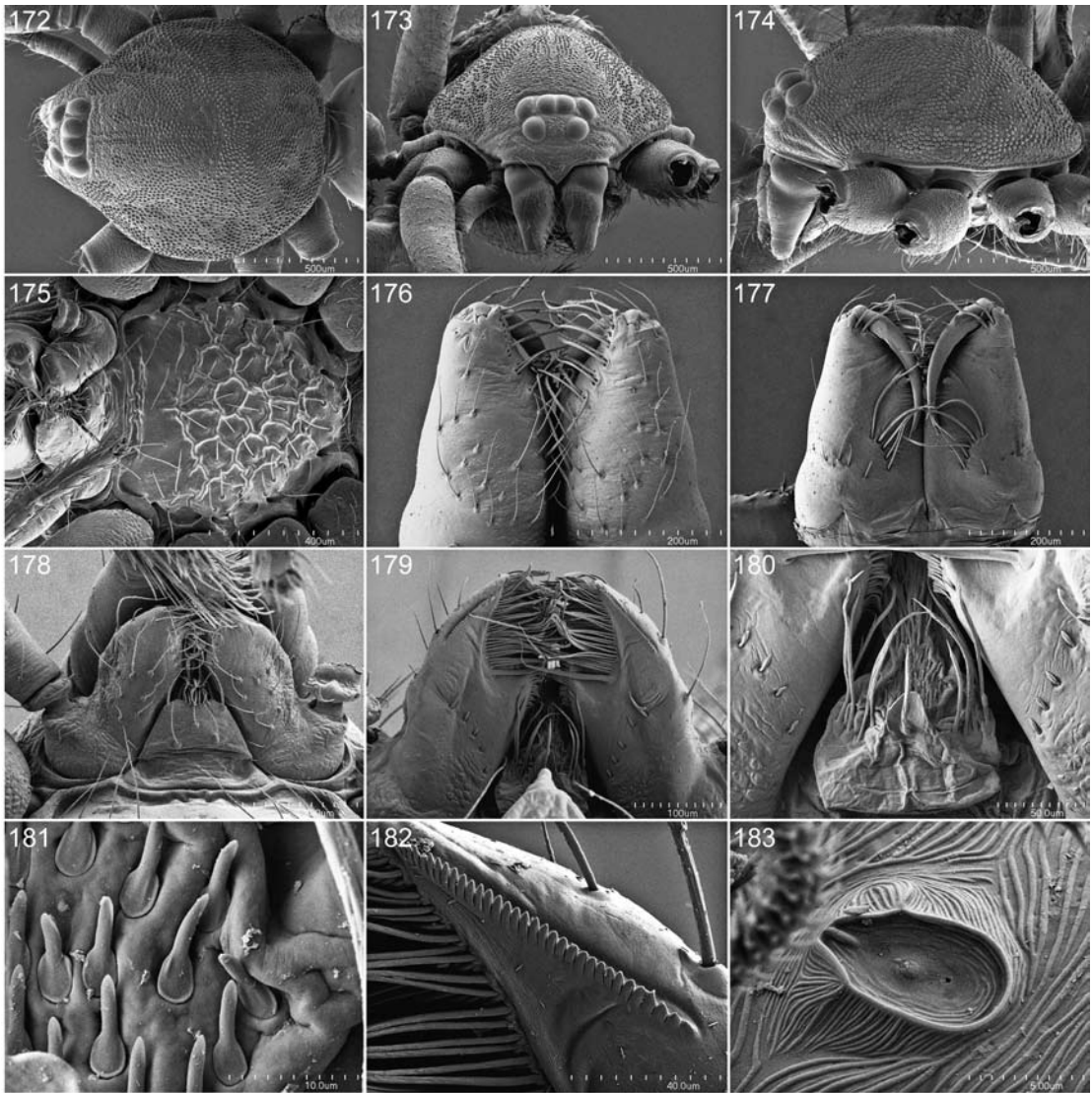
FIGS. 136–147. *Scaphidysderina palenque*, new species, male. **136.** Carapace, dorsal view. **137.** Same, anterior view. **138.** Same, lateral view. **139.** Sternum and mouthparts, ventral view. **140.** Chelicerae, anterior view. **141.** Same, posterior view. **142.** Labium and endites, ventral view. **143.** Same, dorsal view. **144.** Labrum, dorsal view. **145.** Left palp, prolateral view. **146.** Same, ventral view. **147.** Same, retrolateral view.



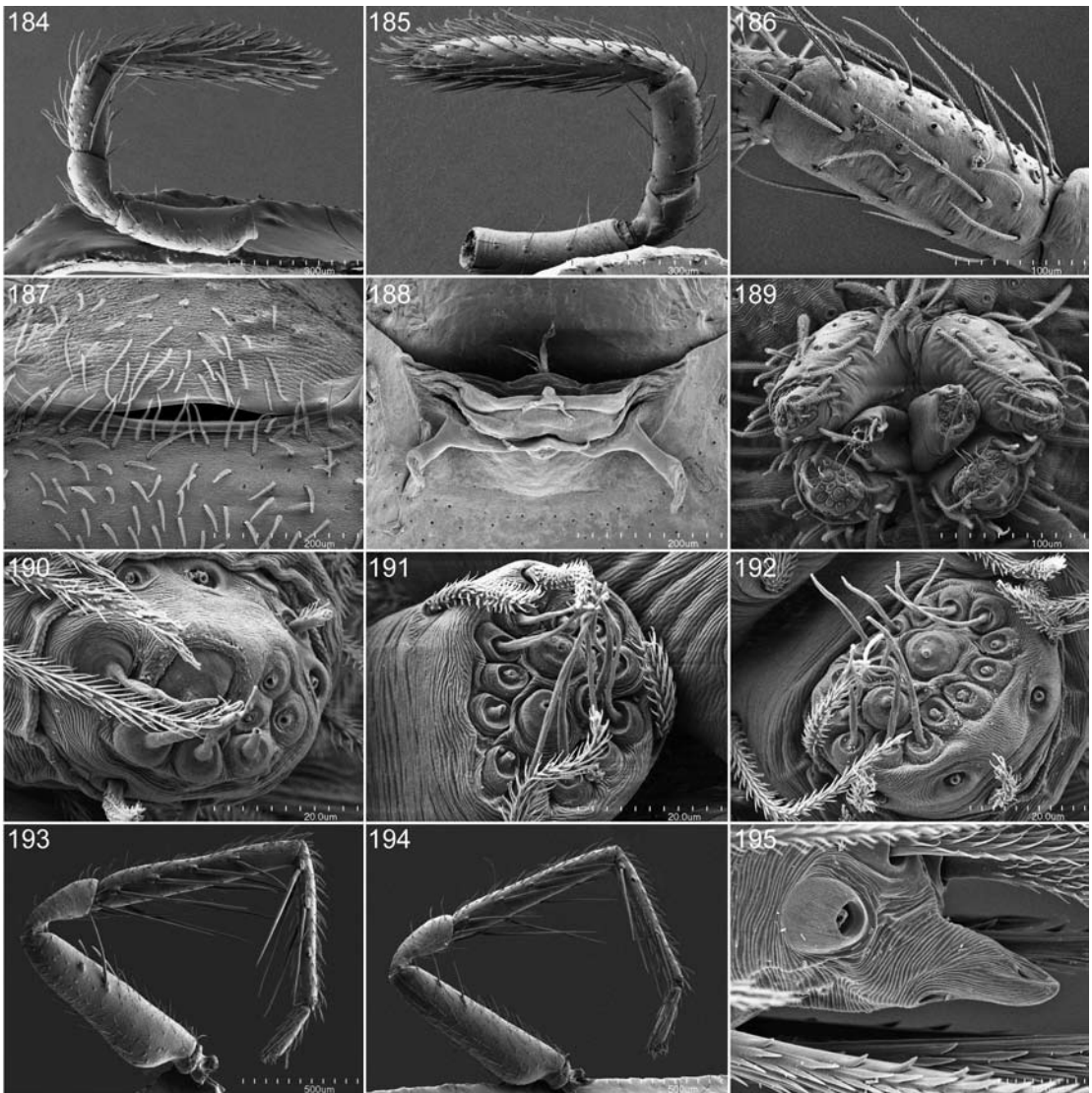
FIGS. 148–159. *Scaphidysderina palenque*, new species, male. **148.** Palpal tibia, dorsal view. **149.** Palpal tarsal organ, dorsal view. **150.** Epigastric region, ventral view. **151.** Spinnerets, distal view. **152.** Anterior lateral spinneret, distal view. **153.** Posterior median spinneret, distal view. **154.** Posterior lateral spinneret, distal view. **155.** Leg I, lateral view. **156.** Same, leg II. **157.** Same, leg III. **158.** Same, leg IV. **159.** Trichobothrial base from metatarsus III, dorsal view.



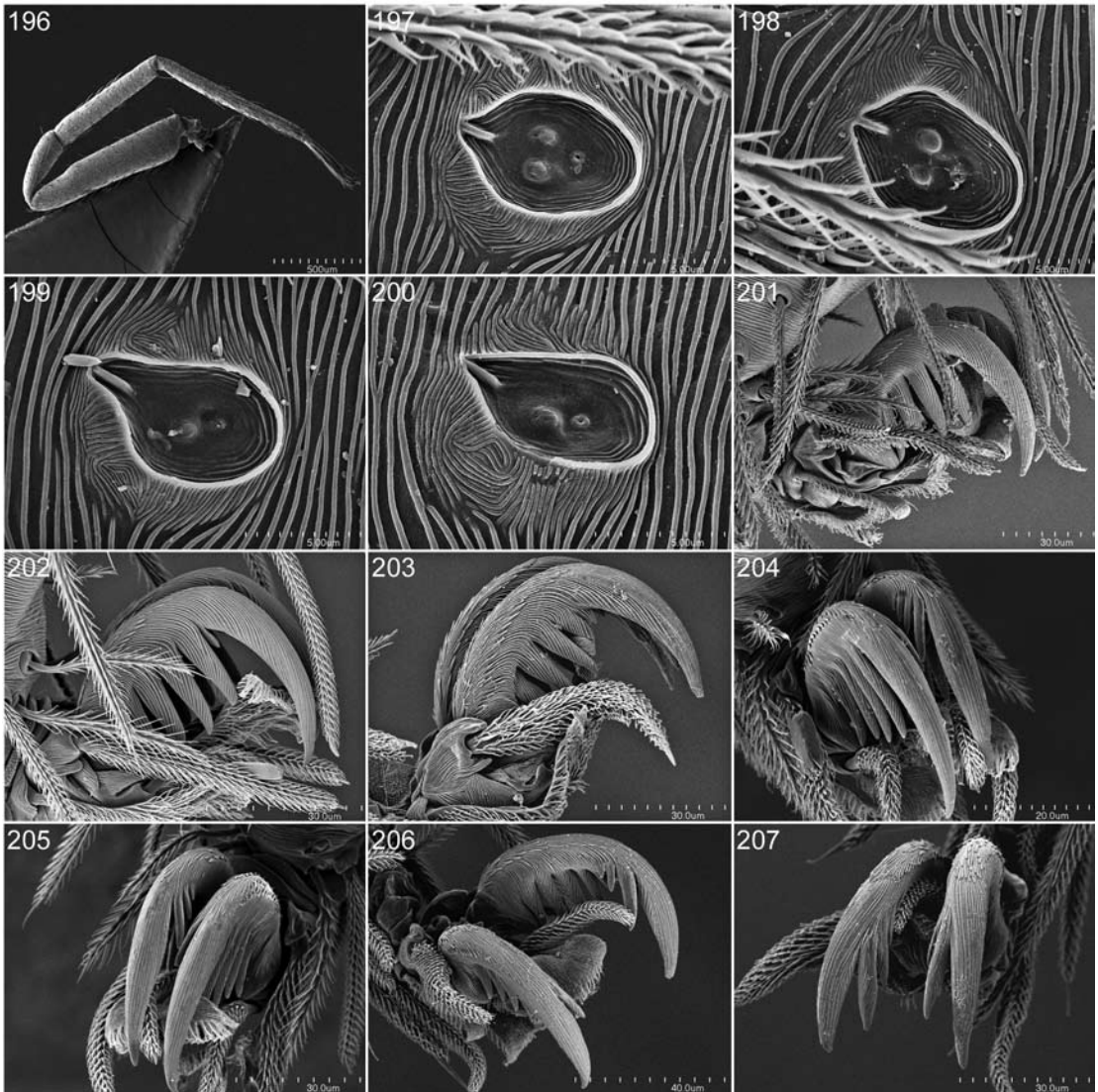
FIGS. 160–171. *Scaphidysderina palenque*, new species, male. **160.** Tarsal organ, leg I, dorsal view. **161.** Same, leg II. **162.** Same, leg III. **163.** Same, leg IV. **164.** Claws of leg I, lateral view. **165.** Same, leg II. **166.** Same, leg III. **167.** Same, leg IV. **168.** Claws of leg I, distal view. **169.** Same, leg II. **170.** Same, leg III. **171.** Same, leg IV.



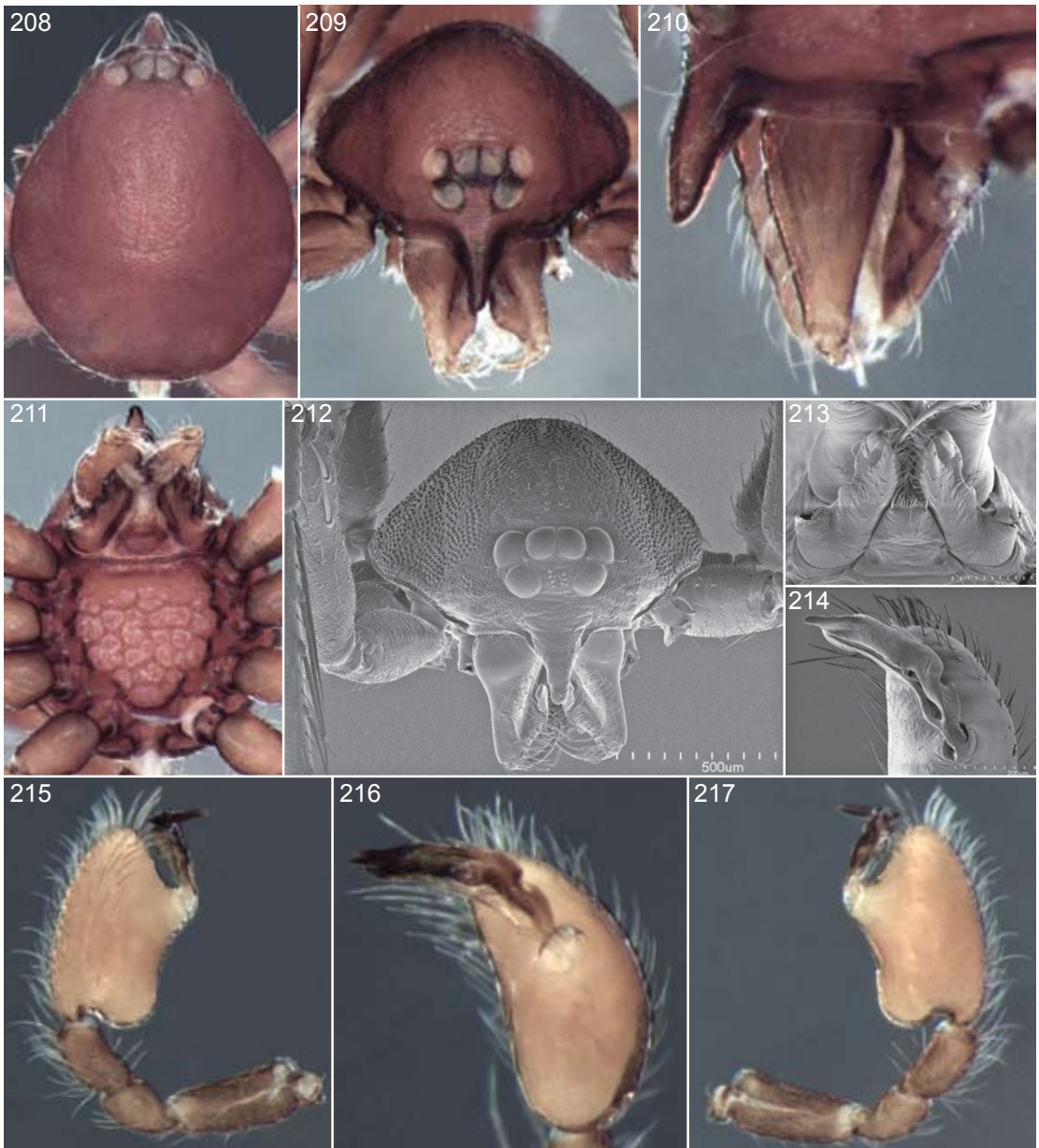
FIGS. 172–183. *Scaphidysderina palenque*, new species, female. **172.** Carapace, dorsal view. **173.** Same, anterior view. **174.** Same, lateral view. **175.** Sternum and mouthparts, ventral view. **176.** Chelicerae, anterior view. **177.** Same, posterior view. **178.** Labium and endites, ventral view. **179.** Same, dorsal view. **180.** Labrum, dorsal view. **181.** Setae on anterior portion of labrum, dorsal view. **182.** Serrula, dorsal view. **183.** Palpal tarsal organ, dorsal view.



FIGS. 184–195. *Scaphidysderina palenque*, new species, female. **184.** Palp, prolateral view. **185.** Same, retro-lateral view. **186.** Palpal tibia, dorsal view. **187.** Epigastric region, ventral view. **188.** Digested genitalia, dorsal view. **189.** Spinnerets, distal view. **190.** Anterior lateral spinneret, distal view. **191.** Posterior median spinneret, distal view. **192.** Posterior lateral spinneret, distal view. **193.** Leg I, lateral view. **194.** Same, leg II. **195.** Tip of palpal tarsus, lateral view.



FIGS. 196–207. *Scaphidysderina palenque*, new species, female. **196.** Leg IV, lateral view. **197.** Tarsal organ from leg I, dorsal view. **198.** Same, leg II. **199.** Same, leg III. **200.** Same, leg IV. **201.** Claws of leg I, lateral view. **202.** Same, leg II. **203.** Same, leg IV. **204.** Claws of leg I, distal view. **205.** Same, leg II. **206.** Same, leg III. **207.** Same, leg IV.



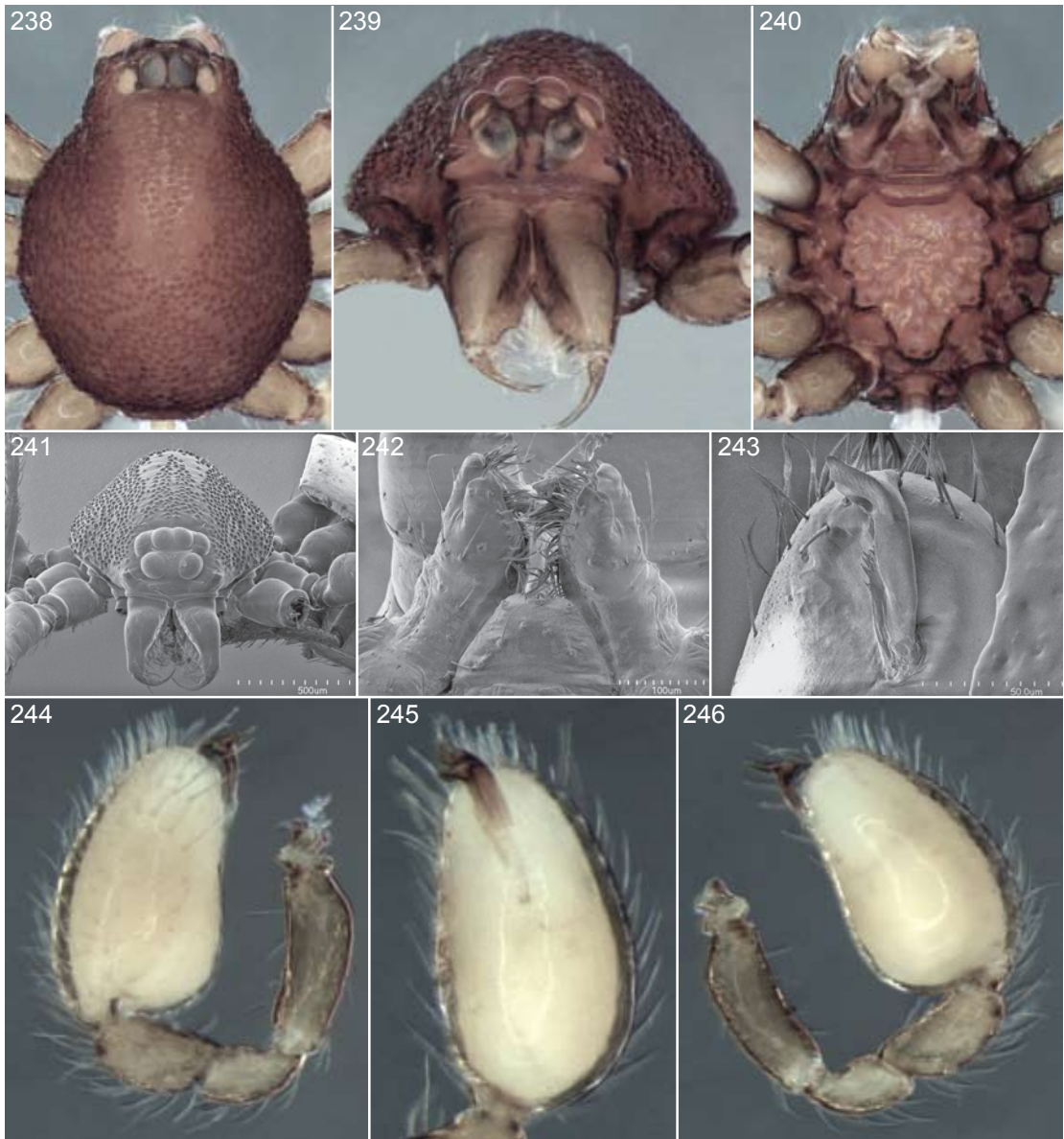
FIGS. 208–217. *Scaphidysderina tandapi*, new species, male. **208.** Carapace, dorsal view. **209, 212.** Same, anterior view. **210.** Chelicerae and endite, lateral view. **211.** Sternum and mouthparts, ventral view. **213.** Mouthparts, ventral view. **214.** Embolus, ventral view. **215.** Left palp, prolateral view. **216.** Same, ventral view. **217.** Same, retrolateral view.



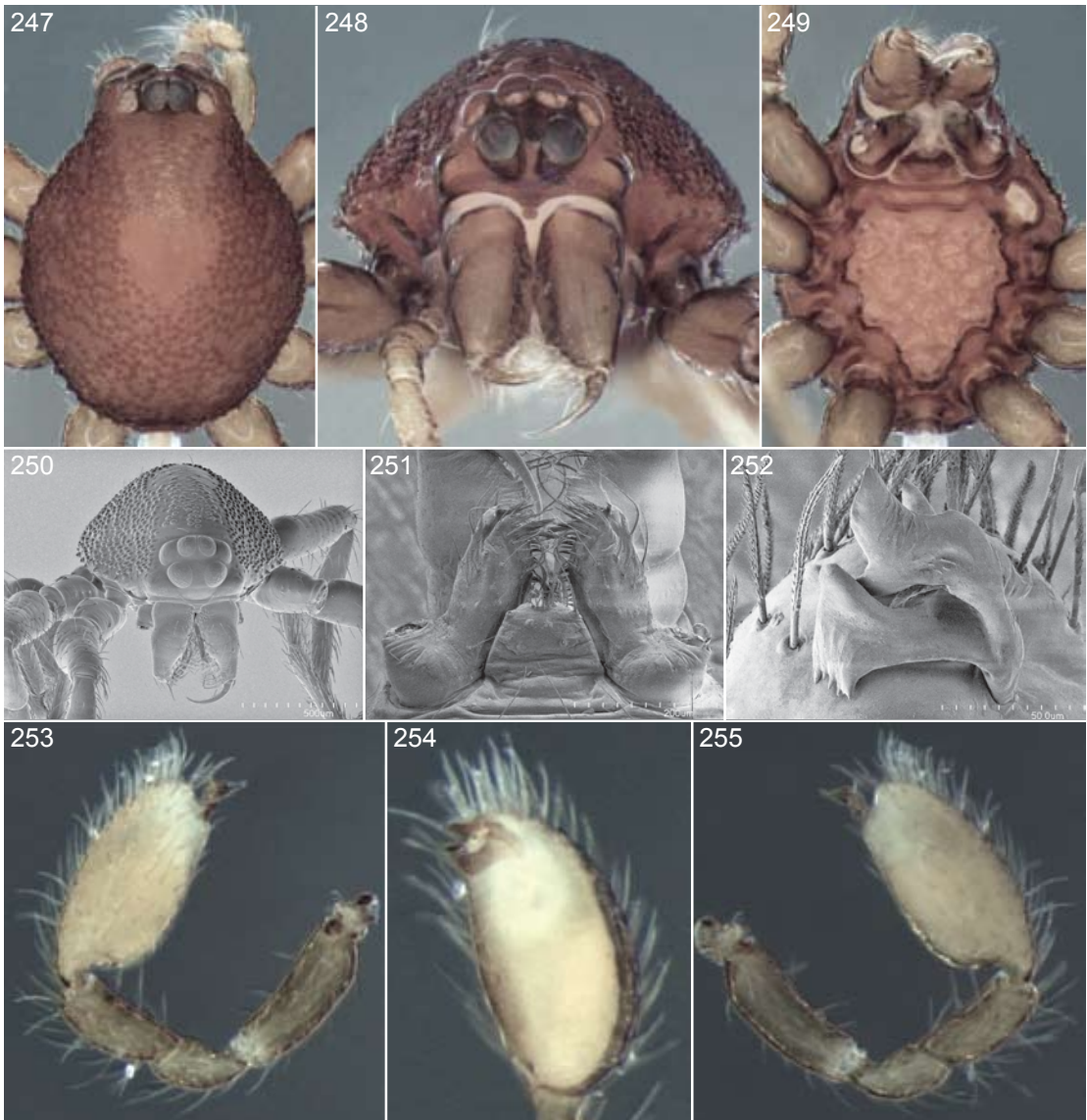
FIGS. 218–229. 218–223. *Scaphidysderina tandapi*, new species, female. 224–229. *S. baerti*, new species, female. 218, 224. Carapace, anterior view. 219, 225. Abdomen, lateral view. 220, 226. Same, ventral view. 221, 227. Epigastric area, ventral view. 222, 228. Digested genitalia, ventral view. 223, 229. Same, dorsal view.



FIGS. 230–237. *Scaphidysderina napo*, new species, female. 230. Carapace, dorsal view. 231. Same, anterior view. 232. Sternum and mouthparts, ventral view. 233. Abdomen, lateral view. 234. Same, ventral view. 235. Epigastric area, ventral view. 236. Digested genitalia, ventral view. 237. Same, dorsal view.



FIGS. 238–246. *Scaphidysderina baerti*, new species, male. **238.** Carapace, dorsal view. **239, 241.** Same, anterior view. **240.** Sternum and mouthparts, ventral view. **242.** Labium and endites, ventral view. **243.** Embolus, ventral view. **244.** Left palp, prolateral view. **245.** Same, ventral view. **246.** Same, retrolateral view.



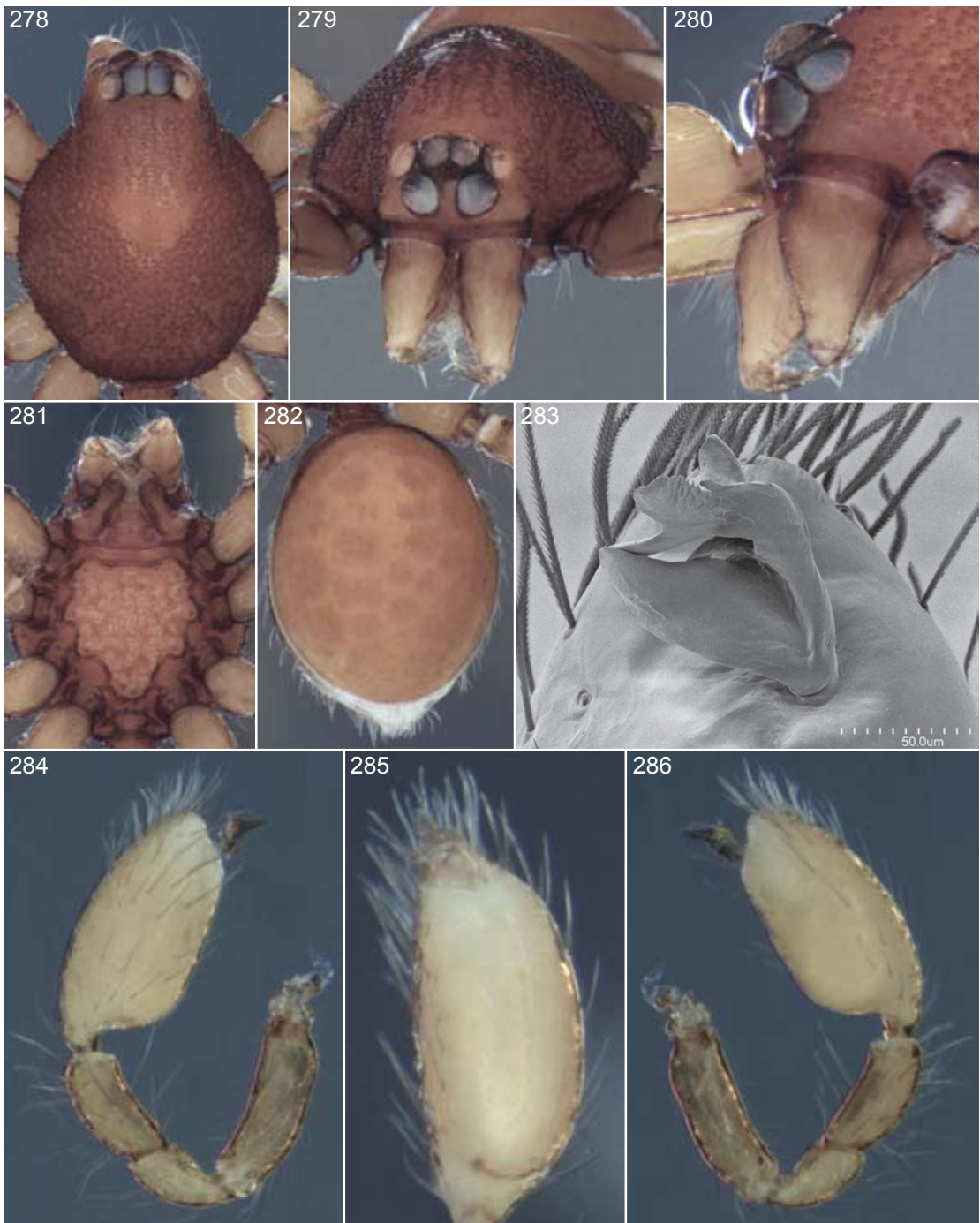
FIGS. 247–255. *Scaphidysderina cotopaxi*, new species, male. 247. Carapace, dorsal view. 248, 250. Same, anterior view. 249. Sternum and mouthparts, ventral view. 251. Labium and endites, ventral view. 252. Embolus, ventral view. 253. Left palp, prolatral view. 254. Same, ventral view. 255. Same, retrolateral view.



FIGS. 256–267. 256–261. *Scaphidysderina cotopaxi*, new species, female. 262–267. *S. hormigai*, new species, female. 256, 262. Carapace, anterior view. 257, 263. Abdomen, lateral view. 258, 264. Same, ventral view. 259, 265. Epigastric area, ventral view. 260, 266. Digested genitalia, ventral view. 261, 267. Same, dorsal view.



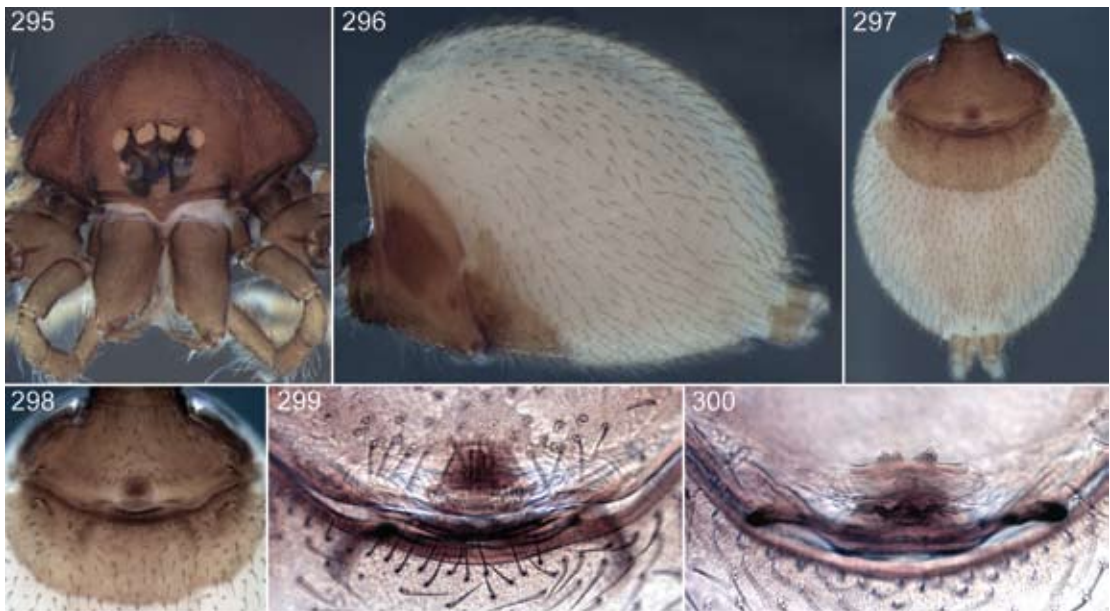
FIGS. 268–277. *Scaphidysderina hormigai*, new species, male. 268. Carapace, dorsal view. 269, 272. Same, anterior view. 270. Chelicerae and endite, lateral view. 271. Sternum and mouthparts, ventral view. 273. Tip of endite, ventral view. 274. Embolus, ventral view. 275. Left palp, prolateral view. 276. Same, ventral view. 277. Same, retrolateral view.



FIGS. 278–286. *Scaphidysderina iguaque*, new species, male. 278. Carapace, dorsal view. 279. Same, anterior view. 280. Chelicerae and endite, lateral view. 281. Sternum and mouthparts, ventral view. 282. Abdomen, dorsal view. 283. Embolus, ventral view. 284. Left palp, prolateral view. 285. Same, ventral view. 286. Same, retrolateral view.



FIGS. 287–294. *Scaphidysderina andersoni*, new species, male. 287. Carapace, dorsal view. 288. Chelicerae and endite, lateral view. 289. Sternum and mouthparts, ventral view. 290. Carapace, anterior view. 291. Embolus, ventral view. 292. Left palp, prolateral view. 293. Same, ventral view. 294. Same, retrolateral view.



FIGS. 295–300. *Scaphidysderina andersoni*, new species, female. 295. Carapace, anterior view. 296. Abdomen, lateral view. 297. Same, ventral view. 298. Epigastric area, ventral view. 299. Digested genitalia, ventral view. 300. Same, dorsal view.

transverse groove. Anterior face of paturon with produced ledge, median and lateral edges of ledge forming tubercles. Endites with tip of dorsal projection directed toward ventral projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching nearly full length of abdomen. Leg spination: femur I p0-0-1; tibiae: I v4-4-0; II v2-4-0; metatarsi: I v2-2-1p; II v2-0-2. Embolus originating on strong lobe of cymbium, consisting of narrow basal stalk followed by bifid dorsal and ventral flanges.

FEMALE (PBI_OON 38396, figs. 25–30): Total length 2.48. Only median edge of cheliceral ledge forming tubercle. Postepigastric scutum short, reaching about $\frac{2}{3}$ of abdomen length, fused to epigastric scutum. Leg spination: femur I p0-0-2; tibiae I, II v4-4-1p; metatarsi I, II v2-2-1p. Genitalic atrium ovoid, with anterior prong extending past anterior margin of atrium.

OTHER MATERIAL EXAMINED: **Peru:** *Cusco:* Consuelo, Manu Road, km 165, Oct. 1, 1982, leaf litter (L. Watrous, G. Mazurek, FMNH PBI_OON 38402), 1 ♂, Oct. 3, 1982, rotten palm (L. Watrous, G. Mazurek, FMNH 33538, PBI_OON 10045), 1 ♂, Oct. 6, 1982, leaf litter (L. Watrous, G. Mazurek, FMNH PBI_OON 38396), 1 ♀.

DISTRIBUTION: Peru (Cusco).

Scaphidysderina pagoreni, new species

Figures 31–48

TYPE: Male holotype taken in pitfall trap at elevation of 560 m at Río Camisea, Armihuari, 11°51'S, 72°46'W, Cusco, Peru (Oct. 16, 1997; S. Córdova), deposited in MUSM (501454, PBI_OON 526).

ETYMOLOGY: The specific name is a noun in apposition taken from one of the localities at which the species has been collected.

DIAGNOSIS: Males closely resemble those of *S. manu* but have the most ventral of the distal embolar processes both shorter and wider (fig. 45); females also closely resemble those of *S. manu*, but the anterior genitalic process is narrower (fig. 36).

MALE (PBI_OON 525, figs. 37–46): Total length 2.00. Chilum triangular, seam present, extending distal about equal to clypeus height. Sternum anterior margin with interrupted transverse groove. Anterior face of paturon with produced ledge, median and lateral edges of ledge forming tubercles. Endites with tip of dorsal projection directed toward ventral projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching near full length of abdomen. Leg spination: femur I p0-0-1; tibiae: I v4-4-1p; II v2-4-0; metatarsi: I v2-2-1p; II v2-2-0. Embolus originating on strong lobe of cymbium, consisting of narrow basal stalk followed by highly folded extension, dorsal and ventral flanges short, almost touching at tip.

FEMALE (PBI_OON 14813, figs. 31–36, 47, 48): Total length 2.18. Only median edge of cheliceral ledge forming tubercle. Postepigastric scutum covering about half of abdominal length, fused to epigastric scutum. Leg spination: tibia II v4-4-0; metatarsus II v2-2-0. Genital atrium triangular, with anterior prong extending past anterior margin of atrium.

OTHER MATERIAL EXAMINED: **Peru:** *Cusco:* Río Camisea, Armihuari, 11°51'S, 72°46'W, Oct. 16, 1997, pitfall, elev. 560 m (S. Córdova, MUSM 501454, PBI_OON 526), 1 ♂; Río Camisea, Cashiri 2, 11°51'51.3"S, 72°46'45.6"W, Sept. 2, 1997, elev. 579 m (S. Córdova, MUSM 501459, PBI_OON 527), 1 ♀; Río Camisea, Pagoreni, 11°42'22.5"S, 72°54'10.7"W, May 7–28, 1998, elev. 465 m (S. Córdova, MUSM 501426, 501433, PBI_OON 524, 525), 4 ♂. *Madre de Dios:* Cuenca del Río Los Amigos, Mar. 17, 2006 (M. Deza, MELM PBI_OON 14813), 1 ♀; Tambopata, Oct. 24, 1982, rotten palm flowers (L. Watrous, G. Mazurek, FMNH 33571, PBI_OON 10078), 1 ♂, Oct. 25, 1982, rotten palm flowers (L. Watrous, G. Mazurek, FMNH 33544, PBI_OON 10051), 1 ♂, Oct. 28, 1982, litter under crown of fallen tree (L. Watrous, G. Mazurek, FMNH PBI_OON 10639), 1 ♂, same, bamboo litter (L. Watrous, G. Mazurek, FMNH PBI_OON 38403), 1 ♂.

DISTRIBUTION: Peru (Cusco, Madre de Dios).

Scaphidysderina scutata, new species

Figures 49–56

TYPE: Female holotype from Berlese sample of litter taken at an elevation of 1600 m at Cordillera Azul, 37 km NE Tingo María, Huánuco, Peru (Jan. 11, 1983; A. Newton, M. Thayer), deposited in FMNH (44474, PBI_OON 10703).

ETYMOLOGY: The specific name refers to the presumably plesiomorphic presence of a dorsal abdominal scutum in females of this species.

DIAGNOSIS: Males are unknown, but females can easily be distinguished by the combined presence of a crenulate sternum and a dorsal abdominal scutum (fig. 52).

MALE: Unknown.

FEMALE (PBI_OON 10703, figs. 49–56): Total length 3.04. Chilum triangular, thickened

distally, seam present, extending distance about equal to clypeus height. Sternum anterior margin with interrupted transverse groove. Anterior face of paturon with produced ledge, only median edge of ledge forming tubercle. Dorsal scutum present, weakly sclerotized, covering about half of abdomen length, more than half of abdomen width; postepigastric scutum reaching about three-fourths of abdomen length, fused to epigastric scutum except at far lateral edge. Leg spination: femur I p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi I, II v2-2-2. Genitalic atrium ovoid, with long, basally widened, distally narrow median internal sclerotization.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Peru (Huánuco).

Scaphidysderina cajamarca, new species

Figures 57–65

TYPE: Male holotype from Santuario Nacional Tabaconas-Namballe, Cajamarca, Peru (Mar. 2008; S. Castro), deposited in MELM (PBI_OON 14911).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males have anastomosing ridges on the sternum (fig. 60) but differ from the other known males with such ridges by lacking a greatly elongated chilum and having only a simple, dorsally directed spine on the chelicerae; the rounded dorsal tip of the ventral embolar flange (fig. 62) is diagnostic.

MALE (PBI_OON 14911, figs. 57–65): Total length 1.72. Chilum broadly triangular, seam absent, extending distance equal to about half of clypeus height. Sternum anterior margin with continuous transverse groove, sternal depressions separated by anastomosing ridges. Anterior face of paturon with rounded ledge; distal half of paturon medially excavated, inner margin bearing highly sclerotized spine extending back toward clypeus. Endites with tip of dorsal projection directed toward ventral projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching nearly full length of abdomen. Leg spination: femur I p0-0-2; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Embolus originating on strong lobe of cymbium, consisting of narrow basal stalk followed by two separate ventral flanges, dorsal flange leaflike.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Peru (Cajamarca).

Scaphidysderina tayos, new species

Figures 66–73

TYPE: Female holotype from Los Tayos, Zamora-Chinchi, Ecuador (July 8, 1976; T. de Vries), deposited in QCAZ (PBI_OON 10810).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males are unknown; females resemble those of *S. napo* in having a pair of enlarged tubercles at the rear of the pars cephalica (fig. 67), but have longer, less widely separated genitalic apodemes (fig. 73).

MALE: Unknown.

FEMALE (PBI_OON 10810, figs. 66–73): Total length 2.77. Chilum rectangular, without seam, extending distance about half of clypeal height. Sternum anterior margin with interrupted transverse groove, sternal depressions separated by anastomosing ridges. Anterior face of paturon with rounded ledge. Postepigastric scutum reaching about three-fourths of abdomen length, not fused to epigastric scutum. Leg spination: femur I p0-0-2; tibiae I, II v4-4-1p; metatarsi I, II v2-2-2. Genitalia without conspicuous, unsclerotized atrium.

OTHER MATERIAL EXAMINED: One female taken with the holotype (QCAZ).

DISTRIBUTION: Ecuador (Zamora-Chinchipe).

Scaphidysderina loja, new species

Figures 74–81

TYPE: Female holotype taken under mossy stones at an elevation of 2100 m at Celica, 4.09896°S, 79.97994°W, Loja, Ecuador (Feb. 25, 2010; E. Tapia), deposited in QCAZ (PBI_OON 550).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males are unknown; females have a very large, unsclerotized genitalic atrium that is longer than the postepigastric scutum (figs. 79, 80).

MALE: Unknown.

FEMALE (PBI_OON 550, figs. 74–81): Total length 2.65. Chilum small, triangular, fused to clypeus, seam present, extending only slightly in front of clypeus. Sternum anterior margin with interrupted transverse groove. Anterior face of paturon with produced ledge, only median edge of ledge forming tubercle. Postepigastric scutum reaching to about one-third of abdomen length, fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-2; II p0-0-2; tibiae I, II v4-4-2; metatarsi: I v2-2-1p; II v2-1p-2. Genitalic atrium unsclerotized, large, oval, longer than postepigastric scutum.

OTHER MATERIAL EXAMINED: Three females taken with the types (QCAZ, AMNH).

DISTRIBUTION: Ecuador (Loja).

Scaphidysderina molleturo, new species

Figures 82–89

TYPE: Female holotype taken at an elevation of 1910 m at Luz Maria, Molleturo, Cuenca, 2.68918°S, 79.41537°W, Azuay, Ecuador (Jan. 25, 2010; E. Tapia), deposited in QCAZ (PBI_OON 10704).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males are unknown; females resemble those of *S. loja* in having a large genitalic atrium (figs. 87, 88) but have anastomosing ridges on the sternum (fig. 84).

MALE: Unknown.

FEMALE (PBI_OON 10704, figs. 82–89): Total length 2.56. Chilum small, triangular, fused to clypeus, seam present, extending only slight distance. Sternum anterior margin with continuous transverse groove, depressions separated by anastomosing ridges. Anterior face of paturon with small, rounded ledge. Postepigastric scutum reaching to about one-third of abdo-

men length, fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-2; II p0-0-2, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v2-1p-2. Genitalic atrium large, unsclerotized, ovoid, almost as long as postepigastric scutum.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Ecuador (Azuay).

Scaphidysderina tapiai, new species

Figures 90–105

TYPES: Male holotype and female allotype taken in pitfall traps at Río Chipia, Molleturo, Cuenca, 2.74752°S, 79.40892°W, Azuay, Ecuador (Jan. 20, 2010; E. Tapia), deposited in QCAZ (PBI_OON 10742).

ETYMOLOGY: The specific name is a patronym in honor of the collector, Elicio Tapia.

DIAGNOSIS: Males resemble those of *S. pinocchio*, *S. palenque*, and *S. tandapi* in having the chilum elongated into a snout (figs. 91, 92) but can be distinguished by the basally angular ventral flange of the embolus (fig. 96); females show genitalic similarities to the same species (heavily sclerotized apodemes with anteriorly directed tips, fig. 105) but can be distinguished by the widened, transverse tip of the anterior genitalic process (figs. 104, 105).

MALE (PBI_OON 10742, figs. 90–99): Total length 2.61. Chilum without seam, enlarged to form basally widened snout. Sternum anterior margin with continuous transverse groove, surface depressions separated by anastomosing ridges. Almost entire length of paturon occupied by medial excavation, inner margin of which bears highly sclerotized spine extending back toward clypeus. Endite tips both directed distally. Dorsal scutum covering more than three-fourths of abdomen length, more than half of abdomen width; postepigastric scutum reaching about three-quarters of abdomen length. Leg spination: femur I p0-0-2; r0-1-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-0. Bulb incrassate, embolus huge, bipartite, ventral flange bent at about half its length.

FEMALE (PBI_OON 10742, figs. 100–105): Total length 3.15. Chilum triangular, extending forward distance equal to about half of clypeal height. Anterior face of paturon with produced ledge, only median edge of ledge forming tubercle. Postepigastric scutum short, almost rectangular, covering about one-third of abdomen length, not fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-2; II p0-0-2; r0-1-0; tibiae: I v4-4-2; II v4-3-1p; metatarsi: I v2-2-1p; II v2-2-2. Genitalia without conspicuous, unsclerotized atrium, posterior margin of epigastric furrow with heavily sclerotized transverse bar visible through integument.

OTHER MATERIAL EXAMINED: One male taken with the types (QCAZ).

DISTRIBUTION: Ecuador (Azuay).

Scaphidysderina pinocchio, new species

Figures 106–122

TYPE: Male holotype from Berlese sample taken at an elevation of 375 m at Hosteria Shishink, 5.5 km from Puerto Rico, 0.05609°N, 79.20596°W, Pichincha, Ecuador (Dec. 8, 2009; M. Ramírez, Niarchos Exped.), deposited in QCAZ (PBI_OON 643).

ETYMOLOGY: The specific name is a noun in apposition taken from the fictional character created by Carlo Collodi, referring to the extraordinary snout at the front of the carapace.

DIAGNOSIS: Males resemble those of the other three species with elongated snouts, but can be distinguished by the sigmoid dorsal and ventral embolar flanges (figs. 117, 121); females resemble those of the same species but can be distinguished by the more rectangular anterior genitalic elements (fig. 111).

MALE (PBI_OON 30631, figs. 112–122): Total length 2.24. Chilum without seam, elongated into smoothly tapering snout. Sternum anterior margin with continuous transverse groove, surface depressions separated by anastomosing ridges. Almost entire length of paturon occupied by median excavation, inner margin bearing highly sclerotized spine extending back toward clypeus. Endites with both projections directed distally. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching nearly full length of abdomen. Leg spination: femur I p0-0-2, r0-1-1; tibiae I, II v4-4-2; metatarsi I, II v2-2-2. Embolus bipartite, both flanges elongated, sharply pointed, angularly sigmoid.

FEMALE (PBI_OON 552, figs. 106–111): Total length 2.93. Chilum triangular, extending distance equal to about half of clypeal height. Anterior face of paturon with produced ledge with rounded edges. Postepigastric scutum covering about ½ of abdomen length, not fused to epigastric scutum. Leg spination: femora I, II p0-1-1, r0-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v2-2-1p. Genitalia without conspicuous, unsclerotized atrium, internally with complexly folded anterior receptaculum.

OTHER MATERIAL EXAMINED: **Ecuador:** *Cotopaxi:* Otonga, 0°25'S, 79°00'W, Aug. 12, 1997, elev. 2000 m (E. Tapia, QCAZ PBI_OON 552), 1 ♀; Otonga, 0°25'11"S, 78°59'41"W, Dec. 8, 2009, hand collecting, forest litter, elev. 1705 m (N. Dupérré, E. Tapia, Niarchos Exped., AMNH PBI_OON 551), 1 ♂, 1 ♀. *Los Ríos:* Río Palenque Station, 47 km S of Santo Domingo, Aug. 30, 1977 (S. Sandoval, QCAZ PBI_OON 555), 1 ♀. *Manabí:* 73 km NE Chone, 85 km W Santo Domingo, June 12, 1976, Berlese, forest litter, elev. 300 m (S., J. Peck, FMNH 33731, PBI_OON 10233), 1 ♂, 1 ♀. *Pichincha:* W Alluriquín, Tinalandia, May 19–20, 1993, litter near stream, elev. 2600–2800 ft (L. Herman, AMNH PBI_OON 62, 68), 2 ♂; Hosteria Shishink, 5.5 km from Puerto Rico, 0.05609°N, 79.20596°W, Dec. 8, 2009, Berlese, elev. 375 m (M. Ramírez, Niarchos Exped., MACN PBI_OON 30631), 1 ♂

DISTRIBUTION: Western slopes of the central Ecuadorean Andes.

Scaphidysderina palenque, new species

Figures 123–207

TYPE: Male holotype taken in closed cacao forest at the Centro Científico Río Palenque, Los Ríos, Ecuador (Jan. 1, 1981; S. Sandoval), deposited in KBIN (PBI_OON 16660).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *S. tandapi* in having a basal process on the dorsal flange of the embolus (fig. 128, 146), but have the embolar tip shorter and thicker (best seen in lateral view, figs. 127, 129); females have a dorsally directed tip on the anterior genitalic process (fig. 135).

MALE (PBI_OON 16660, figs. 123–129, 136–171): Total length 2.13. Chilum without seam, enlarged to form very long snout. Sternum anterior margin with continuous transverse groove, surface depressions separated by anastomosing ridges. Proximal two-thirds of paturon medially excavated, inner margin of excavation bearing heavily sclerotized spine extending back toward clypeus. Endites with dorsal projection originating just distal to lateral notch. Dorsal scutum covering full length of abdomen, most of abdomen width; postepigastric scutum reaching about three-fourths of abdomen length. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-1; r0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Embolus boatlike, with short tip.

FEMALE (PBI_OON 16657, figs. 130–135, 172–207): Total length 2.35. Chilum triangular, extending distance about equal to clypeal height. Anterior ledge on chelicerae slight, rounded. Postepigastric scutum reaching about ½ of abdomen length, not fused to epigastric scutum. Leg spination: femora I, II p0-0-2, r0-1-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v2-2-1p. Genitalia without conspicuous, unsclerotized atrium, with strong anterior tube.

OTHER MATERIAL EXAMINED: **Ecuador:** *Los Ríos:* Centro Científico Río Palenque, Dec. 21, 1980 (S. Sandoval, QCAZ PBI_OON 10758), 1 ♂, Dec. 26, 1980, open secondary forest (S. Sandoval, KBIN PBI_OON 16658), 1 ♂, Dec. 29, 1980, closed secondary forest (S. Sandoval, KBIN PBI_OON 16657), 1 ♀, Feb. 28, 1981, closed primary forest (S. Sandoval, KBIN PBI_OON 16661), 1 ♀, Mar. 7, 1981, open secondary forest (S. Sandoval, KBIN PBI_OON 16662), 1 ♀, Mar. 2, 1989 (S. Sandoval, QCAZ PBI_OON 559), 1 ♀; Centro Científico Río Palenque, 00°54'S, 79°00'W, Mar. 7, 1979, primary forest, elev. 220 m (S. Sandoval, QCAZ PBI_OON 558), 1 ♀; Centro Científico Río Palenque, 01°00'S, 79°27'W, Mar. 4, 1979, secondary forest, elev. 220 m (T. DeVries, QCAZ PBI_OON 557), 1 ♀; Río Palenque Station, 47 km S of Santo Domingo, May 25, 1975, dung traps, forest, elev. 250 m (S. Peck, AMNH PBI_OON 63), 1 ♀, June 18–30, 1975, Berlese, forest litter, elev. 700 ft (S., J. Peck, FMNH PBI_OON 10566), 1 ♂. *Pichincha:* Bijao, Dec. 27, 1980 (KBIN PBI_OON 16659), 1 ♂.

DISTRIBUTION: Central Ecuador.

Scaphidysderina tandapi, new species

Figures 208–223

TYPE: Male holotype from Berlese sample of debris from termite nests taken at an elevation of 700 m at Tinalandia, 16 km NE Santo Domingo, Pichincha, Ecuador (June 5, 1976; S. Peck), deposited in FMNH (PBI_OON 37836).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *S. palenque* in having a basal process on the dorsal flange of the embolus (fig. 214, 216), but have the embolar tip longer and narrower (best seen in lateral view, figs. 215, 217); females have a much shorter anterior genitalic process (fig. 223).

MALE (PBI_OON 30613, figs. 208–217): Total length 2.24. Chilum without seam, forming long snout. Sternum anterior margin with continuous transverse groove, surface depressions separated by anastomosing ridges. Proximal two-thirds of paturon medially excavated, inner margin of excavation bearing heavily sclerotized spine extending back toward clypeus. Endites with dorsal process originating just distal to lateral notch. Dorsal scutum covering more than

three-fourths of abdomen length, most of abdomen width; postepigastric scutum reaching nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-1, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Embolus boatlike, with incrassate tip.

FEMALE (PBI_OON 554, figs. 218–223): Total length 2.47. Chilum triangular, extending forward distance equal to about half of clypeus height. Anterior face of paturon with produced ledge, both edges of ledge rounded. Postepigastric scutum covering about one-third of abdomen length, not fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-2; II p0-0-2, r0-1-0; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v2-2-1p. Genital atrium very small, with W-shaped anterior margin.

OTHER MATERIAL EXAMINED: **Ecuador:** *Cotopaxi:* Otonga, 0°25'11"S, 78°59'41"W, Dec. 8, 2009, hand collecting, forest litter, elev. 1705 m (N. Dupérré, E. Tapia, Niarchos Exped., AMNH PBI_OON 46491), 1 ♀. *Pichincha:* Tandapi, 2 km from main road to Quito, 0°23'17"S, 78°49'04"W, Dec. 7, 2009, cloud forest litter with palm, elev. 1493 m (N. Dupérré, E. Tapia, Niarchos Exped., AMNH PBI_OON 554), 2 ♀; 21 km N Tandapi on main road to Quito, 0°27'20.3"S, 78°45'15.5"W, Dec. 7, 2009, Berlese, cloud forest litter, elev. 2150 m (N. Dupérré, E. Tapia, Niarchos Exped., AMNH PBI_OON 553), 1 ♀; Tinalandia, 16 km NE Santo Domingo, June 5, 1976, Berlese, debris from termite nests, elev. 700 m (S. Peck, FMNH PBI_OON 37836), 1 ♂. *Santo Domingo de los Tsáchilas:* Tinalandia lodge, km 85 on road from Aloaj to Santo Domingo, 0°19.262'S, 78°57.095'W, Dec. 7, 2009, dead leaves, elev. 760 m (M. Ramírez, C. Grismado, M. Izquierdo, F. Labarque, Niarchos Exped., MACN PBI_OON 30613), 1 ♂.

DISTRIBUTION: Central Ecuador.

Scaphidysderina napo, new species

Figures 230–237

TYPE: Female holotype taken from litter at an elevation of 1005 m at the Parque Nacional Napo-Galeras, 0°44'00"S, 77°28'07"W, Napo, Ecuador (Nov. 27, 2009; Niarchos Exped.), deposited in QCAZ (PBI_OON 560).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males are unknown; females resemble those of *S. tayos* in having a pair of enlarged tubercles at the posterior margin of the pars cephalica (fig. 231) but can be distinguished by the larger postepigastric scutum, which reaches almost to the top of the abdominal dorsum (fig. 233).

MALE: Unknown.

FEMALE (PBI_OON 560, figs. 230–237): Total length 2.70. Chilum without seam, small, rectangular, extending distance equal to about one-fourth of clypeus height. Sternum anterior margin with interrupted transverse groove, surface depressions separated by anastomosing ridges. Anterior face of paturon with produced ledge, both edges of ledge rounded. Postepigastric scutum covering nearly full length of abdomen, not fused to epigastric scutum, extending up sides of abdomen almost to top. Leg spination: femur I p0-0-2; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v2-2-1p. Genitalia without conspicuous, unsclerotized atrium, anterior genitalic process with diamond-shaped tip.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Ecuador (Napo).

Scaphidysderina baerti, new species

Figures 224–229, 238–246

TYPES: Male holotype and female allotype taken in tropical forest humus at an elevation of 800 m at Puyo, Pastaza, Ecuador (Apr. 1965; J., N. Leleup), deposited in KBIN (PBI_OON 16636).

ETYMOLOGY: The specific name is a patronym in honor of Léon Baert (KBIN), who sorted the type specimens and made them available for study.

DIAGNOSIS: Males and females resemble those of *S. cotopaxi* in having enlarged, tuberculate setal bases on the sides of the sternum (fig. 240), but can be distinguished by the much narrower embolus of males (figs. 243, 245) and the much shorter apodemes of females (fig. 229).

MALE (PBI_OON 16636, figs. 238–246): Total length 2.27. Chilum rectangular, with seam, extending forward distance equal to about one-fourth of clypeus height. Sternum anterior margin with continuous transverse groove, surface with setal bases enlarged into small tubercles. Anterior face of paturon with produced ledge, both edges of ledge rounded; inner margin of paturon excavated, with heavily sclerotized spine extending back toward clypeus. Endites with tip of dorsal projection directed toward ventral projection. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching about three-fourths of abdomen length. Leg spination: femur I p0-0-2, r0-1-0; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Embolus long, narrow, dorsal and ventral flanges touching for most of their length.

FEMALE (PBI_OON 16636, figs. 224–229): Total length 2.56. Anterior face of paturon with produced ledge, both edges of ledge rounded, without spines. Postepigastric scutum reaching about two-thirds of abdomen length, not fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-1; II p0-0-2, r0-1-0; tibiae: I v4-4-4; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Genitalic atrium wide, very short; anterior receptaculum wide at base.

OTHER MATERIAL EXAMINED: **Ecuador:** *Napo*: Parque Nacional Napo-Galeras, 0°44'00"S, 77°28'07"W, Nov. 27, 2009, elev. 1005 m (Niarchos Exped., AMNH PBI_OON 575), 1 ♀; Parque Nacional Napo-Galeras, 0°44'37"S, 77°35'29"W, Nov. 27, 2009, elev. 1065 m (Niarchos Exped., AMNH PBI_OON 637. MACN PBI_OON 30628), 2 ♂; Yanayacu Biological Station, stream trail, 0°35.955'S. 77°53.431'W. Nov. 24–25, 2009, pitfall, elev. 2130 m (Niarchos Exped., AMNH PBI 30626), 1 ♂, San Jorge de Yanayacu, 0.58813°S, 77.88428°W, Nov. 26, 2009, elev. 2130 m (Niarchos Exped., AMNH PBI_OON 638), 1 ♂. *Pastaza*: Puyo, Apr. 1965, tropical forest humus, elev. 800 m (J., N. Leleup, KBIN PBI_OON 16636), 2 ♂.

DISTRIBUTION: Eastern slopes of the Ecuadorean Andes (Napo, Pastaza).

Scaphidysderina cotopaxi, new species

Figures 247–261

TYPE: Male holotype taken in closed forest at the Centro Científico Río Palenque, Los Ríos, Ecuador (Mar. 2, 1977; T. De Vries), deposited in QCAZ (PBI_OON 570).

ETYMOLOGY: The specific name is a noun in apposition taken from the locality with the highest altitude at which this species has been collected.

DIAGNOSIS: Males and females resemble those of *S. baerti* in having enlarged, tuberculate setal bases on the sides of the sternum (fig. 249), but can be distinguished by the much wider embolus of males (figs. 252, 254) and the much longer apodemes of females (fig. 261).

MALE (PBI_OON 3676, figs. 247–255): Total length 1.99. Chilum rectangular, seam present, extending distance equal to about one-half of clypeus height. Sternum anterior margin with continuous transverse groove, lateral setae with tuberculate bases. Anterior face of paturon with produced ledge, both edges of ledge rounded; inner margin with small, dorsally directed spine. Endites with tips of both projections directed medially. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching about three-fourths of abdomen length. Leg spination: femora: I p0-0-2, r0-1-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-1p; II v2-2-0. Embolus with ventral flange originating at base of embolus, expanded distally, dorsal flange bifid, with transverse ventral portion and angular distal portion.

FEMALE (PBI_OON 16635, figs. 256–261): Total length 2.35. Anterior face of paturon with produced ledge, both edges of ledge rounded, but without spines. Postepigastric scutum reaching about half of abdomen length, not fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-1-0; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Genitalic atrium wide, anterior receptaculum broadly triangular.

OTHER MATERIAL EXAMINED: **Ecuador:** *Cotopaxi:* Lago Limpiopungo, 0°36'49"S, 78°28'22"W, Dec. 3, 2009, Berlese, sifted moss, elev. 3865 m (N. Dupérré, Niarchos Exped., AMNH PBI_OON 30636), 1 ♂. *Los Ríos:* Centro Científico Río Palenque, no date (S. Sandoval, QCAZ PBI_OON 573), 1 ♀, May 18–30, 1975, Berlese, forest litter, elev. 700 m (S., J. Peck, FMNH 33698, PBI_OON 10200), 3 ♀, Feb. 24–27, 1977 (T. de Vries, QCAZ PBI_OON 571), 1 ♀, Mar. 2, 1979, closed primary forest (S. Sandoval, QCAZ PBI_OON 572, 10796), 1 ♂, 1 ♀, Jan. 1, 1981, open primary forest (KBIN PBI_OON 16633), 1 ♀, Jan. 4, 1981, closed primary forest (KBIN PBI_OON 16634), 1 ♂, May 5–July 25, 1985, malaise-flight intercept trap, rainforest, elev. 250 m (S., J. Peck, AMNH PBI_OON 29), 1 ♂. *Manabí:* 73 km NE Chone, 85 km W Santo Domingo, June 9–12, 1976, elev. 300 m (S. Peck, FMNH 56886, PBI_OON 10829), 1 ♀. *Pichincha:* W Alluriquín, Tinalandia, May 19–20, 1993, forest floor litter, elev. 2600–2800 ft (L. Herman, AMNH PBI_OON 67), 1 ♂; 20–30 km ENE Alluriquin on Chiriboga Road, June 19, 1975, Berlese, wet litter, moss forest, elev. 4600–5800 ft (S. Peck, FMNH 33720, PBI_OON 10222), 1 ♂; Bellavista Reserve, 12 km S Nanegalito, 0°0'54"S, 78°40'56"W, Oct. 28, 1999, ridge trail, cloud forest litter, elev. 2250 m (R. Anderson, AMNH PBI_OON 647, 648), 3 ♂, 3 ♀; Bellavista Reserve, 12 km S Nanegalito, 0°0'32"S, 78°41'08"W, Oct. 30, 1999, cloud forest litter, elev. 2150 m (R. Anderson, AMNH PBI_OON 649), 2 ♂; Maquipucuna Reserve, 0°05'34"N, 78°37'37"W, Oct. 29, 1999, ridgetop montane forest litter, elev. 1620 m (R. Anderson, AMNH PBI_OON 651, 652), 1 ♂, 1 ♀; Maquipucuna Reserve, 0°06'25"N, 78°37'18"W, Oct. 27, 1999, montane evergreen forest litter, elev. 1480 m (R. Anderson, AMNH PBI_OON 650), 1 ♀; ca. 25 air km WNW Quito, Dec. 25, 1980, cacao plantation (S. Sandoval, CAS 29542, PBI_OON

3676), 1 ♂; 38 km W Quito, old road between Quito and Santo Domingo, Oct. 25, 1988, litter, elev. 7800 ft (L. Herman, AMNH PBI_OON 661), 1 ♀; 15 km E Tandapi, June 7, 1976, Berlese, moss, forest litter, elev. 2300 m (S. Peck, FMNH PBI_OON 10555), 1 ♂; 21 km N Tandapi on main road from Tandapi to Quito, 0°27'20.3"S, 77°45'15.5"W, Dec. 7, 2009, Berlese, hand sorting, sifted cloud forest litter, elev. 2150 m (N. Dupérré, E. Tapia, Niarchos Exped., AMNH PBI_OON 574), 2 ♂, 4 ♀. *Santo Domingo de Los Tsáchilas*: Santo Domingo, Apr. 1965, tropical forest humus, elev. 600 m (N., J. Leleup, KBIN PBI_OON 16635), 1 ♂, 1 ♀; 4 km E Santo Domingo, June 22, 1975, Berlese, rainforest litter, elev. 1700 ft (S. Peck, FMNH 33719, PBI_OON 10221), 1 ♂, Tinalandia, 16 km SE Santo Domingo, June 15, 1975, Berlese, leaf litter and soil, elev. 680 m (S. Peck, FMNH 33722, PBI_OON 10224), 1 ♀.

DISTRIBUTION: Western slopes of the central Ecuadorean Andes.

Scaphidysderina andersoni, new species

Figures 287–300

TYPES: Male holotype and female allotype from valley bottom elfin forest litter taken at an elevation of 3100 m at the Hostería San Jorge, ca. 10 km NW of Quito, 0°07'28"S, 78°31'31"W, Pichincha, Ecuador (Oct. 23, 1999; R. Anderson), deposited in AMNH (PBI_OON 653).

ETYMOLOGY: The specific name is a patronym in honor of the collector, Robert Anderson (Canadian Museum of Nature).

DIAGNOSIS: Males resemble those of *S. cajamarca* but have a distally prolonged embolus tip (figs. 291, 293); females can be recognized by the bell-shaped sclerotization at the antero-medial edge of the genital atrium (figs. 299, 300).

MALE (PBI_OON 653, figs. 287–294): Chilum triangular, seam absent, extending distance equal to about half of clypeal height. Sternum anterior margin with continuous transverse groove, surface with depressions separated by anastomosing ridges. Anterior face of paturon with deep median excavation, inner margin with dorsally directed, heavily sclerotized spine. Endites with long, almost straight ventral and dorsal projections. Dorsal scutum of abdomen covering more than three-fourths of abdomen length, most of abdomen width; postepigastric scutum covering about three-fourths of abdomen length. Leg spination: femora: I p0-0-2, r0-0-2; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-0. Embolus with basally directed flange and distally extended tip.

FEMALE (PBI_OON 653, figs. 295–300): Total length 2.52. Postepigastric scutum almost semicircular, covering about one-third of abdomen length, not fused to epigastric scutum. Leg spination: femora: I p0-0-2, r0-0-2; II p0-0-2, r0-0-1; tibiae I, II v4-4-2; metatarsi: I v2-2-2; II v2-2-1p. Genital atrium with median, bell-shaped sclerotization extending from anterior margin.

OTHER MATERIAL EXAMINED: **Ecuador**: *Pichincha*: Campamento Pichan, ca. 27.5 km NW Quito, 0°07'31"S, 78°33'56"W, Oct. 22, 1999, cloud forest litter, elev. 3350 m (R. Anderson, AMNH PBI_OON 654), 1 ♀; Hostería San Jorge, ca. 10 km NW of Quito, 0°07'28"S, 78°31'31"W, Oct. 23, 1999, valley bottom elfin forest litter, elev. 3100 m (R. Anderson, AMNH PBI_OON 653, 660), 7 ♂, 9 ♀.

DISTRIBUTION: Ecuador (Pichincha).

Scaphidysderina hormigai, new species

Figures 262–277

TYPES: Male holotype and female allotype taken by sifting litter at an elevation of 2085 m at Cali, San Antonio, near El Saladito, 3°29'49.2"N, 76°37'29.1"W, Valle del Cauca, Colombia (Feb. 16, 1998; G. Hormiga, J. Coddington, J. Miller, D. Correa), deposited in ICN (2219, PBI_OON 561).

ETYMOLOGY: The specific name is a patronym in honor of Gustavo Hormiga (George Washington University), one of the collectors of the types.

DIAGNOSIS: Males can easily be recognized by the large median lobes on their chelicerae (figs. 269, 272) and the distally expanded embolus (figs. 274, 276), females by the winglike basal extensions on the anterior genitalic process (fig. 267).

MALE (PBI_OON 561, figs. 268–277): Total length 2.07. Chilum rectangular, without seam, extending distance equal to about half of clypeus height. Sternum anterior margin with continuous transverse groove, surface depressions separated by anastomosing ridges. Anterior face of paturon with produced ledge, inner edge of ledge forming tubercle; inner margin excavated, bearing large lobe with terminal, dorsolaterally directed spine; posterior edge of excavation produced into broad ledge. Endites with tips of projections directed toward each other, dorsal projection outlining almost circular area. Dorsal scutum covering full length of abdomen, no soft tissue visible from above; postepigastric scutum reaching about three-fourths of abdomen length. Leg spination: femur I p0-0-1; tibiae: I v4-4-1p; II v2-4-1p; metatarsi: I v2-2-1p; II v2-2-0. Embolus long, elaborately twisted, with hook on prolateral side at about half of its length, tip directed retrolaterally.

FEMALE (PBI_OON 561, figs. 262–267): Total length 2.50. Chilum extending distance equal to about one-fourth of clypeus height. Anterior face of paturon with produced ledge, inner edge of ledge forming tubercle. Postepigastric scutum covering about 1/3 of abdomen length, not fused to epigastric scutum. Leg spination: femur I p0-0-2; tibiae: I v4-4-2; II v3-4-1p; metatarsi: I v3-2-2; II v2-1p-2. Genitalia with atrium reduced to short slit, anterior genitalic process shaped like inverted T.

OTHER MATERIAL EXAMINED: Three males and four females taken with the types (ICN).

DISTRIBUTION: Southern Colombia.

Scaphidysderina iguaque, new species

Figures 278–286

TYPE: Male holotype from Winkler sample taken at an elevation of 2850 m at Cabaña Carrizal, Santuario de Flora y Fauna de Iguaque, 5°25'N, 73°27'W, Boyacá, Colombia (June 14–18, 2001; P. Reina), deposited in IAVH (108108, PBI_OON 646).

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *S. baerti* and *S. cotopaxi* in having prominent, tuberculate bases on the lateral sternal setae, and the embolus is close to that of *S. cotopaxi*, differing in having a smooth, unserrated ventral edge on the ventral flange (figs. 283, 285).

MALE (PBI_OON 646, figs. 278–286): Total length 2.43. Chilum rectangular, seam present, extending distance equal to about half of clypeal height. Sternum anterior margin with continuous transverse groove, surface crenulated, lateral setae with tuberculate bases. Anterior face of paturon with produced ledge, both edges of ledge rounded; inner margin with laminate ledge but without dorsally directed spine. Endites with short ventral and longer dorsal projections, tips of both projections directed medially. Dorsal scutum of abdomen covering full length of abdomen, no soft tissue visible from above; postepigastric scutum covering nearly full length of abdomen. Leg spination: femora: I p0-0-2, r0-0-1; II p0-0-1; tibiae: I v4-4-2; II v4-4-1p; metatarsi: I v2-2-2; II v2-2-1p. Embolus with ventral flange originating at base of embolus, triangular, dorsal flange with long, narrow projection at tip.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Central Colombia (Boyacá).

Costarina, new genus

TYPE SPECIES: *Dysderina plena* O. P.-Cambridge (1894).

ETYMOLOGY: The generic name is a contraction of “Costa Rican *Dysderina*,” referring to the extraordinary radiation of species occurring in Costa Rica, and is feminine in gender.

DIAGNOSIS: Members of this genus resemble those of *Dysderina* and *Simoonops* in having three transverse ridges on the sternum, but differ in lacking grooves connecting either the anterior or posterior pairs of spiracles.

INCLUDED SPECIES: Sixteen species are here transferred from *Dysderina*, resulting in the following new combinations: *C. plena* (O. P.-Cambridge, 1894) from Mexico, and the following species from Costa Rica and Panama: *C. abdita* (Chickering, 1968), *C. belinda* (Chickering, 1968), *C. concinna* (Chickering, 1968), *C. dura* (Chickering, 1951), *C. humphreyi* (Chickering, 1968), *C. improvisa* (Chickering, 1968), *C. intempina* (Chickering, 1968), *C. meridina* (Chickering, 1968), *C. obtina* (Chickering, 1968), *C. potena* (Chickering, 1968), *C. recondita* (Chickering, 1951), *C. rigida* (Chickering, 1968), *C. seclusa* (Chickering, 1951), *C. silvatica* (Chickering, 1951), and *C. watina* (Chickering, 1968). Based on our preliminary sorting of the available material, the genus includes at least 85 species, of which at least 50 occur in Costa Rica alone; these taxa will be detailed in a subsequent revision. The remaining species that are currently misplaced in *Dysderina* will also be transferred elsewhere, in forthcoming papers by various PBI participants.

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REFERENCES

- Birabén, M. 1953. *Neoxyphinus*. Nuevo género de arañas de la familia Oonopidae. *Physis* (Buenos Aires) 20: 453–458.
- Cambridge, O.P.- 1894. Arachnida-Araneida. *In* *Biologia centrali americana*. London: R.H. Porter, 1: 121–144.
- Chickering, A.M. 1951. The Oonopidae of Panama. *Bulletin of the Museum of Comparative Zoology* 106: 207–245.
- Chickering, A.M. 1968. The genus *Dysderina* (Araneae, Oonopidae) in Central America and the West Indies. *Breviora* 296: 1–37.
- Harvey, M.S. 2002. Nomenclatural notes on Solifugae, Amblypygi, Uropygi and Araneae (Arachnida). *Records of the Western Australian Museum* 20: 449–459.
- Keyserling, E. 1877. Amerikanische Spinnenarten aus den Familien der Pholcoidea, Scytodoidae und Dysderoidea. *Verhandlungen der Zoologisch-Botanisch Gesellschaft in Wien* 27: 205–234.
- Keyserling, E. 1881. Neue Spinnen aus Amerika. III. *Verhandlungen der Zoologisch-Botanisch Gesellschaft in Wien* 31: 269–314.
- Keyserling, E. 1883. Neue Spinnen aus Amerika. IV. *Verhandlungen der Zoologisch-Botanisch Gesellschaft in Wien* 32: 195–226.
- Platnick, N.I. 2011. The world spider catalog, version 11.5. New York: American Museum of Natural History, Internet resource (<http://research.amnh.org/iz/spiders/catalog>), DOI: 10.5531/db.iz.0001.
- Platnick, N.I., and N. Dupérré. 2009a. The goblin spider genera *Opopaea* and *Epectris* (Araneae, Oonopidae) in the New World. *American Museum Novitates* 3649: 1–43.
- Platnick, N.I., and N. Dupérré. 2009b. The American goblin spiders of the new genus *Escaphiella* (Araneae, Oonopidae). *Bulletin of the American Museum of Natural History* 328: 1–151.
- Simon, E. 1891. On the spiders of the island of St. Vincent. Part 1. *Proceedings of the Zoological Society of London* 1891: 549–575.

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