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Authors: Ott, Ricardo, Platnick, Norman I., Berniker, Lily, and Bonaldo, Alexandre B.

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Basibulbus, a hard-bodied, haplogyne spider genus from Chile (Araneae, Dysderoidea)

RICARDO OTT,[1] NORMAN I. PLATNICK,[2]
LILY BERNIKER,[2] AND ALEXANDRE B. BONALDO[3]

ABSTRACT

A new genus, *Basibulbus*, is established to contain some seldom-collected, hard-bodied, haplogyne spiders from Chile. Because of their small size and the heavily scutate abdomen of males, these animals resemble gamasomorphine goblin spiders (Oonopidae), but differ in having a heavily sclerotized sperm duct within the male palp and a normal sperm opening in the epigastric furrow. Their tarsal organs lack both the longitudinal ridge and the serial dimorphism in raised receptor number that are considered synapomorphic for oonopids, but are elevated (albeit only at their proximal end), and the genus is therefore assigned to the Orsolobidae. Three new species are described: *B. malleco* (the type species) and *B. concepcion* from central Chile (regions VIII and IX), and *B. granizo* from further north (Region V). Only one other hard-bodied orsolobid genus has been described (*Duripelta* Forster from New Zealand); *Basibulbus* does not seem to be closely related to that genus, and represents another in the long list of relictual, phylogenetically significant, Chilean spider taxa. One of the possible synapomorphies of dysderoids, an oblique unsclerotized strip on the base of the anterior lateral spinnerets (which has been lost in higher gamasomorphines) has apparently been lost independently within *Basibulbus*. That character is present in *B. granizo* but absent in at least *B. malleco*.

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[1] Museu de Ciências Naturais, Porto Alegre RS, Brazil.
[2] Division of Invertebrate Zoology, American Museum of Natural History.
[3] Museu Paraense Emílio Goeldi, Belém PA, Brazil.

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INTRODUCTION

The Chilean spider fauna has long been of special interest to arachnologists, as many of the taxa found there are strikingly different from those found in other Neotropical regions, and often have their closest relatives not elsewhere in South America but rather in other south temperate parts of the world, especially New Zealand and Australia. When the Planetary Biodiversity Inventory (PBI) project on goblin spiders (Oonopidae) began in 2006, special attention was therefore paid to bringing together, from various collections, all the known oonopid specimens from Chile. There turned out to be extraordinarily few specimens available; although oonopids abound in all other parts of the Neotropics, the Chilean dysderoid fauna is dominated instead by members of the putative sister group of oonopids, the family Orsolobidae. Of the six genera of orsolobids known from South America, four occur in Chile, where they are represented by over 30 described species that were studied by Forster and Platnick (1985), as well as by a plethora of more recently collected specimens. The described oonopid fauna of Chile, however, is restricted to just eight species: four belonging to the sulsuline genus *Unicorn* Platnick and Brescovit (1995), the gamasomorphine species *Escaphiella ocoa* Platnick and Dupérré (2009), and three soft-bodied species of *Birabenella* Grismado (2010). In this respect, only New Zealand shows a greater imbalance between the two families, with 106 species of orsolobids assigned to 16 endemic genera, but only two known oonopids: the endemic *Kapitia obscura* Forster (see Platnick et al., 2012) and an unidentified (and possibly introduced) species of the nearly worldwide genus *Orchestina* Simon (Paquin et al., 2010).

Among the available Chilean specimens, a few vials were found containing very heavily sclerotized animals with relatively flat abdomens. As the males have abdomens with strong dorsal and ventral scuta (figs. 19, 88, 127), these were presumed, at the time, to be members of the oonopid subfamily Gamasomorphinae; until recently, oonopids were commonly divided into two subfamilies, based on the presence (in the Gamasomorphinae) or absence (in the Oonopinae) of abdominal scuta (an obviously artificial classification now superseded by that of Platnick et al., 2012). The Chilean specimens are not typical gamasomorphines, however, as the females have no dorsal or postepigastric scuta. In 2006, only one genus considered to be a gamasomorphine was known to have females that lack a dorsal scutum: *Scaphiella* Simon, both sexes of which have a greatly enlarged postepigastric scutum (Platnick and Dupérré, 2010a). Since that time, several other taxa have been described in which males are fully scutate but females are not, having only an epigastric scutum accompanied by a small postepigastric scutum (Platnick and Dupérré, 2010b, 2011a, 2011b; Bonaldo et al., in press).

However, all those taxa share with other gamasomorphines two features that do not occur in the Chilean species. First, male gamasomorphines differ from all other oonopids (and probably from all other spiders) in having a distinctive sperm pore situated on the epigastric scutum, far in advance of the epigastric furrow; in other taxa, the sperm are emitted through the epigastric furrow (Platnick et al., 2012). Second, both the gamasomorphine and the soft-bodied members of the subfamily Oonopinae lack the heavily sclerotized sperm duct within the male palpal bulb that is typical of all other spiders (Platnick et al., 2012). In the Chilean taxa described below, the sperm opening is in the normal position at the epigastric furrow (figs. 26, 96, 122) and the male palps contain a normal, heavily sclerotized sperm duct (figs. 17, 29, 35, 136–138), so these taxa do not seem to be gamasomorphines, or even members of the subfamily Oonopinae. Also, unlike all oonopines other than *Kapitia* Forster, the eyes are not closely clustered (fig. 45). However, these species also lack the putative synapomorphies of the other two currently recognized oonopid subfamilies, the enlarged femur IV found in the Orchestininae, and the capsulate tarsal organs found in the Sulsulinae.

We therefore had to question our original assumption that these animals are goblin spiders. Although the monophyly of oonopids, in the classical sense, was poorly defended (Forster and Platnick, 1985), Burger and Michalik (2010) hypothesized that oonopids are united by the presence of an unpaired, completely fused testis; unfortunately, the few available Chilean males were not appropriately preserved for studies of testis morphology. However, Platnick et al. (2012) suggested that there are two additional oonopid synapomorphies in tarsal organ morphology, and we have been able to obtain some scanning electron micrographs of the tarsal organs of these animals. They show neither of those putative oonopid synapomorphies: there is no longitudinal ridge originating at the proximal end of the organ, and there is no serial dimorphism in raised receptor number (legs I and III each have three receptors; figs. 1–6, 109–114).

Interestingly, though, the proximal end of the tarsal organ is elevated (figs. 3, 6, 39, 111, 114). Elevated tarsal organs are putatively synapomorphic for the Orsolobidae, and we therefore hypothesize that the Chilean specimens are actually orsolobids. It is true that the previously known orsolobids have tarsal organs that are more elevated, especially at the distal end. The tarsal organs of the Chilean species may thus represent a relatively plesiomorphic state within the Orsolobidae, particularly since they show no trace of the bizarre cuticular lobes situated around the rim of the organ that occur in many other orsolobids (e.g., Forster and Platnick, 1985: figs. 18, 51), including all the described Chilean species.

Among the previously described orsolobids, only those of the endemic New Zealand genus *Duripelta* Forster are hard-bodied (i.e., have abdominal scuta). However, the tarsal organs found in that genus have one of the receptors greatly elongated (see Forster and Platnick, 1985: figs. 710–720), suggesting that *Duripelta* is more closely related to other orsolobids that have a similarly elongated receptor than it is to the Chilean taxa assigned below to *Basibulbus*, new genus, despite the shared presence of abdominal scuta.

It thus seems that *Basibulbus* represents another in the long list of relictual, phylogenetically significant spider taxa that are apparently endemic to Chile. As one might expect of a genus as ancient as *Basibulbus* is likely to be, the three species described below show significant variation in a number of characters. Leg spines, for example, are usually either present or absent in a given dysderoid genus, but in *Basibulbus*, they occur only in the type species, *B. malleco* (fig. 40), and are absent in the other two species. Although the male palps of *B. malleco* and *B. concepcion* are similar, those of the more northern species *B. granizo* have an embolus that is much more complex (figs. 128–141). Unfortunately, only the type species is known from both sexes, so we cannot tell whether female characters support placing the two more southern species as sister taxa. However, the two southern species have a large chilum (figs. 21, 47, 89) that is absent in *B. granizo* (fig. 118). Also, in *B. granizo*, there are four separate pleural sclerites situated between the leg coxae and the lateral margin of the carapace (fig. 119), but in *B. malleco* those sclerites are fused to each other and to the sternum (figs. 22, 48), and in *B. concepcion* they are fused to the carapace as well (figs. 90, 91).

There is at least one other significant difference among these species. The single known male of *B. granizo* has a distinct, oblique, unsclerotized strip extending across the ventral surface of the base of the anterior lateral spinnerets (fig. 123). This character has been regarded as a possible synapomorphy of dysderoids (see Griswold et al., 2012: 82, figs. 65, 68), although it has seemingly been lost in the "higher" gamasomorphine oonopids (see Grismado et al., in press: table 1). It has apparently been lost independently within *Basibulbus*, as none of the available specimens of *B. malleco* show any trace of the unsclerotized strip, even though they all have well-extended spinnerets (figs. 25, 27, 44). The state of the character is unknown in *B. concepcion*, as all the available specimens have the spinnerets too retracted to tell (fig. 96), but we suspect that the strip has been lost in that species as well, since there seems to be a correlation between acquiring a heavily sclerotized body and losing the unsclerotized strip, and *B. concepcion* is the most heavily sclerotized of the three species.

Our methods follow those of Platnick and Dupérré (2009); only differences from the males are mentioned in the description of the female. All the examined specimens are from the collections of the American Museum of Natural History (AMNH) and the Field Museum of Natural History, Chicago (FMNH); all measurements are in mm. High-resolution versions of the images, a sortable version of the geocoded locality data, and a distribution map for each species will be available on the PBI project's website (http://research.amnh.org/oonopidae). Users should note that the relatively small published images are merely avatars for the actual image files on the website, which can each be enlarged several times before pixelating.

SYSTEMATICS

FAMILY ORSOLOBIDAE

Basibulbus, new genus

TYPE SPECIES: *Basibulbus malleco*, new species.

ETYMOLOGY: The generic name refers to the proximal (basal) insertion of the palpal bulb on the ventral surface of the long palpal cymbium, and is masculine in gender.

DIAGNOSIS: The anteriorly advanced posterior spiracles and female genitalia with both anterior and posterior receptacula indicate that these animals belong to the Dysderoidea. The tarsal organs lack a longitudinal ridge originating at the proximal end of the organ, show no serial dimorphism in raised receptor number, and are proximally elevated (figs. 1–6, 109–114), indicating that these species belong to the Orsolobidae rather than the Oonopidae, Segestriidae, or Dysderidae. Among orsolobids, members of *Basibulbus* resemble only those of *Duripelta* in having heavily sclerotized abdominal scuta, but differ in lacking a greatly elevated receptor on the tarsal organ (cf. Forster and Platnick, 1985: figs. 710–720). Most of the members of *Duripelta* also differ in having a strongly granulate carapace (Forster and Platnick, 1985: fig. 678); in *Basibulbus*, the carapace is reticulate (figs. 22, 90, 119).

Description: Total length of males 2.1–2.8, of females 2.8–2.9. **Cephalothorax:** Carapace without any pattern, broadly oval in dorsal view, anteriorly narrowed to 0.49 times its maximum width or less (fig. 55), pars cephalica slightly elevated in lateral view, anterolateral corners without extension or projections, pars thoracica with angular posterolateral corners, without depressions or radiating rows of pits, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes (fig. 57); surface of elevated portion of pars cephalica strongly reticulate, sides strongly reticulate; fovea absent, lateral margin undulate, rebordered, without denticles; plumose setae near posterior margin of pars thoracica absent; marginal, nonmarginal pars cephalica, pars thoracica setae needlelike. Clypeus margin slightly rebordered, curved downward in front view (fig. 56), vertical in lateral view, high, ALE separated from edge of carapace by their radius or more, median projection absent; setae needlelike (fig. 58); chilum present or absent, undivided when present. Eyes six, well developed, all subequal in size, oval; posterior eye row recurved from above, slightly recurved from front; ALE separated by their radius to diameter, ALE-PLE separated by less than ALE radius. Sternum (fig. 60) longer than wide, orange-brown, uniform in coloration, surface smooth, without pits, median concavity, or hair tufts, with radial furrows between coxae I–II, II–III, III–IV, furrows smooth, radial furrow opposite coxae III absent, microsculpture, sickle-shaped structures absent, anterior margin, anterior corner, lateral margins all unmodified, posterior margin not extending posteriorly of coxae IV, distance between coxae approximately equal, without posterior hump; setae sparse, needlelike, evenly scattered, originating from small pits. Mouthparts orange-brown. Chelicerae straight or slightly divergent, with anterior face unmodified; fangs without toothlike projections, directed medially, shape normal, without prominent basal process, tip unmodified; setae needlelike, evenly scattered; paturon inner margin with scattered setae, distal region unmodified, posterior surface unmodified, promargin unmodified, inner margin unmodified, laminate groove absent. Labium triangular, not fused to sternum, anterior margin indented at middle, same as sternum in sclerotization; with one or two setae on anterior margin, subdistal portion with unmodified setae. Endites distally not excavated, serrula present in single row (fig. 61), anteromedian tip unmodified in males, posteromedian part unmodified, same as sternum in sclerotization. Female palp without spines, patella without prolateral row of ridges, tarsus not expanded, without claw. **Abdomen:** Ovoid, without long posterior extension, rounded posteriorly, interscutal membrane with rows of small sclerotized platelets present posteriorly in males, absent in females; dorsum soft portions white, without color pattern. Booklung covers large, elliptical, without setae, anterolateral edge unmodified; posterior spiracles not connected by groove. Pedicel tube short to medium in length, ribbed, scutopedicel region with paired curved scutal ridges, scutum extending far dorsal of pedicel, plumose hairs, matted setae on anterior ventral abdomen in pedicel area, cuticular outgrowths near pedicel all absent. Dorsal scutum absent in females; in males strongly sclerotized, with or without color pattern, covering full length of abdomen, no soft tissue visible from above, fused to epigastric scutum, anterior half without projecting denticles. Epigastric scutum of males strongly sclerotized, surrounding pedicel, slightly protruding, without small lateral sclerites, of females not protruding, with small lateral sclerites. Postepigastric scutum absent in females, in males strongly sclerotized, dark red-brown, long, semicircular, covering nearly full length of abdomen, fused to epigastric scutum, anterior margin unmodified, without posteriorly directed lateral apodemes. Spinneret, supraanal scuta absent. Dorsal, epigastric, postepigastric setae needlelike, epigastric setae not basally thickened; dense patch of setae anterior to spinnerets absent. Anterior lateral spinnerets with or without oblique unsclerotized strip on ventral surface of basal segment. Colulus replaced by three setae. **Legs:** Orange-brown, without color pattern; cuticle ridged except at slit sense organs, tarsal organs (figs. 66, 76–78); coxae with dorsal tubercles (fig. 59); femur IV not thickened, same size as femora I–III, patella plus tibia I almost as long as carapace, tibia I unmodified, tibia IV specialized hairs on ventral apex, ventral scopula, metatarsi I, II mesoapical comb all absent (fig. 63), metatarsi III, IV with weak ventral scopula (fig. 65); spines present (fig. 40) or absent (figs. 41, 62); when present, all spines longer than segment width. Tarsi without inferior claw; superior claws bipectinate (figs. 7–14), claw tufts conspicuous (figs. 80, 81); ventral surface with short, plumose setae (fig. 73). Trichobothrial base rounded, aperture internal texture not gratelike, hood smooth (figs. 15, 64, 67–69). Tarsal organs elevated at proximal end, without longitudinal ridge originating from proximal end, without serial dimorphism in raised receptor number (figs. 1–6, 37–39, 70–72, 74, 75, 78, 79, 109–114). **Genitalia:** Epigastric region with sperm opening large, oval, situated at epigastric furrow, furrow without Ω-shaped insertions, without setae. Palp of normal size, not strongly sclerotized, right and left palps symmetrical; trochanter of normal size, 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. 82); cymbium pale orange, not fused with bulb (fig. 83), extending beyond distal tip of bulb, plumose, stout setae absent, distal patch of setae present; bulb shorter than cymbium, inserted at base of cymbium, stout, spherical, containing heavily sclerotized sperm duct consisting of four sections separated by bends, two most proximal sections wide, two distal sections much narrower (fig. 138); embolus without prolateral excavation.

Distribution: Known only from Chile.

Key to Species

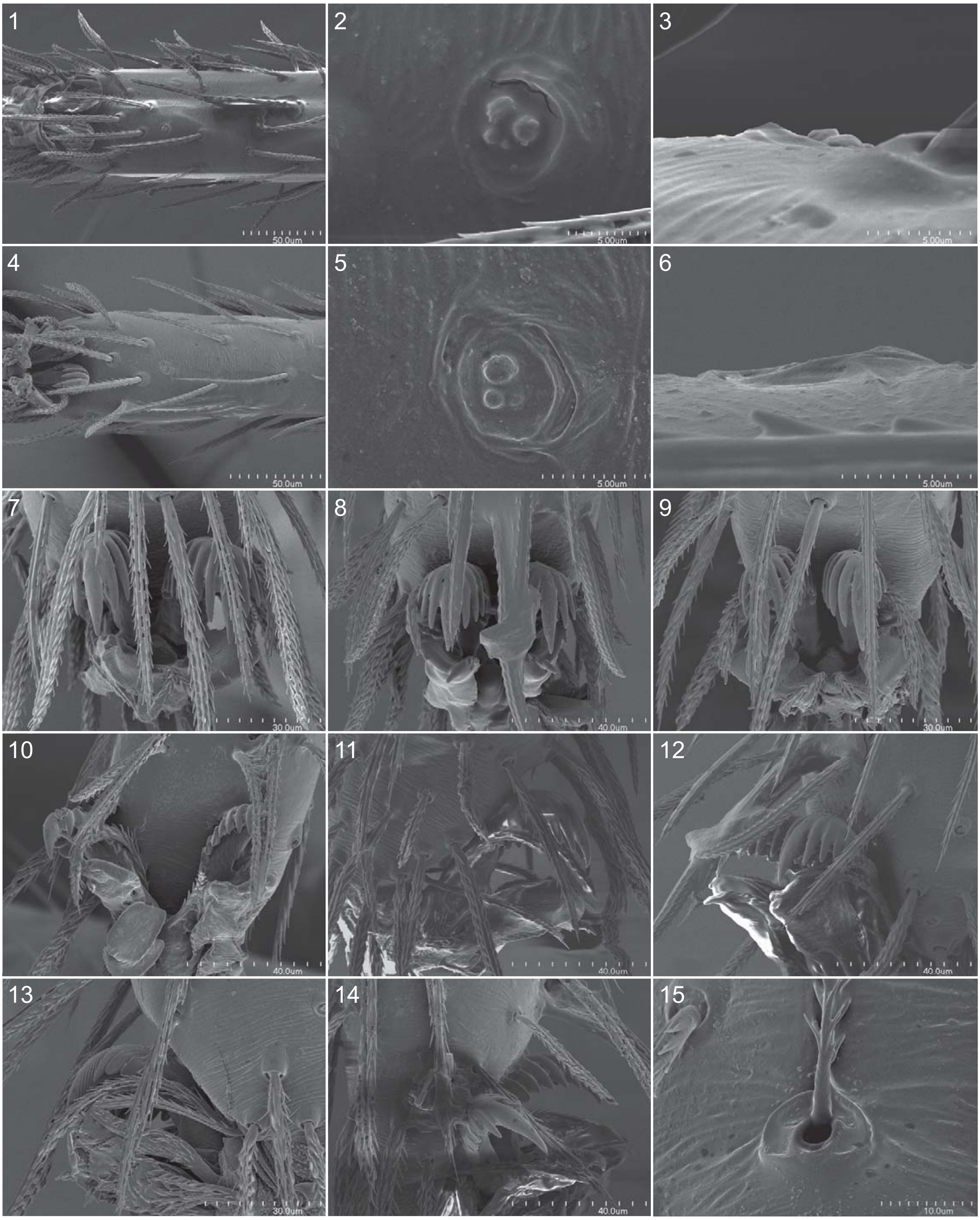
1. Spines present on legs I and II (fig. 40)..*B. malleco*
– Leg spines absent (females unknown)...2
2. Embolus relatively simple (figs. 97–108)...*B. concepcion*
– Embolus more complex (figs. 128–141)..*B. granizo*

Basibulbus malleco, new species

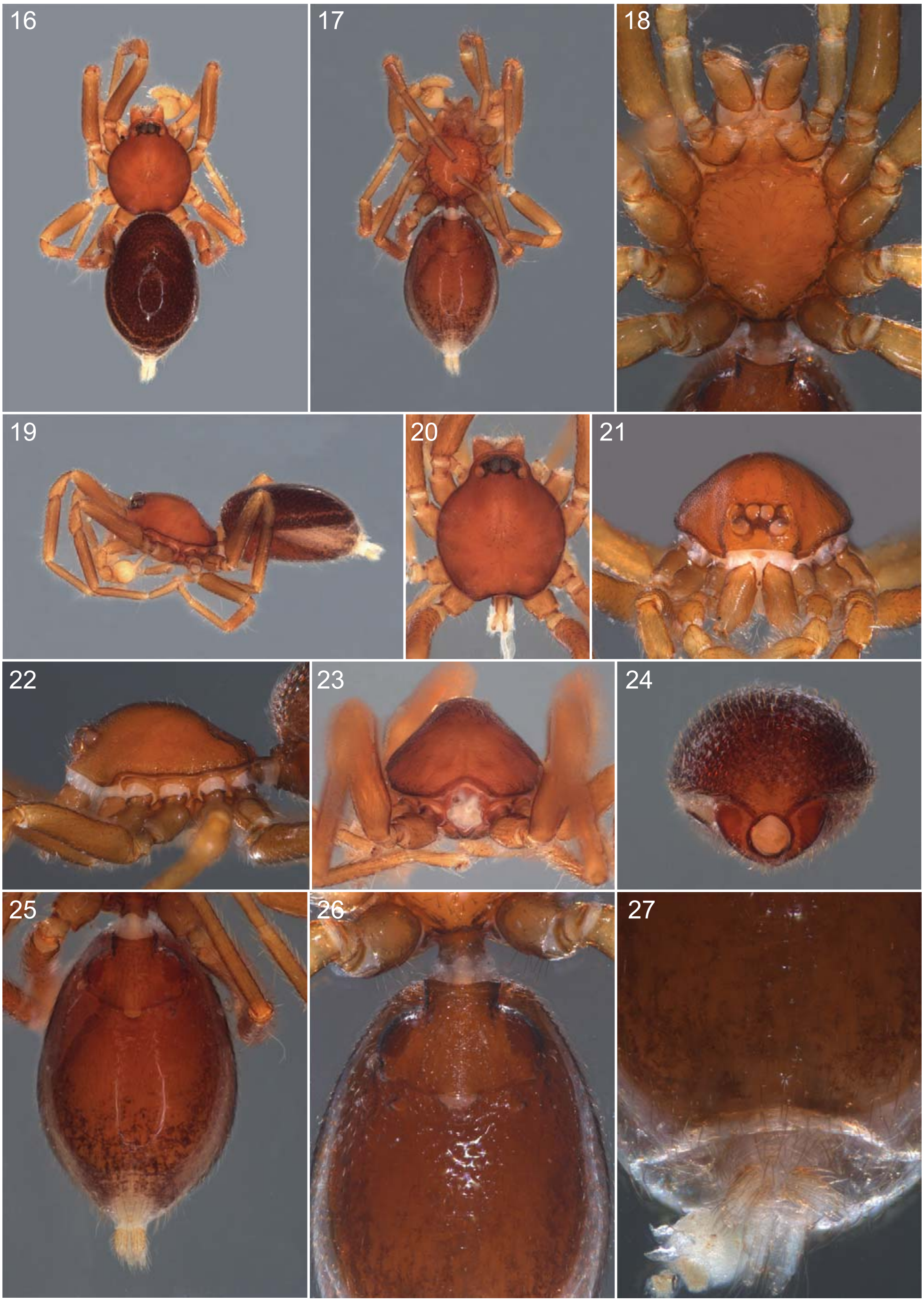
Figures 1–54

Type: Holotype male taken in a flight intercept trap set in a *Nothofagus obliqua–Eucryphia cordifolia* forest with fern and bamboo understory at an elevation of 410 m on the Sendero Lemu Mau in the Monumento Natural Contulmo, 38°00.74′S, 73°11.13′W, Malleco, Región IX (de la Araucanía), Chile (Dec. 8–24, 2002; M. Thayer, A. Newton, Solodovnikov, Chani, Clarke), deposited in FMNH (PBI_OON 40658).

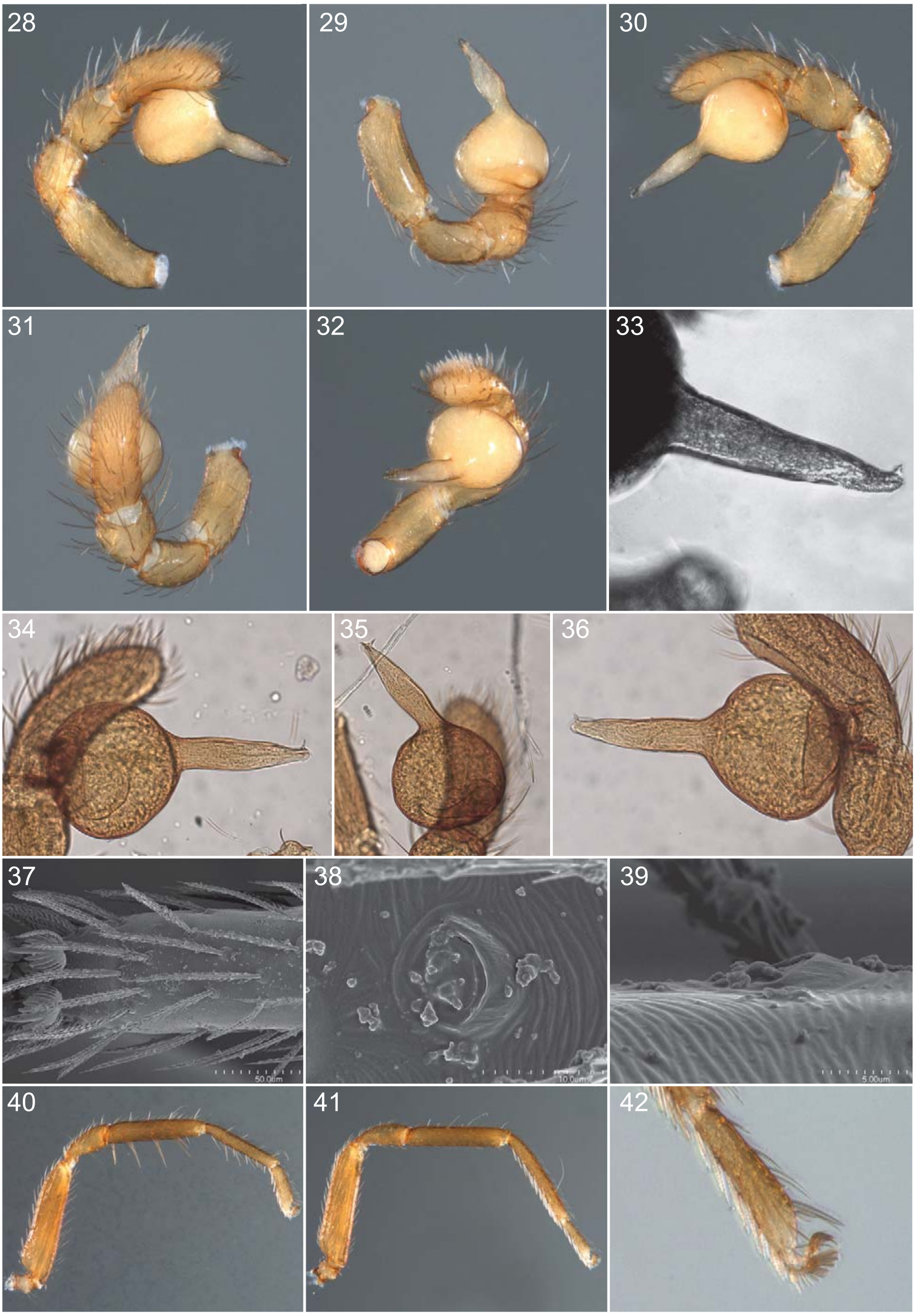
Etymology: The specific name is a noun in apposition taken from the type locality.



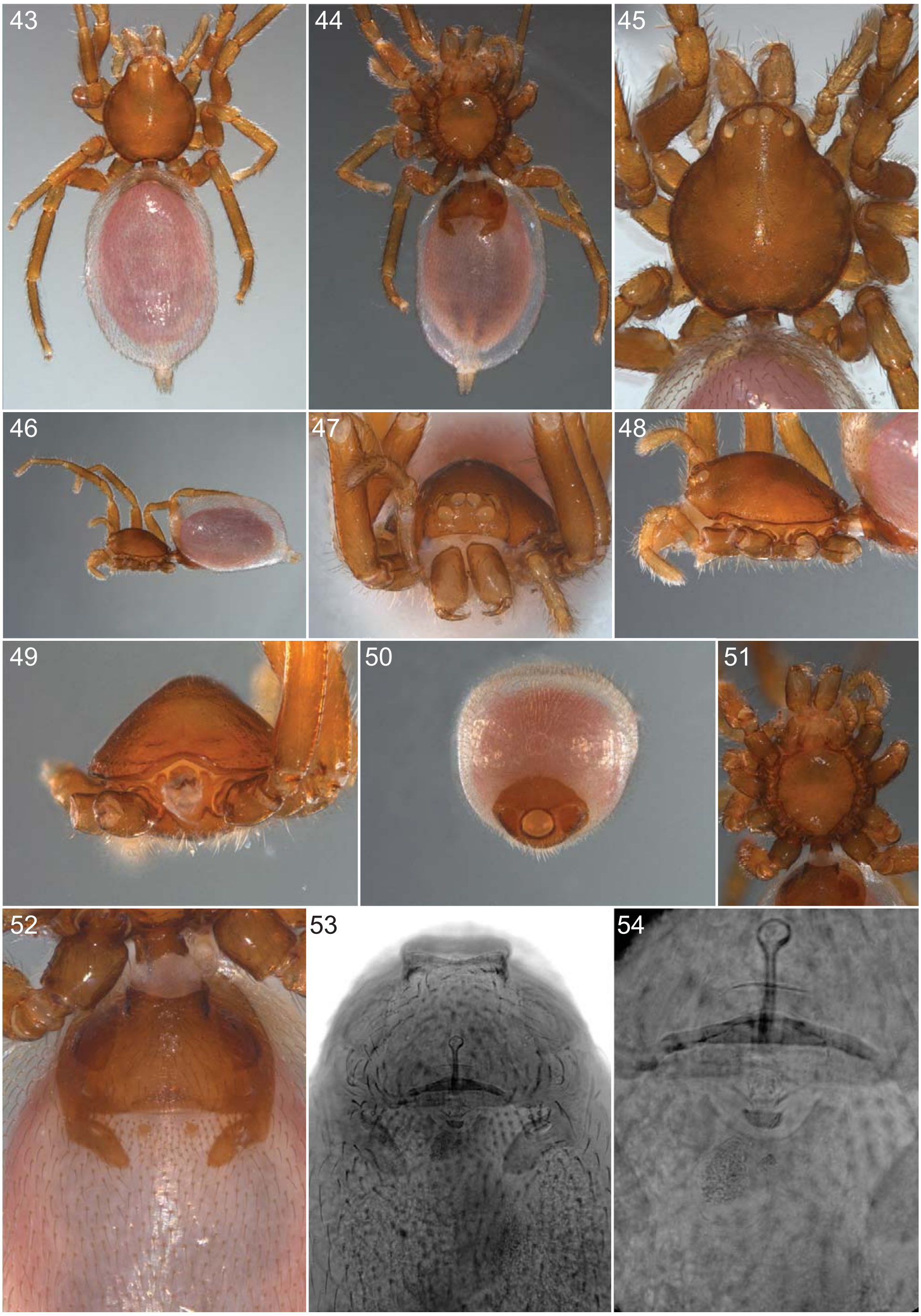
FIGURES 1–15. *Basibulbus malleco*, new species, male. **1.** Tip of tarsus I, dorsal view. **2.** Tarsal organ from leg I, dorsal view. **3.** Same, lateral view. **4.** Tip of tarsus III, dorsal view. **5.** Tarsal organ from leg III, dorsal view. **6.** Same, lateral view. **7.** Claws of leg I, distal view. **8.** Same, leg II. **9.** Same, leg III. **10.** Same, leg IV. **11.** Claws of leg I, lateral view. **12.** Same, leg II. **13.** Same, leg III. **14.** Same, leg IV. **15.** Trichobothrial base from metatarsus II, dorsal view.



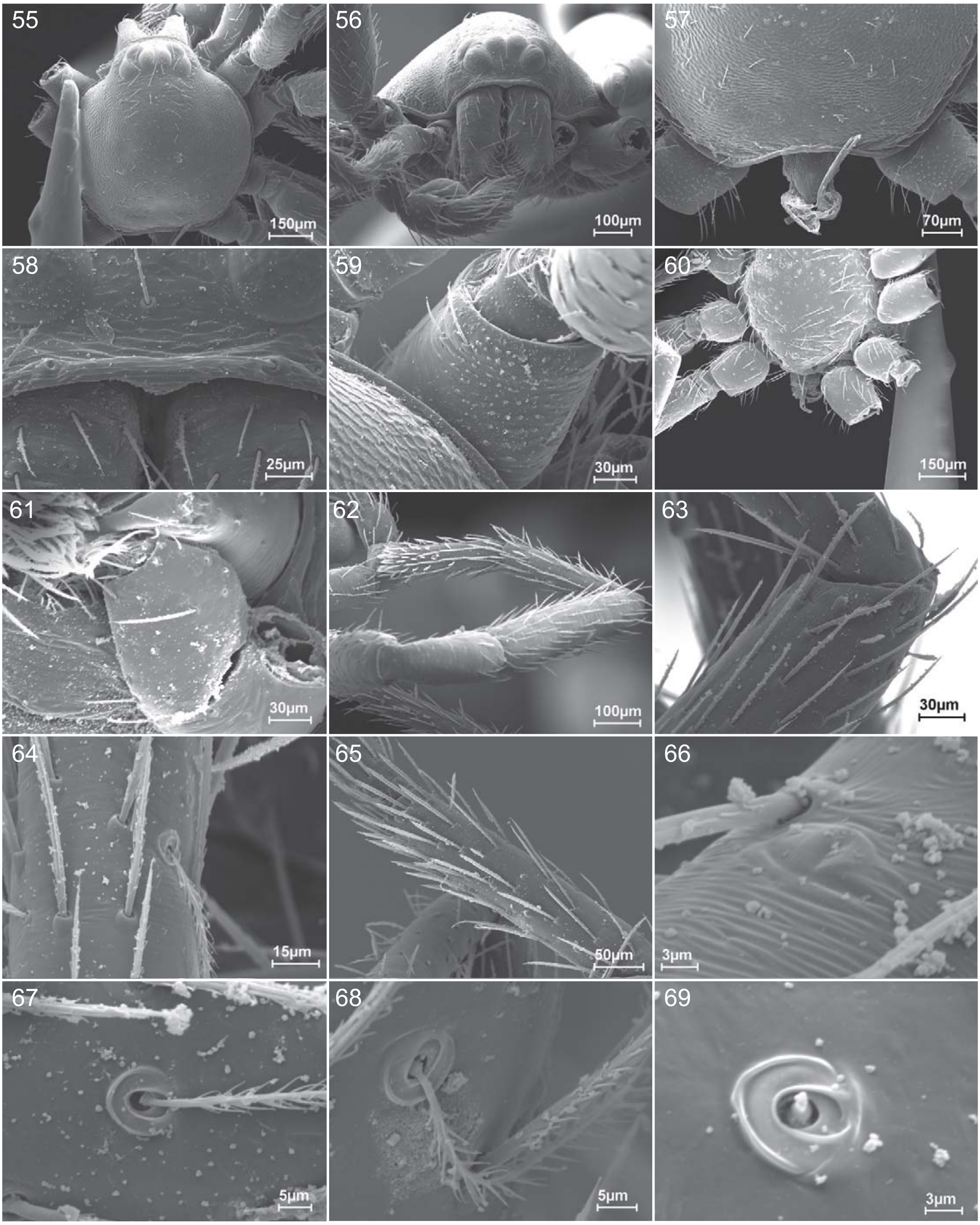
FIGURES 16–27. *Basibulbus malleco*, new species, male. **16.** Habitus, dorsal view. **17.** Same, ventral view. **18.** Sternum and mouthparts, ventral view. **19.** Habitus, lateral view. **20.** Carapace, dorsal view. **21.** Same, anterior view. **22.** Same, lateral view. **23.** Same, posterior view. **24.** Abdomen, anterior view. **25.** Same, ventral view. **26.** Epigastric region, ventral view. **27.** Colulus and spinnerets, ventral view.



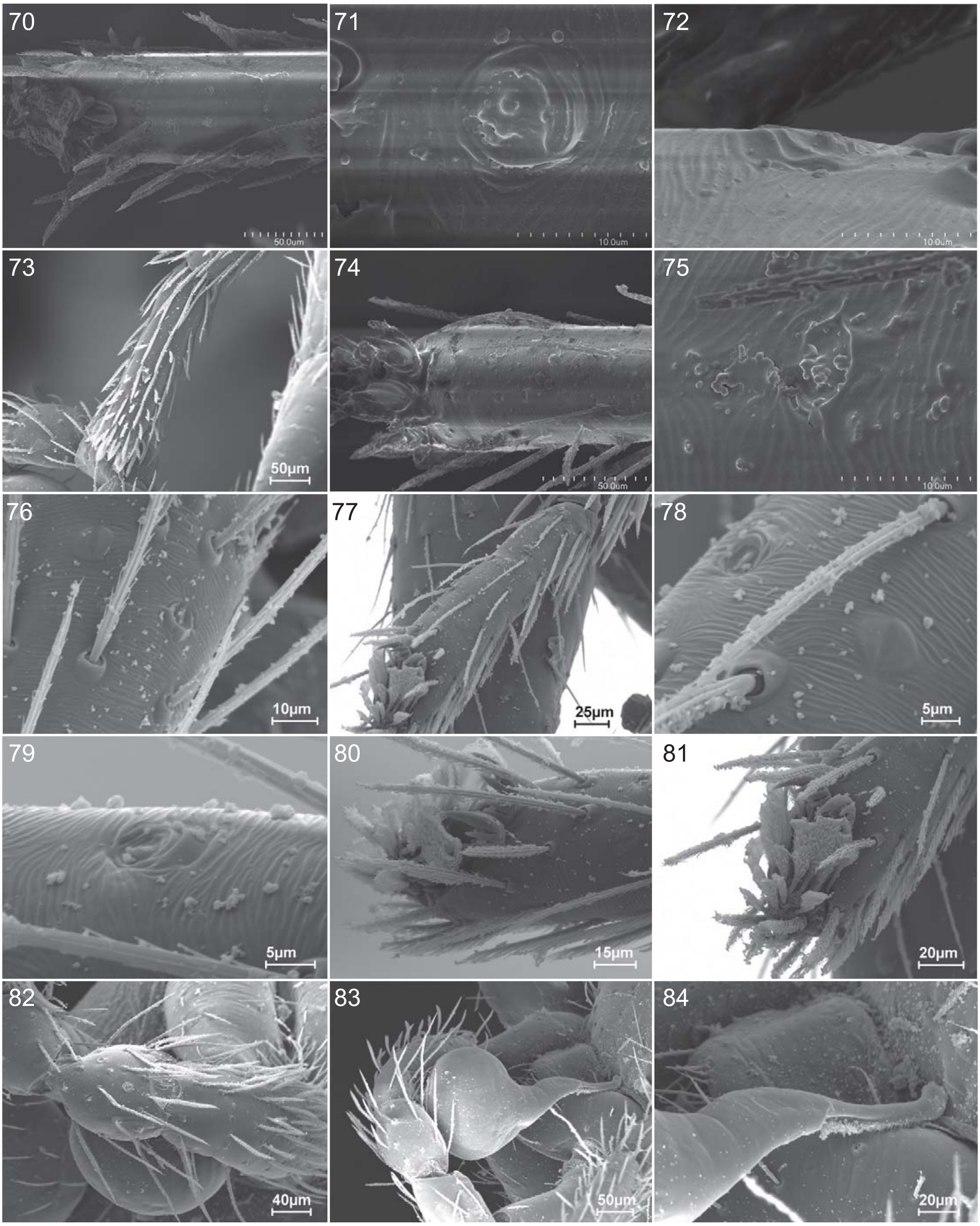
FIGURES 28–42. *Basibulbus malleco*, new species, male (28–36) and female (37–42). **28.** Left palp, prolateral view. **29.** Same, ventral view. **30.** Same, retrolateral view. **31.** Same, dorsal view. **32.** Same, distal view. **33.** Left embolus, prolateral view. **34.** Left palpal bulb, prolateral view. **35.** Same, ventral view. **36.** Same, retrolateral view. **37.** Tip of tarsus I, dorsal view. **38.** Tarsal organ from leg I, dorsal view. **39.** Same, lateral view. **40.** Leg I, prolateral view. **41.** Leg IV, prolateral view. **42.** Tarsus IV, prolateral view.



FIGURES 43–54. *Basibulbus malleco*, new species, female. **43.** Habitus, dorsal view. **44.** Same, ventral view. **45.** Carapace, dorsal view. **46.** Habitus, lateral view. **47.** Carapace, anterior view. **48.** Same, lateral view. **49.** Same, posterior view. **50.** Abdomen, anterior view. **51.** Sternum and mouthparts, ventral view. **52.** Epigastric region, ventral view. **53.** Same, cleared. **54.** Genitalia, ventral view, cleared.

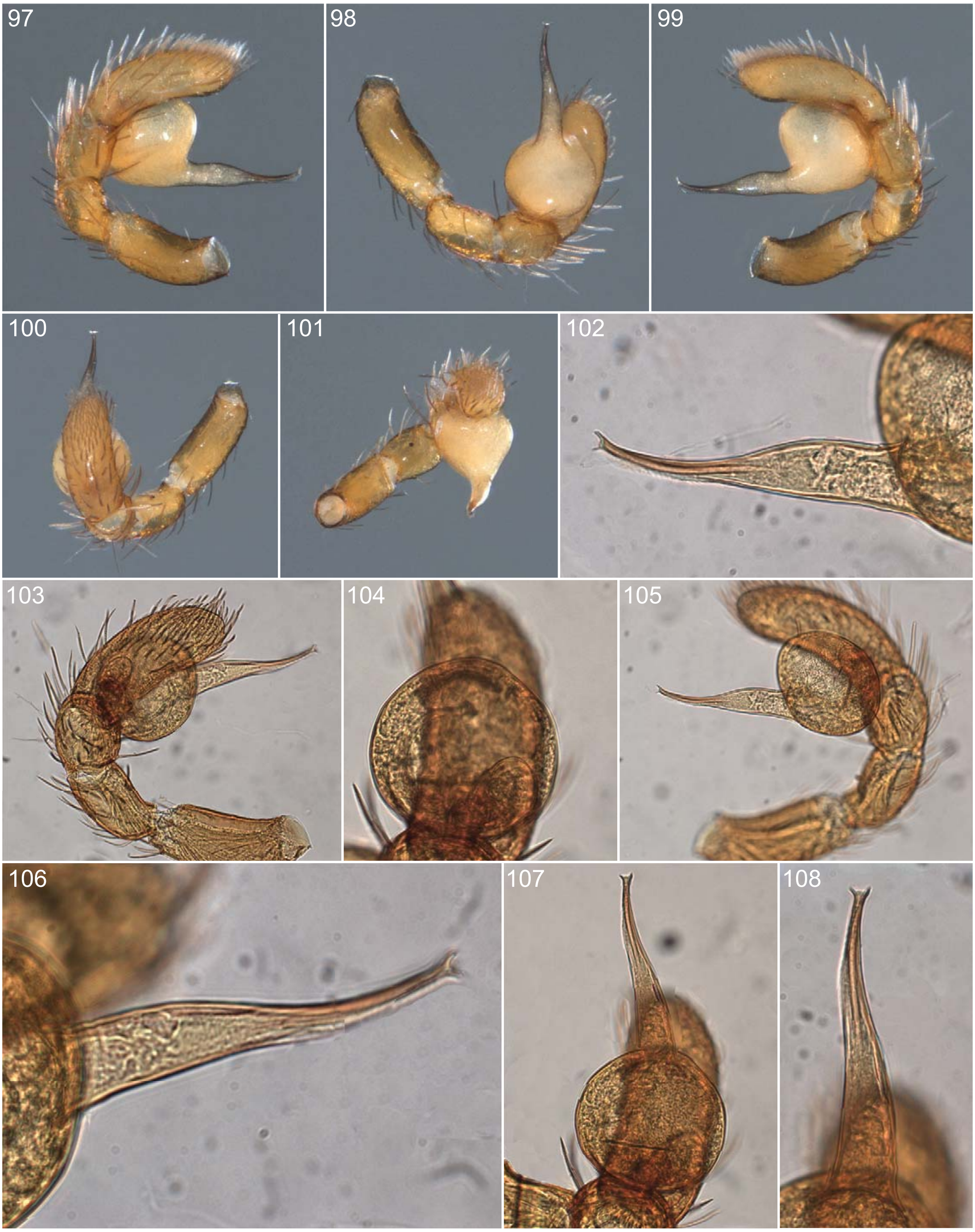


FIGURES 55–69. *Basibulbus concepcion*, new species, male. **55.** Carapace, dorsal view. **56.** Same, anterior view. **57.** Carapace and pedicel, dorsal view. **58.** Clypeus, anterior view. **59.** Coxa I, dorsal view. **60.** Sternum, ventral view. **61.** Left endite, ventral view. **62.** Leg IV, oblique view. **63.** Tip of tibia III, lateral view. **64.** Metatarsus III, dorsal view. **65.** Same, lateral view. **66.** Metatarsus IV, dorsal view. **67.** Trichobothrial base from tibia II, dorsal view. **68.** Same, oblique view. **69.** Trichobothrial base from palpal tibia, dorsal view.

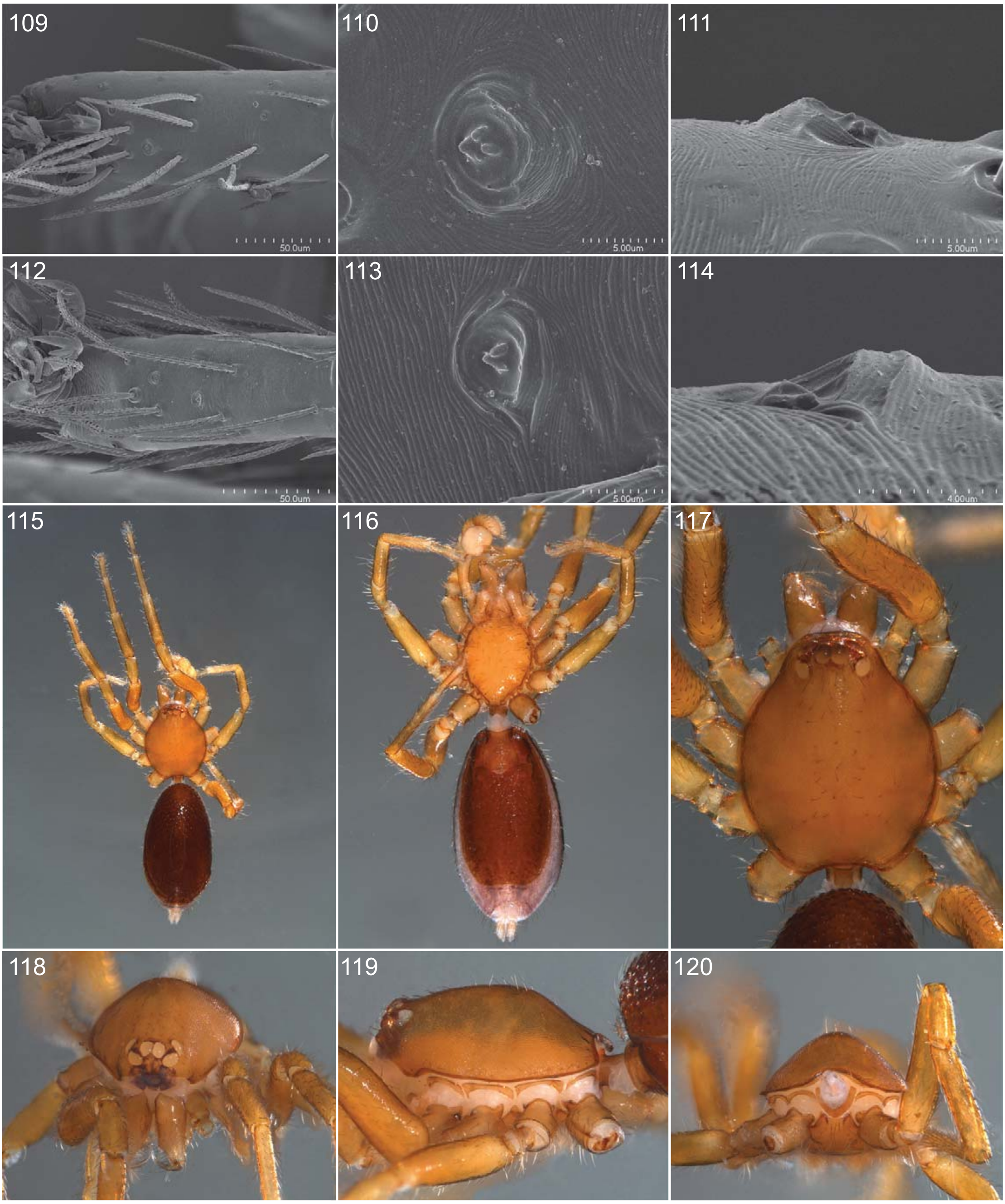


FIGURES 70–64. *Basibulbus concepcion*, new species, male. **70.** Tip of tarsus II, dorsal view. **71.** Tarsal organ from leg II, dorsal view. **72.** Same, lateral view. **73.** Tarsus I, ventral view. **74.** Tip of tarsus III, dorsal view. **75.** Tarsal organ from leg III, dorsal view. **76.** Tarsus III, dorsal view. **77.** Tarsus IV, lateral view. **78.** Tarsal organ from leg IV, dorsal view. **79.** Same, lateral view. **80.** Claws of leg IV, lateral view. **81.** Claw tuft, leg IV, distal view. **82.** Palpal tibia, dorsal view. **83.** Right palpal bulb, retrolateral view. **84.** Right embolus, retrolateral view.

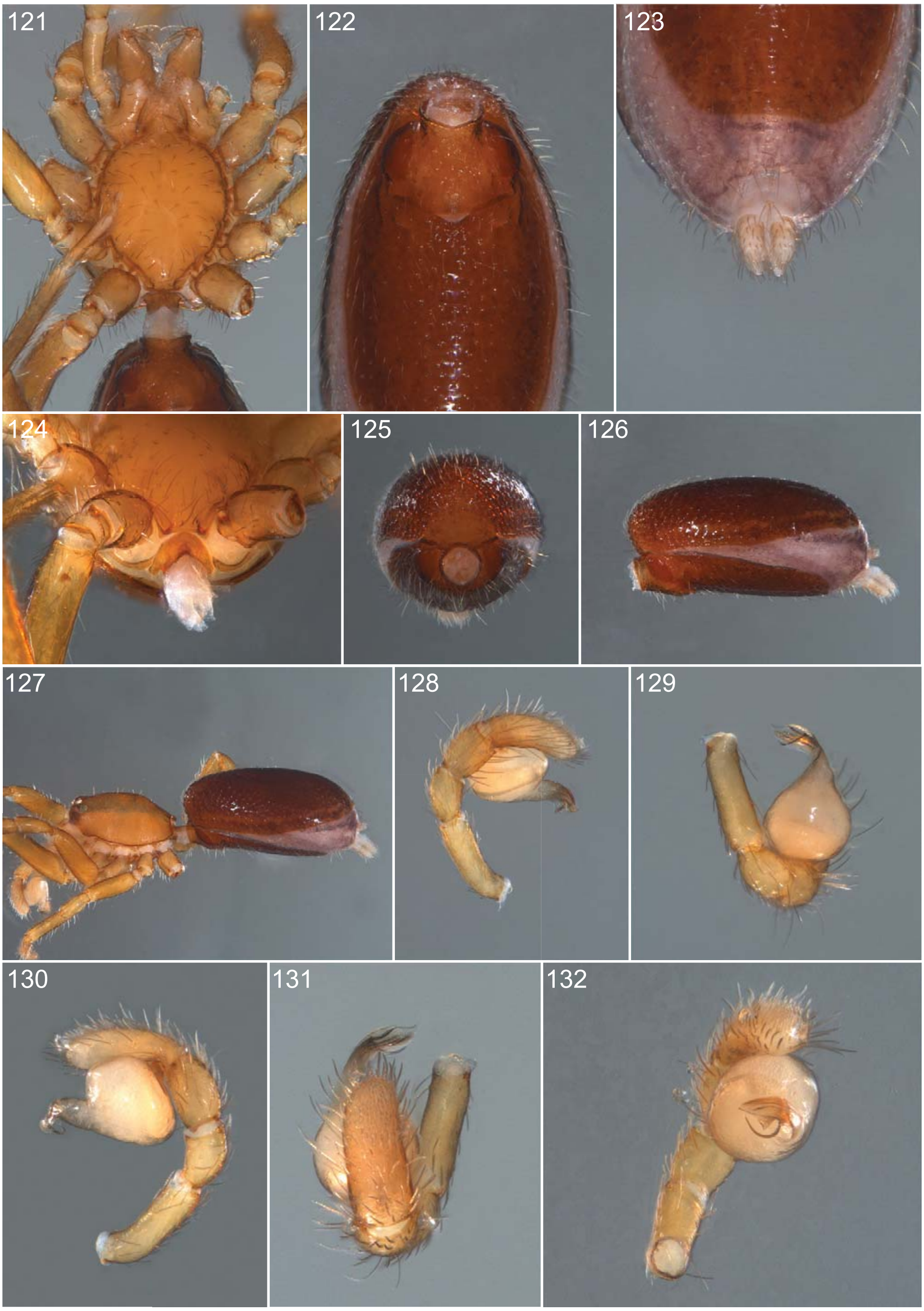
FIGURES 85–96. *Basibulbus concepcion*, new species, males (85, specimen from Estero Nonguén; 86–96, specimen from Cerro Manquimávida). **85, 86.** Habitus, dorsal view. **87.** Habitus, ventral view. **88.** Same, lateral view. **89.** Carapace, anterior view. **90.** Same, lateral view. **91.** Same, posterior view. **92.** Abdomen, anterior view. **93.** Same, lateral view. **94.** Carapace, dorsal view. **95.** Sternum and mouthparts, ventral view. **96.** Abdomen, ventral view.



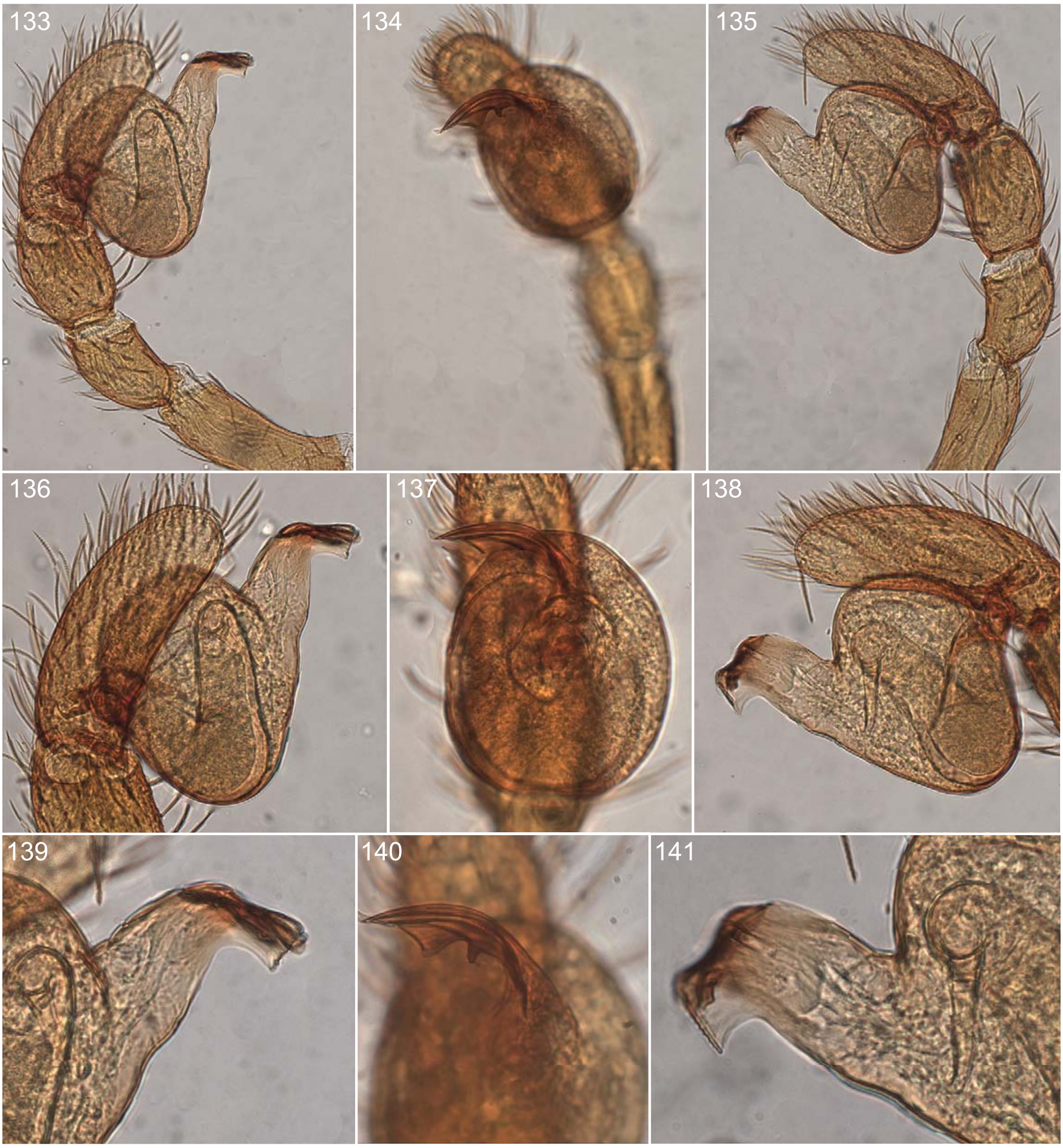
FIGURES 97–108. *Basibulbus concepcion*, new species, male. **97.** Left palp, prolateral view. **98.** Same, ventral view. **99.** Same, retrolateral view. **100.** Same, dorsal view. **101.** Same, distal view. **102.** Left embolus, retrolateral view. **103.** Left palpal bulb, prolateral view. **104.** Same, ventral view. **105.** Same, retrolateral view. **106.** Left embolus, prolateral view. **107.** Left palpal bulb and cymbium, ventral view. **108.** Left embolus, ventral view.



FIGURES 109–120. *Basibulbus granizo*, new species, male. **109.** Tip of tarsus I, dorsal view. **110.** Tarsal organ from leg I, dorsal view. **111.** Same, lateral view. **112.** Tip of tarsus III, dorsal view. **113.** Tarsal organ from leg III, dorsal view. **114.** Same, lateral view. **115.** Habitus, dorsal view. **116.** Same, ventral view. **117.** Carapace, dorsal view. **118.** Same, anterior view. **119.** Same, lateral view. **120.** Same, posterior view.



FIGURES 121–132. *Basibulbus granizo*, new species, male. **121.** Sternum and mouthparts, ventral view. **122.** Epigastric region, ventral view. **123.** Colulus and spinnerets, ventral view. **124.** Pedicel, ventral view. **125.** Abdomen, anterior view. **126.** Same, lateral view. **127.** Habitus, lateral view. **128.** Left palp, prolateral view. **129.** Same, ventral view. **130.** Same, retrolateral view. **131.** Same, dorsal view. **132.** Same, distal view.



FIGURES 133–141. *Basibulbus granizo*, new species, male. **133.** Left palp, prolateral view. **134.** Same, ventral view. **135.** Same, retrolateral view. **136.** Left palpal bulb, prolateral view. **137,** Same, ventral view. **138.** Same, retrolateral view. **139.** Embolus, prolateral view. **140.** Same, ventral view. **141.** Same, retrolateral view.

DIAGNOSIS: Members of this species have spines on legs I and II. Males have a rounded palpal bulb, with the embolus expanded near its base and bearing a small dorsal projection at its tip (figs. 28–36). Females can be recognized by the shape of the genitalia (figs. 53, 54).

MALE (PBI_OON 40658, figs. 1–36): Total length 2.10. Carapace dark red-brown; non-marginal pars cephalica setae in U-shaped row. Chilum undivided. PME touching for less than half their length, PLE-PME separated by PME radius to PME diameter. Sternum not fused to carapace, lateral margin with infracoxal grooves bearing anterior and posterior openings, extensions of precoxal triangles absent, pleurite disconected from carapace, forming single, almost independent sclerite. Chelicerae slightly divergent. Pedicel tube short. Dorsal scutum dark red-brown, middle surface punctate, sides punctate, with two or three chevronlike discolored areas and discolored stripe around entire border. Leg spination: femur I p0-0-3; patellae: I v0-2-2; r0-1-1; II p0-1-1; tibiae: I r2-1-1; II r1-1-1; metatarsi: I v1-1-0. Palp with proximal segments pale orange; cymbium ovoid in dorsal view; bulb pale orange; embolus light, slightly narrowed distally; apically with small, dorsal, filiform process.

Female (PBI_OON 10570, figs. 37–54): Total length 2.83. Abdominal dorsum with soft portions pink. Pedicel scutal ridges very weak. Postepigastric scutum vestigial; replaced by two oblique, elongated stripes surrounding posterior spiracles, with two medial, rounded platelets situated near epigastric furrow. Leg spination: femur I p0-0-3; patellae: I v0-2-2, r0-1-1; II p0-1-1; tibiae: I r2-1-1; II r1-1-1; metatarsus I v1-1-0. Anterior receptaculum with median, longitudinal narrow, spoon-shaped sclerite, extending forward from epigastric furrow to level of booklung covers; small recurved sclerite at half length of spoon-shaped sclerite; large recurved scerite situated near epigastric furrow, as wide as pedicel diameter; small globular posterior receptaculum situated behind small half-moon sclerite situated near epigastric furrow.

Other Material Examined: Chile: **Región IX** (de la Araucanía): *Malleco:* 2.3 km W Los Portones entrances, Parque Nacional Nahuelbuta, 37°49.41′S, 72°58.95′W, Dec. 7–25, 2002, octopus carrion trap, *Nothofagus dombeyi–Nothofagus antarctica* forest with mostly open understory, elev. 1150 m (M. Thayer, A. Newton, FMNH PBI_OON 49198), 1♂; Sendero Lemu Mau, Monumento Natural Contulmo, 38°00.74′S, 73°11.13′W, Dec. 8–24, 2002, flight intercept trap, *Nothofagus obliqua–Eucryphia cordifolia* forest with fern and bamboo understory, elev. 410 m (M. Thayer, A. Newton, Solodovnikov, Chani, Clarke, FMNH PBI_OON 10570), 1♂, 1♀; 15 km W Victoria, Dec. 29, 1976, Berlese, under forest mushrooms, elev. 200 m (S. Peck, FMNH PBI_OON 26040), 1♂ .

Distribution: Known only from Malleco province, Chile.

Basibulbus concepcion, new species

Figures 55–108

Type: Holotype male from Cerro Manquimávida, Concepción, Región VIII (del Biobío), Chile (Dec. 22, 1994; T. Cekalovic), deposited in AMNH (PBI_OON 40657).

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

Diagnosis: Members of this species lack leg spines. Males have an elongated embolus with a relatively simple, triangular tip (figs. 97–108); the distal half of the embolus resembles a comb (figs. 84, 102).

Male (PBI_OON 40657, figs. 55–108): Total length 2.28. Carapace orange-brown; nonmarginal pars cephalica setae in single row. Chilum undivided. PME touching for less than half their length, PLE-PME separated by less than PME radius. Sternum fused to carapace, via single pleurite, lateral margin without infracoxal grooves, extensions of precoxal triangles present. Chelicerae straight. Pedicel tube short. Dorsal scutum brown, middle surface strongly punctate, sides strongly punctate, with darker spots medially and laterally but intensity of pattern variable among specimens. Leg spines absent. Palp with proximal segments yellow; cymbium narrow in dorsal view; bulb pale orange; embolus light, longer than cymbium, narrowing toward distal end, distal portion slightly enlarged into triangular structure.

Female: Unknown.

Other Material Examined: Chile: **Región VIII** (del Biobío): *Concepción:* Cerro Caracol, Mirador Alemán, Nov. 28, 1993 (T. Cekalovic, AMNH PBI_OON 26036, 26038), 2♂; Cerro Manquimávida, Dec. 22, 1994 (T. Cekalovic, AMNH PBI_OON 26039), 2♂; Estero Nonguén, Apr. 16, 1977, in humus (T. Cekalovic, AMNH PBI_OON 26037), 1♂.

Distribution: Known only from Concepción province, Chile.

Basibulbus granizo, new species

Figures 109–141

Type: Holotype male taken in a flight intercept trap set in a sclerophyll forest at an elevation of 545 m in the Sector Granizo, Cajón La Opositora, Parque Nacional La Campana, 32°58.81′S, 71°07.7′W, Quillota, Región V (de Valparaíso), Chile (Dec. 29, 2002; M. Thayer, A. Newton, Solodovnikov, Chani, Clarke), deposited in FMNH (PBI_OON 10563).

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

Diagnosis: Members of this species lack leg spines. Males have a short, distally complex embolus, with a translucent conductor and a relatively heavily sclerotized, hooked tip (figs. 128–141).

Male (PBI_OON 10563, figs. 109–141): Total length 2.15. Carapace orange-brown; nonmarginal pars cephalica setae in three rows. Chilum absent. PME touching throughout most of their length, PLE-PME separated by PME radius to PME diameter. Sternum not fused to carapace, lateral margin with infracoxal grooves bearing anterior and posterior openings, extensions of precoxal triangles absent. Chelicerae slightly divergent. Pedicel tube medium. Dorsal scutum dark red-brown, middle surface punctate, sides punctate. Leg spines absent. Palp with proximal segments pale orange; cymbium narrow in dorsal view; bulb yellow; embolus dark, stout, much shorter than bulb, slightly enlarged at base, distally with curved, hooked process, striated translucent lamella bearing sperm duct.

Female: Unknown.

Other Material Examined: None.

Distribution: Known only from Quillota province, Chile.

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