

TWO NEW SOUTHERN *PHIDIPPUS*
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ABSTRACT

Two new species of *Phidippus* are described, *P. xeros* from Florida and *P. toro* from the Chiricahua Mts. of Arizona.

This paper describes and provides a name for a new species of *Phidippus* as part of an ongoing study by the author into the ecology of those species of *Phidippus* that occur in Florida. Also, a new species of *Phidippus* is described from the Chiricahua Mts. of Arizona (reported by Jung and Roth 1974, as *P. n. sp.*). Another new species occurring in the Chiricahua Mts. was recently described by Gertsch and Riechert (1976).

Phidippus xeros Edwards, NEW SPECIES

Fig. 1-4

DESCRIPTION. HOLOTYPE MALE: total length 8.75 mm; carapace length 4.22 mm, width 3.36 mm; width anterior eye row 2.27 mm, width posterior eye row 2.73 mm; PLE-PME 0.78 mm, ALE-PME 0.39 mm, PLE-PME/ALE-PME = 2.00. Eye-to-eye distances measured from nearest edges, widths of eye rows measured to farthest edges.

Dorsum of carapace and abdomen as in Fig. 1. Carapace integument burgundy red, ocular quadrangle black; patches of white, scale-like setae (hereafter referred to as scales) extending from below to behind PLE, otherwise carapace covered densely with short, black setae and sparsely with long, black setae, the latter forming rows on clypeus and overhanging front eyes; hair tufts absent. Chelicerae iridescent gold-green.

Sternum and coxae brown, labium and endites dark brown, endites with pale anteromedian edges. Integument of palpi red-brown, dorsum of palpal femur densely covered and patella sparsely covered with white scales, cymbium covered with long, black setae. Leg formula I, IV, II, III; integument of legs dark brown, covered with long, black setae; femur I much larger and femur II slightly larger than femora III and IV; white scale patches on dorsum of distal tips of all femora, proximal halves of all metatarsi, and proximal halves of tibia III and IV. Leg I with long, black setal fringes on dorsum and venter of femur, ventral distal half of metatarsus, and heavy black setal brush on pro- and retrolateral sides and venter of tibia; white fringes on venter of patella and proximal half of metatarsus; spination typical, ventral tibia 2-2-2, metatarsus 2-2, dorsal distal femur 3.

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Abdominal integument red-brown, covered with long, black setae; markings consisting of white scale patches with a few white setae; iridescent black scales scattered sparsely in dorsal black areas; venter brown with dark brown central stripe, 2 rows of tan punctate dots within central stripe, 1 row of similar dots on each lateral edge of central stripe, tan dots throughout lateral brown areas; spinnerets brown covered with black setae.

Male palpus (Fig. 2) with slightly recurved embolus.

Thirteen males ranged from 5.9-10.2 mm in length, with a mean of 7.7 mm; however, all males at the small end of the range were laboratory-reared from field-collected immatures, and at least some were probably smaller than normal; 5 field-collected adult males averaged 8.8 mm in length. The only other variation observed in males was in the size of the white scale patches on the carapace.

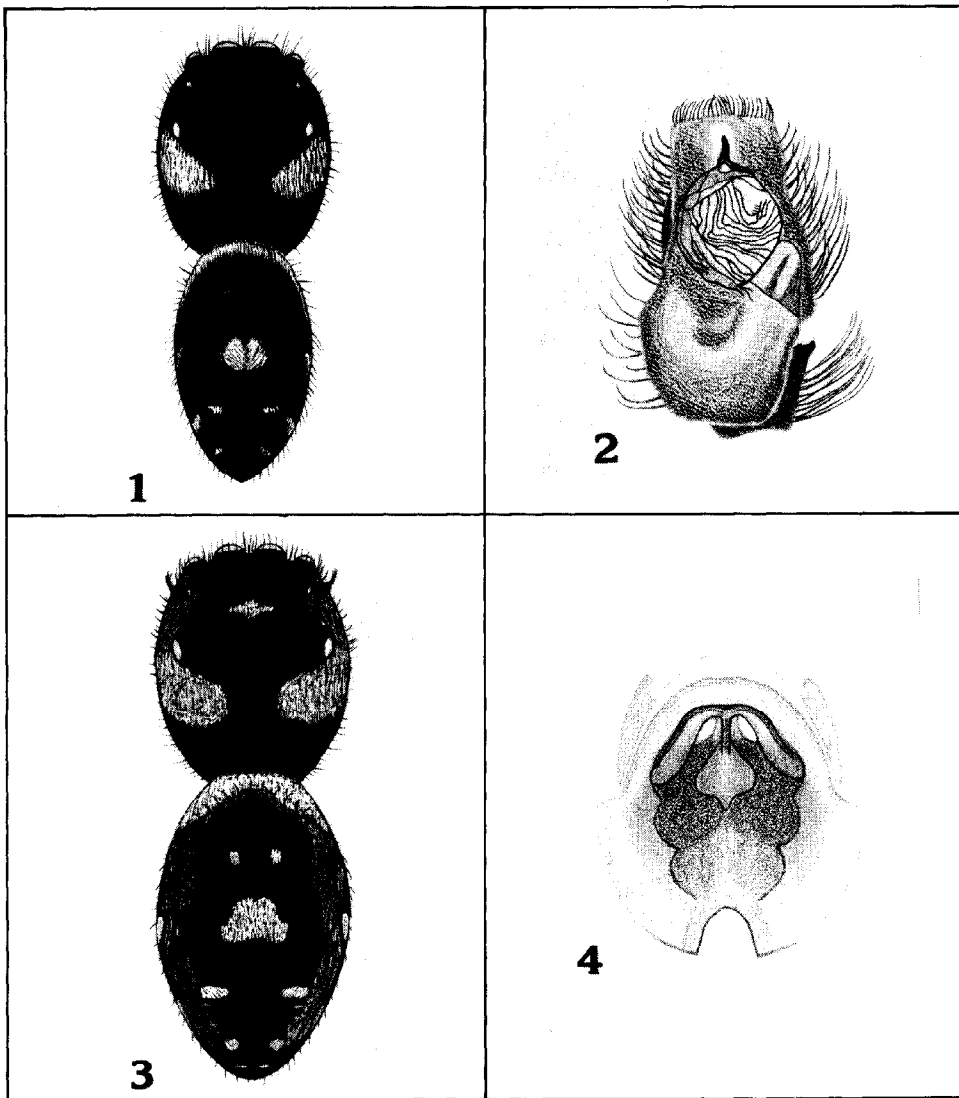


Fig. 1-4. *Phidippus xeros*, new species. 1. dorsal view of male; 2. palp of male; 3. dorsal view of female; 4. epigynum of female.

Female: total length 9.84 mm; carapace length 4.37 mm, width 3.44 mm; width ALE row 2.42 mm, width PLE row 3.05 mm; PLE-PME 0.81 mm, ALE-PME 0.47 mm, PLE-PME/ALE-PME = 1.72.

Dorsal view as in Fig. 3. Structure and color pattern similar to male with following differences: distinctive, white spot in center of ocular area, all other markings orange-yellow; wide band encircling abdomen except posteriorly; iridescent black scales more numerous than on male; leg formula IV, I, II, III, much more extensive scale cover on legs, covering all except distal ends of most segments and majority of femora I, II, and IV; clypeus covered with long, white setae medially, orange-yellow scales laterally; 4 small hair tufts, located 1 below and 1 behind each PME.

Epigynum (Fig. 4) with small anterior openings, extensive spermathecae.

Thirteen females ranged from 8.6-11.7 mm in length, with a mean of 10.2 mm. Considerable variation in dorsal pattern was encountered: scale patches on carapace may be joined in middle and/or may connect with clypeus, at extreme completely encircling ocular area; carapace scale patches may be light gray or yellow instead of orange-yellow; abdominal band may be red-orange, may vary in width (sometimes covering most of central black area), and in 1 female was absent, with only a pale yellow basal band present.

DIAGNOSIS. Small carapace scale patches that are wider than long are found, among southeastern U. S. species, only in *P. xeros* and *P. pulcherrimus* Keyserling, the latter being a much redder species. Female resembles *P. insignarius* Koch, but is the only eastern species with a distinctive ocular spot like that of *P. workmani* Peckham & Peckham from Arizona; male resembles small *P. audax* (Hentz). The genitalia also distinguish *P. xeros* from the other above-mentioned species.

ETYMOLOGY. Specific epithet from Greek, masculine; *xeros*, meaning xeric, referring to the xeric habitats frequented by this species.

TYPE LOCALITY. Florida, Marion Co., Ocala National Forest, 0.8 km west of Central Tower, 100 m north of St. Rd. 40; timbered sandpine scrub (area cleared for powerline), primary succession, adults and subadults collected on 0.5-1.5 m young oaks, smaller immatures on small woody shrubs near ground level to less than 0.5 m in height. Holotype collected 1-VII-1977.

RECORDS. Florida: type locality, 16-VII-75 (G. B. Edwards) penultimate male (matured 8-VIII-75), 22-III-77, 13-V-77 (G.B.E., D.E. Hill, D.B. Richman) several immatures (reared), 1-VII-77 (G.B.E., D.B.R.) 3 males, 3 pen. females (mat. 14-VII, 4-VIII, 15-VIII-77); Marion Co., Ocala National Forest, near Big Prairie, 22-III-77 (G.B.E.) immature male (reared); Orange Co., 5-IX-24 (H.K. Wallace) female; Santa Rosa Co., Pensacola, 24-VI-34 (H.K.W.) male; Alachua Co., Gainesville, 15-VI-34 (W.J. Gertsch) female, 6-VII-76 (G.B.E.) male, 9 km west of Gainesville on St. Rd. 24, 13-XII-75 (G.B.E.) imm. female (reared), 20-V-76 (G.B.E.) pen. male (mat. 15-VI-76), antepen. female (mat. 16-VII-76); Putnam Co., Interlachen, 6-IV-75 (G.B.E.) imm. male (reared).

DISPOSITION. Museum of Comparative Zoology: holotype male, 1 male, 2 female paratypes. American Museum of Natural History: 3 male, 3 female paratypes. Florida State Collection of Arthropods: 3 male, 3 female paratypes. Collection of D. B. Richman: 1 male, 1 female paratypes. Collection of author: 4 male, 4 female paratypes, several immatures.

Phidippus toro Edwards, NEW SPECIES
Fig. 5-10

DESCRIPTION. HOLOTYPE MALE: total length 9.22 mm; carapace length 4.69 mm, width 3.59 mm; width ALE row 2.66 mm, width PLE row 3.12 mm; PLE-PME 0.78 mm, ALE-PME 0.55 mm, PLE-PME/ALE-PME=1.42, ratio atypically small for genus.

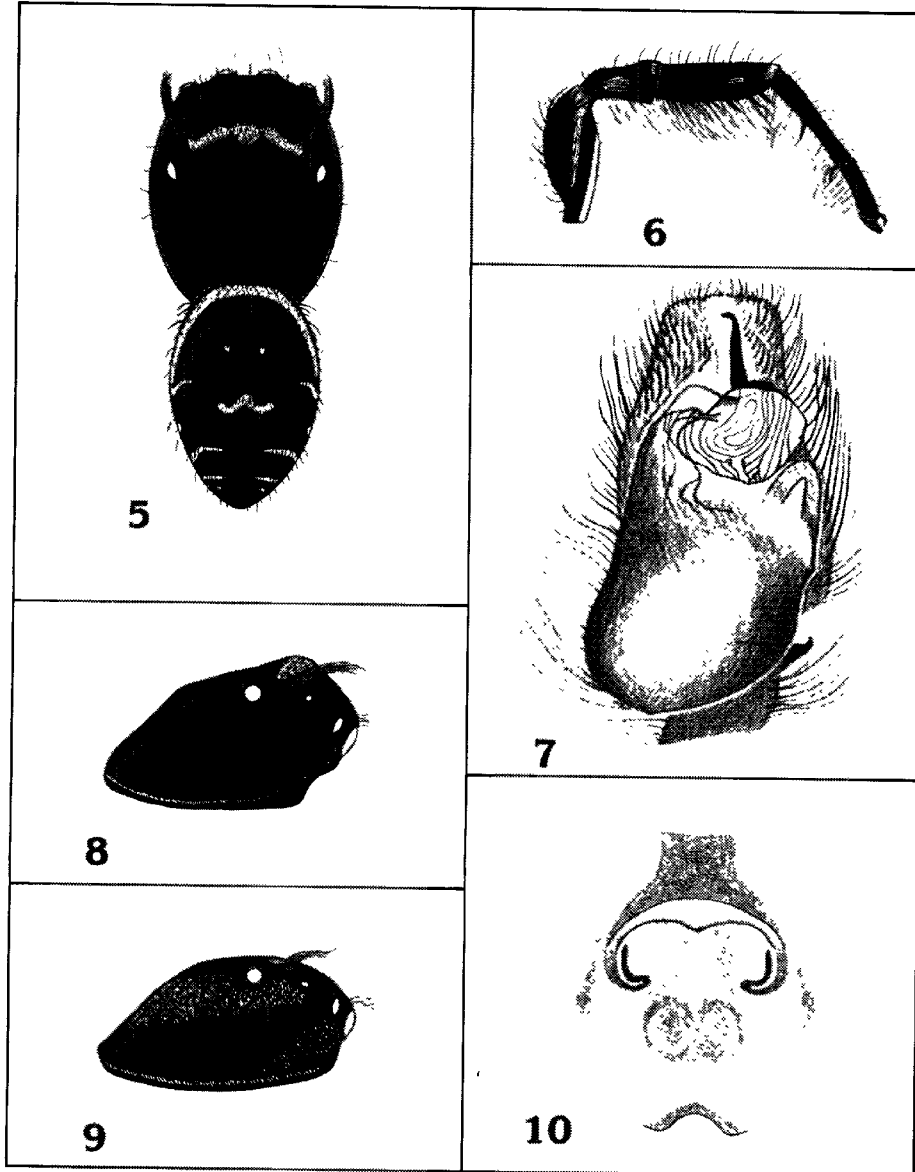


Fig. 5-10. *Phidippus toro*, new species. 5. dorsal view of male; 6. prolateral view of leg I of male; 7. palp of male; 8. carapace of male, lateral view; 9. carapace of female, lateral view; 10. epigynum of female.

Dorsum of carapace and abdomen as in Fig. 5. Carapace integument dark red-brown, ocular quadrangle black; broad, horizontal ridge anterior to PLE (Fig. 8), covered at crest with suberect, elongate, yellow scales; at each side of crest, behind PME, is large, elongate tuft of black setae curving forward above ALE to distance equal with AME; dense covering of short, black setae between crest and anterior eye row; anterior eyes overhung by many yellow and white setae of moderate length and fewer long, black setae; anterior eyes encircled by white scales; clypeus sparsely covered with long, white setae; chelicerae with long, white setae on lateral and medial edges and covering proximal half, distal half iridescent green-blue; lateral edges of carapace margined with thin row of white scales, sides covered with short, black setae, thoracic slope with moderate length black setae appressed with tips pointed posteriorly, with a few long, white setae pointed anteriorly.

Sternum and coxae yellow-brown, labium and endites brown with pale anterior edges. Integument of palpi and legs red-brown; palpus with long white setal fringes on lateral edges of patella, distal end of tibia, and distal end of cymbium, long and short yellow setae covering proximal half of cymbium. Leg formula I, IV, II, III, femur I larger than femora II-IV; legs sparsely covered with black setae; lateral and distal parts of femora, patellae, and tibiae of legs II-IV covered with light yellow scales. Leg I as in Fig. 6, all scale patches light yellow, median femoral band yellow, subventral band white, rest of femur covered with short, black setae; long, dense white fringe on venter of patella, tibia, metatarsus and tarsus; spination, ventral tibia 2-2-2, metatarsus 2-2, dorsal distal femur 3, dorsal subdistal spine on femur elongate.

Abdominal integument red-brown, covered with short, gray setae and very long, heavy black setae; markings of elongate white scales and a few long, white setae; basal band thin, extending half length of abdomen, may or may not join lateral stripe, lateral stripe becomes broken line to join 3rd spot pair. Venter yellow-brown with 4 rows of pale dots. Spinnerets red-brown, covered with black setae.

Male palpus (Fig. 7) with long, recurved embolus.

A second male was 9.5 mm in length.

Female: total length 10.39 mm, carapace length 5.00 mm, width 3.75 mm; width ALE row 2.69 mm, width PLE row 3.19 mm; PLE-PME 0.73 mm, ALE-PME 0.48 mm, PLE-PME/ALE-PME = 1.52.

Female like male except: integumental carapace ridge lacking (Fig. 9), crest of scales white, appressed; weak to moderate band of white scales extending posteriorly from PME; leg formula IV, I, II, III, fewer scales on legs, femur I covered with short, black setae, but otherwise leg I like legs II-IV.

Epigynum (Fig. 10) with large, widely separated openings.

Eight females ranged from 9.4-10.4 mm in length, with a mean of 9.9 mm. Variation: central abdominal spot often broken in middle.

DIAGNOSIS. The modifications of the carapace and leg I in the male, and the dorsal patterns and genitalia of both sexes are distinctive. In life, the yellow scales and hairs are orange-pink (D. B. Richman, pers. comm.). This species is related to *P. mystaceus* (Hentz).

ETYMOLOGY. Specific epithet from Spanish, masculine; *toro*, meaning

bull, an allusion to the "bull-like" appearance of the raised crest and large hair tufts of the male; used as a noun in apposition.

TYPE LOCALITY. Arizona, Cochise Co., Chiricahua Mts., South Fork of Cave Creek, South Fork forest camp. Holotype collected 6-VII-73 (D. B. Richman), pen. male (mat. by 22-VII-73), sweeping bushes.

RECORDS. Arizona, Cochise Co., Chiricahua Mts.: South Fork of Cave Creek, 24-IV-70 (D. B. R.) female (eggsac made in lab., 102 young); mouth of Price Canyon, 12-VIII-68 (G. Batista) male; East Turkey Creek, 11-V-72 (W. J. Gertsch) 4 females, 7-VII-72 (W. J. G.) female, pen. female, pen. male, 1-VIII-72 (D. Ubick) female, pen. male, 12-VIII-71 (A. Jung) female (with 47 young under rock). For elevations of localities, see Jung and Roth (1974).

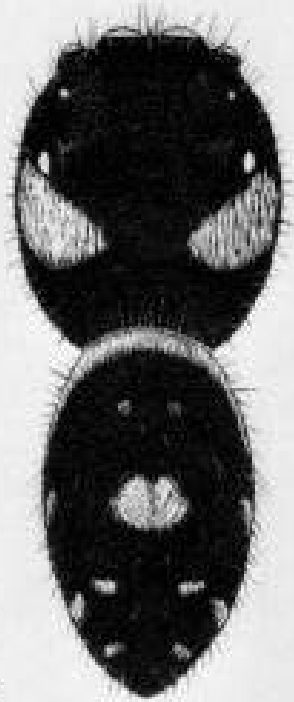
DISPOSITION. Museum of Comparative Zoology: holotype male, 1 female paratype. American Museum of Natural History: 1 male, 5 female paratypes, immatures. Southwestern Research Station: 1 female paratype. Collection of D. B. Richman: 1 female paratype with young.

ACKNOWLEDGMENTS

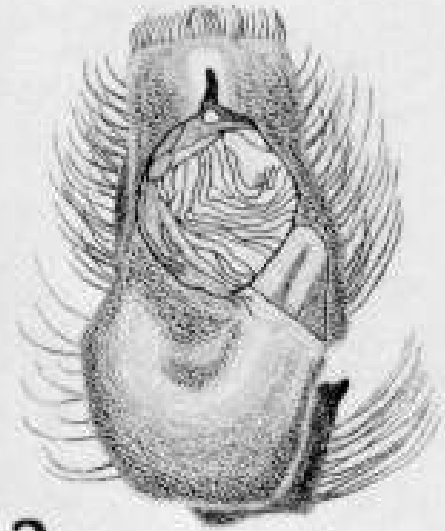
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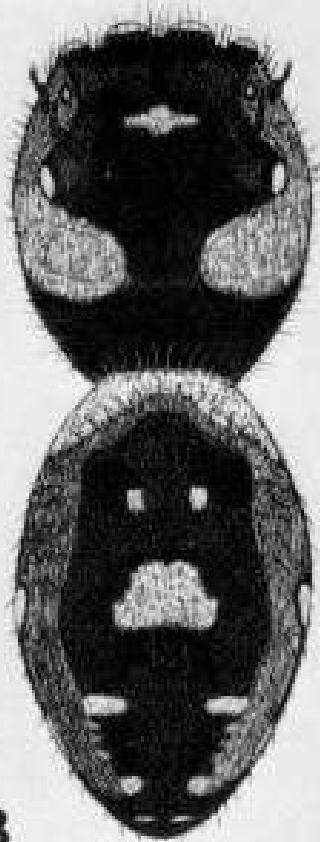
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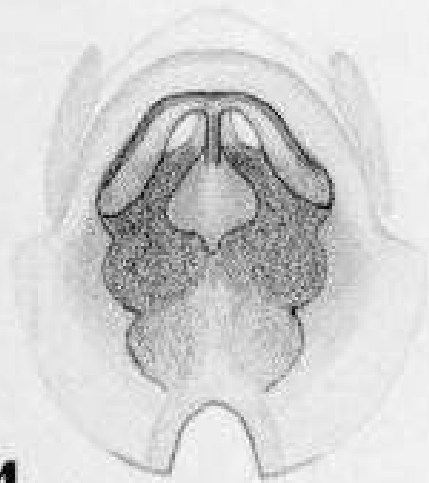
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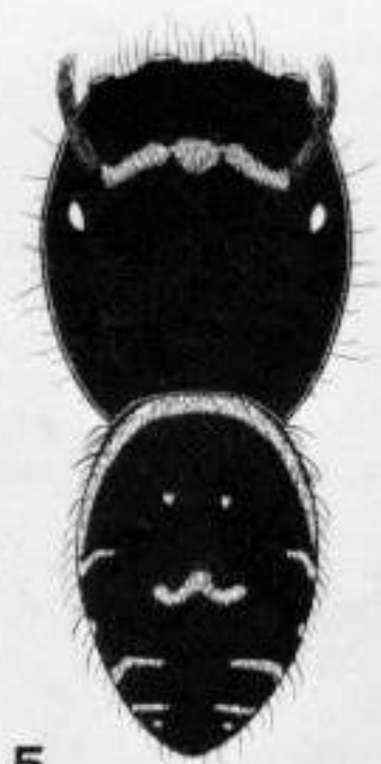
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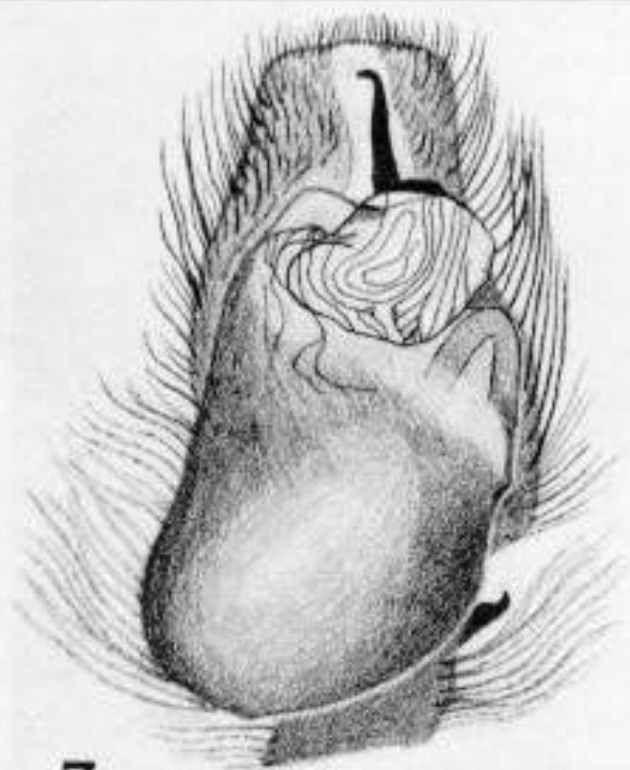
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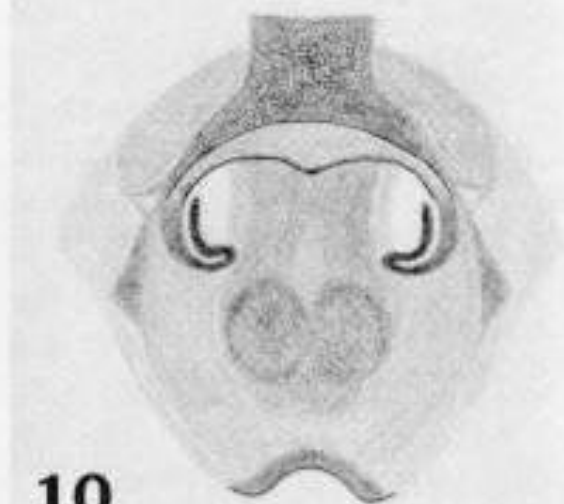
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