New Species of Neotropical Sphecidae[1]

(Hymenoptera, Sphecidae)

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The following new species have been discovered during a generic study of the family Sphecidae. They are being described now so the names will be available for use in discussions of generic variation now being prepared for publication.

The head illustrations were rendered by Mrs. Karen Calden Fulk.

Plenoculus platycerus Menke, new species

(Figs. 1–3)

HOLOTYPE MALE.—length 4 mm. COLOR.—black; mandible yellow subapically; forefemur beneath, tibia and tarsus yellowish brown; midfemur apically, tibia and tarsus yellowish brown; hindtibia yellowish brown beneath. VESTITURE.—head densely covered with short silver hair, clypeus with short lateral yellowish hair-brush (fig. 1); thoracic dorsum, except propodeal enclosure, covered with short silver hair. STRUCTURE.—flagellum very broad, ventral side strongly flattened (fig. 1); ocellar triangle slightly less than 90°; frons very finely granulate, dull; clypeus very narrow (vertically), free margin transverse, without teeth but with a broad truncate median lobe the length of which is slightly greater than the antennal socket expanse (fig. 1); mandible with an externoventral notch and an inner subbasal tooth; malar space broad, width at anterior mandibular condyle equal to an ocellus diameter, broader at posterior condyle; occipital carina incomplete below, broadly interrupted above; scutum and scutellum finely granulate, dull; propodeal enclosure more coarsely granulate with fine ridges radiating out from base and with several transverse arcuate ridges apically; pleura and propodeal side finely etched, subshining; gaster elongate, attenuate, tergite VII truncate apically but without a defined pygidium or distinctive sculpture, sternites without tubercles or welts; foreleg without tarsal rake; tibiae with a few weak bristles, legs otherwise smooth; midtibial spur very small; sternite VIII as in fig. 2, genitalia as in fig. 3.

TYPES.—*Holotype male*, MEXICO: MORELOS: YAUTEPEC, 31 July 1963, F. D. Parker and L. A. Stange. One male paratype with same data. Both specimens in the collection of the University of California, Davis.

DISCUSSION.—The presence of a broad malar space easily distinguishes this species from all other *Plenoculus*. The disappearance of the occipital carina dorsally is distinctive, although *P. timberlakei* Williams from California also has a dorsally interrupted carina, and it is evanes-

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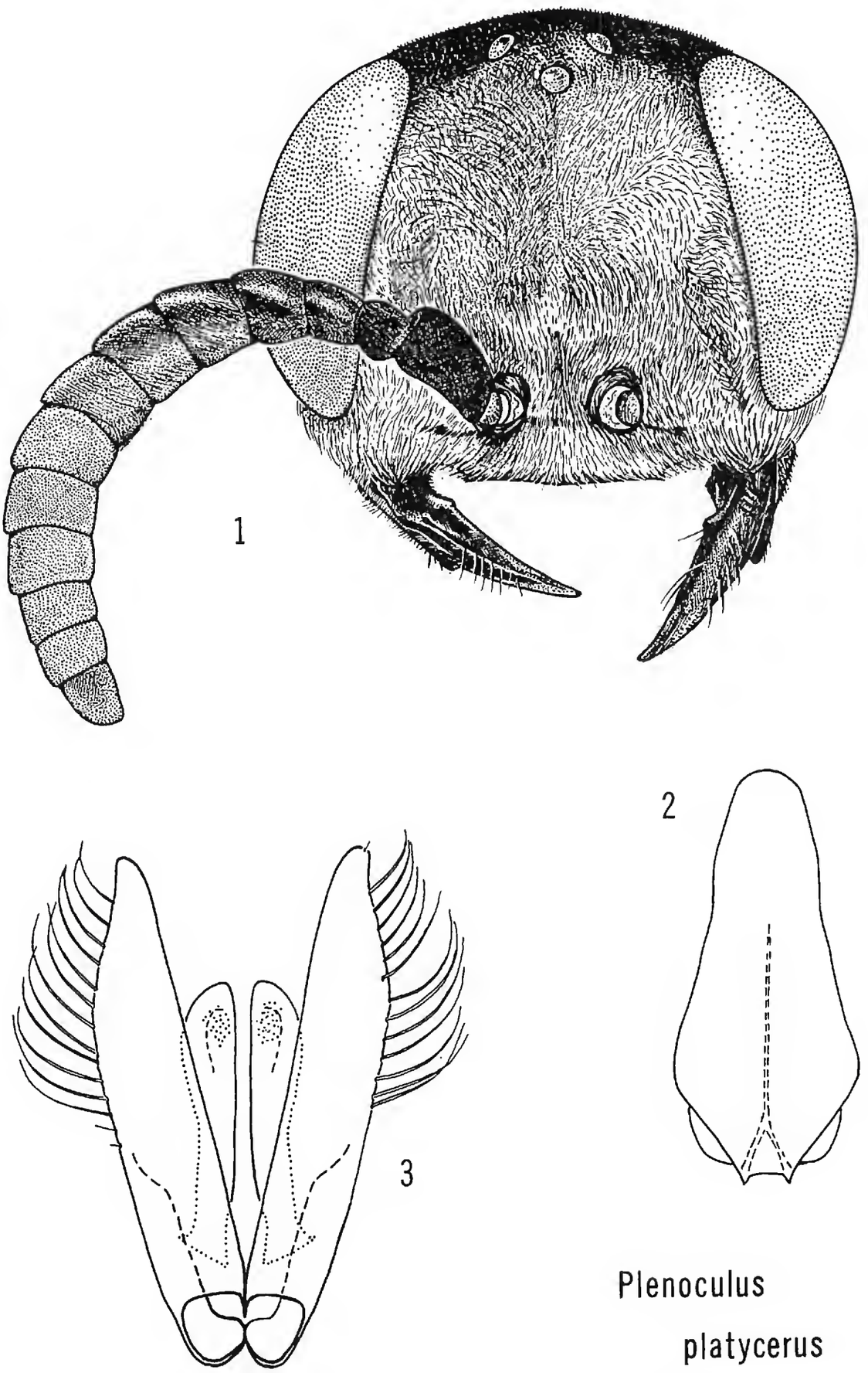

Fig. 1: Anterior view of the head of *Plenoculus platycerus* (paratype). Fig. 2: Sternite VIII of *Plenoculus platycerus* (paratype). Fig. 3: Ventral view of genitalia of *Plenoculus platycerus* (paratype).

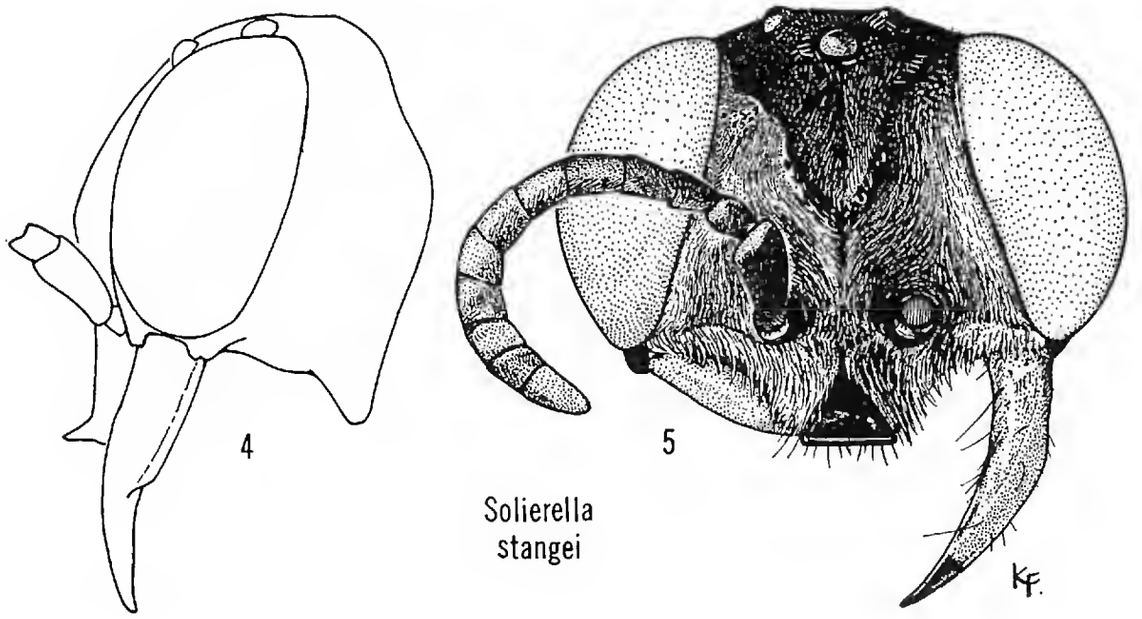

Fig. 4: Lateral view of the head of *Solierella stangei* (Holotype). Fig. 5: Anterior view of the head of *Solierella stangei* (Holotype).

cent dorsally in *P. hurdi* Williams from Mexico. The broad flat male antenna is an easy recognition feature for *P. platycerus*. Among the *Plenoculus* species the lack of a male pygidium is peculiar to *P. platynotus*.

This species runs to cuplet 18 of Williams' (1960) key but the broad malar space will separate *P. platycerus* from *P. palmarum* Williams and *P. sinuatus* Williams.

Plenoculus platycerus is the fifth species known from Mexico. The others are *P. hurdi*, *P. cockerellii* Fox, *P. mexicanus* Williams, and *P. davisi* Fox.

Solierella stangei Menke, new species

(Figs. 4–5)

HOLOTYPE FEMALE.—length 4 mm. COLOR.—black; mandible yellow except for reddish apex, pronotal collar with a mesally interrupted yellow band (nearly obscured by pubescence), pronotal lobe, tegula, and metanotum yellow; femora with a yellow stripe below on apical half, tibiae and tarsi brownish, tibiae yellow dorsally; wing veins yellow basally. VESTITURE.—frons, clypeus, gena, pronotal collar, scutum posteriorly, mesopleuron, and propodeal dorsum except for a narrowly V-shaped median glabrous area, covered with dense appressed silver hair; apical margin of each gastral tergite with a band of appressed silver hair, lateral surface of each tergite with a triangular patch of appressed silver hair. STRUCTURE.—flagellomeres I–V longer than broad, VI–IX about as long as wide, X longer than wide (fig. 5); frons with a V-shaped ridge, the arms of which are sinuate (fig.

5); clypeus with a reflexed truncate median lobe, the clypeal surface above the lobe triangularly glabrous, shining, concave, and margined by a carina (fig. 5); free margin beneath lobe thickened, almost as wide as width of lobe and bearing two diagonal laterobasal carinae each of which delimits a fovea; labrum small, triangular; mandible long and slender, without inner teeth, externoventral margin roundly angulate (fig. 4); no malar space; occipital carina disappearing well before reaching hypostomal carina; gena broad and with a large stout ventrally directed process (fig. 4); scutum and scutellum shining, and closely finely punctate, the punctures separated by a puncture diameter or less, mesopleural sculpture obscured by vestiture but more finely and closely punctate than scutum; metapleuron shining, impunctate, but horizontally ridged dorsally; propodeal dorsum dull, with ridges radiating from base, interspaces finely punctate, dorsum with a median longitudinal trough which is crossed by many fine ridges; posterior face of propodeum transversely ridged, ridges interrupted by a median vertical sulcus; propodeal side dull, minutely striatopunctate; tergite VI somewhat flattened and bearing two apically converging rows of short setae, the surface of this weakly defined pygidium is punctate apically; forewing media diverging after crossvein cu-a, first recurrent vein received by first submarginal cell, second recurrent by second submarginal cell; foreleg without a tarsal rake.

TYPE.—*Holotype female*, ARGENTINA: CATAMARCA: SIX KM. N. SANTA MARIA, 19 February 1967, L. A. Stange. Type deposited in the Instituto Miguel Lillo, Tucuman, Argentina.

DISCUSSION.—This peculiar species is easily separated from all other *Solierella* by the genal process. In addition, the reflexed clypeal lobe is distinctive, and externally angulate mandibles are known in relatively few species of *Solierella*.

Solierella stangei is the tenth species described from South America, but based on material in the Davis collection many more await description. The following species are known from South America: *S. amazonica* Ducke, 1904, Brazil; *S. antennata* Ducke, 1907, Brazil; *S. atra* Reed, 1894, Chile; *S. chilensis* Kohl, 1892, Chile (♀ only, ♂ = *S. miscophoides*); *S. jaffueli* (Herbst), 1920, Chile; *S. minarum* Ducke, 1907, Brazil; *S. miscophoides* Spinola, 1851, Chile (= *S. spinolae* Kohl, 1892, new synonymy); *S. quitensis* (Benoist), 1942, Ecuador; *S. platensis* Brèthes, 1913, Argentina; and *S. stangei* Menke, 1967, Argentina.

Trypoxylon (Trypoxylon) oculare Menke, new species

(Figs. 6–8)

HOLOTYPE FEMALE.—length 7 mm. COLOR.—black; mandible brownish; foreleg yellowish except femur; midleg yellowish except femur and tarsus; wings clear. VESTITURE.—clypeus, frons to upper level of eye emargination, and gena with appressed silver hair; antenna with short brownish bristly hair; thorax (except propodeum) with silvery hair which is densest along sulci and depressions. STRUCTURE.—head quadrate, eyes (including facets) much enlarged below where the in-

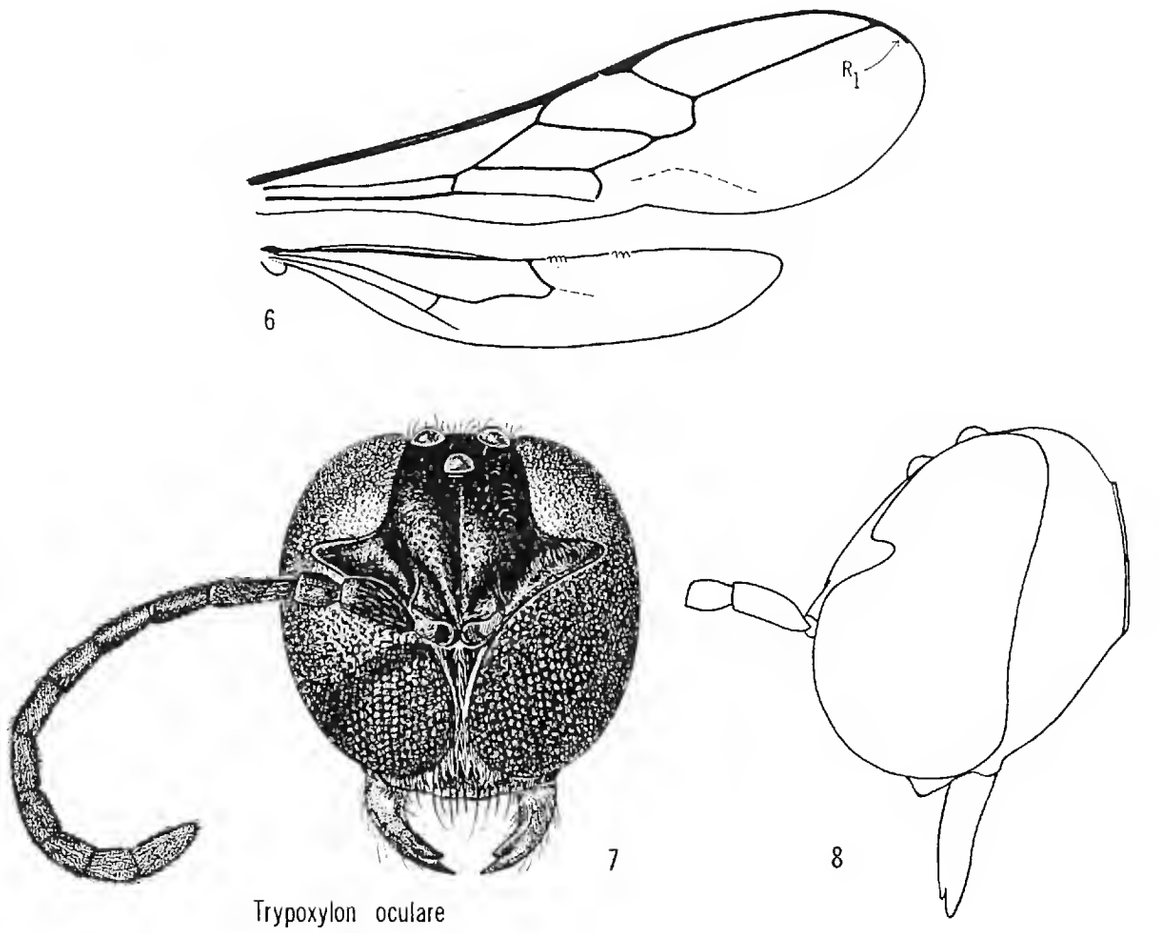

Fig. 6: Wings of *Trypoxylon oculare* (Holotype). Fig. 7: Anterior view of head of *Trypoxylon oculare* (Holotype). Fig. 8: Lateral view of head of *Trypoxylon oculare* (Holotype).

ner orbits are nearly contiguous (fig. 7), least interocular distance less than one-half an ocellus diameter; ratio of least interocular distance : greatest interocular distance = 1 : 12.5; lateral ocellus nearly contiguous with inner orbit, ratio of ocellocular distance : lateral ocellus diameter : distance between latral ocelli = 0.3 : 4.5 : 3; vertex polished, impunctate; frons (except eye emargination) slightly elevated, but with a median longitudinal impressed line, surface shining, sparsely and shallowly punctate; frons above antennal sockets with a U-shaped elevation (fig. 7); clypeal free margin reflexed and with a short, broad truncate median lobe which has a weak median emargination; mandible with an inner subapical tooth (fig. 7); labrum reduced to two fingerlike processes; occipital carina complete below but widely separated from hypostomal carina by a genal bridge the length of which is equal to the length of flagellomere I; thorax elongate, length equal to three times its greatest heighth, and six times its greatest width; pronotal collar elongate, pronotal side smooth and polished, free margin of pronotal lobe separated from base of tegula by a distance equal to combined length of flagellomeres I–II; collar and scutum shining, sparsely and shallowly punctate; scutellum polished, impunctate; propleuron shining, strongly swollen distally, anterior side of swelling with a large pit; mesopleuron shining, sparsely shallowly punctate;

mesopleuron with episternal sulcus and scrobe, other sulci and carinae lacking; metapleural flange not lamellate; metapleuron and propodeal side highly polished and impunctate except for a few punctures on propodeal side all of which are arranged in a single diagonal row; propodeal side delimited from dorsum by a rounded ridge; intercoxal carina slightly arcuate; propodeal dorsum without a defined enclosure but with a broad shallow longitudinal depression, dorsum impunctate, shining, and with a few weak transverse ridges mesally, ridges more numerous laterally; posterior face of propodeum nearly horizontal, surface shining, impunctate and with a deep longitudinal sulcus which is slightly T-shaped dorsad; petiole socket margined dorsally by a narrow convex flange which is joined at the midline by a strongly raised Y-shaped carina the arms of which delimit the apex of the sulcus on the posterior face of the propodeum; propodeal sternite absent; gastral segments elongate, I three times as long as greatest width, II slightly more than two times as long as wide; coxa I with one or two short apical bristles; inner dorsal carina of coxa III diagonally oriented, strongly raised subapically but disappearing before reaching apex of coxa; coxa III without ventral organ; vein R_1 of forewing extending well beyond apex of marginal cell (fig. 6); distance between two groups of hamuli equal to twice the length of the outer group, outer group with three hamuli, inner group with four; other wing details as in fig. 6.

TYPE.—*Holotype female*, SANTAREM, BRAZIL. Deposited in the University of California, Davis.

DISCUSSION.—The nearly contiguous lower inner orbits is the most striking feature of this species. No other *Trypoxylon* known to me approach this condition. Increase in facet size with the resultant expansion of the eye accounts for the nearly holoptic condition. Other peculiarities of *T. oculare* are the extension of R_1 far beyond the marginal cell of the forewing, the bidentate mandible, and the forecoxal pit. The extension of R_1 is characteristic of the subgenus *Trypoxylon*, but in *T. oculare* it is much more pronounced. Subapically bidentate mandibles are rare in *Trypoxylon* but they occur in females of the New World *rufidens* group and the Oriental *mandibulatum* group (Richards, 1934).

Trypoxylon oculare does not fit conveniently into any of Richards (1934) species groups. It comes closest to the *rufidens* group, but the clypeal free margin is not thickened, and the first three gastral tergites are not convex nor apically nodose in lateral profile in *T. oculare*. Furthermore, I have found that species of the *rufidens* group possess a propodeal sternite, but this structure is absent in *T. oculare*. *Trypoxylon oculare* therefore should be placed in a new species group.

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