

NEW SPECIES OF *PERDITA* FROM THE SOUTHERN STATES  
(Hymenoptera, Apoidea)<sup>1</sup>

BY P. H. TIMBERLAKE

University of California Citrus Experiment Station,  
Riverside, California

Since the number of species of *Perdita* inhabiting the United States east of the Mississippi River is small, the discovery of two new species from Florida, North Carolina, and Mississippi is a matter of considerable interest.

*Perdita mitchelli*, new species

This is a member of the subgenus *Alloperdita* Viereck, and is easily distinguished from the other species by the entire lack of light markings on the face, thorax, and abdomen.

*Female*.—Head and thorax dark green, the underparts nearly black. Abdomen black, the apical margin of tergites tinged with testaceous. Antennae and legs black, the tarsi testaceous, with outer margin of hind basitarsus, and the front and middle basitarsi, especially toward base, dusky or blackish. Mandibles yellow testaceous at base, more reddish at middle, and piceous at apex. Tegulae pale testaceous. Wings whitish hyaline. Stigma testaceous, the nervures nearly colorless, except for the brownish subcosta. Head a little broader than long, with inner orbits slightly diverging above. Head and thorax weakly, very finely tessellate, shining, the tessellation faint on disk of mesoscutum and on scutellum and basal area of propodeum, and absent on clypeus and supraclypeal area. Clypeus with well-separated, fine punctures. Remainder of face and sides of frons with a few remote punctures. Mesonotum with fine, widely spaced punctures. Pubescence sparse, whitish. Fore wing with a small supernumerary submarginal cell as in other *Alloperdita*. Length, 5 mm.; anterior wing, 3.3 mm.

*Male*.—Similar to female. Head and thorax dark blue. Apical tergite of abdomen brownish testaceous. Labrum testaceous, prominent, convex, tapering, blunt at apex, and thus nasiform. Mandibles yellow testaceous, becoming red at apex. Tarsi yellow testaceous. Tegulae whitish hyaline. Wings as in female, except that the stigma has a brownish margin. Head a little more transverse than in female, its anterior margin truncate except for the projecting labrum and supporting apical middle of clypeal margin. Cheeks about as wide as width of eye, hardly wider behind and abruptly truncate in front, with the outer corner a little produced and sharp. Antennae reaching about apex of tegulae; the flagellum stout, cylindrical; the scape very short. Sculpture about as in female. Pubescence sparse, erect, whitish. Length, 4 mm.; anterior wing, 3.3 mm.

<sup>1</sup>Paper No. 549, University of California Citrus Experiment Station, Riverside, California.

Described from 12 females (holotype and paratypes), Hattiesburg, Mississippi, collecting pollen at flowers of *Cyrilla*, June 4, 1944 (C. D. Michener), in the Michener collection; 1 male (allotype), sandhills near Lillington, North Carolina, June 13, 1941 (T. B. Mitchell), in collection of U. S. National Museum, Cat. No. 58140.

The *Alloperdita* group now includes four species: *Perdita novae-angliae* Viereck, *P. obscurata* Cresson, *P. floridensis* Timberlake, and *P. mitchelli*, n. sp. *P. bradleyi* Viereck also belongs here, but is, I am sure, the male of *obscurata* Cresson (new synonymy). *Alloperdita* is restricted to the Atlantic Coast and Gulf States, from Massachusetts to Mississippi.

*Perdita graenicheri*, new species

Allied to *P. ignota* Cockerell and *P. crawfordi* Cockerell, from each of which it differs, in both sexes, in having the upper margin of disk of clypeus more or less darkened.

*Female*.—Head and thorax dark olive green, the abdomen blackish. Disk of clypeus, except a blackish mark on each side of upper border, and small lateral face marks, white, the white of clypeus extending upward in middle, more or less in an angle, often to the dorsal margin. Lateral marks rather roundish, extending only slightly above level of clypeus, usually separated from clypeus by a black sutural line, or by a broader interval, and sometimes separated also from the eye. Lateral extensions of clypeus and labrum brown. Mandibles testaceous, becoming red at apex and white on outer side of base. Scape and pedicel blackish, the former sometimes with a yellowish line beneath at base. Flagellum brownish above and dull orange brown beneath. Anterior border of pronotum, two cuneate marks on the hind border, and usually the tubercles, white. Legs brownish, darker toward base; the tarsi paler, with small joints sometimes yellowish. Front and middle knees narrowly, and front tibiae on anterior side of basal half, pale yellowish. Tergites 2 and 3 with a creamy-white basal band, moderately wide and even, rather narrowly interrupted medially, that on 3 ending rather far from lateral margins. Tergite 4 sometimes with two basal marks similar to those of tergite 3 but smaller. Rarely a whitish dot on tergite 1, on each side subapically, close to lateral margins. Pygidium testaceous brown, truncate at apex. Tegulae pale testaceous, becoming fuscous on inner margin. Wings whitish hyaline, the subcosta and margins of stigma pale brown. Frons, vertex, cheeks, and thorax distinctly tessellate; the vertex and mesonotum rather dull; the face below antennae, pleura, and propodeum shining. Pubescence rather sparse and whitish. Length, 4-4.5 mm.; anterior wing, 3.3 mm.

*Male*.—More bluish green than female, the propodeum bluer than other parts. Abdomen brownish black, immaculate; the apical margins of tergites 2 to 6 whitish hyaline. Base of mandibles, labrum, disk of clypeus except upper border, very small lateral face marks, and scape

beneath, yellowish white. Lateral marks adjacent to clypeus, widely separated from eyes and occasionally entirely absent. Thorax entirely dark, or more rarely with a whitish dot on each side of hind border of pronotum. Legs blackish, with the knees rather broadly, tarsi, and front tibiae, pale yellow. Head ordinary, not enlarged in any specimen at hand, the cheeks unarmed or with a very small tooth anteriorly. Otherwise, about as in the female, except for usual sexual differences. Length, 3.5-4 mm.; anterior wing, 3 mm.

Described from 7 females and 6 males (types and paratypes) collected by S. Graenicher in southern Florida at flowers of *Chrysopsis Tracyi*, in September and October: the holotype female and allotype (Miami, Sept. 7, 1927) in collection of U. S. National Museum; also 4 males and 2 females from Miami (Sept. 7 to Oct. 29, 1924 and 1927), 1 male from Kelsey City (Sept. 18, 1927), 1 female from Hollywood (Sept. 27, 1924), 2 females from West Palm Beach (Sept. 5, 1927), and 1 female from Stewart (Sept. 18, 1927).

*Type*.—U. S. National Museum, Cat. No. 58141.

The late Dr. Graenicher has discussed the habits and distribution of this species in his account of the bees of southern Florida (Ann. Ent. Soc. Amer. 23:153-174, 1930).

The species of the *ignota* group most similar to *P. graenicheri* may be separated by the following tables.

#### FEMALES

- |  |                       |
|--|-----------------------|
| 1. Clypeus entirely white, except for the usual pair of dark dots ...  | 2                     |
| A fuscous blotch on each side of upper margin of disk of clypeus; mesoscutum tessellate, dullish .....   | 6                     |
| 2. Lateral face marks present .....  | 3                     |
| Lateral face marks absent, wings whitish hyaline, the subcosta and margins of stigma pale brownish; an interrupted linear whitish band at base of tergites 2 and 3 (Illinois) .....  |                       |
| ..... <i>boltoniae</i> (Robt.)   |                       |
| 3. Mesoscutum distinctly tessellate, more or less dullish .....  | 4                     |
| Mesoscutum faintly tessellate, very shiny; lateral face marks subquadrate, nearly reaching level of antennae; tergites 2 and 3, and sometimes 4, with an interrupted, whitish, basal band; wings whitish, with margins of stigma and subcosta slightly darkened (New Mexico, Arizona, Colorado, Texas) ... <i>ignota</i> Ckll. |                       |
| 4. Abdomen with basal interrupted band on tergites 2 and 3; mesoscutum less strongly tessellate; wings whitish hyaline, with margins of stigma hardly darkened .....   | 5                     |
| Abdomen usually immaculate; mesoscutum strongly tessellate, dull; lateral face marks rather small, not extending above level of clypeus and separated from clypeus by a narrow black interval; wings very slightly dusky (Texas) .....   | <i>bishoppi</i> Ckll. |

5. Lateral face marks large, subquadrate, generally broader than high and not reaching level of antennae; mesoscutum rather dullish; tergites 2 and 3, and often 4, with whitish basal band, usually rather narrowly interrupted medially (Nebraska, Texas, Colorado) ..... *crawfordi* Ckll.  
Lateral face marks small, roundish, adjacent to clypeus; mesoscutum moderately shiny; basal bands of tergites 2 and 3 linear and broadly interrupted (Texas) ..... *isopappi* Timb.
6. Lateral face marks rather small, roundish, barely reaching above level of clypeus, usually slightly separated from clypeus and sometimes from eye; tergites 2 and 3, and sometimes 4, with a whitish, interrupted basal band (Florida)..... *graenicheri*, n. sp.  
Lateral face marks large, triangular, acute above at level of antennae; abdomen immaculate (New Mexico) ..... *asteris* Ckll.

## MALES

1. Clypeus entirely pale, except the usual pair of dark dots ..... 2  
Upper border of disk of clypeus more or less broadly blackened; lateral face marks small and adjacent to clypeus; frons and mesoscutum distinctly tessellate, a little dullish..... *graenicheri*, n. sp.
2. Lateral face marks small, adjacent to clypeus ..... 3  
Lateral face marks larger, extending from clypeus to eye margin ..... 4
3. Vertex and mesoscutum distinctly tessellate, but the latter rather shiny; wings whitish hyaline, the subcosta and margins of stigma brownish; cheeks strongly dentate anteriorly .....  
..... *boltoniae* (Robt.)  
Vertex tessellate, the disk of mesoscutum nearly polished; wings milky hyaline, the subcosta and margins of stigma hardly darkened; head ordinary, the cheeks unarmed, or with a small tooth anteriorly ..... *isopappi* Timb.
4. Vertex and mesoscutum distinctly tessellate, more or less dullish ... 5  
Vertex and anterior border of mesoscutum more or less faintly tessellate, the disk of mesoscutum polished; wings milky hyaline, the subcosta and lower margins of stigma pale brownish ..... *ignota* Ckll.
5. Vertex and mesoscutum moderately dullish; the disk of mesoscutum more or less faintly tessellate; wings milky hyaline, margins of stigma not darkened ..... *crawfordi* Ckll.  
Vertex and mesoscutum strongly tessellate, dullish; wings only slightly whitened, the subcosta and margins of stigma brown .....  
..... *bishoppi* Ckll.

It now seems probable that some of the nominal species in the above tables will be found to intergrade when large series from many localities are studied.