

Bees of the Genus *Perdita* in the J. C. Bridwell Collection
(Hymenoptera)

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The bees of the genus *Perdita* Smith recorded in this paper are contained in the collection of J. C. Bridwell, which is housed at present in the Bishop Museum at Honolulu. The collection contains a considerable number of species from Southern California, which will be considered in my forthcoming study of the Californian species of the genus. The remainder of the collection, consisting of fourteen species, collected east of the Rocky Mountains, will be considered here.

1. ***Perdita octomaculata*** (Say).
8 females, Pelham, New Hampshire, Aug. 18 and Sept. 19-20, 1905 (Bridwell).
2. ***Perdita tridentata*** Stevens.
9 females, 27 males, on *Helianthus petiolaris* Nutt., Clay Co., Kansas, Aug. 1901 (Bridwell).
3. ***Perdita bruneri*** Cockerell.
2 females, on *Helianthus petiolaris* Nutt., Clay Co., Kansas, Aug. 1901 (Bridwell).
4. ***Perdita nebrascensis*** Swenk and Cockerell.
4 males, Clay Co., Kansas, Aug. 1901 (Bridwell).
5. ***Perdita crotonis*** Cockerell.
3 males, on *Croton texensis* (Klotzsch), Clay Co., Kansas, Aug. 1901 (Bridwell).
6. ***Perdita maura*** Cockerell.
21 females, 7 males, Clay Co., Kansas, Aug. 1901; and 1 male, Baldwin, Kansas, June (Bridwell). These specimens bear an old manuscript name indicating that they were collected on *Physalis*.

7. ***Perdita wootonae*** Cockerell.
1 female, on *Mentzelia*, Denver, Colorado, July 20, 1897 (Dunning).
8. ***Perdita zebrata*** Cresson.
3 females, 3 males, on *Cleome*, Denver, Colorado, July 20, 1897 (Dunning).
9. ***Perdita albipennis*** Cresson.
1 female, on *Helianthus petiolaris* Nutt., Clay Co., Kansas, Aug. 1901 (Bridwell).
10. ***Perdita lacteipennis*** Swenk and Cockerell.
4 females, 19 males, on *Helianthus petiolaris* Nutt, Clay Co., Kansas, Aug. 1901 (Bridwell).
11. ***Perdita bequaerti*** Viereck.
1 female, 2 males, Griffin, Georgia, Sept. 1902 (Bridwell).
12. ***Perdita isopappi*** n. sp.

This is the *Perdita bishoppi*, var. (or *ignota*?) Cockerell, 1906, *Entomologist*, 39, p. 149. Dr. Cockerell has sent me the specimens that were described in the *Entomologist* and I have received other specimens from Dallas and Handley, Texas, from the National Museum. In the Bridwell collection I found one female from Willis, Texas. A study of these specimens convinces me that *isopappi* is distinct from *P. bishoppi* Ckll., *P. ignota* Ckll. and from *P. crawfordi* Ckll. The female of *isopappi* differs from *bishoppi* by the milky hyaline wings with colorless veins, the whitish tarsi, the larger white marks on tergites 2 and 3 (absent in typical *bishoppi* although linear basal marks sometimes occur in that species), the scape more or less whitish beneath, the pygidium much narrower and retuse at apex, etc. It is very similar to typical *crawfordi* from Nebraska, but head and thorax are a bluer green, the lateral face marks much smaller, occupying not more than one-half the space between clypeus and margin of eyes, the abdominal marks reduced, more linear, interrupted and absent on tergite 3. From typical *ignota* from Mesilla, New Mexico, it differs at once by the finely tessellate and consequently a little duller mesoscutum.

The male of *isopappi* is most similar to *crawfordi* but is more bluish and has the lateral face marks reduced to a small spot next to the clypeus. In *crawfordi* the cheeks usually have a large blunt

tooth anteriorly; in *isopappi* the cheeks are simple or provided with a very small inconspicuous tubercle. In the male of *bishoppi* the subcosta and margins of stigma are decidedly darkened, and the mesoscutum is more strongly tessellate and duller. The true male of *ignota* is apparently unknown; Colorado specimens recorded as *ignota*, including males, from Boulder, Golden, etc., I would classify as *crawfordi*, on account of the tessellate mesoscutum in the female, but I have seen a typical *ignota* female from Glenwood Springs, collected by Herbert E. Schwarz. The genitalia of *bishoppi*, *crawfordi* and *isopappi* are much alike but there are some differences which seem to be good.

MALE

Head not enlarged, somewhat wider than long and well rounded on sides and above. Cheeks rather narrow, simple, or with a very small inconspicuous tubercle anteriorly. Disk of clypeus somewhat broader than high, convex and well rounded above; lateral extensions distinct and rather broad at inner ends, but becoming much inflexed and very narrow toward mandibles. Lateral plates of face considerably wider below than at level of antennal sockets, and at level of the dog-ear plates occupying distinctly less than one-fourth the total width of face. Prominence between antennal sockets low, convex, not carinate medially but with a fine median impressed line, which reaches half way from a point opposite the middle of the antennal sockets to the anterior ocellus. Mandibles moderately long, tapering, simple and very acute at apex, but a little expanded on inner margin near middle and distinctly expanded at base on outer margin. Antennae short, the flagellum stout and clavate, its joints, except the last, all wider than long. Abdomen broadly ovate, broadest across the third segment, rather less than one-half longer than wide, convex above and with the apex hardly recurved. Membrane of wings with very fine, short, microscopic setae, which are denser in the apical field; stigma ordinary in width, about as long as first submarginal cell and emitting the radius at the middle; marginal cell somewhat shorter than stigma, almost squarely truncate at apex and with the sub-stigmatal part much longer than the poststigmatal part; second submarginal cell narrowed about one-half to the marginal, receiving the first recurrent vein a short distance from base and the second at apex; second recurrent and subdiscoidal veins obsolete. Claws cleft not quite to the middle, and with the inner tooth a little shorter than the outer.

Frons and face smooth and polished, the frons with a few widely separated, very fine but distinct punctures. Vertex finely but strongly tessellate and rather dull. Cheeks more delicately tessellate than vertex, somewhat shiny, indistinctly punctured, and smoother next to the eyes. Thorax throughout finely tessellate and rather shiny, the tessellation more delicate on disk of mesoscutum; mesoscutum and scutellum with sparse, very fine and not very distinct punctures. Abdomen microscopically tessellate and shining. Pubescence white, erect, moderately long and coarse, abundant but not dense, a little longer and denser on cheeks than elsewhere and conspicuous on face and mesonotum, where it is rather uniformly distributed.

Head and thorax dark bluish green, varying to a decided dark blue color. Mandibles, except clear red apices, labrum, clypeus, except the usual pair of dark dots, and lateral face marks creamy white. Lateral face marks restricted to a small spot at each side of clypeus and widely separated from eye margins. Thorax entirely dark, or sometimes the apex of tubercles are slightly whitish and sometimes two small transverse whitish marks occur on the posterior margin of pronotum. Abdomen uniformly dark brown to piceous, without pale markings but with the rather broad apical margin of tergites whitish hyaline and the last segment pale yellowish; venter similar to the tergum but with the hyaline margins less conspicuous. Legs piceous, but apex of femora, very narrowly on middle and hind pair, front tibiae except behind, base of middle and hind tibiae and all the tarsi very pale yellow or creamy white, the front tibiae being a little yellower and middle and hind tarsi whiter than the other parts. Labio-maxillary structure dark brown. Scape, pedicel and first two or three joints of flagellum creamy white beneath, the scape and pedicel otherwise brownish, and the flagellum brownish ferruginous, slightly darker above and paler beneath. Tegulae almost perfectly hyaline except a whitish spot at base. Wings milky hyaline; subcosta and margins of stigma slightly yellowish and the remainder of venation colorless.

Length about 3.0-3.5 mm.

FEMALE

Similar to the male in many respects. Head a little broader than long, gently rounded on sides and above. Clypeus convex, strongly projecting in front of ocular line, the upper margin of disk well rounded, the lateral extensions very strongly inflexed and not visible in frontal view of head. Prominence between antennal sockets rather high and rounded, the impressed median line reaching to anterior ocellus, but becoming finer above. Mandibles stouter than in the male, rather blunt at apex and with a small inner tooth. Abdomen rather broadly oval, widest across the third segment and not quite twice as long as wide; apex of pygidium moderately wide and slightly retuse. Wings as in the male except that the third discoidal cell is complete. Claws simple.

Sculpture similar to that of the male but more distinct, the frons and thorax being rather strongly tessellate and somewhat dull. Face below antennae smooth and shining. Cheeks delicately tessellate, rather shiny, and polished along orbits. Frons, mesonotum and mesopleura with fine, sparse, distinct punctures. Pubescence similar to that of the male, that on the mesonotum short, erect and conspicuous. Scopa of hind tibiae rather long and dense for a *Perdita* and carrying loose pollen; the hairs very finely plumose.

Head and thorax dark bluish green. Mandibles yellowish at base and dark red on the apical third. Labrum reddish brown. Clypeus, except usual dots, and lateral face marks creamy white. Lateral marks small, more or less circular, separated from the clypeus usually by a thin dark line and from the orbits by a much broader space. Two transverse marks on hind margin of pronotum, a similar mark at middle of anterior margin, and apex of tubercles creamy white; the tubercles, however, are sometimes entirely dark. Abdomen piceous, with apical margin of tergites 1 to 5 narrowly hyaline;

tergites 2 and 3 with a narrow basal white band, strongly interrupted in middle, not quite reaching to lateral margins on 2 and widely separated therefrom on 3; pygidium reddish; venter dark. Legs dark brown to piceous, with the front tibiae more or less anteriorly and all the tarsi yellowish white. Scape dark brown to piceous, with a whitish line beneath or white only at base; flagellum dark brown above and ferruginous to yellowish brown beneath. Labio-maxillary structure, tegulae and wings as in the male.

Length 4.0-4.5 mm.

Described from 3 females, 4 males (holotype male, allotype and paratypes) collected at flowers of *Isopappus divaricatus* (Nutt.) at Handley, Texas, Aug. 3, 1905 (J. C. Crawford); 1 female (paratype) collected at Willis, Texas, June, 1903 (Bridwell); and 1 female, 2 males (paratypes) collected at Dallas, Texas, Oct. 5, 1905 (F. C. Bishopp).

The types and most of the paratypes are deposited in the collection of the U. S. National Museum, the paratype from Willis, Texas, in the Bridwell collection and two paratypes from Handley, Texas, in the collection of the author.

13. *Perdita chrysopsina* n. sp.

Perdita halictoides Viereck, 1917, Bull. Amer. Mus. Nat. Hist. 37, p. 241 (not Smith).

The opportunity recently afforded me by Dr. Bradley to examine the *Perditae* in the Cornell University collection revealed two specimens from Coronado Beach, Florida, which agree perfectly with the original description of *P. halictoides* Smith and with Dr. Cockerell's notes on the type. Comparison of these specimens with the species determined as *halictoides* by Viereck shows that the latter is quite distinct although superficially very similar to the true *halictoides*. *Chrysopsina* has more or less extensive creamy white face marks, the clypeus polished and shining, the scape entirely piceous, claws simple, maxillary palpi six-jointed, etc. (*halictoides* has the face entirely dark, the clypeus distinctly tessellate, scape yellowish at base, claws with a small tooth beneath, maxillary palpi three-jointed, etc.). *Chrysopsina* in both sexes runs in Cockerell's table to *P. phymatae* Ckll., var. (couplet 51a) or to *P. californica* (Cress.) (couplet 53), but is not closely allied to either of those species. It belongs to the *ignota* group and differs from the closely allied *P. bishoppi* Ckll. by its larger size, darker green head and thorax, and by having the lateral face marks very small or absent, etc.

MALE

Head of ordinary size, distinctly broader than long, subquadrate, the margins of the occipital cavity sharply angled especially at sides. Cheeks broad, armed anteriorly with a strong laminate blunt tooth. Clypeus convex, the disk much broader than high, well rounded above, the lateral extensions strongly inflexed and not visible in frontal view of head. Lateral plates of face strongly widened below and at level of dog-ear plates each covering approximately one-fourth the total width of face. Prominence between antennae rather low, rounded, not carinate in middle, the median impressed line very fine, more obscure at middle of frons and reaching to anterior ocellus, near which it is more distinct. Mandibles long, simple, acute at apex, reaching when closed considerably beyond far margin of labrum, the base broad and abruptly contracted on outer margin about at the basal fourth, the inner margin with an arcuate expansion extending from basal fifth to a little beyond the middle. Antennae ordinary. Abdomen broadly oval or ovate, rather less than twice as long as wide, convex, the apex hardly incurved, the seventh tergite strongly narrowed to the obtuse or slightly acute apex. Membrane of wings with distinct but very fine short setae, which are denser in the apical field; stigma moderately broad, almost as long as first submarginal cell and emitting the radius at the middle; marginal cell about as long as stigma, somewhat obliquely truncate at apex and with the poststigmatal part a little shorter than the substigmatal part; second submarginal cell narrowed about one-half to marginal, receiving the first recurrent vein a short distance from base and the second recurrent at apex; second recurrent and subdiscoidal veins obsolete. Claws deeply cleft, the inner tooth slightly shorter than the outer.

Face below antennae smooth and with a few fine punctures; frons delicately tessellate, shining and rather sparsely and finely punctured; vertex strongly tessellate and rather dull; cheeks shining, yet rather more distinctly tessellate than the frons and sparsely and obscurely punctured. Thorax almost uniformly, finely and moderately strongly tessellate and moderately shining; mesoscutum with very sparse fine punctures, the scutellum almost impunctate, and the pleura sparsely and obscurely punctured. Abdomen with the usual microscopic tessellation. Pubescence moderately long, considerably shorter on disk of mesonotum than elsewhere, erect, whitish, rather uniformly distributed on face, cheeks, vertex, mesonotum and pleura, and moderately abundant and conspicuous.

Head and thorax very dark greenish blue, the thorax entirely dark. Mandibles, except red apices, labrum and clypeus testaceous yellow (perhaps creamy white in life), the clypeus with two large piceous spots on disk above or entirely pale. Lateral face marks absent or in the form of a small creamy white spot on inner anterior corner of lateral plates and adjacent to margin of clypeus. Abdomen very dark brown or piceous, the venter a little paler and shaded with testaceous yellow, especially toward the apex; apical margin of tergites narrowly hyaline but not conspicuously pale; seventh tergite reddish brown. Legs dark brown or piceous, the front tibiae anteriorly and all the tarsi testaceous yellow. Labio-maxillary structure piceous. Scape and pedicel piceous, the flagellum very dark brown above and ferruginous brown beneath. Tegulae testaceous hyaline. Wings

almost clear hyaline, the veins brown with subcosta and margins of stigma fuscous, the stigma otherwise pallid.

Length about 4.5-5.0 mm.

FEMALE

Head slightly wider than thorax, almost as long as wide (but excluding projecting clypeus distinctly wider than long), moderately rounded on sides and less rounded above. Cheeks narrow. Clypeus convex and rather strongly projecting in front of ocular line; disk considerably wider than long and rather well rounded above; lateral extensions of clypeus rather short and broad and so strongly inflexed that they are almost entirely concealed in frontal view of head. Dog-ear plates rather large and very pointed below. Lateral plates of face strongly widened below and at middle of dog-ear plates each covering somewhat less than one-fourth the total width of face. Prominence between antennae rather high and tectiform, the ridge reaching onto both the supraclypeal area and frons. Median impressed line of frons reaching from anterior ocellus to a point opposite the middle of antennal sockets. Mandibles moderately stout, rather strongly curved on apical half, somewhat laminately expanded on inner margin, simple and acute at apex and reaching when closed to far margin of labrum. Abdomen oval, about twice as long as wide, the tergum moderately convex; apex of pygidium rather narrowly truncate. Wings as in the male, except that the third discoidal cell is distinct; apical part of radius if continued in a straight line would intercept cubitus at apical third of first submarginal cell (but in *P. halictoides* it would intercept cubitus at apex of first submarginal cell). Claws simple.

Frons, vertex and thorax nearly uniformly and distinctly although finely tessellate and moderately dull, the tessellation continued on sides of face below antennae, but supraclypeal area, clypeus and lower end of lateral plates polished and shining. Cheeks rather more delicately tessellate than other parts. Punctures very sparse and shallow on clypeus and supraclypeal area, and numerous but well separated, fine and nearly uniform in distribution over entire frons and sides of face. Punctures of mesonotum also uniformly distributed but not quite so close as on frons; those of cheeks and pleura about as close as on frons but finer and more obscure. Abdomen moderately shining, microscopically lineolate and with extremely fine setiferous punctures on tergites 3 to 5. Pubescence whitish, moderately long and dense. Tergites 3 and 4 with sparse, very fine, short, appressed hair besides the usual longer hair on 5. Scopa of hind tibiae moderately long and dense, and with the longer straight hairs on outer surface somewhat plumose.

Head and thorax very dark, slightly bluish green. Supraclypeal area, more or less of clypeus and lower end of lateral plates of face shining piceous, with the more or less developed face marks, confined to clypeus and lateral marks, creamy white. Clypeus varying from almost all dark, with a small nubilous central pale streak, to almost entirely pale, and in intermediate condition having the anterior border and two submedian vittae piceous. Lateral face marks small, subquadrate, placed close to sides of clypeus and well separated from eye margins, or frequently absent. Mandibles and labrum usually piceous, the former with apices reddish; or, when

face marks are well developed, the labrum may be brown and the mandibles, except reddish apices, creamy white. Head otherwise and the thorax entirely dark, or the hind margin of pronotum sometimes with a thin white spot on each side. Abdomen piceous, without markings, the pygidium brown, and the subhyaline apical margin of tergites obscurely pale. Legs piceous or brownish piceous, the tarsi often browner and the front knees sometimes with an obscure yellowish spot. Labio-maxillary structure piceous, varying to brown in paler specimens. Antennae piceous with the flagellum somewhat brown above toward apex and reddish brown beneath. Tegulae testaceous with basal margin piceous. Wings hyaline, appearing somewhat milky in some aspects, the veins fuscous, with subcosta and margins of stigma a little darker, the stigma otherwise pallid.

Length about 4.5-5.5 mm.

Described from 2 females, 1 male (holotype male, allotype and paratype) collected Aug. 28, 1923, at flowers of *Chrysopsis mariana* (Linn.), Bryson City, North Carolina (Crawford); 1 female (paratype) at the same flower, Sept. 24, 1916, Hyattsville, Maryland (Viereck); and 5 females, 1 male (paratypes) collected Sept. 1902, at Griffin, Georgia (Bridwell). The types in collection of the author, and paratypes in the Bridwell collection.

14. *Perdita georgica* n. sp.

This species belongs to the *ignota* group and is closely related to *P. chrysopsina* Timb., but is quite distinct in many ways. The male with the abdomen dark runs in Cockerell's table to *P. trisignata* Ckll. (couplet 53), from which it differs by having the frons and vertex somewhat shiny and minutely punctured, the lateral face marks broader than high but sometimes with a more or less narrow and acute extension along the orbits to level of antennal sockets, etc. The male with the abdomen dark reddish brown might run (although the color is rather too dark) to *P. chamaesarachae* Ckll. (couplet 11). *Georgica* is closely allied to *P. mellina* Ckll. and *P. cambarella* Ckll., which also run to *chamaesarachae* in Cockerell's table, but the female is conspicuously different from the same sex of those species.

The female runs to *P. verbesinae*, var. *nigrrior* Ckll., (couplet 23), from which it differs by its smaller size, by having the veins dark brown and the head and thorax very dark green instead of brassy green. Females having three large, more or less confluent yellowish marks on anterior part of clypeus, run to couplet 53 containing *P. californica* (Cress.) and *P. trisignata* Ckll.

MALE

Head varying from ordinary in size to rather large, about as long as wide and strongly quadrate. Cheeks very broad but simple. Disk of clypeus somewhat broader than high and well rounded above; lateral extensions of clypeus very strongly inflexed at each side of labrum but less inflexed toward base of mandibles and only partially visible in frontal view of head. Lateral plates of face very strongly widened below and each at level of dog-ear plates covering about one-fourth the total width of face or covering almost one-third in large-headed specimens. Prominence between antennae low and convex; the frons with an extremely fine impressed median line reaching from the prominence to the anterior ocellus but nearly obsolete at the middle. Mandibles long, simple, very acute at apex, reaching considerably beyond far margin of labrum, gradually broadened at base and very slightly expanded on inner margin near middle. Antennae ordinary, the middle joints of flagellum as long as thick. Pleura of prothorax very deeply and broadly sulcate as in species of the *albipennis* group, and with the bottom of the sulcus acutely angled and not rounded as in *P. albipennis* Cress. Abdomen broadly ovate, convex, about one-half, or a little more, longer than wide, the apex hardly recurved; apex of seventh tergite moderately wide and rounded. Membrane of wings with very fine short setae which are denser in apical field; stigma moderately wide, almost as long as first submarginal cell and emitting radius at the middle; marginal cell nearly as long as stigma, somewhat obliquely truncate at apex and with the substigmatal part a little longer than the poststigmatal part; second submarginal cell narrowed about two-thirds, or even more, above, and receiving the first recurrent vein a short distance or rather remotely from base and the second recurrent at apex; sub-discoidal and second recurrent veins obsolete, or the second recurrent sometimes distinct but finer than the other veins. Claws cleft not quite to the middle and with the inner tooth a little shorter than the outer tooth.

Face and frons shining and with very fine sparse punctures which become more numerous but still widely separated on the frons of the large headed specimens; frons and lateral plates of face delicately tessellate. Vertex considerably more strongly tessellate than frons, moderately dull and with sparse fine punctures. Cheeks shining, delicately tessellate and with extremely fine sparse punctures. Thorax moderately shiny, distinctly but not very strongly tessellate all over, the tessellation a little coarser on base of propodeum, mesonotum and pleura finely and very sparsely punctured; disk of pronotum opaque and densely but microscopically punctured. Abdomen with the usual microscopic tessellation. Pubescence sparse, especially for a species of the *ignota* group, erect and whitish; longest on the vertex, pleura and legs; very short and thin on the cheeks especially in the large-headed specimens, and moderately long on face, frons and mesonotum; in specimen with largest head the pubescence is almost lacking on the frons, but it is perhaps denuded. Disk of pronotum with dense but extremely short fine hair.

Head and thorax very dark green, the propodeum and pleura very slightly bluish, the thorax entirely dark. Mandibles, except reddish apices, labrum, clypeus except broad posterior margin of disk, and large lateral face marks yellowish white. Lateral face marks either transverse and

not wider at outer ends where they reach to the orbital margin, or triangular, a little broader than high and reaching along orbits to level of antennal sockets, or sometimes the marks are abruptly and rather narrowly extended along the orbital margin. Cheeks entirely dark or with a yellowish white spot next to the orbits and base of mandibles, sometimes covering one-fourth the length of the posterior orbits. Abdomen either uniformly dark or reddish brown, the narrow hyaline margin of tergites not conspicuous, the last tergite and venter pale brown to testaceous yellow. Legs brown to piceous, the front and middle tibiae and all the tarsi testaceous yellow. Antennae brown, the flagellum ferruginous brown above and yellowish beneath, the scape dull yellow beneath. Labio-maxillary structure brown. Tegulae testaceous hyaline. Wings hyaline and slightly milky, the veins and stigma brownish yellow, with subcosta and margins of stigma darker.

Length 4.0-5.0 mm.

FEMALE

Similar to the male. Head a little wider than long, rather well rounded on sides and above. Cheeks ordinary. Clypeus prominent, convex, strongly projecting in front of ocular line, the disk about as high as wide, well rounded above, the lateral extensions broad at inner ends where they are strongly inflexed. Lateral plates of face strongly widened below and at level of dog-ear plates each covering about one-fourth the total width of face. Prominence between antennae low, subtectiform, with a fine impressed median line which reaches to the middle of frons and from there continued to anterior ocellus as a fine smooth line. Mandibles stouter than in male, rather long and reaching to far margin of labrum, acute at apex and with a narrow laminate expansion on inner margin, which is abruptly contracted to form a blunt inner tooth near apex. Propleura not deeply sulcate as in male but normal. Abdomen oval, about twice as long as wide, the pygidium broad and with a broadly rounded apex. Wings as in male, except that the third discoidal cell is complete. Claws simple.

Face including clypeus delicately tessellate and shining, with the pale part of lateral plates polished. Frons and vertex strongly tessellate and rather dull, the cheeks more shiny than the frons and less strongly tessellate. Frons, lateral plates of face and supraclypeal area with numerous very fine and well separated punctures, the clypeus with sparser, coarser punctures. Vertex and cheeks indistinctly punctured. Thorax nearly uniformly and strongly tessellate and rather dull, with abundant but well separated fine setiferous punctures, and the mesopleura with similar but indistinct punctures. Pubescence much denser than in male and quite normal for the *ignota* group, whitish on head and pleura and pale brownish or ochreous on mesonotum and legs. On mesonotum it is short, erect, rather coarse, abundant and conspicuous; on face and frons it is short and erect; on cheeks, vertex and pleura it is longer and erect. Tergites 3 and 4 with short, subappressed hairs scattered all over the disk, and tergite 5 with much longer, coarser, erect white hairs. Scopa rather dense and long, with the hairs briefly plumose.

Head and thorax very dark green or blue-green. Clypeus black or dark brown, the labrum piceous or reddish brown. Mandibles, except dark red apices, testaceous yellow. Lateral face marks and sometimes marks on

disk of clypeus creamy white. Lateral face marks transverse, rounded at inner end and with a more or less narrow and abrupt extension along the orbits to lower end of foveae above level of antennal sockets, so that the total height is greater than width although the main part is transverse. Clypeus usually entirely dark, but sometimes with a longitudinal oval spot on center of disk, or sometimes with two additional spots on each side anteriorly; these marks sometimes coalesced or separated by a pale brownish shade. Tubercles, a transverse spot on each side of hind margin of pronotum and a similar spot at middle of anterior margin of pronotum creamy white. Abdomen piceous, without markings, but the pygidium ferruginous and the venter more or less brownish. Legs piceous or dark brown, the tarsi paler; no distinct pale markings on legs, but the anterior margin of front tibiae is sometimes shaded with yellowish, especially toward the base. Labio-maxillary structure piceous or dark brown. Antennae piceous, the flagellum paler toward apex, the apical joint above and whole flagellum beneath, except first one or two joints, dull brownish yellow. Tegulae testaceous hyaline. Wings hyaline, rather faintly tinted with fuscous; veins brown, the subcosta and margins of stigma darker and center of stigma pallid.

Length about 5.0-5.5 mm.

Described from 7 females, 3 males (holotype male, allotype and paratypes) collected in September, 1902, at Griffin, Georgia (Bridwell); and 2 females (paratypes) collected Oct. 17-19, 1914, at De Funiak Springs, Florida (F. E. Watson and A. J. Mutchler). The types in the Bridwell collection at Honolulu, three paratypes in collection of the Citrus Experiment Station, Riverside, California, and the two Florida paratypes in collection of the American Museum.