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PROCEEDINGS
OF THE
ENTOMOLOGICAL SOCIETY
OF PHILADELPHIA.

ON THE HYMENOPTERA OF CUBA.

BY E. T. CRESSON.

(Communicated November 14, 1864.)

The materials used in the preparation of this paper are derived principally from the fine original collection of Prof. Felipe Poey of Havana, Cuba, procured and most generously presented by Dr. Thos. B. Wilson to the Entomological Society of Philadelphia; also from the uniques in the collection of Dr. John Gundlach of Cuba, who has kindly loaned them to me, and who possesses, probably, the most complete collections extant of all orders of Cuban Insects.

To Prof. Poey and Dr. Gundlach, I am greatly indebted for valuable notes upon the habits, &c., of many species.

Most of the Chalcididæ, the Proctotrupidæ and the Formicidæ, have been reserved for future papers, as the minute size of many of them require careful study, and specimens in good condition, before reliable descriptions can be made. The collection before me contains, of Chalcididæ and Proctotrupidæ about 80 species, and of Formicidæ about 90 species; of the latter many have been described by Roger and Mayr. Of the other families, including the larger Chalcididæ, over 300 species are enumerated below, of which number about 250 seem to be new.

Fam. TENTHREDINIDÆ.

Genus *LOPHYRUS*, Latr.

Lophyrus insularis, n. sp.

♂, black, wings hyaline, legs whitish; ♀, head, thorax and tip of abdomen ferruginous, dorsal segments of abdomen black, their sides and ventral segments whitish, wings subhyaline.

Male.—Shining black; the clypeus, mandibles and palpi, pale testaceous; antennæ black, shorter than the thorax, lanceolate, with 17 rays.

on each side and a simple terminal joint, the basal joint beneath testaceous. Wings hyaline, iridescent; nervures and base of stigma dusky, the former pale at base; posterior wings slightly dusky. Legs whitish, tarsal claws blackish. Abdomen ovate, depressed; the extreme apex, above and beneath, ferruginous. Length $3\frac{1}{4}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Female.—Robust, depressed, shining; head and thorax ferruginous; antennæ nearly as long as the thorax, black. Wings tinged with fuliginous, slightly iridescent; nervures black. Legs whitish; middle of femora, apical half of tibiæ and most of the tarsi, black. Abdomen broad, ovate, depressed; dorsal segments black, their sides whitish; the two apical segments ferruginous; ventral segments pale, varied on each side with blackish. Length $4\frac{1}{4}$ lines; expanse of wings $9\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. 3 ♂ and 3 ♀ specimens.

This species feeds on the leaves of the Pine. The cocoons are oblong-oval, of a pale cinnamon color; those of the ♀ being 5 lines long by $2\frac{1}{2}$ broad, those of the ♂ 4 by 2.

Fam. UROCERIDÆ.

Genus TREMEX, Jurine.

Tremex cubensis, n. sp.

Yellowish; mesothorax, scutellums, pleura, anterior portion of metathorax, femora, and several uneven bands on abdomen, brown or blackish; apical segment of abdomen dull ferruginous; wings deep yellowish-hyaline, dusky at tips.

Female.—Head roughly punctured, slightly pubescent, yellow, tips of mandibles black; antennæ yellow (broken off beyond the 3rd joint). Prothorax large, covered with small, brownish tubercles, yellow, somewhat shining, with a deep brown puncture on the middle, lateral anterior angles rounded and prominent; collar brownish; mesothorax small, flat, very densely and confluent punctured or finely scabrous, brown-black, with a light brownish stain; scutellum and side pieces sculptured and colored like the mesothorax; whole under surface of the thorax bronze-black, pubescent, densely punctured, shining; basal portion of the metathorax blackish-brown, margined posteriorly with light brown, posterior portion yellow, the dorsal suture blackish. Wings deep yellowish-hyaline, the apex dusky; nervures pale ferruginous. Legs bright yellow, flattened, especially the basal joint of the posterior tarsi, which is dilated, lobed at tip and as long as the femora and tibiæ together; femora rugose, bronze-black, their base and the coxæ tinged with rufous. Abdomen robust, velvety, pale yellowish, tinged with fulvous; basal segment, apical margins of the 2nd, 5th, 6th and 7th segments

more or less broadly black, that sinuate anteriorly, that on the 7th in the middle; apical margins dusky; apical segment large, disk above, the tip pointed and ovipositor not exerted, sheaths panse of wings 16 lines.

Collection.—Ent. Soc. Philad.

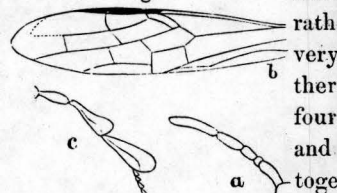
The neururation of the anterior that of the following, but the 2nd which the 2nd is one-third short and more quadrate than in that one long submarginal cell, as in vure being entirely obliterated. seem to be intermediate between of the wings differing from both

Tremex latitarsus, n. sp.

♂. Head, thorax and legs blue-black; hind legs broad and flat.

Male.—Head roughly punctured, pale yellowish pubescence, mucous vertex, posterior margin of the rufous; eyes oval and pale yellow.

Fig. 1.



cond, third and fourth together, what twisted on the inside, the cially at the incisures. Thorax

* Or possibly 6-jointed, as the ap has, exteriorly, a very faint indication there is no appearance what indication of a suture may be more being more than 5 joints, although *cerus gigas*, the two apical joints of t (Intr. II, p 114, note †.) It seems be only 5, or even 6, joints in the family Uroceridæ, limits the num

more or less broadly black, that on the 6th segment broad and strongly sinuate anteriorly, that on the 7th segment broadly and deeply indented in the middle; apical margins of the 3rd and 4th segments slightly dusky; apical segment large, dull ferruginous, broadly concave on the disk above, the tip pointed and rugose, and the extreme sides blackish; ovipositor not exerted, sheaths dull testaceous. Length 10 lines; expanse of wings 16 lines.

Collection.—Ent. Soc. Philad. One specimen.

The neurulation of the anterior wing of this fine species is similar to that of the following, but the right wing has two submarginal cells of which the 2nd is one-third shorter, and the 2nd discoidal cell is shorter and more quadrate than in that species; while the left wing has but one long submarginal cell, as in the typical *Tremex*, the dividing nervure being entirely obliterated. Both this and the following species seem to be intermediate between *Urocerus* and *Tremex*, the neurulation of the wings differing from both genera.

Tremex latitarsus, n. sp.

♂. Head, thorax and legs blue-black; abdomen ferruginous; wings fusco-hyaline; hind legs broad and flat.

Male.—Head roughly punctured, blue-black, clothed with an erect pale yellowish pubescence, much longer on the cheeks beneath; the vertex, posterior margin of the cheeks and the mouth, tinged with dull rufous; eyes oval and pale yellowish; antennæ a little longer than the

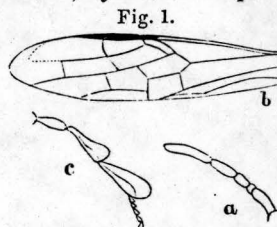


Fig. 1.

head, 5-jointed,* (Fig. 1, *a*) the first joint rather long and slightly curved, second joint very small, about as long as broad, third rather more than twice as long as the second, fourth joint about same length as the first and rather longer than the second and third together, the apical joint as long as the second, third and fourth together, very slightly curved and flat and somewhat twisted on the inside, the joints have a slight pubescence, especially at the incisures. Thorax thinly clothed with an erect pale

* Or possibly 6-jointed, as the apical joint, examined under a powerful lens, has, exteriorly, a very faint indication of a suture about the middle, but on the inside there is no appearance whatever of a suture; in other individuals, this indication of a suture may be more distinct, but I care not to be positive of there being more than 5 joints, although Westwood mentions that in the case of *Urocerus gigas*, the two apical joints of the antennæ are "closely soldered together." (*Intr. II*, p. 114, note †.) It seems very remarkable, however, that there should be only 5, or even 6, joints in the antennæ, as Westwood, speaking of the whole family Uroceridæ, limits the number of joints from 10 to 25 (*ibid.* p. 114).

except a large yellowish-white spot on the outside at tip; the posterior tibiae are black at base, with a black band on the middle, broader within, and sometimes indistinct on the outside; and the apical third of the posterior tarsi is black. Length 2—3 lines; expanse of wings $3\frac{1}{2}$ —5 lines.

Collection.—Ent. Soc. Philad. Four specimens.

One specimen in the collection of Dr. Gundlach, varies from the other four specimens by the tegulae, the four anterior legs, except their coxae and trochanters, the apical spot on the posterior femora, their tibiae except base, and their tarsi, all bright yellow, as in *robusta*.

Genus **PHASGONOPHORA**, Westw.

Phasgonophora insularis, n. sp.

Black; prothorax, scutellum and legs, rufous; wings hyaline, apical two-thirds stained with pale fuscous.

Female.—Head black, coarsely punctured, clothed with short, pale, glittering pubescence, and when viewed in front, the pubescence is more densely arranged in five longitudinal lines, viz: one between the insertion of the antennae, one on outside of the insertion of each antenna, and one on each inner orbit of the eyes; mouth dull piceous; antennae about as long as the thorax, dull black or piceous-black. Thorax deeply and coarsely punctured or rugose; prothorax gibbous, very coarsely punctured, rugose above, rufous, the anterior face depressed, transversely striated, blackish and clothed with pale glittering pubescence, as well as the posterior margin; mesothorax coarsely rugose, black, the posterior margin and the sutures between the middle and lateral lobes, margined with dense, short, pale, glittering pubescence; pleura black, sometimes obscurely tinged with piceous, clothed with pale, glittering pubescence, and on each side a broad, deep, oblique, polished groove, with a few transverse striae about the middle; scutellum rather strongly produced behind, rufous, coarsely rugose, its tip obtusely emarginate; metathorax black, depressed above, with a few well defined longitudinal polished carinae on the disk, interlaced by several transverse ones; at the base, immediately beneath the scutellum, a transverse carina enclosing a narrow space which is beautifully crenulated or covered with short, well-defined carinae; on each side, just behind the posterior wings, a lateral, acute spine, beneath this spine the sides of the metathorax are densely and coarsely punctured, and covered with short, pale, glittering pubescence, as well as the sides of the upper surface; tegulae piceous, polished, margined without with obscure testaceous. Wings hyaline, the apical two-thirds stained with pale fus-

cous; the costal nerve and the stigma blackish-fuscous; in some specimens there is a faint iridescent reflection. Legs, including the coxae, rufous, slightly pubescent; posterior legs shaped as in *Smiera*, their femora with a large blackish stain on the outside near the base, their tibiae more or less varied with blackish, sometimes entirely piceous-black. Abdomen fusiform, black or piceous-black, smooth, shining, apex produced and attenuated; the sixth segment has a few large, deep punctures; the sheath of the ovipositor is nearly as long as the abdomen, slightly compressed, broad at base, and gradually tapering to a point at tip; the base on each side has a few scattering punctures, becoming very dense beneath, and on each side of the groove beneath, which receives the ovipositor, there is a row of deep punctures, continued to almost the tip; dorsal segments have a beautiful violet reflection in certain lights, more obvious in some specimens than in others, and in certain lights the disk is tinged with obscure rufous; sides of the segments clothed with short glittering pubescence, more sparse on the first and second segments; beneath, the segments are more or less tinged with rufous. Length, including sheath of ovipositor, $4\frac{1}{2}$ —5 lines; expanse of wings 6— $6\frac{1}{2}$ lines.

Male.—Resembles the female, except that the prothorax is obscurely rufous, the scutellum not so strongly produced and piceous, and the abdomen is almost entirely rufo-piceous, the apical margins of the apical segments are punctured, and their sides with a band of pale glittering pubescence at tip; the apical segment is obtuse and deeply punctured. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Collection.—Ent. Soc. Philad. Three ♀, one ♂, specimens.

Fam. **CHRYSIDIDÆ**.

Genus **ELAMPUS**, Spin.

Elampus viridis, n. sp.

Bright metallic green, the head and abdomen with a blue reflection; grossly punctured, the abdomen, except apex, smooth; scutellum armed behind with a broad, flattened, obtuse process; tarsi fulvous; wings subhyaline.

Male?—Head bright metallic green, with a deep bluish reflection, especially on the face, which is broadly excavated; the punctures deep and rather close, except in the excavation of the face which is finely rugulose; mandibles pubescent, fulvous, deep blue at base; antennae piceous, the basal joint blue-green. Thorax deeply and closely punctured, bright metallic green, the collar tinged with deep blue, the mesothorax tinged with golden; pleura, scutellum and metathorax much more closely punctured than the rest of the thorax; scutellum large,

armed behind with a long, broad, flattened and obtuse process; posterior angles of the metathorax strong and acute; tegulæ piceous, slightly tinged with green. Wings subhyaline, tinged with pale fuscous; nervures fuscous. Legs blue-green, the tarsi and the extreme tips of the tibiæ, fulvous. Abdomen short and broadly ovate, convex, bright metallic green with a beautiful deep blue reflection in certain lights, the two basal segments smooth and polished, minutely and sparsely punctured under a strong lens, the apical segments strongly but not closely punctured; basal segment slightly excavated on the middle; extreme apex of the abdomen truncate, the upper margins reflexed, the end somewhat circular and concave, rufo-piceous; beneath blue-green. Length 2 lines; expanse of wings $3\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad.

Genus **HOLOPYGA**, Dahlb.

Holopyga Dohrni, Dahlb.

Holopyga Dohrni, Dahlb. Hymen. Europ. ii, p. 48, pl. 3, fig. 56a.

Collection.—Ent. Soc. Philad. Two ♂ specimens.

Genus **HEDYCHRUM**, Latr.

Hedychrum vernale, n. sp.

Bright metallic green; disk of the mesothorax and of the abdomen blue; antennæ blackish; apical third of wings fuliginous.

Male.—Head bright metallic green, with a faint bluish tinge about the front, the excavation to receive the antennæ very minutely striated transversely, rest of the head deeply and very closely punctured; mandibles black, pubescent; antennæ black, the two basal joints green. Thorax metallic green, deeply and very closely punctured; disk of the mesothorax more coarsely punctured, tinged with blue; extreme sides deeply concave and finely striated, the posterior angles long, acute and divergent; tegulæ blue-green. Wings subhyaline, the apical third fuliginous, base of posterior wings hyaline; nervures black. Legs green, blackish in certain lights, slightly pubescent. Abdomen short and broad, subconvex, deeply and closely punctured, more sparse and less deep on the disk; green, with a deep blue reflection, the dorsal surface deep blue; apical margin of third segment faintly sinuate, pubescent; venter concave, bright metallic green, the basal margins of the segments more or less black. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Collection.—Ent. Soc. Philad. One specimen.

Hedychrum cyaniventris, n. sp.

Head and thorax green; mesothorax and abdomen dark blue; antennæ black; wings fusco-hyaline.

Male.—Head metallic green, with a bluish reflection on the front,

deeply and very closely punctured, more finely below the front; mandibles fuscous, green at base, pubescent; antennæ blackish, the basal joint blue-green. Thorax deeply and closely punctured, green, pubescent, the mesothorax with a strong deep blue reflection; metathorax rugose, deeply concave on each side beneath the posterior angles, which are rather short, acute and divergent; tegulæ green. Wings uniformly pale fuscous, the posterior wings hyaline at base; nervures fuscous. Legs green with a strong deep blue reflection, pubescent, the tarsi and the posterior femora blackish in certain lights. Abdomen short and broad, convex, slightly pubescent, deep brilliant blue, with a beautiful purple reflection especially on the disk of the second segment; punctures deep and close, less deep on the disk of the second segment; third segment slightly tinged with green, the apical margin slightly undulate; venter concave, polished, brilliant blue-green. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Collection.—Ent. Soc. Philad. One specimen.

Genus **CHRYISIS**, Linn.

2. *Apical margin of third abdominal segment entire.*

Chrysis divergens, n. sp.

Metallic green: the mesothorax and abdomen, especially the second segment, blue; antennæ, except base, black; third segment of abdomen with a deep transverse excavated line before the apical margin, interrupted on the middle; wings subhyaline.

Female.—Head green, tinged with blue on the front, deeply and very closely punctured, slightly pubescent; on the front a transverse, sinuate carina, from which proceeds two equidistant, abbreviated carinæ towards the ocelli; antennal cavity pubescent and minutely rugose; antennæ black, the two basal joints blue-green. Thorax deeply, coarsely and closely punctured, slightly pubescent, green, with a more or less deep blue reflection, especially on the mesothorax, which has two well impressed longitudinal lines on the disk; sides of the pectus deeply excavated, golden-green, as well as the pleura, which is more grossly punctured than the rest of the thorax; metathorax with the posterior angles stout, long, subacute and strongly divergent, the excavation on each side very deep and golden-green; tegulæ blue-green. Wings almost hyaline, with a very faint fuscous tinge; nervures blackish. Legs blue-green, slightly pubescent; tarsi blackish. Abdomen oblong, scarcely broader than the thorax, deeply and rather closely punctured, green, deep purplish-blue on the disk of the second segment and on the apex of the third segment, which has a deep, transverse, foveate excavation just before the apical margin, and interrupted on the middle by

an elevated ridge; apical margin entire; venter deeply concave, blue-green, polished. Length 3 lines; expanse of wings 5 lines.

Collection.—Dr. J. Gundlach. One specimen.

♀♀. *Apical margin of third abdominal segment armed with four teeth.*

***Chrysis oblonga*, n. sp.**

Elongate, green, abdomen deep blue; wings subhyaline; third abdominal segment with a transverse fold before the apex, and behind the fold a row of deep punctures, apical margin with four acute teeth.

Female.—Head grossly punctured, bright metallic green, slightly bluish on the vertex, across which there is a sharply defined carina which continues down the orbits, on each side of the face, to the base of the mandibles; the excavation behind the antennæ transversely striated; clypeus golden-green, depressed, the apical margin emarginate and coppery; cheeks carinate; mandibles long, acute, bronze-black, carinate and green at base; antennæ black, with a slight purplish-blue reflection, the two basal joints blue-green. Thorax elongate, narrowed in front, grossly punctured, slightly pubescent, bright metallic green; disk of mesothorax with two well impressed longitudinal lines, between which the surface is more or less blue; pleura golden-green; metathorax deep blue on the dorsal surface, the posterior angles large, divergent and acute; tegulae blue-green. Wings subhyaline, tinged with pale fuscous, especially towards the base, the nervures stout, very distinct and blackish. Legs blue-green, pubescent. Abdomen oblong, convex, deeply, uniformly and closely punctured, of a brilliant deep azure-blue, tinged with purple at base and greenish on the sides; third segment more sparsely punctured at base, with a large transverse fold on the apical third, behind which, on each side, there is a row of deep punctures; the apical margin armed with four teeth, one on each extreme side, and two, more approximate and acute, on the middle; venter deeply concave, brilliant blue-green, polished. Length 4—4½ lines; expanse of wings 6—7 lines.

Collection.—Ent. Soc. Philad. Two specimens.

Readily recognized by the narrow elongate form, and the brilliant deep azure-blue abdomen.

***Chrysis superba*, n. sp.**

Large, robust, bright metallic green; disk of mesothorax and the abdomen azure-blue, the latter very large and deeply tinged with purple at the base of the segments; wings subhyaline, with fulvous spots and lines in the cells.

Male.—Robust; head bright metallic green, faintly tinged with blue on the vertex across which there is a sharp carina, slightly pubescent, closely punctured; the excavation behind the antennæ finely punctured,

tinged with blue; mandibles blackish, golden-green at base; cheeks carinate; antennæ blackish, the two basal segments green. Thorax narrowed in front, broad behind, deeply and closely punctured, slightly pubescent, bright metallic green, the mesothorax more or less tinged with deep blue, especially on the disk between the two longitudinal impressed lines, where the color is of a deep purplish hue; scutellum more grossly punctured, with a bluish tinge; pleura and pectus golden-green, the latter deeply excavated on each side; metathorax with a deep bluish reflection, on each side of the middle a small, ovate, oblique excavation and with two deep, approximate punctures at their tip, posterior angles large, broad, flattened, subacute and sparsely punctured; tegulae blue-green. Wings almost hyaline, faintly tinged with fuscous, with fulvous spots or lines in the marginal, submarginal and discoidal cells; nervures and stigma stout and blackish. Legs bright metallic green, slightly tinged with blue, pubescent. Abdomen very large, broader than thorax, convex, deeply, closely and uniformly punctured, brilliant deep azure-blue, conspicuously purple on the dorsal base of the segments, especially of the second segment, and the sides slightly tinged with green; third segment with a slight transverse fold on the apical third, behind which there is a row of deep punctures; apical margin with four equidistant, rather long, acute teeth; venter concave, brilliant blue-green, highly polished. Length 5½ lines; expanse of wings 8 lines.

Collection.—Dr. J. Gundlach. One specimen.

A large, broad and superb species, with the colors of the abdomen remarkably brilliant.

***Chrysis purpuriventris*, n. sp.**

Blue-green; mesothorax and abdomen brilliant purple-blue; antennæ, except base, and the tarsi, blackish; wings fusco-hyaline.

Male.—Head green, strongly tinged with blue, roughly and deeply punctured; vertex with a sharply defined, transverse carina, which continues down the orbits on each side of the face, the excavation behind the antennæ finely and closely punctured or somewhat rugulose; mandibles, except base, blackish; antennæ blackish, the two basal joints green. Thorax not narrowed in front, deeply, coarsely and closely punctured, dark green more or less deeply tinged with blue, except the pectus and pleura which are bright green; mesothorax deep azure-blue, tinged with purple, with two tolerably distinct, longitudinal, impressed lines on the disk; scutellum and metathorax dark green, more or less tinged with blue, especially the latter, the posterior angles of which are

large, stout, divergent and subacute; tegulae green. Wings subhyaline, tinged with fuscous, especially towards the base, clearer at tips; nervures distinct and fuscous. Legs blue-green, the tarsi blackish. Abdomen rather longer than the head and thorax and slightly broader, deeply, closely and uniformly punctured, of a brilliant deep azure-blue, strongly tinged with purple; before the apex of the third segment a transverse row of deep punctures, the apical margin armed with four short, acute, equidistant teeth; venter concave, green at base, and purplish-blue towards the apex. Length $3\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Readily recognized by the brilliant purplish-blue abdomen.

???. *Apical margin of third abdominal segment armed with six teeth.*

Chrysis insularis, Guér.

Chrysis insularis, Guér. *Revue. Zool.* 1842, p. 148; LaSagra's *Hist. Cuba. Ins.* p. 755, pl. 18, fig. 5, 5a.

Collection.—Dr. J. Gundlach. One ♂ specimen.

It is impossible to say whether the specimen which I have placed under this name, or the one described below (*C. dubia*), is the true *insularis*, as both seem to answer to the descriptions given by Guérin. The specimen which I here consider as *insularis*, differs from the following species by the mesothorax being more bluish, and the punctures of the abdomen not so dense, while in *dubia* they become very fine and dense towards the apical margins of the segments, and the spaces between the punctures are distinctly punctured, thereby giving the abdomen a much rougher appearance than in *insularis*, although the interstices between the punctures of the latter are also punctured, but not so distinctly. The third segment of *dubia* is almost entirely green, while in *insularis* the apical margin only is green, and the six teeth on the apical margin in the latter species, are rather longer and more acute; otherwise there is scarcely any difference between the two species.

Chrysis dubia, n. sp.

Robust, green, dorsal surface of the second and third abdominal segments deep azure-blue; the face, pectus and pleura, golden-green; wings subhyaline.

Female.—Head broad, pubescent, green, faintly tinged with blue on the vertex across which, below the ocelli, there is a twice angular carina throwing upon each side towards the ocelli a short carina; the excavation behind the antennae finely rugulose and brilliant golden-green, the punctures of the vertex and occiput are dense and coarse; mandibles piceous, green at base; cheeks carinate; antennae blackish,

the long basal joint green, the second and third joints green above. Thorax very slightly narrowed in front; closely, uniformly and coarsely punctured, dark green above slightly tinged with bluish, the sides brighter green, the prothorax with a slight longitudinal impression on the disk; mesothorax slightly tinged with dark obscure blue, the disk with two well impressed longitudinal lines; metathorax azure-blue at the extreme tip, the posterior angles large, flattened, divergent, and acute at tip; tegulae bright green. Wings subhyaline, slightly tinged with fuscous especially towards the base, with a slight purple iridescence; nervures blackish. Legs green, pubescent, tarsi blackish. Abdomen broad and robust, densely and deeply punctured, the punctures becoming finer towards the sides and apex of the segments, and the interstices between the punctures finely but distinctly punctured; dorsal surface of the first and second segments brilliant azure-blue, shading into metallic green on the sides, and in certain lights the apical margins are slightly greenish; third segment less coarsely punctured, almost entirely bright metallic-green, tinged with blue at the base, more conspicuous in certain lights; before the apex of this segment there is a transverse row of deep punctures, the apical margin pubescent, with six short, acute, equidistant teeth, the lateral ones not so acute as the others; venter bright metallic green, polished. Length 5 lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Closely allied to *C. insularis*, but besides the differences enumerated above, the form is more robust, the excavation behind the antennae is bright golden-green, and the face about the insertion of the antennae is not densely pilose as in *insularis*; the second and third joints of the antennae are tinged with green, while in *insularis* they are entirely blackish. It may be easily distinguished by the much denser punctation of the abdomen, which in *insularis* has a smoother appearance.

Chrysis subviridis, n. sp.

Obscure green, brighter beneath; mesothorax obscure; abdomen deep blue, strongly tinged with purple, the apical margins and sides of the segments tinged with green; apical margin of third segment with six long acute teeth; wings fusco-hyaline.

Male.—Head obscure green, grossly punctured, slightly pubescent; a twice angular transverse carina on the front below the ocelli; the excavation behind the antennae finely rugose and bright metallic-green; sides of the face pilose; mandibles, except base, blackish, the long basal joint green. Thorax obscure green above, brighter on the sides and beneath, densely and coarsely punctured; mesothorax obscure dusky,

especially in front, the two impressed dorsal lines distinct; metathorax tinged with blue behind, the posterior angles large, acute, slightly divergent; tegulae green. Wings fusco-hyaline, paler at tips, with a faint purplish iridescence; nervures fuscous. Legs bright green, slightly pubescent, tarsi piceous. Abdomen as wide as the metathorax and rather longer than the head and thorax, convex, sides parallel; deeply and uniformly punctured, more dense on the sides and towards the apex; deep azure-blue, strongly tinged with purple towards the base of the segments, the base of the third segment entirely purple, the apex of the segments and on the sides more or less greenish; the purple base of the third segment finely and sparsely punctured, the remainder roughly punctured; before the apex a transverse row of deep punctures, the apical margin armed with six long, acute, equidistant teeth; venter deeply concave, polished blue-green. Length 4 lines; expanse of wings 6 lines.

Collection.—Dr. J. Gundlach. One specimen.

Chrysis consimilis, n. sp.

The description of *C. oblonga*, given above, will answer for this species, except that the mesothorax is purplish-blue, the wings have a beautiful purple iridescence, and the apex of the abdomen is armed with six teeth instead of four.

Collection.—Ent. Soc. Philad. One ♀ specimen.

Fam. MUTILLIDÆ.

Gen. MUTILLA, Linn.

Mutilla senex, Guér.

Mutilla senex, Guér. Icon. Règ. Anim. iii, p. 429, pl. 69, fig. 4; LaSagra's Hist. Cuba, Ins. p. 758.

Collection.—Ent. Soc. Philad. Three specimens.

Mutilla nigriceps, n. sp.

Rufous; head, antennae, base and apex of abdomen, black, the latter with a broad pale yellowish band before the tip.

Female.—Head black, clothed with dense black pubescence, that about the mouth, as well as the mandibles and palpi, piceous; antennae piceous, basal joint long and slightly curved, second small and subglobose, third three times as long as the second and widened at tip, the nine following joints subequal, each shorter than the third, slightly involute, compressed and widened in the middle and narrowed towards the tip, which is pointed. Thorax broader in front, rufous, covered with large, deep, rough, confluent punctures, and clothed with long, erect, ochraceous pubescence, that on the anterior margin black and rather dense;

on each side behind the middle two rather large, obtuse tubercles, the posterior ones placed on the lateral base of the metathorax, which is narrowed towards the tip, convex and gradually sloped behind, the sides abrupt and densely pubescent. Legs piceous-black, densely clothed with ochraceous pubescence, very long on the femora; the tibiae with a row of long acute black spines. Abdomen ovate, convex; first segment small, companulate, black, densely clothed with long and short ochraceous pubescence; second segment large, rufous, roughly and confluent punctured, the basal half above with a large black mark, densely clothed with black pubescence, with the posterior margin lobed on the middle, rest of the segment clothed with short ochraceous pubescence, and on the apical margin a band of dense ochraceous pubescence, sometimes with a transverse patch of black pubescence on each side of the middle; third segment densely clothed with ochraceous pubescence, with a slight mixture of black on the basal middle; remaining segments densely clothed with black pubescence. Length 6—7 lines.

Collection.—Ent. Soc. Philad. Three specimens.

Mutilla rubriceps, n. sp.

Dull rufous; thorax and three large spots on apex of second abdominal segment, black; apex of metathorax, legs, the first, sides of the second and all of the remaining segments of abdomen, densely clothed with ochraceous pubescence.

Female.—Head dull rufous, densely punctured, and clothed with pale ochraceous pubescence; mandibles, palpi and antennae piceous or rufo-piceous, the latter proportioned as in the preceding species. Thorax deeply and coarsely punctured, especially on the sides, convex above, deep black, clothed with short, dense, black pubescence; on each side before the middle a small, flattened tubercle, and behind the middle a large obtuse, rufous tubercle tipped with black; the pleura beneath and the metathorax behind densely clothed with a short, fine, appressed, pale ochraceous, sericeous pubescence. Legs piceous, densely clothed with pale ochraceous pubescence; tibiae with a row of stout, acute spines. Abdomen ovate, convex above; basal segment small, quadrate, punctured, clothed with dense, pale ochraceous, silky pubescence; second segment large, dull rufous, tinged with brown, densely, deeply and confluent punctured, clothed with ochraceous pubescence, especially on the extreme sides and on the sides of the apical margin where it is very dense and appressed; on the apical middle of this segment a large black spot, clothed with black pubescence, and on each extreme side another blackish spot, bordered behind with the ochraceous margin; remaining segments piceous or rufo-piceous, densely clothed,

especially at tip, with a short, appressed, pale ochraceous pubescence. Length 6 lines.

Collection.—Dr. J. Gundlach. One specimen.

Mutilla palliceps, n. sp.

Rufo-ferruginous; antennæ, legs and thorax above, brownish; head, apical margins of the first and second, and sides of the remaining segments of abdomen, ochraceous; abdomen with several black spots on the middle.

Female.—Head densely clothed with pale ochraceous pubescence; mouth and antennæ rufo-piceous, the latter blackish towards the tips. Thorax densely and roughly punctured, blackish-brown above, clothed with reddish pubescence, beneath and behind rufo-piceous, sides without distinct tubercles; pleura concave; metathorax subquadrate, scarcely narrowed behind, the posterior face rather abrupt, the lateral margins dentate. Legs rufo-piceous, clothed with ochraceous pubescence; the tibiæ with a row of long acute spines. Abdomen subovate, much narrowed towards the tip, convex above, closely punctured; basal segment small, somewhat companulate, black, with the posterior margin densely clothed with ochraceous pubescence, the base with a stout obtuse tubercle on each side; second segment large, rufo-ferruginous, thinly clothed with ochraceous pubescence, on the basal middle a subquadrate black patch, slightly margined on each side with ochraceous, the apical margin densely clothed with ochraceous pubescence, margined before with black, which is deeply crenulated behind, especially on the middle; remaining segments densely clothed with ochraceous pubescence, with a large patch of black pubescence on the disk of the third, fourth and fifth segments, largest on the third segment; beneath ferruginous, the apical margins of the segments fringed with ochraceous pubescence. Length $4\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

Mutilla Wilsoni, n. sp.

Black; head, prothorax, pleura, base of metathorax, base of second and the third and fourth segments of abdomen, clothed with silvery white pubescence; wings hyaline, the anterior pair with the apex and a median band, fuscous.

Male.—Deep shining black; head small, subglobose, rather densely clothed with silvery-cinereous pubescence; eyes small, rounded, prominent and olive-green; antennæ black. Thorax closely punctured, the prothorax broad and rather densely clothed with silvery-white pubescence, as well as the pleura; mesothorax deeply punctured, clothed with short black pubescence; scutellum clothed with long cinereous pubescence, with its anterior margin flattened, smooth and shining, and armed on each extreme side with a stout tooth, obtusely bifid or constricted

at tip; postscutellum silvery on the middle and sides; metathorax covered with numerous interlacing, well-defined carinæ, forming many small, irregular cells, the base is broadly clothed with appressed, silvery-white pubescence; tegulæ black, polished. Wings hyaline; the anterior pair with a median transverse band, and the apical fourth dark fuscous; nervures blackish; marginal cell short, truncate at tip; two complete submarginal cells, the second largest and receiving the first recurrent nervure near the base; posterior wings hyaline, slightly dusky at tips. Legs slender, black, clothed with whitish pubescence; apical spurs of the four posterior tibiæ long and whitish. Abdomen black, the first segment small, narrow at base and swollen at tip, roughly punctured, with a small tubercle on each side of the base and middle, apical margin densely clothed with silvery-white pubescence; second segment large, convex, shining black, finely punctured, clothed with black pubescence, the basal third with silvery-white pubescence; third and fourth segments densely clothed with silvery-white pubescence, the remaining segments with dense black pubescence. Length $4\frac{1}{2}$ lines; expanse of wings $8\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

It gives me pleasure to dedicate this elegant species to Dr. Thomas B. Wilson, to whom this Society is indebted for placing in its possession one of the finest collections of Cuban Hymenoptera extant.

Genus **METHOCA**, Latr.

Methoca Poeyi, Guér.

Methoca Poeyi, Guér., Icon. Règ. Anim. Ins. p. 430 ♂ ♀; LaSagra's Hist. Cuba. Ins. p. 758, pl. 18, fig. 8, ♂ ♀.

I have not seen any specimens of this insect, but Prof. Poey informs me that he collected, about twenty years since, both ♂ and ♀, and sent them to Mr. Guérin, who has described and figured them. Prof. Poey says: "I have seen the ♀ come out of a hole pierced in an earthy wall; the ♂ has taken the ♀ upon the margin of the hole; I have seen the coitus from the commencement to the end."

Fam. **SCOLIADÆ**.

Gen. **MYZINE**, Latr.

Myzine nitida, Smith.

Myzine nitida, Smith, Brit. Mus. Cat. Hym. iii, p. 77, ♂.

Collection.—Ent. Soc. Philad. Two ♂ specimens.

The three specimens before me answer exactly to Mr. Smith's description of *M. nitida* (from Jamaica), except that the abdomen is beautifully iridescent, and the length is $7\frac{1}{2}$ —8 lines, instead of 5—5½

lines. One specimen (Coll. Dr. Gundlach), is more robust than the other two, and the yellow markings are more strongly developed; otherwise there seems to be no difference.

Myzine albopicta, n. sp.

♂. Black; inner orbits, clypeus, mandibles, spot on each side of prothorax, its posterior margin, two spots on pleura, spot on postscutellum, spot on anterior and posterior coxæ, line on outside of four anterior tibiae, spot on posterior femora beneath, and spots or lines on the apical margins of abdominal segments, all whitish; wings hyaline, dusky at tips.

Male.—Black, clothed with a thin pale pubescence; head finely punctured; face prominent between the antennæ, with a short, deep, longitudinal groove on the middle, not reaching the ocelli; the clypeus, mandibles, except tips, and the narrow inner orbits, extending from the lower half of the sinus to the clypeus, whitish; palpi pale; antennæ longer than the head and thorax, thickened, dull black. Thorax shining black, minutely punctured; narrow posterior margin of the prothorax, and an elongate spot on each side anteriorly, white; mesothorax with two abbreviated, longitudinal, well impressed lines on the disk; pleura densely and finely punctured, an elongate, subcuneiform spot on each side anteriorly, and a rounded spot on each side posteriorly, white; scutellum entirely black, minutely punctured; postscutellum with a transverse, subquadrate white spot on its disk; metathorax rounded above and behind, densely and finely punctured; tegulæ shining black. Wings long and ample, hyaline, beautifully iridescent, slightly dusky at tips; nervures black. Legs black, more or less tinged with piceous; the anterior coxæ with a rounded white spot beneath, the middle coxal plates margined with whitish, and the posterior coxæ with a white spot above and a line beneath of the same color; the four anterior tibiae exteriorly, the whole of the anterior tarsi, and a spot or line on the posterior femora at tip beneath, white; tibial spurs also white; tips of all the tarsi tinged with ferruginous. Abdomen black, polished, with a faint bluish reflection and a few scattered punctures; a transverse spot on each side of the first segment at tip above, a very narrow, sinuous, more or less interrupted line on the apical margins of the second, third and fourth segments above, and a spot on each extreme side beneath, white; apical segment depressed above, deeply notched at tip, receiving the long, recurved, acute, apical tooth. Length 5 lines; expanse of wings 8 lines.

Collection.—Dr. J. Gundlach. One specimen.

Closely allied to *M. nitida*, but is smaller, differently marked, and the legs black instead of rufous.

Myzine lateralis, n. sp.

♀. Black; two spots above base of antennæ, spot beneath wings, postscutellum, and a spot on each side of the four basal segments of abdomen, deeply emarginate within, yellow; wings tinged with fuscous.

Female.—Black, shining, sparsely clothed with whitish hairs; head deeply and closely punctured between the ocelli and antennæ, feebly and very sparsely so on the cheeks and behind the ocelli; just above the insertion of each antenna, a yellowish spot; antennæ black, the basal joint clothed beneath with long pale hairs. Thorax shining; prothorax sparsely punctured, deeper on the sides, finer and closer on the disk, and on each side on the anterior margin an obscure dull ferruginous spot, sometimes obsolete; mesothorax very sparsely and feebly punctured, with two deep approximate striæ on each side opposite the tegulæ, and not reaching the anterior margin; on each side behind the outer stria a small yellowish or ferruginous spot, and on the disk between the two inner striæ a large ferruginous mark, deeply notched in front, and sometimes obsolete; extreme sides of the prothorax finely striated; pleura deeply punctured, with a large yellow spot on the anterior margin beneath the wings; scutellum with a few scattered punctures; postscutellum with a transverse yellow or ferruginous line; metathorax pruinose, on the verge of the truncation several transverse acute slightly undulating carinæ, and the sides finely, densely and somewhat obliquely striated; tegulæ piceous, edged with testaceous. Wings subhyaline, tinged with fuscous, especially the apical half; nervures testaceous. Legs shining, black, rather densely clothed with pale glittering hairs; tarsi rufo-piceous. Abdomen black, polished, very sparsely and feebly punctured; on each side of the apex of the four basal segments a large yellow spot deeply emarginate within, so that the yellow continues inwardly for a short distance along the apical margin in a narrow line slightly thickened at tip, the spot on each side of the basal segment is sublunular and not so deeply emarginate as those on the second and third segments, that on the second is largest, and that on the fourth segment smallest and sometimes reduced to a mere line; apical segment depressed, densely and finely rugose, pitted with deep punctures and clothed with brownish subdepressed hairs, the apical and lateral margins are broad and reflexed; beneath piceous, polished, the apical half of the segments deeply and closely punctured and clothed with pale pubescence. Length 8 lines; expanse of wings 12 lines.

Collection.—Ent. Soc. Philad. Two specimens.

Myzine striata, n. sp.

♀. Black; two spots above base of antennæ, two spots on prothorax, two spots on each side of pleura, spots on postscutellum, a large bifid mark on each side of metathorax, yellowish; abdomen marked much as in *lateralis*; metathorax deeply striated; wings subhyaline.

Female.—Black; clothed with pale glittering pubescence, longer and more dense on the under surface; head closely, deeply and uniformly punctured, the cheeks beneath clothed with long pubescence; immediately above the insertion of the antennæ are two confluent, yellowish-ferruginous spots; clypeus depressed, finely punctured; mandibles piceous, shining, fringed beneath with long yellowish pubescence; antennæ tinged with dull ferruginous, the basal joint black, shining and pubescent. Thorax dull black, finely and closely punctured; prothorax opaque, very finely punctured, interspersed with larger punctures, densely clothed with very short pale sericeous pubescence, on each side anteriorly a transverse, obscure yellowish mark or line, the extreme sides covered with fine longitudinal striæ; mesothorax depressed, shining, with deep scattered punctures, stained on the disk with obscure rufous, on each side of the disk two impressed lines, the inner one the deepest, and not reaching the anterior margin which is smooth and impunctured; scutellum opaque, closely punctured, the postscutellum with a transverse yellowish spot; pleura prominent laterally, closely and deeply, punctured densely clothed with short, pale, glittering pubescence, two large obscure yellowish spots on each side, one anteriorly and the other posteriorly; metathorax dull black, covered at extreme base, with deep transverse striæ or acute carinæ, the posterior face is abrupt, flattened and covered with finer striæ, diverging from the tip in a semicircular direction towards the sides; on each side a large obscure yellowish mark, deeply indented with black on the angulation. Legs piceous or piceous-black, shining, clothed with pale pubescence; tibial spurs white; the four posterior tibiæ densely covered on the outside with short spines. Abdomen shaped and marked as in *M. lateralis*, except that the mark on each side of the second segment above is larger, scarcely emarginate, and has just above it a small yellowish spot; beneath black, polished, and clothed with long pale pubescence. Length 7 lines; expanse of wings 10 lines.

Collection.—Dr. J. Gundlach. One specimen.

Very similar to *M. lateralis*, but is at once distinguished by the different sculpture of the metathorax.

Myzine apicalis, n. sp.

♂. Black; clypeus, mandibles, scape of antennæ beneath, collar, anterior margin of mesothorax and spot on its disk, two spots on pleura, lines on scutellums, lunate spot on each side of metathorax, legs and apical margins of abdominal segments, yellow or ferruginous; apex of abdomen and venter ferruginous; wings hyaline, slightly dusky at tips.

Male.—Black, shining, slightly iridescent, thinly clothed with pale pubescence; clypeus prominent, densely and finely punctured, ferruginous; labrum yellow; mandibles ferruginous at base, yellow in the middle and black or piceous at tips; narrow lower, inner and outer orbits obscure ferruginous; palpi pale; antennæ rufo-piceous, extreme apex fulvous, the basal joint beneath yellow. Thorax finely and closely punctured; line over the collar dilated on the sides, anterior margin of mesothorax, a spot on its disk, a large spot on the pleura anteriorly and another posteriorly, and a transverse curved line on the scutellum, ferruginous or yellowish-ferruginous; a transverse spot on postscutellum and a deeply emarginate spot on each side of the metathorax, yellow; tegulæ ferruginous margined within with yellow. Wings hyaline, glossy, slightly fuscous at tips; nervures testaceous. Legs ferruginous, the anterior tibiæ and all the tarsi, yellowish; posterior coxæ piceous, margined with yellowish-ferruginous. Abdomen black or piceous-black, shining; the five basal segments each with an apical yellow fascia more or less sinuate anteriorly, those on the third, fourth and fifth segments indented on each side anteriorly, the last one very narrow; two terminal segments ferruginous, the apical segment deeply notched at tip, receiving the long recurved apical tooth which is blackish towards the tip; beneath ferruginous, the basal segment black with two yellow spots on the middle, the four following segments with a lateral yellow spot, minute on the fifth segment. Length 5½ lines; expanse of wings 8½ lines.

Collection.—Ent. Soc. Philad. One specimen.

Genus **TIPHIA**, Fabr.**Tiphia argentipes**, n. sp.

Black, polished; sides of abdomen and the legs clothed with silvery pubescence; wings subhyaline.

Female.—Black, polished, thinly clothed with pale glittering pubescence; head covered with rather deep and close punctures; the face and cheeks with silvery-sericeous pubescence; mandibles black, polished, pubescent beneath; antennæ piceous, the scape black and pubescent. Thorax: prothorax deeply and rather densely punctured, its posterior margin smooth and polished, the lower half of the sides finely

striated; mesothorax with scattered deep punctures, and a short, deep, longitudinal stria on each side opposite the tegulae; scutellum margined behind by a row of deep punctures; metathorax with a few scattered feeble punctures, bounded on the sides and behind by an acute carina, the disk with three approximate carinae, the central one sometimes not reaching the posterior carina, lateral truncation polished, obliquely striated, posterior truncation finely rugose on the sides; tegulae black, smooth and polished. Wings subhyaline, slightly stained with fuscous; nervures fuscous. Legs black, shining, the tibiae and tarsi densely clothed with a glittering silvery pubescence. Abdomen black, polished; first and second segments with a few scattered punctures, more dense on the apical margin of the latter; third, fourth and fifth segments more closely and deeply punctured, the apical margins, especially on the sides, fringed with long, pale glittering pubescence; apical segment depressed, rugose and pubescent, the apical margins reflexed; beneath rather densely punctured, the apical margins fringed with pale glittering pubescence. Length 5—5½ lines; expanse of wings 7½—8 lines.

Male.—Resembles the female, but more slender and hairy; the punctures of the mesothorax and abdomen deeper and closer, especially towards the apex of the latter, and the wings are hyaline, with a slight fuscous tinge about the tip, especially in the marginal cell, which is, as usual, closed, and the stigma large and black. Length 4 lines; expanse of wings 6 lines.

Collection.—Ent. Soc. Philad. Two ♀, two ♂ specimens.

Genus *SCOLIA*, Fabr.

Scolia (Elis) atrata, Fabr.

Scolia atrata, Fabr., Ent. Syst. ii, p. 228; Syst. Piez. p. 239. Burm. Abh. Nat. Ges. Halle, i, p. 23.

Colpa atrata, St. Farg. Hym. iii, p. 535.

Scolia micans, Guér., Voy. Cog. Zool. ii, pt. 2, p. 251. Beauv. Ins. Afriq. et Amér. p. 258, pl. 10, fig. 3 ♀.

Collection.—Ent. Soc. Philad. Numerous ♂ and ♀ specimens.

Scolia (Elis) trifasciata, Fabr.

Tiphia trifasciata, Fabr., Ent. Syst. ii, p. 246 ♂; Syst. Piez. p. 235.

Scolia trifasciata, Klug, Weber & Mohr, Beitr. i, p. 32. Sauss. Ann. Soc. Ent. Fr. 3e sér. vi, p. 245.

Collection.—Ent. Soc. Philad. Seven ♀, eight ♂ specimens.

The females of this species vary much in size and markings. The normal variety is entirely black, except the large yellow or yellowish-ferruginous marks or bands on the three first dorsal segments of the abdomen, and the lateral transverse spot on each side of the second and

third ventral segments; of this variety I have before me five specimens, three of which are 10½ lines long, while the other two are 9 and 6½ lines long. Another specimen (7 lines long) varies in having a transverse yellow line on the postscutellum, and another on the apical margin of the fourth dorsal segment of the abdomen; the second and third ventral segments have each a broad apical yellow band, more or less interrupted on the middle; the prothorax has also an obscure yellowish spot on each side anteriorly. Another specimen (also 7 lines long), varies considerably from the others, and may possibly be a distinct species; it is not quite so robust; both the scutellum and postscutellum have a broad transverse yellow line, as in the males, while the bands on the three first dorsal segments of the abdomen are much narrower than in the other specimens, and instead of being broadly and deeply emarginate in the middle anteriorly, they are merely obtusely emarginate on each side; the apical margin of the fourth dorsal segment is narrowly yellowish, as is also those of the second and third ventral segments, but more widely interrupted in the middle than in the preceding species otherwise there seems to be no difference.

The males vary in length from 4½ to 8½ lines; all have four yellowish (mostly lemon-yellow) bands on the dorsal surface of the abdomen (segments 1—4), very much as in the males of *S. plumipes*, while the clypeus, anterior margin of the thorax, scutellum and postscutellum, and a line on all the femora and tibiae, are yellow in all the specimens before me.

Scolia (Elis) fulvohirta, n. sp.

Black, densely clothed with rufo-fulvous pubescence; tibiae and tarsi rufo-ferruginous; wings subhyaline, orange-yellow along the costa, with a dark cloud near the tip; ♀ with a large spot on each side of prothorax, and one on each side of the four basal segments of abdomen, dull yellow; ♂ with clypeus, two spots on scutellum, line on postscutellum, and apical margins of the three or four basal segments of abdomen yellowish, the apical segment above silvery.

Female.—Black; head shining, clothed with rather long rufo-fulvous pubescence, dense on the face and occiput; vertex smooth and polished, rest of the head with a few scattered punctures; mandibles piceous; antennae black. Thorax above densely clothed with rather long rufo-fulvous pubescence; collar with a pale yellowish spot on each side; prothorax grossly punctured, with a large yellow spot on each side; mesothorax grossly and closely punctured, a smooth shining space on the disk, divided in the middle by a broad punctured line; scutellum and postscutellum smooth and shining, with a few deep scattered punctures; pleura and metathorax densely clothed with long, pale, golden-

yellow pubescence, the lateral and posterior truncations of the latter shining, with a short, appressed, pale silky pubescence; tegulae rufo-ferruginous. Wings pale yellowish hyaline, with a beautiful violet iridescence, the costa broadly orange-yellow, with a dark fuscous cloud near the tips; nervures fuscous. Legs black; the coxae, trochanters and femora clothed beneath with long pale yellowish pubescence; apical margin of the femora, and the tibiae and tarsi entirely rufo-ferruginous, densely clothed with long rufo-fulvous pubescence, very long and bristly on the tarsi. Abdomen velvety-black, silvery-sericeous when viewed in certain lights, clothed with a thin, long, pale pubescence; on each side of the basal segment a large, transverse, apical, deep yellowish spot, almost meeting on the disk; second segment with a large, subtriangular, apical, deep yellow spot on each side, and the third segment with a transverse mark along the apical margin, slightly dilated at the tip; remaining segments shining black, deeply punctured towards the apex and densely fringed with rather long rufo-fulvous pubescence; apical segment depressed, rugose and densely clothed with short, appressed, rufo-fulvous pubescence; beneath shining, black, the second, third and fourth segments each with an apical yellowish band interrupted on the disk and densely fringed with long yellowish pubescence, the apical segments with rufo-fulvous pubescence. Length 10 lines; expanse of wings 16 lines.

Male.—Black, with a bluish iridescent reflection, clothed with a short golden-yellow pubescence, finely and closely punctured; the pubescence of the head long, dense on the face; clypeus and base of mandibles yellow, the former with a blackish spot or stain on the disk; antennae entirely dull black, longer than the head and thorax. Thorax: on each side of the prothorax a large yellow spot, connected by a transverse yellow line in front of the mesothorax; in one specimen the whole of the prothorax is yellowish; the mesothorax immaculate, except a small spot on each extreme side just behind the tegulae; scutellum smooth and polished, with two yellow spots near the base, sometimes confluent and forming a broad band, the postscutellum with a broad transverse yellow line; pleura and metathorax clothed with a dense fine silvery or golden-sericeous pile; tegulae ferruginous, with a yellow spot in front. Wings subhyaline, with a brilliant golden gloss, and slightly iridescent in certain lights, the costa is broadly tinged with yellowish-fuscous, becoming dusky near the tips; nervures fuscous. Legs slightly pubescent; coxae and trochanters black, silvery-sericeous beneath; femora also black, with a yellow line beneath; tibiae and

tarsi rufo-fulvous, with pubescence of the same color. Abdomen shining black, with a beautiful iridescent reflection, clothed with a deep yellowish pubescence, which becomes deep-fulvous at the apex, the punctures distinct and closer towards the tip; basal segment with a broad, apical, deep yellow band, sometimes occupying the apical half of the segment, and emarginate in front; second and third segments each with a narrow, apical, sinuate, deep yellow band, continued beneath and emarginate on the middle both above and beneath; in one specimen the bands are broader and somewhat similar to the markings on the female; apical margin of the fourth segment, and the remaining segments obscure rufo-fulvous; apical segment above silvery-sericeous; in one specimen the second ventral segment is almost entirely yellowish, and the apical margins of the remaining segments are obscure yellowish. Length $8\frac{1}{2}$ lines; expanse of wings $14\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Two ♀, two ♂ specimens.

Fam. POMPILIDÆ.

Genus POMPILUS, Fabr.

Sec. 1.—Wings mostly ferruginous or yellowish.

* Body black or blue.

Pompilus ignipennis, n. sp.

Black; abdomen tinged with blue; antennae orange-yellow; wings bright ferruginous, the apex more or less ferruginous; legs spinose.

Female.—Dull black, slightly tinged with bluish, clothed with scattering black pubescence; face and clypeus somewhat purplish in certain lights, the latter prominent; antennae orange-yellow, involute, the basal segment slightly dusky. Thorax dull black, with a slight blue or violet reflection; metathorax abruptly rounded behind, with coarse, deep, transverse striae, especially on the sides and behind, obsolete at the base, these striae are less distinct in the smaller specimens, the middle with a shallow longitudinal furrow. Wings bright ferruginous, more or less fuliginous at the base and apex. Legs black, tinged with bluish, all the tarsi spinose; the intermediate tibiae with a double row of short spines, the posterior pair serrate, also with a double row of short spines; the inner apical spine of the posterior tibiae densely ciliated near the base. Abdomen smooth, with a changeable obscure bluish, greenish and purplish reflection, the apex clothed with rather long fuscous pubescence. Length $6\frac{1}{2}$ —9 lines; expanse of wings 10—15 lines.

Male.—Resembles the female, but is much smaller and slenderer, the antennae longer and not involute, the wings more deeply and broadly fuliginous at tips, the legs slenderer and less spinose, and the metatho-

rax not transversely striated. In two of the smaller specimens the antennæ and most of the wings are pale yellowish, and the legs piceous. Length $3\frac{1}{2}$ —6 lines; expanse of wings $6\frac{1}{2}$ —10 lines.

Collection.—Ent. Soc. Philad. Three ♀, four ♂ specimens.

This seems to belong to the subgenus *Priocnemis*, Schiödte, and may possibly be identical with *P. flammipennis*, Smith.

** *Body fuscous or ferruginous.*

***Pompilus Gundlachii*, n. sp.**

Fusco-ferruginous; apical half of antennæ black, the basal half and the legs fulvous and spinose; wings deep yellowish, the apical margins fuliginous.

Female.—Fusco-ferruginous, strongly sericeous, thinly clothed with pale pubescence; the orbits and clypeus paler than the vertex; the clypeus large, broad, and truncate at tip; mandibles large, black at tips; antennæ not involute, the five basal joints fulvous, the remainder black, first joint short and robust, third joint very long. Thorax rounded in front; prothorax margined behind with yellow, broadly so on the middle; lateral margins of the mesothorax obscure yellowish; pleura with an obscure yellowish stain above the middle coxæ; scutellum slightly prominent; postscutellum yellow; metathorax strongly sericeous, yellow at extreme tip, short, its upper surface gently sloped to the tip; tegulæ deep yellowish. Wings large, deep yellowish-hyaline, the apical margins fuliginous. Legs fulvo-ferruginous, sericeous; anterior tarsi ciliated with long, slender spines, the intermediate and posterior tibiae and tarsi covered with rather long, scattered spines. Abdomen oblong-ovate, subdepressed, smooth, dull fusco-ferruginous, sericeous; a spot on each basal side of the second segment, and the basal half of the third segment narrower in the middle, obscure yellowish; apical segments thinly clothed with long, black pubescence. Length $9\frac{1}{2}$ lines; expanse of wings 16 lines.

Collection.—Dr. J. Gundlach. One specimen.

***Pompilus concinnus*, n. sp.**

Fusco-ferruginous, variegated with bright yellow; wings yellowish-hyaline, the costal two-thirds of the anterior pair fuscous; legs yellow and black, spinose.

Female.—Head bright yellow, minutely and beautifully sculptured, slightly pubescent, face flat; a spot on the vertex covering the ocelli, and extending each side in a narrow line to the summit of the eyes, two approximate, parallel lines on the middle of the front, from the ocelli to the base of the antennæ, and dilated in the middle, and most of the occiput, fuscous or blackish; clypeus broad, large, its anterior margin slightly sinuate, its basal middle with an elongate subquadrate

space margined with fuscous, this is sometimes obsolete; mandibles black at tips; antennæ bright yellow, involute, the second and third joints more or less fuscous. Thorax fuscous, sericeous; collar with a yellow spot on the disk and one on each side; prothorax broadly margined behind with bright yellow, and irregularly so on the lateral margins; mesothorax with two central longitudinal lines confluent behind, and forming a large quadrate spot; pleura fuscous and black, with two large yellow spots, the lower one the largest; scutellum fuscous, with a large bright yellow spot on each side, and its apical margin obscure ferruginous; postscutellum entirely bright yellow; metathorax short, gradually and gently sloped behind, fuscous, with a subtriangular, bright yellow spot on each extreme basal corner, and a large obscure, yellowish transverse mark occupies the apical half, the prominent apical margin bright yellow; tegulæ dull yellowish. Wings yellowish-hyaline, the costal two-thirds of the superior pair fuscous, sometimes yellowish-fuscous, darker at the tip, and slightly violaceous. Legs bright yellow. base of the middle coxæ, the hind coxæ except tips, the trochanters, base of the anterior femora, the four posterior femora except tips, and the apex of the posterior tibiae, black; all the tibiae and tarsi rather thickly spinose; incisures of the tarsal joints, and the claws, dusky; Abdomen fusco-ferruginous, sericeous, subdepressed; basal margins of the second, third and fourth segments, broader on the sides, yellowish, sometimes obscure; apex slightly pubescent. Length 7 lines; expanse of wings 13 lines.

Male.—Resembles the female, but much smaller, the antennæ porrect, thickened, compressed, subcrenulate beneath, fulvous, with the six apical joints black; the markings sometimes lemon-yellow; the two blackish frontal lines of the head are broader; the metathorax almost entirely yellowish; the wings subhyaline, not yellowish, the broad fuscous costal streak on the fore-wings very distinct, and extends down on the apical margins of both wings; the legs not so thickly spinose, the apical half of the posterior tibiae pale fuscous; and the bands on the abdomen more or less distinct. Length 4—5 lines; expanse of wings $8\frac{1}{2}$ —10 lines.

Collection.—Ent. Soc. Philad., and Dr. J. Gundlach. Two ♀, three ♂ specimens.

***Pompilus nubeculatus*, n. sp.**

Fusco-ferruginous; antennæ, except tips, legs, and tip of abdomen, fulvous; wings yellowish-hyaline, with the apex and a cloud between the middle and apex, fuscous; legs scarcely spinose, the posterior tibiae serrate.

Female.—Head ferruginous, the vertex and occiput fusco-ferrugi-

nous, clothed with long pale pubescence, as well as the cheeks; clypeus large, broad, truncate in front, clothed with appressed golden-yellow pubescence; mandibles blackish at tips; antennæ fulvous, involute, the five apical joints black. Thorax dull fusco-ferruginous, faintly tinged with obscure purple, with a thin, long, pale pubescence, more dense on the pleura and metathorax; prothorax dull ferruginous, and, as well as the mesothorax, clothed with dense, short yellowish pubescence; metathorax short, gently rounded behind, and covered, especially on each side behind, with dense hoary pile; tegulæ fulvous. Wings large, pale yellowish-hyaline, a slight cloud on the middle, the extreme apex, and a moderate sized cloud between the middle and apex, fuscous; nervures fuscous; posterior wings paler, with the apex faintly dusky. Legs fulvo-ferruginous, the coxæ darker, with a slight hoary pile; the intermediate tibiae with a double row of very short spines; the posterior pair serrate; tips of the tarsi dusky. Abdomen rather short, ovate, convex, smooth and shining, fusco-ferruginous, with an obscure purple reflection, the tip and beneath clothed with long pale pubescence, the apical segment above with dense appressed bright fulvous pubescence. Length $7\frac{1}{2}$ lines; expanse of wings $14\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Belongs to the subgenus *Priocnemis*.

Sec. 2.—*Wings hyaline or subhyaline.*

* *Body blue.*

***Pompilus bellus*, n. sp.**

Blue, shining; antennæ black; wings hyaline; wings neither spinose or serrated.

Female.—Entirely bright blue or violet-blue, slightly tinged with greenish on the thorax; clothed with a slight pale pubescence; face, clypeus and cheeks, clothed with pale sericeous pile; antennæ entirely black, involute. Thorax densely and minutely punctured, more distinct on the mesothorax; pleura and metathorax with a beautiful violet reflection in certain lights, the latter short, rather abruptly rounded behind, minutely sculptured at base, and rugose towards the tip, especially on each side; tegulæ black. Wings ample, hyaline, faintly tinged with fuliginous towards the apex; nervures black. Legs deep blue, more or less tinged with violet; tibiae and tarsi without spines or teeth. Abdomen rather short, ovate, convex, subpetiolated, polished, entirely bright blue. Length $4-4\frac{1}{2}$ lines; expanse of wings $7\frac{1}{2}-8\frac{1}{2}$ lines.

Male.—Resembles the female, but more slender and pubescent, and not so bright in color; the antennæ porrect, the legs more or less tinged with piceous, the wings clearer and iridescent, the abdomen slenderer

at base, obscure bluish, and the apical segment above with a large whitish spot. Length $3-3\frac{1}{2}$ lines; expanse of wings $6-6\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Two ♀, three ♂ specimens.

Prof. Poey informs me that this species makes its nest of earth, of a subtrefoil shape, under stones, and fills them flies. Belongs to the subgenus *Agenia* Schiödt.

** *Body fusco-ferruginous.*

***Pompilus uniformis*, n. sp.**

Fusco-ferruginous, antennæ darker at tips; metathorax abrupt and depressed behind; wings subhyaline; legs spinose.

Female.—Uniform pale fusco-ferruginous, covered with a very fine short, hoary-sericeous pile; face long and rather narrow; clypeus rather large, with its anterior margin obtusely emarginate in the middle; labrum large and distinct; mandibles large, acutely bifid and blackish at tips; antennæ long, subporrect, dull ferruginous, blackish towards the tips. Thorax: prothorax with a small excavation on each posterior corner, and the posterior lateral margins strongly sinuate; incisures of the pleura and metathorax black; scutellum prominent on the middle, depressed on each side; metathorax abrupt and depressed or somewhat excavated behind, with a slight central groove on the disk above, the basal incisure black; tegulæ ferruginous. Wings subhyaline, with a slight metallic gloss, the extreme tips dusky; nervures fuscous. Legs long, dull ferruginous; the tarsi spinose, the anterior pair ciliated beneath with a few long spines; the intermediate and posterior tibiae with a few short, scattered spines. Abdomen subsessile, convex, shining, the extreme base black, some of the remaining segments with an indistinct dark stain; apex slightly pubescent. Length 7 lines; expanse of wings 13 lines.

Male.—Rather paler in color than the female, with the antennæ shorter and thicker. Length $4\frac{1}{2}-6$ lines; expanse of wings $8\frac{1}{2}-10$ lines.

Collection.—Ent. Soc. Philad. One ♀, three ♂ specimens.

Easily recognized by the uniform dull ferruginous color and the subhyaline wings.

*** *Body ferruginous and black.*

***Pompilus macer*, n. sp.**

Black; basal half of abdomen ferruginous; wings subhyaline; legs without spines or teeth.

Male.—Slender, black, opaque, slightly pruinose; antennæ fuscous; thorax very minutely and closely punctured; metathorax gradually rounded behind, clothed with a fine hoary pile; tegulæ dull testaceous.

Wings subhyaline, tinged with pale fuscous, especially towards the tips, beautifully iridescent; nervures fuscous; second and third submarginal cells of equal size, subquadrate. Legs long and slender, piceous-black, clothed at base with a fine hoary pile; tibiae and tarsi without spines or teeth. Abdomen elongate, slender, shining, the basal half, except extreme base, ferruginous; remainder black. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Belongs to the subgenus *Agenia*.

Sec. 3.—*Wings hyaline, banded with fuscous.*

Pompilus pulchellus, n. sp.

Ferruginous; head, antennae and disk of metathorax black; wings hyaline, with two broad fusco-violaceous bands; legs slightly spinose, the posterior tibiae serrate.

Female.—Head black; the face, cheeks and clypeus covered with a dense whitish pile; face broad and flat; clypeus, mandibles and palpi, ferruginous; antennae nearly as long as the body, subporrect, slender, fuscous, ferruginous at base. Thorax ferruginous, covered with a very fine whitish-sericeous pile, dense and glittering on the metathorax; postscutellum and disk of metathorax blackish, the latter gradually rounded behind and somewhat silvery on the sides. Wings hyaline, with two broad fuscous bands on the anterior pair which have a beautiful purple reflection, the one nearest the tip the broadest; posterior wings hyaline, the tips faintly dusky; nervures fuscous. Legs moderate, entirely ferruginous; the intermediate tibiae with a few small spines, the posterior pair serrate. Abdomen ovate, convex, entirely ferruginous, smooth and shining; sides of the segments covered with a very fine silvery-white sericeous pubescence; the apical segments, as well as the venter, clothed with long pale pubescence. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

A beautiful little species, easily recognized by its handsomely ornated wings. It belongs to the subgenus *Priocnemis*.

Pompilus elegans, n. sp.

Ferruginous; head, antennae, legs and broad band near base of abdomen, blackish; metathorax, legs and base of apex of abdomen, densely covered with cinereous pile; wings whitish-hyaline, with a very large fuliginous spot near the tip, as well as a small spot at base and middle.

Female.—Head flat, wider than the thorax, black, with an obscure purplish-brown shade; face broad and short; antennae short, piceous-black, slightly involute. Thorax long and rather narrow, ferruginous;

prothorax large, rounded in front, with a black stain on the anterior margin; mesothorax smaller than the prothorax; pleura and metathorax covered with a dense fine cinereous pile, the latter abrupt on the sides and behind; tegulae pale ferruginous. Wings whitish-hyaline, the anterior pair with a large, broad fuliginous spot or band beyond the middle, also a small band on the transverso-medial nervure, and the extreme base, of the same color; posterior wings hyaline, slightly dusky at tips; nervures blackish, the stigma distinct. Legs piceous-black, covered with a very dense cinereous pile; the four posterior tibiae with a few short scattered spines, the tarsi slightly spinose; the inner spur of the posterior tibiae ciliated near the base. Abdomen elongate, sessile, convex, pointed at tip; basal segment, except the dorsal middle, a small spot on each side at the base of the second segment, extreme sides of the third, the apical margin of the fourth, and the whole of the remaining segments, as well as the venter, covered with a dense, short, appressed, cinereous pile, somewhat sericeous; disk of the first, the second, and the middle of the fourth segments, dark fuscous; the third and the basal margin of the fourth segments, ferruginous. Length 5 lines; expanse of wings 8 lines.

Collection.—Dr. J. Gundlach. One specimen.

Sec. 4.—*Wings more or less fuscous.*

* *Body ferruginous and black.*

Pompilus compressiventris, n. sp.

Long and narrow, ferruginous; antennae, sides of mesothorax, the whole of the thorax beneath, and the legs, black; wings fuscous; abdomen elongate, compressed beneath and at tip.

Female.—Head a little broader than the thorax, ferruginous, with most of the occiput and cheeks, a stain on the front, and the mandibles except tips, black; clypeus and labrum large, shining, the anterior margin of the former slightly and obtusely emarginate; palpi pale ferruginous; antennae longer than the head and thorax, slightly involute, blackish-fuscous. Thorax long and narrow, ferruginous above, blackish-fuscous on the sides and beneath; sides of the mesothorax broadly dark fuscous; metathorax long and compressed, ferruginous above, with a slight longitudinal channel down the middle, the extreme apex abrupt; tegulae dull ferruginous. Wings uniformly fuscous, with a strong brassy reflection; nervures fuscous; third submarginal cell nearly one-half longer than the second, truncate at tip and suddenly narrowed towards the marginal. Legs entirely blackish-fuscous, long and stout, the coxae large and robust; tibiae and tarsi very slightly spinose, the

tibial spurs long and acute, especially the innermost one. Abdomen sessile, smooth and somewhat shining, convex above, compressed beneath, especially so at tip, which is somewhat edged; entirely ferruginous, with a slight pale sericeous reflection. Length 7 lines; expanse of wings 11 lines.

Collection.—Dr. J. Gundlach. One specimen.

Easily recognized by the elongate, narrow form, and the compressed venter and apex of abdomen.

***Pompilus coruscus*, Smith.**

Pompilus coruscus, Smith, Brit. Mus. Cat. Hym. iii, p. 156.

Collection.—Ent. Soc. Philad. Three specimens.

One specimen (6½ lines long) agrees with Mr. Smith's description, and has the third submarginal cell petiolated. The other two specimens (5—5½ lines) varies by the prothorax being mostly bright ferruginous, the third submarginal cell triangular or nearly so, and the two apical segments of the abdomen entirely fuscous. Should this variety prove to be a distinct species, it may be named *insignis*.

***Pompilus juxtus*, n. sp.**

Black; three basal segments of abdomen ferruginous; wings fusco-hyaline; legs spinose.

Female.—Black, with an obscure fusco-sericeous reflection; lower part of face and the clypeus with a slight cinereous pile; antennæ black, involute. Thorax slightly narrowed about the middle, dull black; metathorax rounded behind. Wings fusco-hyaline, darker at tips, with a faint opaline reflection; third submarginal cell triangular. Legs black; the four posterior tibiæ and tarsi spinose. Abdomen convex, pointed at tip, the three basal segments ferruginous, except the extreme base of the first and the apical margin of the third, which, as well as the apical segments, are black. Length 4½ lines; expanse of wings 7½ lines.

Collection.—Ent. Soc. Philad. One specimen.

Closely resembles *P. coruscus* Smith, and may be a variety of it.

***Pompilus terminatus*, n. sp.**

Black; three basal segments of abdomen ferruginous; wings fuscous; legs not spinose, the posterior tibiæ serrate.

Female.—Deep black, opaque; mandibles and antennæ piceous, the latter long and slightly involute. Thorax narrow; metathorax rounded behind. Wings fuscous, slightly iridescent, the third submarginal cell large, subquadrate. Legs piceous, the posterior tibiæ serrate. Abdo-

men ovate, convex, bright ferruginous, the three apical segments blackish-fuscous. Length 3½ lines; expanse of wings 5 lines.

Collection.—Ent. Soc. Philad. One specimen.

Belongs to the subgenus *Priocnemis*.

***Pompilus subargenteus*, n. sp.**

Black; covered with a silvery-sericeous pile; posterior margin of prothorax whitish; wings fuscous, third submarginal cell petiolated; abdomen with a broad ferruginous band near the base; legs spinose.

Male.—Deep black, opaque, covered with a fine silvery-sericeous pile, more distinct in certain lights, especially on the face and posterior margin of the metathorax; antennæ porrect, thickened; posterior margin of the prothorax narrowly obscure whitish; metathorax rounded behind; tegulæ piceous. Wings fuscous, darker at tips; nervures blackish; third submarginal cell subpetiolated or triangular. Legs black, with a fusco-sericeous reflection; the coxæ silvery-sericeous; the four posterior tibiæ and tarsi spinose, the inner tibial spurs very long. Abdomen elongate, narrow, sessile, subconvex; apical margin of the first, the second entirely and the basal half of the third segment bright ferruginous; apical segment silvery. Length 4½ lines; expanse of wings 7 lines.

Collection.—Dr. J. Gundlach. One specimen.

***Pompilus violaceipes*, n. sp.**

Black; thorax and abdomen above ferruginous, the latter strongly tinged with beautiful violet; legs deep violet, very slightly spinose; wings fuscous, the anterior pair with a strong brassy gloss, the tip violet; posterior pair subhyaline.

Female.—Head rather large, opaque black, the clypeus broad and large, faintly tinged with purple; antennæ black, involute. Thorax black; disk of prothorax ferruginous, the sides black tinged with violet; mesothorax with its middle obscure ferruginous, black on each side; scutellums dull ferruginous; pleura entirely opaque black; metathorax subelongate, gradually rounded behind, covered with a beautiful silvery-sericeous pile, the dorsal middle broadly ferruginous, the sides opaque black, with a few ill-defined transverse striæ; tegulæ black. Wings long, uniformly fuscous, with a very strong brassy gloss, the tips violaceous; nervures black; third submarginal cell half again as large as the second; posterior pair subhyaline, iridescent, clear at base. Legs long, black, with a beautiful deep violet reflection, very slightly spinose; inner spur of the posterior tibiæ ciliated above near the base. Abdomen subpetiolated, convex, subovate, ferruginous above, with a strong and beautiful violet or purple reflection, less obvious at base, deeper

and stronger towards the tip; venter black-violaceous. Length $5\frac{1}{2}$ lines; expanse of wings 11 lines.

Collection.—Ent. Soc. Philad. One specimen.

This elegant species belongs to the subgenus *Agena*.

Sec. 5.—*Wings blackish-violaceous*.

***Pompilus purpuripennis*, n. sp.**

Deep blue; wings deep violaceous-purple; metathorax abrupt behind, deeply grooved down the middle, roughly and transversely striated; legs slightly spinose.

Female.—Black, with a strong, beautiful deep blue reflection, and in certain lights shaded with deep purple; antennæ short and black, slightly involute; prothorax larger than the mesothorax, rounded in front; metathorax rough, abruptly truncate and excavated behind, with a deep central longitudinal channel, wider behind, and on each side of it the surface is deeply, roughly and transversely striated, on the verge of the lateral truncation there is a longitudinal fold over which the transverse striæ run. Wings ample, dark fuscous, with a very strong violaceous-purple reflection; nervures thick and black, the third submarginal cell rather smaller than the second, both cells receiving the recurrent nervures about the middle. Legs bluish-purple; the four posterior tibiæ with a few short scattered spines, the tibiæ more thickly spinose. Abdomen subsessile, narrower than the thorax, pointed at tip, convex above, black, with a strong blue-purple reflection, the venter slightly greenish. Length 8 lines; expanse of wings 15 lines.

Collection.—Ent. Soc. Philad. One specimen.

This species or even *P. fulgidus*, described below, may be the *P. amethystinus* Fab., but it is impossible to say that they are identical, unless by comparison with typical specimens.

***Pompilus anceps*, n. sp.**

Obscure greenish-blue; face silvery; wings violaceous; metathorax smooth and rounded behind; legs spinose.

Male.—Black, with a greenish-blue sericeous shade; the face silvery-sericeous in certain lights; antennæ black, pale sericeous; metathorax smooth, rounded and tinged behind with obscure purplish. Wings ample, dark fuscous, with a strong violaceous reflection; nervures black; third submarginal cell subtriangular, very much narrowed towards the marginal. Legs black, strongly shaded with bluish-purple, the four posterior tibiæ and tarsi with a few scattered spines. Abdomen nearly sessile, subconvex, black, with a strong greenish-blue sericeous reflection; apex pubescent. Length 6— $6\frac{1}{2}$ lines; expanse of wings 11—12 lines.

Collection.—Ent. Soc. Philad. Two specimens.

May possibly be the male of *P. purpuripennis*, but the color is entirely different, being more of a greenish hue, the third submarginal cell of the anterior wings is larger and much more narrowed towards the marginal cell, and the legs are rather more strongly spinose. The metathorax is smooth and rounded behind.

***Pompilus fulgidus*, n. sp.**

Deep blue, the abdomen brilliant blue and purple; antennæ black; wings fuscous, the anterior pair with a purple reflection; legs slightly spinose.

Female.—Deep violet-blue; antennæ black, involute; the pro- and mesothorax and pleura with a faint tinge of green; metathorax smooth and rounded behind. Wings fuscous, the anterior pair with a rather strongly purple reflection; posterior pair paler; third submarginal cell subtriangular. Legs black, tinged with violet-blue; the four posterior tibiæ and tarsi slightly spinose. Abdomen subsessile, convex, polished, with a brilliant blue and violet reflection; apex pubescent. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Collection.—Ent. Soc. Philad. One specimen.

Easily recognized by the brilliant blue and violet polished abdomen.

***Pompilus orbitalis*, n. sp.**

Velvety-black; orbits and a central line down the front, golden; prothorax with a transverse ferruginous line; wings deep violet-blue; abdomen with the four dorsal segments mostly dull ferruginous; legs spinose.

Female.—Deep velvety-black; orbits, sides of clypeus, and a line down the middle of the front, bright golden; antennæ black, involute. Thorax: prothorax with a transverse, bright ferruginous line near the posterior margin, slightly interrupted on the middle, and gradually narrowed on each side; metathorax uneven, rather abrupt behind, with an obtuse prominence or tubercle on each side. Wings dark fuscous, with a very strong deep violet-blue reflection; nervures black; third submarginal cell somewhat semicircular, smaller than the second. Legs velvety-black, robust, beautifully sericeous; all the tibiæ and tarsi strongly spinose. Abdomen sessile, elongate, convex, shining black; the first four dorsal segments purplish-ferruginous, stained more or less on the middle and apex with fuscous, so that the ferruginous color forms a large ill-defined spot on each side of the segments; apical segments pubescent. Length 8 lines; expanse of wings 12 lines.

Collection.—Dr. J. Gundlach. One specimen.

Genus **PLANICEPS**, Latr.**Planiceps collaris**, n. sp.

Black; anterior and posterior margin of prothorax, and the abdomen, ferruginous; wings fusco-hyaline, the anterior pair with a strong golden reflection.

Female.—Brownish-black, opaque, sericeous; face broad and flat, the lower part slightly silvery-sericeous; antennæ short, black, slightly involute. Thorax somewhat flattened above; prothorax very large, with a transverse, subquadrate mark in front and the posterior margin entirely, bright ferruginous; metathorax rather large, abrupt behind, covered with a dense cinereo-sericeous pile. Wings fusco-hyaline, with a strong golden reflection, the posterior pair subhyaline, darker at tips; two submarginal cells, the second about one-half the length of the first, receiving the first recurrent nervure between the middle and base, the second recurrent nervure is received beyond the tip of the second submarginal cell. Legs brownish-sericeous, stout, the anterior femora very robust; tibiæ and tarsi spinose; tibial spurs very long. Abdomen subsessile, elongate, subcompressed, acuminate at the tip, entirely ferruginous. Length $5\frac{1}{2}$ lines; expanse of wings 7 lines.

Collection.—Ent. Soc. Philad. One specimen.

Genus **CEROPALES**, Latr.**Ceropales cubensis**, n. sp.

Black; face, orbits, posterior margin and a spot on each side of prothorax, spot on scutellum, postscutellum, and spots and bands on abdomen, yellowish; wings hyaline; legs ferruginous.

Female.—Black; the face, clypeus, cheeks, pleura, metathorax and legs, covered with a very fine silvery-sericeous pile; orbits, very broad in front, not reaching the vertex, face beneath the antennæ, a spot behind them, the clypeus and labrum, pale yellowish, more or less silvery; antennæ longer than the head and thorax, porrect, black, covered with a yellowish-sericeous pile; the two basal joints pale yellowish beneath, sometimes obscurely so. Thorax: prothorax with a spot on each side and its entire posterior margin, pale yellowish; mesothorax depressed behind, with a patch of close deep punctures on each side of the disk; pleura silvery; scutellum with a central pale yellowish spot, and the postscutellum with a transverse spot of the same color; metathorax short, abrupt behind, silvery on the sides and behind; tegulæ testaceous. Wings hyaline, slightly dusky at tips; nervures fuscous. Legs long, especially the posterior pair; ferruginous; the four anterior coxæ black, more or less yellowish beneath, silvery; posterior tarsi very long, fuscous. Abdomen stout, black; basal segment with a sublunate pale yellowish apical spot on each side; remaining segments each with an

apical pale yellowish fascia, very broad on each extreme side, deeply emarginate anteriorly on each side of the middle, and more or less dilated on the disk, that on the second segment interrupted on the disk, the lateral emarginations sometimes so deep as to interrupt the fascia into three spots. Length $3\frac{1}{2}$ —4 lines; expanse of wings $6\frac{1}{2}$ —8 lines.

Collection.—Dr. J. Gundlach. Two specimens.

Ceropales clypeatus, n. sp.

Black; most of clypeus, palpi, posterior margin of prothorax, and the tegulæ, yellowish-white; legs ferruginous; wings whitish-hyaline, with a pale fuscous cloud near the apex.

Female.—Black, opaque; face silvery in certain lights; clypeus yellowish-white, with a square black spot on the basal middle; palpi whitish; antennæ blackish, the basal joint beneath dull ferruginous. Thorax: posterior margin of the prothorax entirely yellowish-white; metathorax black, rather shining, rounded behind; tegulæ yellowish-white. Wings whitish-hyaline, slightly iridescent, with a small pale fuscous cloud covering the marginal and the second and third submarginal cells; nervures black. Legs long, especially the posterior pair, and including their coxæ, ferruginous, the posterior tarsi fuscous, tibial spurs white. Abdomen oblong-ovate, piceous-black, immaculate, the basal segment tinged with obscure ferruginous. Length 3 lines; expanse of wings 5 lines.

Collection.—Dr. J. Gundlach. One specimen.

Genus **PEPSIS**, Latr.Sec. 1.—*Wings mostly ferruginous.***Pepsis marginata**, Beauv.

Pepsis marginata, Beauv. Ins. Afriq. et Amér. p. 94, pl. 2. fig. 2 ♀, 3 ♂. St. Farg. et Serv. Ency. Méth. x, p. 64. St. Farg. Hym. iii, p. 470. Guér. LaSagra's Hist. Cuba, Ins. p. 761.

Collection.—Ent. Soc. Philad. Five ♀, three ♂ specimens.

The cocoon of this fine species is elongate-ovate, $2\frac{1}{2}$ inches long by $1\frac{1}{4}$ inch wide about the middle, gradually tapering at one end, constructed of a rather thin, hard, woody substance, of a yellowish-brown color, more or less mottled or stained with blackish. The imago makes its exit at the smallest end by means of a circular incision made about one-fourth from the tip, which forms a cap or lid, somewhat similar to that of the cocoons of certain minute Ichneumonidæ.

Sec. 2.—*Wings blackish, margined at tip with hyaline.***Pepsis ornata**, St. Farg.

Pepsis ornata, St. Farg. Hym. iii, p. 486. Guér. LaSagra's Hist. Cuba, Ins. p. 761.

Collection.—Ent. Soc. Philad. Four ♀, three ♂ specimens.

Sec. 3.—*Wings entirely blackish-violaceous.*

Pepsis ruficornis, Fabr.

Spheg ruficornis, Fabr. Ent. Syst. ii, p. 219.

Pepsis ruficornis, Fabr. Syst. Piez. p. 215. Beauv. Ins. Afriq. et Amér. p. 94, pl. 2, fig. 1. St. Farg. et Serv. Ency. Méth. x, p. 64. Dahlb. Hym. Europ. i, p. 119. St. Farg. Hym. iii, p. 480.

Collection.—Ent. Soc. Philad. Six ♀, seven ♂ specimens.

Sec. 4.—*Wings blackish, with a large ferruginous mark.*

Pepsis ignicornis, n. sp.

Black; abdomen with a purple-blue reflection; antennæ except extreme base, fulvo-ferruginous; wings blackish-violaceous, with a large, irregular ferruginous mark about the costal middle.

Male.—Deep black, slightly pubescent; clypeus, labrum and mandibles, shining black; antennæ two-thirds the length of the body, thickened, bright ferruginous, the two basal joints black. Thorax velvety-black, with a very faint bluish reflection in certain lights; metathorax narrow, elongate, transversely striated, especially towards the tip, the dorsal middle with a shallow longitudinal furrow. Wings large, uniformly dark fuscous, with a very strong violet reflection; near the costal middle a large, irregular, bright ferruginous stain; nervures black. Legs black, with a beautiful bluish reflection. Abdomen black, with a strong, beautiful purplish-blue reflection. Length $9\frac{1}{2}$ lines; expanse of wings 20 lines.

Collection.—Ent. Soc. Philad. One specimen.

Closely allied to *P. ruficornis*, but is readily distinguished from that species by the bright ferruginous stain on the anterior wings. It may, however, be only a variety.

Fam. SPHEGIDÆ.

Genus **AMMOPHILA**, Kirby.

Ammophila apicalis, Guér.

Ammophila apicalis, Guér. Icon. Reg. Anim. iii, p. 435, pl. 70, fig. 3; LaSagra's Hist. Cuba, Ins. p. 763.

Collection.—Ent. Soc. Philad. Six specimens.

Genus **PELOPÆUS**, Latr.

Pelopæus cementarius, Drury.

Spheg cementaria, Drury, Ins. i, p. 105, pl. 44, fig. 6—8.

Spheg flavipunctata, Christ. Hymn. p. 301, pl. 30, fig. 1.

Spheg flavomaculata, DeGeer, Mém. Ins. iii, p. 588, pl. 30, fig. 4.

Spheg lunata, Fabr. Ent. Syst. ii, p. 203.

Pelopæus lunatus, Fabr. Syst. Piez. p. 203. Beauv. Ins. Afriq. et Amér. p. 50, pl. 7, fig. 4. Guér. Icon. Règ. Anim. p. 436, pl. 70, fig. 5; LaSagra's Hist. Cuba, Ins. p. 763. Dahlb. Hym. Europ. i, p. 23. St. Farg. et Serv. Encycl. Méth. x, p. 35. St. Farg. Hym. iii, p. 312.

Pelopæus cementarius, Smith, Brit. Mus. Cat. Hym. iv, p. 234.

Collection.—Ent. Soc. Philad. Twelve specimens.

Prof. Poey informs me that this species "makes its nest of moist earth, about twenty cells approximated and covered by a general layer. The ♀ deposits an egg in each cell, which she fills afterwards with spiders, after having pricked them with her sting. The effect of the wound is to paralyze the legs of the spider, which preserves, for about thirty days, its flexibility and its colors. The nest is made under roofs."

Pelopæus annulatus, Klug. MSS.

Black; face golden; base of antennæ, prothorax, tegulæ, spot beneath anterior wings, scutellums, spot behind posterior wings, large lunate mark at tip of metathorax, legs in part, the petiole beneath and the first segment of abdomen, yellow; rest of abdomen brownish, the apical margins of the segments testaceous; wings fusco-hyaline.

Female.—Head black, clothed with pale yellowish pubescence, more dense on the cheeks; the face and clypeus golden; antennæ black, the basal joint yellow, the two following joints more or less tinged with ferruginous. Thorax black, opaque, slightly pubescent; the prothorax, tegulæ, a large spot just beneath the anterior wings, the scutellum and postscutellum, a large, sublunular mark on the tip of the metathorax, and an elongate spot on each side at extreme base behind the posterior wings, yellowish; metathorax covered with dense, minute, transverse striæ, the dorsal middle prominent. Wings uniformly tinged with yellowish-fuscous, the nervures pale ferruginous. Legs black; the four anterior femora, except extreme base, their tibiæ and tarsi entirely, the posterior trochanters, their femora at base, the basal half of their tibiæ and tarsi, yellowish; apical half of their tarsi fuscous. Abdomen fuscous, the petiole black above, yellowish on the sides and beneath, the first segment entirely yellowish, except a pale fuscous stain at the base, apical margins of the remaining segments narrowly pale testaceous. Length $9\frac{1}{2}$ lines; expanse of wings 13 lines.

Male.—Colored like the female, except that the abdomen beyond the first segment, is fusco-ferruginous, with the apical margins of the segments faintly paler. Length 9 lines; expanse of wings 12 lines.

Collection.—Ent. Soc. Philad. One ♀, two ♂ specimens.

Very closely allied to *P. cementarius*, but is readily distinguished by the different coloration of the wings, legs and abdomen. The name adopted above for this species was communicated to me by Prof. Poey.

Pelopæus argentifrons, n. sp.

Black; face silvery; two spots on prothorax above, a spot beneath anterior wings, another behind posterior wings, scutellum, a small line on postscutellum, two spots at tip of metathorax, and posterior margin of first segment of abdomen, yellow; wings hyaline, dusky at tips.

Female.—Deep opaque black, the head and thorax clothed with a rather long whitish pubescence, more dense beneath; face and clypeus bright silvery, the latter emarginate at tip, the anterior margin depressed and shining; antennæ entirely black, subsericeous. Thorax closely and finely punctured, and when examined under a powerful lens, the surface is covered with fine irregular longitudinal striæ, interspersed with deep punctures, and the interstices densely and minutely punctured; two small transverse lines on the prothorax above, an elongate spot on each side of the pleura anteriorly connected with a small spot between it and the tegulæ, a large transverse spot on the scutellum, a narrow, nearly obsolete, transverse line on the postscutellum, a round spot on each side at the base of the metathorax, and two others at the extreme tip, all yellow; scutellum smooth and shining on the disk; metathorax covered with dense, minute, transverse striæ, and with a fine, dense, whitish, sericeous pile, glittering in certain lights, the dorsal middle is prominent, with a broad, longitudinal, central channel; tegulæ black, highly polished. Wings hyaline, the tip, as well as the costal half of the marginal cell, fuliginous; nervures black. Legs entirely black, covered with a very fine glittering pile. Abdomen shining black, the first segment with the apical margins obscure yellowish, dilated on the extreme sides, narrow and slightly interrupted on the dorsal middle. Length 10 lines; expanse of wings 15 lines.

Collection.—Ent. Soc. Philad. One specimen.

This may be the *P. assimilis* of Dahlbom, but his description is too meagre to decide.

Genus **PODIUM**, Fabr.**Podium fulvipes**, n. sp.

Black, opaque; mandibles, tegulæ and legs, fulvous; abdomen polished; wings hyaline, their apical fourth fuliginous.

Female.—Black, opaque or subopaque, thinly clothed with rather long, fine, pale pubescence; face slightly silvery; mandibles long, slender, acute, fulvous or rufo-fulvous, shining, the extreme tips blackish; palpi pale fulvous; antennæ rather slender, black or piceous-black. Thorax black, with a faint tinge of blue, and finely punctured; scutellum flat, shining; metathorax elongate, very densely punctured, with a deep, central, longitudinal furrow, which is covered, as well as the narrow basal and apical margins, with bright glittering pile; tegulæ

shining, fulvous. Wings hyaline, the apical fourth fuliginous, the nervures yellowish. Legs entirely fulvous, except their coxæ and trochanters, which are black; the tarsal tips are slightly dusky. Abdomen black, smooth and polished; the petiole about one-half as long as the rest of the abdomen, and clothed with long pale pubescence; first segment with a shallow excavation in front. Length $8\frac{1}{2}$ lines; expanse of wings 12 lines.

Collection.—Ent. Soc. Philad. Two specimens.

Genus **SPHEX**, Fabr.**Sphex Lanieri**, Guér.

Sphex Lanieri, Guér. Icon. Règ. Anim. iii, p. 433; LaSagra's Hist. Cuba, Ins. p. 760.

Sphex aurulenta, Guér. Icon. Règ. Anim. pl. 70, fig. 2.

Collection.—Ent. Soc. Philad. Six specimens.

Sphex aurifluus, Perty.

Sphex aurifluus, Perty, Del. An. Art. p. 142, pl. 27, fig. 19.

Sphex ornata, St. Farg. Hym. iii, p. 344.

Collection.—Ent. Soc. Philad. Fifteen specimens.

Genus **PRIONONYX**, Dahlb.**Priononyx Thomæ**, Fabr.

Sphex Thomæ, Fabr. Ent. Syst. ii, p. 199.

Pepsis Thomæ, Fabr. Syst. Piez. p. 209.

Priononyx Thomæ, Dahlb. Hym. Europ. i, p. 28.

Collection.—Ent. Soc. Philad. Eight specimens.

Fam. **LARRIDÆ**.Genus **LARRADA**, Smith.**Larrada fulviventris**, Guér.

Lyrops fulviventris, Guér. Icon. Règ. Anim. p. 440; LaSagra's Hist. Cuba, Ins. p. 766, pl. 18, fig. 9.

Larrada fulviventris, Smith, Brit. Mus. Cat. Hym. iv, p. 286.

Collection.—Ent. Soc. Philad. Six specimens.

Larrada ignipennis, Smith.

Larrada ignipennis, Smith, Brit. Mus. Cat. Hym. iv, p. 288.

Collection.—Ent. Soc. Philad. Two specimens.

The two specimens before me seem to answer to Mr. Smith's description of this species, except that instead of the basal three-fourths of the wings being "bright ferruginous," they are orange-yellow.

† **Larrada fuliginosa**, Dahlb.

Larra fuliginosa, Dahlb. Hym. Europ. i, pp. 138 and 472.

Larrada fuliginosa, Smith, Brit. Mus. Cat. Hym. iv, p. 288.

Opaque black; head clothed with a short, cinereous pubescence, very dense and somewhat silvery-sericeous on the face and cheeks; clypeus

shining, the apical margin slightly emarginate in the middle; palpi brownish; antennæ black, basal joint long. Thorax opaque black, very thinly clothed with short, cinereous pubescence, more dense on the metathorax, punctures not distinct; disk of mesothorax depressed; scutellum shining; metathorax opaque black, with a deep longitudinal central channel, a deep transverse striæ, much finer on the sides, the truncation depressed, irregularly striated; tegulæ polished. Wings fusco-hyaline, sometimes dark fuscous; in certain lights there is a beautiful opaline reflection, a more or less deep purple or violaceous gloss. Legs black, with a fine, sparse, cinereous pile; the tibiæ and tarsi spinose. Abdomen black, somewhat silky, the apical margins of the three basal segments silvery-sericeous, obsolete when viewed from the front, and more or less brilliant when viewed from behind; apical segment brownish, depressed, and covered above with minute, subdepressed spines. Length $6\frac{1}{2}$ —8 lines; expanse of wings $11\frac{1}{2}$ —14 lines.

Collection.—Ent. Soc. Philad. Three specimens.

Not being altogether certain of the identity of the specimen before me with Dahlbom's *fuliginosa*, I add a description; should they prove to be distinct, the species above may be called *Larrada Dahlbomi*.

Larrada trifasciata, Smith.

Larrada trifasciata, Smith, Brit. Mus. Cat. Hym. iv, p. 290.

Collection.—Ent. Soc. Philad. Three specimens.

Larrada vinulenta, n. sp.

Black; face, cheeks, collar, lateral margins of mesothorax, and apical margins of abdominal segments, silvery-sericeous; wings subhyaline, apex darker.

Opaque black; face, clypeus, base of mandibles and the cheeks, bright silvery; antennæ black, the scape silvery in front. Thorax not distinctly punctured, somewhat silky; mesothorax depressed on the middle, more or less silvery in certain lights; the collar, lateral margins of mesothorax, and the pleura, silvery; scutellum shining; metathorax opaque black, indistinctly striated, slightly silvery on the verge of the lateral truncation, and densely and brilliantly so on the posterior truncation; tegulæ and legs black, the latter more or less clothed with bright silvery pile. Wings subhyaline, the apical margins tinged with fuscous; nervures fuscous. Abdomen short, ovate, black, silky, the apical margins of the four or five basal segments, and the apical segment entirely, bright silvery-sericeous when viewed from behind, subobsolete when viewed from the front. Length $3\frac{1}{2}$ — $4\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ —7½ lines.

Collection.—Ent. Soc. Philad. Four specimens.

Closely resembles *L. trifasciata*, but is smaller and has more silvery bands on the abdomen.

Genus *TACHYTES*, Panz.

Tachytes cubensis, n. sp.

Blackish; face, cheeks, collar, margins of mesothorax, pleura, postscutellum, sides of metathorax and apical margins of first three abdominal segments, bright golden; tegulæ and legs fulvous; wings yellowish-hyaline.

Female.—Head black; vertex clothed with cinereous pubescence, the face, clypeus and cheeks with dense golden pubescence; palpi and mandibles fulvous, the latter with their apical half black, and their base golden; eyes large, approximate on the vertex; antennæ black, the basal joint clothed with yellowish pubescence. Thorax opaque brown-black; a line over the collar, broad lateral and posterior margins of the mesothorax, broader before the tegulæ, and sides of the pleura of dense golden pubescence, the front of the mesothorax is also more or less golden; scutellum blackish, the extreme sides golden, as well as the whole of the postscutellum; metathorax brown-black, opaque, clothed with a rather long whitish pubescence, and on each side a large longitudinal mark of dense, bright golden pubescence, just above the truncation a small central excavation, upper part of the truncation with a deep central impressed line; tegulæ fulvous. Wings ample, yellowish-hyaline, slightly dusky at extreme tips; nervures honey-yellow. Legs stout, fulvous, with a dense bright golden pile, more conspicuous on the tibiæ and tarsi, which are spinose; coxæ and trochanters brown-black, as well as the tarsal claws. Abdomen brown-black, with a fine changeable golden-sericeous pile; the three basal segments with a broad golden apical band, those on the second and third segments strongly emarginate before on the disk; basal segment clothed with whitish pubescence; apical segment narrow, flattened, carinated on each side, obtuse at tip, golden at base and ferruginous at tip. Length 8½ lines; expanse of wings 13½ lines.

Male.—Resembles the female, but is much smaller, more densely pubescent, darker in color, the wings clearer, the abdomen is blacker, making the three bands very distinct and brilliant, and the apical segment is bright silvery, truncate at tip and armed with a small obtuse tooth on each side of the tip. Length 5½ lines; expanse of wings 10 lines.

Collection.—Dr. J. Gundlach. Two specimens.

This may prove to be the *Tachytes 3-cincta* of Dahlbom, from St. Thomas, but the meagre description given of that species makes it uncertain, and I therefore describe it under another name. It cannot be

the *Liris 3-cincta* of Fabricius, as he describes the pubescence as being entirely "cinereous," and does not mention the bright golden pubescence which is very dense on certain parts, and also the brilliant golden reflections of the abdomen.

Tachytes insularis, n. sp.

Black; face, line over tegulae, pleura, sides of metathorax, legs, and apical margins of abdominal segments, silvery; wings hyaline; apex of abdomen ♀ fuscous, ♂ silvery.

Female.—Dull black, the head and thorax rather densely clothed with cinereous pubescence; face, clypeus, base of mandibles and the cheeks, clothed with dense, bright silvery pubescence; antennae black, the scape silvery in front. Thorax very minutely and closely punctured; a line over the collar, another over the tegulae, most of the pleura, and each side of the metathorax behind, clothed with bright silvery pubescence; metathorax clothed with long cinereous pubescence, the truncation deeply channelled down the middle; tegulae dull fulvous. Wings very faintly tinged with fuscous; nervures blackish. Legs black, clothed with bright silvery pile, especially the femora behind. Abdomen oblong-ovate, black, shining, slightly iridescent; the four basal segments each with an apical fascia of silvery-sericeous pubescence, interrupted on the disk; apical segment depressed, densely clothed with fuscous pubescence. Length 6 lines; expanse of wings 9 lines.

Male.—Resembles the female, with the last dorsal segment of the abdomen densely clothed with bright silvery pubescence, and the wings pure hyaline. Length 4—4½ lines; expanse of wings 6—7 lines.

Collection.—Ent. Soc. Philad. One ♀, three ♂ specimens.

Genus **ASTATA**, Latr.

Astata insularis, n. sp.

Black, shining; abdomen rufous, black at tip; wings fusco-hyaline, with a violaceous reflection; metathorax covered with dense oblique striae.

Female.—Black, shining; clothed with cinereous pubescence, longer, dense and glittering on the face, cheeks and pleura; head shining, finely punctured; antennae and mandibles black; palpi piceous. Thorax feebly punctured, polished; pleura closely punctured and densely clothed with cinereous pubescence; scutellum sparsely punctured; metathorax densely covered with oblique striae, with a longitudinal central carina; tegulae piceous, shining. Wings fusco-hyaline, darker at tips, with a rather strong violaceous reflection; nervures black. Legs black, shining, pubescent; tibiae and tarsi thickly spinose exteriorly. Abdomen rufous, impunctured, smooth and polished, the three apical

segments more or less piceous or black. Length 5½ lines; expanse of wings 8½ lines.

Collection.—Dr. J. Gundlach. Two specimens.

Fam. **BEMBECIDÆ**.

Genus **BEMBEX**, Fabr.

Bembex argentifrons, n. sp.

Black; face bright silvery; clypeus, labrum, mandibles, collar, tegulae, tubercles, two spots on scutellum, postscutellum, curved line on disk and spot on each side of metathorax, most of legs, and broad indented bands on abdomen. yellowish; wings hyaline.

Female.—Black, clothed with a short, fine hoary pile, most dense on the head and thorax; face bright silvery in certain lights; clypeus, labrum, mandibles, and scape of antennae beneath, yellowish. Thorax pruinose, the collar and pleura silvery in certain lights; collar, two short lines on mesothorax, line over the tegulae, margins of pectus, tubercles, tegulae, a large mark on the pleura beneath the fore-wings, incised behind, a large quadrate spot on each side of the scutellum, postscutellum, a large transverse lunular mark on the posterior part of the metathorax, and a rather large spot on each side behind densely clothed with hoary pubescence, all yellow. Wings pure hyaline, nervures fuscous. Legs yellow, slightly hoary; the coxae, except a spot beneath, sometimes obsolete, trochanters, basal half or two-thirds of the femora, a line on the tibiae within, a short sinuate line on the anterior tibiae at tip exteriorly, and extreme tips of the tarsi, black; anterior tarsi broadly dilated, with a long fringe of stout blackish setae. Abdomen shining, slightly hoary at base, each segment with a very broad bright lemon-yellow apical band, more or less deeply and squarely emarginate before on each side of the middle, that on the basal segment deeply and squarely emarginate in the middle and sinuate on each side; beneath yellowish, the base black, and at the apex of each segment two black central spots, becoming larger and sometimes confluent towards the tip, last segment black at tip. Length 5½—6 lines; expanse of wings 8½—9½ lines.

Male.—Resembles the female, except that the markings are all bright lemon-yellow, the antennae entirely black, the two short lines on mesothorax obsolete, the mark beneath the fore-wings interrupted, the anterior tarsi not dilated, and the bands of the abdomen broader, covering nearly the whole surface, those on the three basal segments stained with dark green, and the second ventral segment has a strong, compressed, curved tooth on the middle. Length 5½ lines; expanse of wings 9 lines.

Collection.—Ent. Soc. Philad. Two ♀, one ♂, specimens.

Bembex armata, n. sp.

Black; face golden; clypeus, labrum, line over collar, tubercles, two short lines on mesothorax, line over tegulae, large spot on pleura, sides of scutellum, postscutellum, a curved line or two spots on metathorax, most of legs, and a band on each abdominal segment, all yellowish; wings hyaline; second ventral segment of ♂ with a long, acute, curved tooth.

Female.—Black, clothed with a short, fine hoary pile; the face, clypeus and cheeks bright silvery, the former somewhat tinged with golden towards the vertex; clypeus produced, dull ferruginous; labrum and mandibles yellowish, the former dull ferruginous at base and the latter black at tips; antennae black, the scape except its base behind, yellow. Thorax dull black, densely and finely punctured, clothed above with a very short golden pubescence; a line over the collar extending on each side and covering the tubercles, two short lines on the mesothorax, a line over the tegulae, a large mark on the pleura, tegulae, sides of the scutellum, postscutellum, a transverse arcuated line on the metathorax, as well as a spot on each side behind, yellow; the pleura and metathorax clothed with a fine bright silvery-sericeous pubescence, very dense on the posterior sides of the latter. Wings hyaline, nervures fuscous. Legs yellow; base of the coxae, trochanters, basal two-thirds of the femora, and the tibiae within, black; tarsi tinged with ferruginous, the anterior pair dilated and fringed with long dusky setae. Abdomen black, shining, the apical margins of all the segments broadly pale greenish-yellow, the anterior margins undulate and indented on the middle, that on the apical segment divided by a central black line; base of first segment silvery-sericeous; beneath, the apical margins of the segments are narrowly yellowish, with a large lateral pale yellowish spot. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Male.—Rather stouter than the female; the face bright golden; the clypeus and labrum bright yellow; the mandibles piceous, with an exterior basal streak of yellowish; the antennae entirely black, except the tips of the scape beneath, which are dull-yellowish; two small linear spots on each side of the pleura instead of a large mark; the line on the postscutellum interrupted in the middle, forming two oblique marks which are acuminate and pointed towards the disk, the yellow spots on each side behind are obsolete; the wings faintly tinged with fuscous; the bands of the abdomen are bright yellow, the apical segment black with a yellow spot on each side at tip; beneath, the second segment has a large, long, subcompressed, curved, acute, claw-like tooth, very conspicuous. Length 6 lines; expanse of wings 10 lines.

Collection.—Ent. Soc. Philad. Two (♂ ♀) specimens.

Genus **MONEDULA**, Latr.**Monedula signata**, Linn.

Vespa signata, Linn. Syst. Nat. i, p. 952.

Apis vespiformis, DeGeer, Ins. iii, p. 570; pl. 28, fig. 3.

Bembex signata, Fabr. Syst. Ent. p. 361; Syst. Piez. p. 223; Oliv. Ency. Méth. iv, p. 290.

Monedula signata, Latr. Gen. Cr. et Ins. iv, p. 100; St. Farg. & Serv. Ency. Méth. x, p. 498; St. Farg. Hym. iii, p. 283; Dahlb. Hym. Europ. i, p. 185; Guér. LaSagra's Hist. Cuba, Ins. p. 764.

Collection.—Ent. Soc. Philad. Eight (♂ ♀) specimens.

Monedula insularis, Dahlb.

Monedula insularis, Dahlb. Hym. Europ. i, p. 186. ♀.

Female.—Black, clothed with cinereous pubescence, more dense on the head and metathorax; the face, orbits, mandibles, and scape of antennae beneath, yellow; clypeus and labrum pale greenish-yellow; flagellum of the antennae with a yellowish line beneath; the collar, two short lines on the mesothorax, a line over the tegulae, pectus, except a black spot in front of the tubercles, continued to the collar in a narrow undulating line, tegulae, tubercles, a large subtriangular spot on each side of the pleura beneath the fore-wings, an elongate spot beneath the hind wings, lateral margins of the scutellum, a semicircular line on the metathorax interrupted on the truncation by a round black spot, a large spot on each side behind, and a minute spot on each side near the base, all yellow. Wings hyaline. Legs yellow, sometimes tinged with ferruginous; the trochanters, the intermediate coxae, except a triangular yellow spot beneath, the posterior coxae, except an exterior yellow line, a line on the anterior femora behind, base of the posterior femora, and the tarsal claws, black. Abdomen black, shining, somewhat iridescent; first segment with a transverse pale greenish-yellow mark on each side about the middle, broad on each side, continued beneath, much narrowed towards the middle above, and nearly meeting on the disk; four following segments each with a transverse pale greenish-yellow fascia, broad on each side and suddenly narrowed by a deep square emargination in front and on each side of the middle, and very slightly interrupted on the disk, the emargination on the fourth and fifth segments not so deep; sixth segment entirely black; beneath, the apical margins of second to fifth segments are very narrowly pale yellowish, with a large pale yellowish spot on each side. Length $7\frac{1}{2}$ lines; expanse of wings 12 lines.

Var. ♀.—Short lines on mesothorax obsolete, the lines over the tegulae narrow and interrupted, only a spot on each side of the scutellum, semicircular line on the metathorax obsolete except a narrow line on

each side at base, and the fasciæ on the second and three following segments of the abdomen obtusely emarginate in front.

Male.—Resembles the female, with the short lines on mesothorax obsolete, the line over the tegulæ interrupted, the black spot on each side of the pectus much enlarged, the spot beneath the fore-wings divided by a black line, the semicircular line on the metathorax obsolete, the posterior lateral spot sometimes very small, and the fasciæ on the second and three following segments of the abdomen very obtusely emarginate; beneath, the second segment has a compressed, curved, acute tooth on the middle, and the sixth segment is rounded at apex, with a central tooth like that on the second segment, but not curved at the apex.

Collection.—Ent. Soc. Philad. Twenty-six (♂ ♀) specimens.

The yellowish markings of the head and thorax, as well as the legs, are sometimes tinged with ferruginous.

This is doubtless the *insularis* of Dahlbom, although his short diagnosis would as well apply to other species as to this, and therefore, to prevent further confusion, I add a more detailed description of the species.

It has some resemblance to *M. signata*, but is smaller, the clypeus is immaculate, the lines on the mesothorax are very short, the fasciæ on the abdomen are altogether of a different shape; the apical segment of the male of *signata* is emarginate at tip and has an acute tooth on each side, and the second and last ventral segments are without a central tooth.

† *Monedula dissecta*, Dahlb.

Monedula dissecta, Dahlb. Hym. Europ. i, p. 186. ♀.

Female.—Black, with a slight iridescence; head and thorax clothed with a fine, short, cinereous pile; sides of the face silvery in certain lights; clypeus semicircular, yellowish, covered with a very fine, silvery-sericeous pile, with its anterior margin and two spots on the anterior middle, dusky; labrum dull yellowish, silvery-sericeous as well as the base of the mandibles, which are piceous; antennæ black, the scape beneath yellow. Thorax subopaque, very minutely and closely punctured; the collar, two spots on the mesothorax in front, broad line on each side extending over the tegulæ to the scutellum, tubercles, a large spot on each side of the scutellum, a transverse line on postscutellum, a narrow, semicircular line on the metathorax, interrupted on the disk behind, and the large posterior angles, all deep yellow; metathorax very broadly excavated behind, making the posterior angles large, com-

pressed and sharp; tegulæ dull ferruginous. Wings fusco-hyaline, the nervures fuscous. Legs deep yellow, more or less silvery-sericeous; coxæ, trochanters, most of the femora, and a line on the posterior tibiæ behind, black or piceous. Abdomen shining black, iridescent, the four basal segments with a deep yellow, sinuate fascia, interrupted on the disk, the interruption gradually wider towards the apex; on each side of the fifth segment an ovate deep yellow spot; apical segment entirely black; beneath, the second and three following segments with a large triangular lateral yellowish spot, gradually smaller towards the tip. Length 7 lines; expanse of wings 11 lines.

Male.—Like the female, with a yellow spot on each side of the pleura beneath the fore-wings, the fifth segment of the abdomen banded like the fourth, and the sixth segment with an ovate spot on each side like the fifth segment of the female, the first ventral segment has a well developed, acute, central carina at the extreme base, and the last segment has a small acute tooth on each side. Length 6—7 lines; expanse of wings 9½—11 lines.

Collection.—Ent. Soc. Philad. One ♀, two ♂ specimens.

I have referred the specimens from which the above description was taken to *M. dissecta* of Dahlbom, with doubt, as the short diagnosis given of that species, although answering to the species in some respects, is too meagre to render their identity certain.

Fam. NYSSONIDÆ.

Genus *STIZUS*, Latr.

Stizus Hogardii, Latr.

Stizus Hogardii, Latr. Gen. Crust. et Ins. iv, p. 100, pl. 13, fig. 12, ♀. St. Farg. & Serv. Encycl. Méth. x, p. 496. Smith, Brit. Mus. Cat. Hym. iv, pl. viii, fig. 4.

Hogardia rufescens, St. Farg. Hym. iii, p. 289, pl. 28, fig. 5; Guér. LaSagra's Hist. Cuba, Ins. p. 765.

Collection.—Ent. Soc. Philad. Two ♀, two ♂ specimens.

Genus *NYSSON*, Latr.

Nysson armatus, n. sp.

Black, clothed with a very fine, appressed, sericeous pubescence, very dense and silvery on the face and golden on the metathorax, the latter armed on each side behind with a long acute spine; a transverse spot on each side of the three basal segments of the abdomen and the extreme apical margins of all the segments above, pale testaceous; wings fusco-hyaline; legs dull rufous.

Female.—Black, opaque, distinctly and closely punctured, densely pubescent; the vertex and cheeks clothed with fine golden pubescence, the face and clypeus with dense bright silvery pubescence; antennæ stout, piceous. Thorax densely and rather roughly punctured; ante-

rior lateral angles of the collar prominent and subacute; the central impressed line of the mesothorax, the suture in front, the lateral and posterior margins, the tubercles and pleura, clothed with golden pile; scutellum black, rugose, channelled down the middle, depressed and golden at base; postscutellum golden on each side, with two short, obtuse, flattened, slightly recurved mucro on the disk; metathorax rugose, the posterior angles large, and produced on each side into a long, stout, acute, strongly divergent spine, densely golden and broadly tipped with yellowish-white, the large basal triangular enclosed space irregularly channelled down the middle, and slightly golden; tegulæ rufous, pubescent. Wings subhyaline, darker in the marginal cell and on the apical margins; nervures blackish. Legs dull rufous, thinly clothed with golden pubescence; coxæ black, rufous at tips, densely clothed with silvery pubescence. Abdomen rather closely punctured, somewhat coarser at base, becoming finer and indistinct towards the apex, somewhat shining, the extreme base silvery, the extreme apical margins of the segments bright golden; on each side of the three basal segments posteriorly a rather large transverse pale testaceous spot, larger and ovate on the basal segment, and smallest on the third segment; apical segment flattened on the disk, carinate on each side and obtuse at tip; venter rather deeply punctured, shining, somewhat silvery. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Male.—Resembles the female, with the antennæ entirely piceous, the fourth segment of the abdomen has a small obscure testaceous spot on each side behind, and the apical segment is armed at tip with two small, distant, obtuse, flattened teeth. Length 4 lines; expanse of wings 7 lines.

Collection.—Ent. Soc. Philad. Two specimens.

Genus **HARPACTUS**, Jur.

Harpactus insularis, n. sp.

Black; inner orbits, clypeus, base of antennæ, line on prothorax above, tubercles, transverse line beneath wings, scutellum, most of legs, and apical bands on the first, second and fourth segments of abdomen, yellow; metathorax golden-sericeous; wings subhyaline, with a large fuliginous spot on the costa near the tip.

Female.—Black, shining, covered with a very fine subargenteous pile, more obvious on the under surface; inner orbits, not reaching the vertex, and the clypeus, yellowish, covered with a fine silvery pile, bright in certain lights; mandibles piceous; palpi paler; antennæ blackish-piceous, shading into pale rufous towards the base, basal joint yellow. Thorax finely, but not closely punctured; the prothorax above,

tubercles, an elongate mark behind the tubercles and immediately beneath the anterior wings, a spot on the tegulæ, and the scutellum, bright yellow; pleura densely covered with subargenteous pile, the metathorax with dense golden-sericeous pile; the latter rounded above and behind, with a few longitudinal striæ at base, just behind the postscutellum; mesothorax broad, immaculate. Wings subhyaline, the anterior pair slightly tinged with fuscous, and with a large dark fuliginous patch covering the marginal, second submarginal, and nearly the whole of the third submarginal cells; nervures fusco-ferruginous, the costa and stigma fulvous. Legs fusco-ferruginous; the four anterior femora beneath, a line on their tibiæ and tarsi, the posterior femora beneath at tips, and their tibiæ exteriorly except tips, yellow; anterior tarsi ciliated with long pale setæ, the middle and posterior tibiæ covered exteriorly with numerous short spines. Abdomen shining, finely and densely punctured, somewhat sericeous, the apex acuminate and slightly incurved; the first, second and fourth dorsal segments each with a more or less broad, apical, yellow band, sinuate anteriorly, that on the first segment emarginate on the anterior middle; two apical segments faintly tinged with piceous; beneath rufo-piceous, the second segment with an apical band as on the dorsal segment. Length 5 lines; expanse of wings $9\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Harpactus scitulus, n. sp.

Black; inner orbits, clypeus, mandibles and tegulæ, piceous; base of antennæ, prothorax above, tubercles, spot behind tegulæ, a spot beneath the wings, scutellum, spot on each side of metathorax, legs in part, and bands on the first, second and fourth segments of abdomen, yellow; wings hyaline, fuscous on the costo-apical half.

Female.—Black, shining; inner orbits, not reaching the vertex, clypeus, mandibles and palpi, dull rufo-piceous, more or less clothed with a very fine silvery pile; antennæ piceous, paler towards the base, the two basal joints yellow. Thorax smooth, shining, and apparently impunctured; the prothorax above, tubercles, a large transverse spot beneath and a small spot behind the tegulæ, scutellum, and a large ovate spot on each side of the metathorax, bright yellow; the latter smooth and shining, the triangular basal space striated at base; tegulæ dull piceous. Wings subhyaline, the costo-apical half, except extreme tips, fuscous, darker about the marginal and second and third submarginal cells; costa and stigma pale yellowish. Legs piceous, black, shining; a spot on the coxæ beneath, the four anterior femora, except base, their tibiæ, a spot on the posterior femora beneath at tips, and their tibiæ

except tips, yellow; most of the tarsi fusco-ferruginous, the two anterior pairs yellowish at base; anterior tarsi not ciliated. Abdomen shining, very minutely punctured, except the two apical segments, which are rather deeply punctured; the first, second and fourth segments with apical yellow bands as in the preceding species, as well as the band on the second ventral segment; venter black, shining. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Very similar to the preceding species, but is readily distinguished by the much smaller size and by the large yellow spots on the metathorax.

Genus **ALYSON**, Jurine.

Alyson aculeatus, n. sp.

Black; face silvery; antennæ, most of legs and abdomen, piceous, the two basal segments of the latter rufous, the apical segment armed with two very long and slender, sting-like spines; wings hyaline, iridescent, with a faint cloud across the apical third.

Male.—Black, shining, thickly clothed with a fine whitish pile; face silvery; mandibles pubescent, pale testaceous, piceous at tips; antennæ piceous, the apical joints beneath subferruginous, basal joint beneath with a pale testaceous line. Thorax smooth above, very minutely and densely punctured beneath; metathorax elongate, subquadrate, rugose, the dorsal base with an elongate subtriangular space enclosed by a rather sharp carina, striated at base, and carinated down the middle, posterior angles small and subacute; tegulæ rufo-piceous. Wings hyaline, iridescent, with a faint fuscous cloud across the apical third, and occupying the whole of the marginal cell; nervures fuscous, stigma pale; second submarginal cell petiolated. Legs piceous-black, slightly pubescent; tips of the femora, the tibiæ and tarsi rufo-piceous; posterior femora terminating beneath in a stout acute tooth. Abdomen smooth and polished, slightly pubescent, piceous-black, the two basal segments rufous, except the disk of the first and a large spot on the apex of the second segments, which are piceous; terminal segment truncate at tip, with two very long, slender, acute, sting-like, pale ferruginous, spines, diverging posteriorly. Length $3\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Fam. CRABRONIDÆ.

Genus **TRYPOXYLON**, Latr.

Trypoxylon excavatum, Smith.

Trypoxylon excavatum, Smith, Brit. Mus. Cat. Hym. iv, p. 380.

Collection.—Ent. Soc. Philad. Four specimens.

Trypoxylon succinctum, n. sp.

Black; metathorax and the three basal segments of abdomen, except a large black spot above, honey-yellow; wings hyaline, beautifully iridescent; face and pleura silvery.

Female.—Black; face densely clothed with brilliant silvery pubescence, filling up the deep emarginations of the eyes; cheeks silvery; antennæ piceous above, ferruginous beneath. Thorax minutely punctured, shining; a transverse line in front of the mesothorax, a line over the tegulæ, and a patch on each side of the scutellum, of silvery pubescence; pleura rather densely clothed with silvery pubescence; metathorax honey-yellow, blackish at the base above, which is finely and obliquely striated, the posterior face rather deeply channelled, and clothed with a bright silvery pubescence, more dense towards the tip; tegulæ pale testaceous. Wings hyaline, beautifully iridescent; nervures blackish. Legs, including the coxæ, honey-yellow; tips of the intermediate tibiæ and their tarsi, tips of the posterior femora and their tibiæ and tarsi entirely, more or less dusky. Abdomen shining, clothed with a very fine, thin, glittering pubescence, more obvious towards the tip; the three basal segments honey-yellow, each with a large transverse black spot on their dorsal surface, that on the first segment on its apical third; apical segments black, except the basal margin of the fourth segment, which is honey-yellow. Length $3\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Genus **OXYBELUS**, Latr.

Oxybelus analis, n. sp.

Black; mandibles, tegulæ and apex of abdomen, fulvous; face silvery; line on collar, tubercles, sides of scutellum, and a transverse line on each side of the four basal segments of abdomen, whitish; wings hyaline; metathorax armed at base with a long bifid mucro.

Female.—Black, finely punctured, slightly pubescent, the face covered with a silvery down, very bright when viewed from above; mandibles yellowish at base, fulvous in the middle and piceous at tips; eyes large, brown; antennæ black, the middle broadly ferruginous, tip of the scape yellowish. Thorax finely and closely punctured, slightly pubescent; mesothorax faintly tinged with bronze; an interrupted line on the collar, tubercles, a small spot on each of the scutellum at base, and the squama on the posterior margin of the scutellum, whitish, the latter with an acute central longitudinal carina; metathorax truncate behind, shining, irregularly striated, with acute elevated lines and a deep excavation beneath the mucro, which is rather long, dilated towards the apex, hollowed above and deeply emarginate at tip; tegulæ rufo-

fulvous. Wings hyaline, very faintly tinged with fuscous, slightly iridescent; nervures blackish. Legs black, thinly clothed with a pale glittering pubescence; the anterior femora at tips beneath and their tibiae exteriorly, more or less yellowish-white; tibiae tinged with piceous, spurs yellowish; tarsi ferruginous at tips. Abdomen black, finely and closely punctured, the four basal segments with a narrow, transverse, yellowish-white line on each side of the apical third, rather broadly margined behind with silvery-white pubescence, more conspicuous when viewed in certain lights; the two apical segments rufo-fulvous, the terminal one carinated on each side, the carina converging towards the apex. Length $2\frac{1}{2}$ — $2\frac{3}{4}$ lines; expanse of wings 4 — $4\frac{1}{4}$ lines.

Male.—Resembles the female, but is smaller, the anterior tibiae and tarsi are mostly yellowish or testaceous, and their femora more broadly yellow at tip, the four posterior tibiae have a yellow line behind, and their femora at tip beneath are more or less yellow; the base of the fifth abdominal segment is more or less black, and the two apical ones entirely rufo-fulvous, the extreme tip is slightly emarginate. Length $1\frac{1}{2}$ — $2\frac{1}{4}$ lines; expanse of wings 3 — $3\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Two ♀, four ♂ specimens.

Genus **CRABRO**, Fabr.

2. *Abdomen petiolated.*

Crabro auriceps, n. sp.

Black; face and cheeks golden; mandibles, scape of antennae, collar, tubercles and a transverse band behind them, scutellums, most of legs, and three bands on abdomen, the two last interrupted on the disk, yellow; abdomen ferruginous at tip and beneath; wings fusco-hyaline, darker at tips.

Male.—Black; head very large, subquadrate, broader in front than behind; vertex opaque; the face, a transverse line above the mandibles, and the cheeks or broad outer orbits, clothed with dense, bright golden pubescence; mandibles, except extreme tips, yellow; antennae black, the two basal joints entirely yellowish. Thorax opaque-black; an uninterrupted line before the mesothorax, the tubercles and a broad transverse band just behind them, basal half of the scutellum, connected with a spot on each side at base, a small spot on each side near the base of the wings, and a transverse narrow line suddenly constricted and pointed at each end, all yellow; pleura and metathorax with a slight golden pubescence, the latter abrupt behind, entirely black, subopaque, and covered with fine irregular striae, the disk with a central, longitudinal impressed line; tegulae honey-yellow. Wings pale fusco-hyaline, much darker along the costa at tip; nervures fuscous. Legs yellow; coxae piceous, posterior pair mostly yellowish; all the femora

more or less tinged with ferruginous behind, the posterior pair blackish before; tips of all the tarsi dusky. Abdomen petiolated, strongly subfusiform, shining, the four basal segments black above, the first with a yellow band near the tip, deeply indented on the disk in front; second segment with a rather large sublunular yellow spot on each side about the middle, dilated on each side and nearly reaching the disk of the segment; third segment black, stained with ferruginous on each extreme side; fourth segment with a narrow, transverse yellow band interrupted on the disk, the extreme sides stained with ferruginous; remaining segments, as well as the entire venter, ferruginous; extreme apex slightly pubescent. Length $5\frac{1}{2}$ lines; expanse of wings 8 lines.

Collection.—Ent. Soc. Philad. One specimen.

Crabro claviventris, n. sp.

Black; face, cheeks and pleura silvery; scape of antennae, clypeus, tubercles and most of the four anterior legs, yellow; two bands on abdomen and the venter entirely, fulvous; wings hyaline; abdomen strongly clavate; hind tibiae much swollen.

Male.—Black, subopaque; head rather large, quadrate; face, clypeus and cheeks densely clothed with bright silvery pile; clypeus and mandibles yellow, the latter black at tips; antennae pale piceous, the two basal joints yellow, the second obscurely so. Thorax: pleura and metathorax rather densely clothed with bright silvery pile; the incisure in front of the mesothorax very deep; tubercles and tegulae yellowish, the latter tinged with ferruginous; metathorax with a rather deep central excavation on its posterior face. Wings hyaline, beautifully iridescent; apical margins slightly dusky. Legs yellow; the four posterior coxae, except tips, and the posterior legs, except base and tips of their trochanters and base of their tibiae, blackish; tips of intermediate femora and middle of their tibiae, dusky; posterior tibiae very much swollen beyond the basal fourth, which is very slender. Abdomen elongate, very slender at base, and very much swollen at tips, shining; first segment long, basal two-thirds cylindrical, swollen at tip, black, remaining segments fulvous, the dorsal surface of the second, a large, broad, subtriangular mark on the dorsal surface of the third and fourth, covering their apical half and basal middle, and the entire dorsal surface of the remaining segments, black; venter entirely fulvous. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Collection.—Dr. J. Gundlach. One specimen.

This curious little species seems to belong to the subgenus *Rhopalum*, and may be at once recognized by its strongly and suddenly clavate abdomen, and the much swollen hind tibiae.

♀♀. *Abdomen subsessile.*

Crabro cubensis, n. sp.

Black; face, cheeks and clypeus, golden; basal half of antennæ, prothorax, tubercles, spot before tegulæ, scutellums, legs, and five transverse spots on each side of abdomen, yellow; wings fusco-hyaline.

Female.—Black, opaque; head large, quadrate, very densely and finely punctured; sides of the face, clypeus, extending on each side beneath the eyes, and the cheeks, densely clothed with bright golden pubescence; antennæ with the three basal joints, yellow, the fourth fulvous, the remainder blackish. Thorax deeply and rather closely punctured, prothorax narrow, yellow, sharply carinated in front, with the lateral anterior angles reflexed and very acute; tubercles, and a rather large, oblique, subcuneiform mark before the wings, yellow; scutellum shining, sparsely punctured, entirely yellow, extreme sides acute, with a small spot on each basal corner; postscutellum with a narrow, transverse, yellow line; metathorax irregularly rugose, the sides transversely rugose, the posterior face abrupt; tegulæ dull honey-yellow, shining. Wings pale fusco-hyaline, darker at tips; nervures ferruginous. Legs yellow, their coxæ and apical half of the posterior femora black, tips of the tarsi dusky; the four anterior femora sometimes tinged with ferruginous. Abdomen subsessile, short, ovate, convex, shining, very minutely punctured; sides of all the segments, except the apical one, with a more or less transverse, yellow line or spot, those on the first and fifth segments smallest, those on the fourth longest and nearly meeting on the disk; venter entirely black, shining. Length 4—5 lines; expanse of wings 7—8 lines.

Collection.—Ent. Soc. Philad. Three specimens.

Crabro cræsus, St. Farg.

Solenius cræsus, St. Farg. Ann. Soc. Ent. Fr. iii, p. 727; Hym. iii, p. 132. Dahlb. Hym. Europ. i, p. 388. Guér. LaSagra's Hist. Cuba, Ins. p. 767.

Crabro cræsus, Smith, Brit. Mus. Cat. iv, p. 424.

Collection.—Ent. Soc. Philad. Two specimens.

Genus *PSEN*, Latr.

Psen argentifrons, n. sp.

Black, shining; face silvery; tubercles, tibiæ and tarsi, yellow; apical margins of abdominal segments obscure testaceous; wings hyaline, iridescent, third submarginal cell with its outer nervure angular.

Female.—Black, shining; head rather wider than the thorax; face, beneath the insertion of the antennæ, the clypeus and the cheeks, densely clothed with bright silvery pubescence; mandibles ferruginous, black at tips; antennæ blackish above, rufo-piceous beneath. Thorax shining, finely punctured; a line over the collar, most of the pleura,

postscutellum, and sides of metathorax, clothed, more or less, with pale, glittering, somewhat silvery pubescence; tubercles yellowish; metathorax rugose; tegulæ dull honey-yellow. Wings hyaline, iridescent; nervures blackish; second submarginal cell receiving the first recurrent nervure near its base; third submarginal cell nearly twice the width of the second, its outer nervure bent inwards above the middle, the second recurrent nervure sinuate, received by the third submarginal cell at the extreme base. Legs blackish, the four anterior tibiæ and tarsi, and the base of the posterior tibiæ, whitish. Abdomen oblong-ovate, shining; first segment with a rather long, slender petiole; apical margins of all the segments, except the last, obscure testaceous; apical segment pubescent. Length 3 lines; expanse of wings 4½ lines.

Male.—Resembles the female, but is more slender, the antennæ longer, and except the tips, entirely blackish; the abdomen much more elongate beyond the petiole, and the extreme apex acute and slightly recurved.

Collection.—Dr. J. Gundlach. Two specimens.

Genus *CERCERIS*, Latr.

Cerceris flavocostalis, n. sp.

Ferruginous; broad orbits, tip of antennæ, collar, tegulæ, most of pleura, scutellum, spots on metathorax, most of legs, and the first and apical margins of remaining abdominal segments, yellow; wings fusco-hyaline, costa broadly yellow; abdomen very minutely punctured.

Female.—Dull ferruginous, opaque, slightly pubescent; head large, broader than the thorax, yellow, stained on the vertex, occiput and cheeks with ferruginous; the sides of the face, when viewed from above, have a bright silvery reflection; vertex flattened, with a transverse, slightly arcuated, blackish line, passing just behind the ocelli, and down the middle of the face are two blackish lines on which the antennæ are situated, divided by a yellowish line which is elevated and acutely carinate between the antennæ; clypeus strongly produced, slightly convex, truncate at tip, dull ferruginous, with a yellow, subtriangular spot on its disk; mandibles long, acute, honey-yellow, black at tips; antennæ dull fulvous, fuscous above near the middle, the four apical joints orange-yellow. Thorax opaque, dull ferruginous; collar, most of pleura, tegulæ, scutellum, the triangular space on the dorsal base of the metathorax, as well as its sides, and two small approximate spots on the posterior face, all yellow; mesothorax with two very indistinct longitudinal lines on the disk; pleura prominent; the central well impressed line of the metathorax and its extreme tip, about the insertion of the abdomen, black. Wings fusco-hyaline, the posterior margin and the

posterior pair subhyaline, the costa broadly yellowish. Legs yellowish, the anterior trochanters and femora dull ferruginous, the four posterior coxæ, trochanters, femora and tips of posterior tibiæ, piceous; posterior femora gradually dilated towards the tips with the apex truncate and the margins reflexed, and when viewed endways it is circular, the tibiæ inserted on the inner side of the circle; the tibiæ spinose; tarsal claws dusky. Abdomen dull ferruginous-brown, very minutely punctured, subopaque; the first segment and the apical margins of the four following segments, above and beneath, yellow; apical segment with its disk flattened and enclosed on each side by a longitudinal carina, converging at base, and fringed with pale brownish pubescence, the enclosed space finely rugose; the ventral segments clothed with yellowish-sericeous pubescence, longer and more dense on the apical margins. Length $7\frac{1}{2}$ lines; expanse of wings 12 lines.

Male.—Resembles the female, but is smaller and slenderer; the head is not so large, the clypeus not produced, but flattened, large and semi-circular, the pieces on each side fringed with golden pubescence; the antennæ are longer, the mesothorax is margined with blackish; the metathorax wants the two small approximate yellowish spots beneath the triangular basal piece; the anterior femora at base and the four posterior femora, are black; the abdomen is narrower and more pubescent, the basal half of the first segment is dull ferruginous, and the apical margin of the sixth segment is also yellow. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Collection.—Dr. J. Gundlach. Two specimens.

Cerceris triangulata, n. sp.

Ferruginous; face, collar, spot beneath the wings, tegulæ, scutellum, a large, sublunular spot on each side of metathorax, legs, and the first and narrow apical margins of the third, fourth and fifth segments of abdomen, yellow; basal triangular piece on metathorax black; wings fusco-hyaline, costa pale yellowish; abdomen deeply and coarsely punctured.

Female.—Head large, subquadrate, opaque, ferruginous, deeply and closely punctured, slightly pubescent; face, cheeks, clypeus and basal half of mandibles, yellow; when viewed from above, the lower part of the face is bright silvery; clypeus elevated, short and convex above, obliquely and broadly truncate, and flattened beneath; antennæ fulvous. Thorax opaque, dull ferruginous, deeply and closely punctured, pubescent; the collar, a spot beneath the wings, tegulæ, scutellum, and a large sublunular spot on each side of metathorax, yellow; tip of metathorax dull ferruginous, the triangular enclosed basal piece black and obliquely striated. Wings pale fusco-hyaline, darker at the apex along

the costa; costa, from the stigma to the base, pale yellowish. Legs, including their coxæ, yellow; the anterior femora and tips of the tarsi tinged with ferruginous; posterior tibiæ dilated at tip, with the margins reflexed, as in the preceding species. Abdomen dull ferruginous, subopaque, deeply and grossly punctured; most of the first segment and the apical margins of the third, fourth and fifth segments obscurely, yellowish, the latter much attenuated in the middle and wider on the sides; apical segment and venter more or less pubescent. Length 6 lines; expanse of wings 9 lines.

Collection.—Dr. J. Gundlach. One specimen.

Closely allied to *C. flavocostalis*, but is at once distinguished by the deep and coarse punctation.

Cerceris bilunata, n. sp.

Black, coarsely punctured; apical half of abdomen ferruginous; face, collar, tegulæ, spot beneath the wings, scutellum, two large lunular spots on metathorax, legs, a band on the first and second abdominal segments and narrow apical margins of the third and fourth segments, all yellow; wings fusco-hyaline, dark at tip.

Male.—Black, deeply and coarsely punctured, slightly pubescent; face, a small spot behind the antennæ, clypeus, mandibles, except tips, and line or spot on the cheeks, yellow; clypeus large, flat, rounded at base and in front; the space on each side of clypeus fringed with silvery pubescence; antennæ obscure fulvous, fuscous beyond the middle nearly to the tips, sometimes entirely fulvous; basal joint beneath yellowish. Thorax black; the collar, a spot on each side of pectus, tegulæ, a spot beneath the wings, scutellum, and a large lunular spot on each side of metathorax, all yellow; postscutellum tinged with ferruginous, the enclosed triangular basal space black and obliquely striated. Wings pale fusco-hyaline, much darker at tips; nervures pale. Legs yellow, the tarsi more or less tinged with ferruginous. Abdomen deeply and coarsely punctured, the three basal segments black, the remaining segments ferruginous, sometimes the apical half of the third segment is ferruginous; the first and second segments each with a rather broad apical yellow band, the third and fourth segments with narrow yellow apical margins, subobsolete on the fourth segment; beneath, the second segment is almost entirely yellow, the remainder ferruginous, clothed with sericeous pubescence. Length $4\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Two specimens.

Easily recognized by the tricolored—black, ferruginous and yellow—abdomen.

Cerceris festiva, n. sp.

Black, feebly punctured; face, collar, tegulae, spot beneath the wings, scutellum, a longitudinal spot on each side of metathorax, four anterior legs, basal two-thirds of hind tibiae, and apex of the four basal segments of abdomen, yellow; wings fusco-hyaline, darker at tips.

Male.—Black, shining, feebly punctured, slightly pubescent; face, broad frontal and narrow outer orbits, clypeus, carinae between antennae, and base of mandibles, yellow; clypeus large, flattened, rounded at base and in front, the pieces on each side densely clothed and fringed with silvery pubescence; antennae ferruginous, yellow at base, and fuscous above towards the tips. Thorax shining, very feebly punctured; collar, tegulae, tubercles and a spot just beneath them, scutellum and a large longitudinal spot on each side of the metathorax, yellow; the latter feebly punctured and polished. Wings subhyaline, the apical costal half fuscous, as well as the tips of the posterior wings. Legs yellow; the posterior pair, except the basal two-thirds of their tibiae, black; the four anterior tarsi more or less dusky towards the tips. Abdomen shining, feebly punctured; apical margins of the first four dorsal segments yellow, broad at the sides and much narrowed in the middle; fifth segment with a small yellow spot on each side; beneath, the second and third segments each with a yellow band slightly narrowed in the middle. Length 4½ lines; expanse of wings 6 lines.

Collection.—Dr. J. Gundlach. One specimen.

Cerceris zonata, n. sp.

Black, deeply and coarsely punctured; face, collar, tegulae, spot beneath the wings, scutellum, most of legs, and apical margins of abdominal segments, yellow; wings subhyaline, darker at tips.

Female.—Black, subopaque, deeply and coarsely punctured, slightly pubescent; face, clypeus, mandibles except tips, and a spot behind the summit of the eyes, yellow; face silvery; clypeus large, flattened; antennae ferruginous, yellow at base. Thorax: collar, tegulae, spot beneath the wings, scutellum and postscutellum, yellow; metathorax entirely black, roughly punctured, the triangular enclosed basal space rugose, the incisures deeply impressed, continuing down the disk to the insertion of the abdomen. Wings subhyaline, dusky at tips, slightly iridescent; nervures and stigma blackish. Legs yellow; the coxae except tips, a spot at base of the four anterior femora, the posterior femora except tips, and tips of their tibiae, black, their tibiae sometimes dusky. Abdomen coarsely punctured; a broad band on the first segment, and the posterior margins of the four following segments narrowly, yellowish, the latter wider on each side; venter piceous, the second and third

segments with obscure yellowish lateral spots or interrupted bands. Length 3 lines; expanse of wings 5 lines.

Male.—Resembles the female, with the antennae longer, and the sixth abdominal segment margined posteriorly with yellow like the fifth.

Collection.—Ent. Soc. Philad. Four specimens.

Closely resembles *C. festiva*, but is smaller and at once distinguished by the immaculate metathorax and coarse punctuation.

Fam. EUMENIDÆ.

Genus ZETHUS, Fabr.

Zethus rufinodus, Latr.

Eumenes rufinoda, Latr. Gen. Crust. et Ins. iv, p. 137, pl. 14, fig. 5, ♀. Sauss. Mon. Guêpes. Sol. p. 42.

Zethus rufinodus, Sauss. Mon. Guêpes. Sol. Suppl. p. 118, pl. 6, fig. 3, ♀.

Collection.—Dr. J. Gundlach. One specimen.

Zethus Poeyi, Sauss.

Zethus Poeyi, Sauss. Rev. Zool. 1857, p. 270.

Collection.—Ent. Soc. Philad. Three ♀, four ♂ specimens.

Genus EUMENES, Latr.

Eumenes abdominalis, Drury.

Sphex abdominalis, Drury, Illustr. Ins. i, pl. 45, fig. 2.

Vespa attenuata, Oliv. Encycl. Méth. vi, p. 674. Fabr. Syst. Ent. p. 372; Spec. Ins. i. p. 469; Mant. Ins. i. p. 293; Ent. Syst. ii. p. 282.

Polistes attenuatus, Fabr. Syst. Piez. p. 279.

Eumenes abdominalis, Sauss. Mon. Guêpes. Sol. p. 70. Guér. in LaSagra's Hist. Cuba, Ins. p. 768.

Eumenes colona, Guér. in LaSagra's Hist. Cuba, Ins. pl. 19, fig. 1.

Collection.—Ent. Soc. Philad. Two ♀, one ♂, specimens.

This species is erroneously figured by Guérin in LaSagra's Hist. Cuba, as *E. colona* Sauss., and states that that species, as well as *E. ornata* Sauss., is found on the Island of Cuba. I have not seen specimens of either species from that locality.

Eumenes cubensis, n. sp.

Fuscous; orbits, clypeus, anterior margin of prothorax, subtriangular spot beneath the wings, two spots on mesothorax, anterior margin of scutellum, postscutellum, part of metathorax, tibiae and tarsi, apex of petiole of abdomen, and two bands on the second segment, yellow; wings fusco-hyaline, fuliginous at tips.

Female.—Head fuscous, very densely punctured, slightly pubescent; the orbits, filling up the deep sinus in front, a subtriangular mark between the antennae, and the clypeus, bright yellow; clypeus smooth, deeply emarginate at tip; mandibles and palpi pale ferruginous; antennae bright ferruginous, paler at base, the seventh to tenth joints

more or less blackish. Thorax fuscous, very densely punctured, clothed with a short, pale yellowish pubescence, becoming quite white on the metathorax; anterior margin of the prothorax, a subcuneiform mark on each lateral margin of the mesothorax, a large subtriangular mark on each side of the pleura anteriorly, most of the tegulae, anterior margin of the scutellum dilated on each side, the postscutellum, and the dorsal surface enclosing a large subrhomboidal fuscous mark which occupies most of the disk, all more or less bright yellow; pleura and metathorax covered with a very short, fine silvery-sericeous pile, more obvious in certain lights. Wings subhyaline, the costal margin broadly stained with yellowish-fuscous; the apical margins dusky, especially the marginal cell. Legs fusco-ferruginous; the anterior femora beneath, their tibiae, the intermediate femora beneath at tip, their tibiae, as well as the posterior tibiae, yellow; all the tarsi yellowish-ferruginous. Abdomen fuscous, covered with a very short, dull yellowish pubescence; the petiole or basal segment nearly as long as the head and thorax, slender and blackish at base, gradually dilated to the tip which is truncate and broadly margined above and beneath with yellowish, the anterior middle of the yellow margin deeply indented above, and about the dorsal middle of this segment there is a large dull ferruginous stain; remaining segments subglobose, the second segment very large, with a yellowish band across the middle and another on the apical margin; apical segments fusco-ferruginous; beneath pale fusco-ferruginous, the second segment with a broad yellowish band. Length 7 lines; expanse of wings 10½ lines.

Collection.—Dr. J. Gundlach. One specimen.

***Eumenes ferruginea*, n. sp.**

Pale ferruginous; orbits, clypeus, anterior margin of prothorax and scutellum, postscutellum, spot beneath the wings, legs in part, and apex of first and second segments of abdomen, obscurely yellowish; middle of antennae blackish; wings pale yellowish-hyaline.

Male.—Uniformly pale ferruginous, slightly pubescent; orbits of the eyes, filling up the deep sinus in front, and the clypeus, obscure pale yellowish; clypeus elongate, deeply notched at tip, and silvery in certain lights; vertex and occiput fuscous; antennae longer than the head and thorax, ferruginous, more or less blackish between the base and tip, the latter thickened and then suddenly tapering to an acute point, the terminal joint very slightly curved at tip. Thorax very closely punctured, somewhat hoary in certain lights; anterior margin of the prothorax, a spot beneath the tegulae, a subobsolete spot on each side of the mesothorax, anterior margin of the scutellum dilated on each

side, postscutellum, and a rather large spot on each side of the metathorax at tip, obscure yellowish; mesothorax narrowly margined, before and behind, with blackish. Wings pale yellowish-hyaline, more deeply yellowish along the costa, the marginal cell slightly dusky; nervures pale testaceous. Legs pale yellowish-ferruginous, fuscous at base, the tibiae and tarsi paler. Abdomen shining; basal segment fuscous, punctured, longer than the thorax, slender at base and gradually dilated towards the tip, which is truncate and margined above and beneath with yellow; on each side, about the middle, there is a short obtuse tubercle, the dorsal surface is convex, with several dull ferruginous stains; remaining segments pale ferruginous, the second large, convex, more or less stained with pale fuscous, with the apical margin narrowly yellow; beneath, the second segment has an obscure yellowish spot on the disk. Length 4½ lines; expanse of wings 7 lines.

Collection.—Dr. J. Gundlach. One specimen.

Genus **ODYNERUS**, Latr.

***Odynerus Prætus*, n. sp.**

Dull ferruginous; base of clypeus, inner orbits, prothorax in front, spot beneath tegulae, scutellums, most of metathorax, legs in part, and apical margins of abdominal segments, yellowish; wings deep yellowish-hyaline.

Female.—Head dull ferruginous, dusky above the insertion of each antenna, around the ocelli, and on the occiput; inner orbits of the eyes, filling up the deep sinus, a small subcordate mark between the antennae, the clypeus, and most of the mandibles, yellowish; clypeus large, closely punctured, flattened on the disk and slightly and obtusely emarginate at tip; mandibles black at tip; palpi pale ferruginous; antennae yellowish-ferruginous, the flagellum tinged with fuscous above, the scape yellowish beneath. Thorax fusco-ferruginous, closely and rather deeply punctured, covered with a very short, fine, dull yellowish, subsericeous pile; broad anterior margin of the prothorax above, continued in a narrow line to the tegulae, and a large spot on each side of the pleura just beneath the tegulae, yellowish; mesothorax fusco-ferruginous, tinged with blackish on the anterior and posterior margins, the disk with two distant, very faint, longitudinal, ferruginous lines, confluent behind the middle; scutellum and postscutellum yellowish, the apical margin of the former blackish, and the yellowish portion divided down the middle by a faint fuscous line; metathorax yellow, the suture between it and the postscutellum, as well as a large spot on the apical middle, fusco-ferruginous, posterior face rather suddenly depressed, with a small tubercle on each side at the angulation; pleura

fuscous beneath; tegulae dull yellowish, with a ferruginous stain on the middle. Wings deep yellowish-hyaline, faintly dusky at tips; nervures honey-yellow. Legs deep yellowish, the femora above and at base beneath pale ferruginous. Abdomen oblong-ovate, the basal segment dome-shaped, obtusely rounded at base, without transverse suture or carina, distinctly punctured, the remaining segments indistinctly so; apical margins of all the segments above narrowly yellowish, almost divided on the disk by a narrow line, those of the second and third segments broader and dilated on the extreme sides, especially on the first segment where there is a rather large triangular mark, the bands on the remaining segments more or less emarginate on each side anteriorly; apical segment with a large, broad, angular, dull yellowish mark on the middle; beneath marked as above, except that the apical segment is immaculate, and the second segment is almost entirely yellowish, with three ferruginous spots arranged transversely near the apical margin. Length $8\frac{1}{2}$ lines; expanse of wings 15 lines.

Collection.—Dr. J. Gundlach. One specimen.

Odynerus consors, n. sp.

Black; orbits, spot between antennae, clypeus, mandibles, prothorax in front, tegulae, spot beneath the wings, scutellums, most of metathorax and legs, and apical margins of abdominal segments, yellowish; abdomen fuscous, the first and third segments blackish; wings yellowish-hyaline, apex dusky.

Male.—Head black, deeply and closely punctured; the orbits, filling up the sinus in front, a spot between the antennae, dilated above, clypeus, labrum, and mandibles, except tips, yellow, in one specimen more or less ferruginous; antennae nearly as long as the thorax, terminated by a hook, black, tinged with ferruginous at base and tips, scape yellowish beneath. Thorax dull-blackish, densely punctured, slightly pubescent; broad anterior margin of prothorax continued in a narrow line to the tegulae, sometimes interrupted, a large spot beneath the tegulae, scutellum except its apical margin, and postscutellum, yellowish, sometimes tinged with ferruginous; pleura slightly sericeous in certain lights, with an oblique dull yellowish stain on each side beneath; metathorax mostly yellowish, the extreme sides spotted or stained with fuscous, the posterior face deeply and broadly excavated, covered with fine transverse striae, more or less distinct, and with a large blackish mark covering the disk and spreading out on each side at base; lateral angles prominent and obtuse; tegulae yellowish, with a ferruginous spot on the middle. Wings yellowish-hyaline, more deeply yellowish along the costa, the apex, especially about the marginal cell, dusky; nervures honey-yellow. Legs yellow, the femora tinged with ferruginous above.

Abdomen shaped and marked as in the preceding species, but the general color is fuscous, with the third, and sometimes the first, segments, except their apical margins, blackish, and the spot on the terminal segment above is scarcely defined. Length $6\frac{1}{2}$ — $7\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}$ —12 lines.

Collection.—Dr. J. Gundlach. Two specimens.

This may possibly be the male of *O. Prætus*.

Odynerus cubensis, Sauss.

Odynerus cubensis, Sauss. Mon. Guêpes. Sol. p. 181, pl. 18, fig. 8.

Collection.—Ent. Soc. Philad. Six (♂ ♀), specimens.

Odynerus apicalis, n. sp.

Black; clypeus, mandibles, transverse band above antennae, base of antennae, prothorax above, tegulae, spot beneath tegulae, scutellum, most of metathorax and legs, basal segment of abdomen except disk, and the apical margins of the second and third segments, yellowish, apical segments ferruginous; wings fusco-hyaline.

Female.—Opaque-black; head and thorax deeply and closely punctured, the former broader than the thorax, rather short; a broad transverse band on the front, filling up the sinus of the eyes and deeply and somewhat obliquely indented above the insertion of each antenna, broad posterior orbits and the clypeus, yellow, sometimes strongly tinged with ferruginous; mandibles yellowish-ferruginous, sometimes yellowish at base; clypeus depressed, rhomboidal, the extreme tip truncate; antennae black, the two basal joints ferruginous. Thorax: prothorax yellow above, tipped with dull ferruginous just before the tegulae; pleura somewhat sericeous, with a large, rounded, yellow spot beneath the tegulae; mesothorax immaculate; scutellum with two large, quadrate, yellowish marks, nearly confluent; postscutellum yellowish; metathorax finely and transversely striated, deeply excavated on the disk with a large yellowish mark on each side covering the lateral angles, which are rather prominent and obtuse; tegulae yellowish, with a ferruginous dot on the middle. Wings subhyaline, faintly tinged with fuscous, honey-yellow along the costa, with the marginal cell almost entirely fuscous. Legs yellowish; the femora except tips beneath, the tibiae beneath and most of the tarsi, pale ferruginous. Abdomen ovate, basal segment nearly equal in width to the second, remaining segments gradually tapering to the tip, and more deeply and densely punctured than the basal segments; first segment rounded at base without suture or carina, the apical margin confluent with a large angular mark on each lateral margin, yellowish; apical margin of the second and third segments, broader on the second segment, yellow, that on the third

sometimes tinged with ferruginous; remaining segments, above and beneath, dull ferruginous; beneath, the apical margins of the second and third segments are narrowly yellowish, more or less sinuate on each side anteriorly. Length 6 lines; expanse of wings 10 lines.

Male.—Similar to the female, but smaller; the markings of the face are tinged with ferruginous; the basal joint of the antennæ is yellow within, with a black line above, the apical joint ferruginous and hooked; the yellow of the prothorax does not continue all the way to the tegulæ, being interrupted with black; fourth segment of abdomen is black with the apical margin, above and beneath, narrowly yellowish, remaining segments are obscure yellowish-ferruginous, more or less dusky at base; beneath, the second segment has a yellow spot on each side of the middle. Length $4\frac{1}{2}$ lines; expanse of wings $7\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad., one ♂; Dr. J. Gundlach, two ♀, specimens.

Closely allied to *O. cubensis*, but the face is much broader, and, as well as the basal segment of the abdomen, is differently marked, and the third segment is margined at tip with yellow. It may be a variety of *O. guadalupeensis* Sauss.

Odynerus cingulatus, n. sp.

Black; clypeus, spot between antennæ, line behind the eyes, base of antennæ, most of prothorax above, tegulæ, spot beneath the wings, scutellums, most of legs, and apical bands on two basal segments of abdomen, yellow; wings fusco-hyaline, the costal tip fuliginous.

Female.—Black, opaque, slightly pubescent; head not broader than the thorax, rounded when viewed in front, closely and deeply punctured; a broad line behind the eyes, near their summit, a subcordate spot between the insertion of the antennæ, and the clypeus, bright yellow, the latter suborbicular, prominent, with the extreme tip slightly truncate; mandibles piceous; antennæ piceous, black at tips, the basal joint bright yellow. Thorax deeply and closely punctured, more so than the head; the prothorax above, but not reaching the tegulæ, a round spot immediately beneath the anterior wing, tegulæ, scutellum and postscutellum, bright yellow; metathorax truncate behind, reticulated, the posterior declivity obliquely striated. Wings fusco-hyaline, more deeply so along the costa; the extreme tip, especially the marginal cell, more or less fuliginous. Legs yellow; coxæ and posterior femora, except tips, black; tarsi tinged with ferruginous. Abdomen elongate; basal segment somewhat dome-shaped, with a transverse carina anteriorly on the verge of the truncation; posterior margin of the first and second segments above with a rather broad band, dilated on each ex-

treme side, that on the second segment continued beneath where it is indented on each side anteriorly; apical segments closely punctured; beneath shining. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Collection.—Dr. J. Gundlach. One specimen.

Odynerus obliquus, n. sp.

Black; clypeus, line between the antennæ, line behind eyes, base of antennæ, anterior margin of prothorax, spot on each side of metathorax, most of legs, apical margins of two basal segments of abdomen and an oblique spot on each side of the second at base, yellowish; wings subhyaline, marginal cell dusky.

Female.—Black, deeply and closely punctured, slightly pubescent, somewhat shining; posterior orbits of the eyes, the sinus in front, a longitudinal line between the antennæ, and the clypeus except its apical third, yellowish, more or less varied with dull ferruginous; mandibles piceous, with an exterior yellow line; antennæ black, the flagellum piceous at base, the long basal joint bright yellow. Thorax: broad anterior margin of prothorax, a rounded spot just beneath the anterior wing, connected with a much smaller spot beneath, tegulæ, except a minute black dot on the disk, a dot just behind the tegulæ, scutellum, faintly divided down the middle, the postscutellum, and a rather large elongate spot on each side of the metathorax behind, yellow; pleura sericeous. Wings subhyaline, faintly tinged with fuscous; the costal margin stained with honey-yellow; the marginal cell, and the apical margins faintly, fuliginous. Legs yellow; the coxæ, trochanters and the posterior femora, black; tarsi fusco-ferruginous. Abdomen with the basal segment somewhat dome-shaped, deeply and closely punctured, with a transverse suture on the anterior margin, apical margins yellowish, slightly tinged with ferruginous, broader in the middle than on the sides; second segment large, convex, shining, delicately punctured, a rather broad apical band and an oblique spot on each side at base, dull ferruginous margined with yellowish, the apical band on this segment is continued beneath, but not so broad as above; remaining segments gradually acuminate, entirely black. Length $4\frac{3}{4}$ lines; expanse of wings 8 lines.

Male.—Resembles the female, except that the clypeus is entirely yellowish, the antennæ are terminated by a hook, and all the markings, though situated as in the female, are bright yellow and not varied with ferruginous. Length $4-4\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}-7\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One ♀, two ♂ specimens.

Smaller than *O. cingulatus*, and at once distinguished by the basal oblique spot on each side of the second abdominal segment.

Odynerus bucuensis, Sauss.

Odynerus Bucu, Sauss. Mon. Guêpes. Sol. p. 185. Guér. in LaSagra's Hist. Cuba, Ins. p. 770, pl. 19, fig. 3.

Odynerus Bucuensis, Sauss. Mon. Guêpes. Sol. Suppl. p. 232.

Collection.—Ent. Soc. Philad. Two ♂ specimens.

A small male specimen (3 lines long) varies by the abdomen being tinged with fuscous and the spot on each side of the metathorax being subobsolete.

Odynerus dejectus, n. sp.

Black; line behind the eyes, sinus in front, spot between antennæ, most of clypeus, base of antennæ, anterior margin of prothorax, spot on disk of mesothorax, tegulæ, a spot on each side behind them, a spot beneath the wings, post-scutellum, a mark on each side of metathorax, the tibie, apical margins of the first, second and fifth segments of abdomen and a spot on each side of the two basal segments, yellowish; wings fusco-hyaline.

Female.—Opaque-black, deeply and closely punctured; a line behind the eyes near their summit, the sinus in front, a spot between the insertion of the antennæ, and the basal half of the clypeus, deeply and squarely emarginate before, obscure yellowish; antennæ black, the basal joint, except the apical half above, yellow. Thorax: the anterior margin of the prothorax slightly interrupted on the disk, a small quadrate spot on the disk of the mesothorax posteriorly, tegulæ, a minute spot on each side just behind the tegulæ, a round spot on each side of the pleura just beneath the base of the anterior wings, the postscutellum, and an elongate mark on each side of the metathorax, yellowish. Wings fusco-hyaline, darker along the costa, and especially in the marginal cell. Legs black; tips of the four anterior femora, their tibie, and the posterior tibie except tips, yellowish. Abdomen robust, not much contracted at base; basal segment roughly punctured, with a faint transverse suture at base, its apical margin broader on the middle, continued along the lateral margin and then produced within about one-fourth the width of the segment, yellowish; second segment large, convex, shining, finely punctured, more strongly so at tips; the apical margin above and beneath, and a rounded spot on each side near the base, as well as the apical margin of the fifth segment not quite reaching the sides, yellow. Length $4\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

Closely allied to *O. bucuensis*, but is distinguished by its more robust form, the spot on the disk of the mesothorax, and the absence of bands on the fourth and sixth segments of the abdomen. It may, however, be the female of that species.

Odynerus Enyo, St. Farg.

Odynerus elegans, Guér. Icon. Règ. Anim. Ins. p. 446, pl. 70, fig. 5.

Odynerus Enyo, St. Farg. Hym. ii, p. 648. Sauss. Mon. Guêpes. Sol. p. 185. Guér. in LaSagra's Hist. Cuba, Ins. p. 770.

Collection.—Ent. Soc. Philad. Seven ♀, six ♂ specimens.

The ♂ of this elegant species differs from the ♀ by the smaller size, and by the clypeus, mandibles and line between the antennæ being yellow, while in the ♀ they are black.

Odynerus simplicicornis, Sauss.

Odynerus simplicicornis, Sauss. Mon. Guêpes. Sol. Suppl. p. 253. Guér. in LaSagra's Hist. Cuba, Ins. p. 771, pl. 19, fig. 5.

Collection.—Ent. Soc. Philad. Six ♀, five ♂ specimens.

The nest of this species is somewhat of an oblate-spheroidal shape, constructed of fine earth of a beautiful fawn color. It is attached to a slender twig and measures $4\frac{1}{2}$ by 6 lines; sometimes two nests are attached, close together, to the same twig; the outer surface is uneven, and on the upper side there is a stout peduncle, by which the nest has been attached to another body. The opening made by the imago in its escape is large, and always on the side of the nest.

Fam. VESPIDÆ.

Genus **POLISTES**, Fabr.**Polistes carnifex**, Fabr.

Vespa carnifex, Fabr. Syst. Ent. p. 365; Spec. Ins. i, p. 461; Mant. Ins. i, p. 288; Ent. Syst. ii, p. 260. Christ. Hymen. p. 239. Oliv. Ency. Méth. vi, p. 681.

Polistes carnifex, Fabr. Syst. Piez. p. 272. Sauss. Mon. Guép. Soc. p. 90, pl. 10, fig. 5. Guér. in LaSagra's Hist. Cuba, Ins. p. 772.

Polistes rufipennis, Latr. Voy. Humb. et Bonpl. Ins. ii, p. 97, pl. 38, fig. 4.

Polistes major, Beauv. Ins. d'Afr. et d'Amer. p. 206, pl. 8, fig. 1.

Polistes chlorostoma, St. Farg. Hym. i, p. 521.

Polistes onerata, St. Farg. Hym. i, p. 524.

Polistes valida, Say, Bost. Journ. Nat. Hist. i, p. 389.

Polistes transversosignatus, Spinola, Voy. Entom. de Ghiliani, p. 62.

Collection.—Ent. Soc. Philad. Six (♂ ♀) specimens.

Polistes lineatus, Fabr.

Vespa lineata, Fabr. Spec. Ins. i, p. 461; Mant. Ins. i, p. 288; Ent. Syst. ii, p. 259. Oliv. Ency. Méth. vi, p. 581.

Polistes lineata, Fabr. Syst. Piez. p. 271.

Polistes lineatus, Sauss. Mon. Guép. Soc. p. 95, pl. 11, fig. 6.

Polistes cubensis, St. Farg. Hym. i, p. 526.

Collection.—Ent. Soc. Philad. Seven (♂ ♀) specimens.

Varies by the segments of the abdomen being more or less distinctly banded with blackish at base.

I have before me nine specimens of this species which have been attacked by parasitic fungi, similar to that figured by Saussure (Mon. Guép. Soc. pl. 5, fig. 9, and pl. 11, fig. 5) as attacking *Icaria cincta* and *Polistes americanus*, except that the fungi which are developed, or swelled at the ends, have their stalks much longer than is represented in the figure of *I. cincta*.

Polistes minor, Beauv.

Polistes minor, Beauv. Ins. d'Afr. et d'Amer. p. 207, pl. 8, fig. 3. Sauss. Mon. Guép. Soc. p. 96, pl. 11, fig. 3. Guér. in LaSagra's Hist. Cuba, Ins. p. 773.

Polistes Poeyi, St. Farg. Hymén. i, p. 532.

Collection.—Ent. Soc. Philad. Fifteen (♂ ♀) specimens.

Polistes incertus, n. sp.

Dull ferruginous, varied with yellowish; vertex, middle of antennæ, sutures of thorax, most of hind femora and tips of their tibiæ, blackish; abdomen banded with yellow; wings stained with yellowish-fuscous, especially along the costa.

Male.—Head yellowish; a large quadrate mark on the vertex, enclosing the ocelli, and the posterior margin of the occiput, blackish; antennæ ferruginous, paler at tips and beneath, the middle above more or less blackish. Thorax dull ferruginous; broad margins of the pectus, most of the pleura, tegulæ, most of scutellum, and the postscutellum, yellowish; sutures of the pleura, a spot beneath the base of the wings, margins of the mesothorax, as well as a line down its middle, and the sutures between the scutellum, postscutellum and metathorax, black or blackish; the posterior middle of the scutellum is dull ferruginous, so that the yellow forms a large spot on each side confluent on the basal middle; metathorax dull ferruginous, with four longitudinal yellowish lines, one on each extreme side and two on the middle, divided by a deep, shining, blackish groove. Wings uniformly tinged with yellowish-fuscous, very deeply so in the costal and marginal cells. Legs yellowish, slightly tinged with ferruginous; the coxæ within, the four anterior femora at base beneath, the posterior femora except tips, and their tibiæ at tips above, black or blackish; tips of the tarsi ferruginous. Abdomen dull ferruginous, sericeous; basal segment slender at base and gradually dilated to the tip, with a slight prominence on each side about the middle; base of the second segment rather suddenly constricted; apical margins of all the segments with a broad yellowish fascia, dilated on each extreme side, more or less emarginate on each side anteriorly, and interrupted on the middle by a very narrow, faintly impressed, dull ferruginous line; apex subtruncate; beneath marked

as above, except that the basal segment is entirely yellowish, with its posterior face flat, triangular and carinated on each side. Length 6½ lines; expanse of wings 11½ lines.

Collection.—Ent. Soc. Philad. One specimen.

This may be only a ♂ variety of *P. lineatus*, but it is much smaller, slenderer, and somewhat differently marked, with the base of the first segment of the abdomen more slender and the second segment rather suddenly narrowed at base.

Genus **POLYBIA**, St. Farg.

Polybia phthisica, Fabr.

Vespa phthisica, Fabr. Ent. Syst. ii, p. 281.

Polistes phthisica, Fabr. Syst. Piez. p. 278.

Polybia phthisica, Sauss. Guép. Soc. p. 186, pl. 23, figs. 7—8.

Vespa cajennensis, Fabr. Ent. Syst. Suppl. p. 265. Coqueb. Ill. Icon. Ins. p. 62, pl. 15, fig. 3.

Polistes cajennensis, Fabr. Syst. Piez. p. 280.

Polistes hectica, Fabr. Syst. Piez. p. 278.

Vespa ochrosticta, Weber. Obs. Ent. p. 104.

Vespa fasciata, Oliv. Ency. Méth. vi, p. 676.

Polistes fasciata, St. Farg. et Serv. Ency. Méth. x, p. 172.

Polistes fulvo-fasciata, Latr. Gen. Crust. et Ins. iv, p. 142.

Collection.—Ent. Soc. Philad. Two ♀, one ♂, specimens.

The specimens before me of this species are pale yellowish-ferruginous, with the yellow markings generally more or less indistinct.

Polybia cubensis, Sauss.

Polybia cubensis, Sauss. Mon. Guép. Soc. p. 202, pl. 25, figs. 5—6. Guér. in LaSagra's Hist. Cuba, p. 774.

Collection.—Ent. Soc. Philad. Nine (♂ ♀) specimens.

The nest sent as belonging to this species, is shaped very similar to that figured by Saussure (Mon. Guép. Soc. pl. 4, fig. 3a) as the nest of *Icaria variegata*.

Fam. **ANDRENIDÆ**.

Genus **COLLETES**, Latr.

Colletes submarginata, n. sp.

Black, clothed with whitish pubescence, disk of thorax with black pubescence; legs piceous; wings hyaline; abdomen polished, apical margins of the segments above fringed with white pubescence, broadly interrupted on the middle of the three basal segments.

Female.—Black; head closely and rather finely punctured, clothed with whitish pubescence, long and dense on the cheeks and beneath, shorter on the face and more dense and subappressed on the sides of the face, on the vertex the pubescence is more or less black; clypeus

depressed, deeply and rather closely punctured, somewhat shining; immediately above the clypeus, between the insertion of the antennæ, a semicircular prominence which has a few deep punctures; labrum and mandibles polished, the latter tinged with piceous and fringed with pale pubescence; antennæ black, more or less tinged with piceous; the flagellum, except the two basal joints, dull rufo-testaceous. Thorax closely and finely punctured, rather densely clothed with short hoary pubescence, that on the mesothorax and scutellum more or less black, that on each side of the metathorax long and dense; scutellum deeply punctured; posterior face of metathorax flat, channelled down the middle, with the sides feebly punctured, and the base and channel smooth and shining; just behind the postscutellum a narrow space longitudinally striated and extending the whole width of the metathorax; pleura closely punctured, rather sparsely pubescent, especially just beneath the wings; tubercles beneath the tegulæ clothed with black pubescence and fringed posteriorly with dense white pubescence; tegulæ piceous-black, smooth and polished. Wings hyaline, the extreme tip tinged with fuscous; nervures black. Legs piceous-black; the four anterior femora densely clothed with long hoary pubescence, their tarsi and the posterior tibiæ and tarsi with short, dense, yellowish-brown pubescence. Abdomen smooth and polished; base of the first segment clothed with hoary pubescence, the apical margins of the first five segments fringed with white pubescence, widely interrupted on the middle of the three basal segments and entire on the others; apical segments feebly punctured and thinly clothed with short pale pubescence; beneath black, tinged with pale piceous towards the tip. Length $5\frac{1}{2}$ lines; expanse of wings $8\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

Genus **HALICTUS**, Latr.

Halictus Poeyi, St. Farg.

Halictus Poeyi, St. Farg. Hym. ii, p. 271.

Collection.—Ent. Soc. Philad. Ten (♂ ♀) specimens.

Genus **AUGOCHLORA**, Smith.

Augochlora Regina, Smith.

Augochlora Regina, Smith, Brit. Mus. Cat. i, p. 77.

Collection.—Ent. Soc. Philad. Eight (♂ ♀) specimens.

This lovely species varies in length from $4\frac{1}{2}$ to 6 lines; some specimens are more tinged with bluish than others, and the legs vary from pale piceous to black.

Augochlora præclara, n. sp.

Brilliant metallic green; abdomen oblong-ovate, tinged with bluish; wings hyaline, apical third dusky; legs blue-green, clothed with pale pubescence.

Female.—Head bright golden-green, finely and very closely punctured, clothed with a short pale pubescence; the prominence beneath the base of antennæ indistinctly punctured; clypeus strongly tinged with blue, depressed, subquadrate, sparsely and rather deeply punctured, the anterior margin fringed with pale pubescence; mandibles purplish-blue at base, piceous at tips; antennæ dull black, basal joint purplish-blue. Thorax bright golden-green, very finely and closely punctured, sparsely pubescent; scutellum indistinctly punctured, clothed with rather long, pale pubescence, slightly mixed with black; metathorax slightly tinged with bluish, clothed, especially behind, with pale pubescence, the base with a transverse, semicircular space which is covered with fine radiating striæ, posterior face flat, subcordate, finely sculptured, golden-green; tegulæ blue-green, polished. Wings hyaline, the apical third tinged with fuscous; nervures and stigma fuscous. Legs green, more or less tinged with bluish; the tibiæ and tarsi rather densely clothed with short pale pubescence; apical joints of the tarsi dull testaceous. Abdomen oblong-ovate, much narrowed towards the base, smooth and polished, green, more or less tinged with bluish, especially on the apical margins of the segments which have a purplish hue in certain lights; the base, sides and apex of the abdomen thinly clothed with pale pubescence; venter flattened, blue-green, rather densely clothed with subappressed, pale pubescence. Length 4 lines; expanse of wings 7 lines.

Collection.—Ent. Soc. Philad. One specimen.

Augochlora elegans, n. sp.

Green; abdomen and legs bluish, the former subsericeous, with a splendid violet reflection; wings hyaline; abdomen oblong-ovate.

Male.—Head brilliant green, more or less tinged with bluish in certain lights, very finely and densely punctured, clothed with pale pubescence, which is long on the cheeks, and more or less black on the vertex and occiput; face subtriangular, depressed; the prominence beneath the base of the antennæ large, elongate, rather deeply and very closely punctured and margined on the sides and above with a deep violet hue; clypeus produced, quadrate, subconvex, more or less bluish in certain lights, covered with deep and close punctures, the apical margin truncate; mandibles piceous, blue-green at base; antennæ half again as long as the head, entirely black, the scape clothed with whitish pubescence. Thorax brilliant green, finely, closely and uniformly punctured,

sparsely clothed with fine whitish pubescence, longer, more dense and mixed with black on the scutellum and metathorax; mesothorax with three finely impressed, abbreviated, longitudinal lines, one on the disk and one on each side over the tegulae; thorax beneath more or less tinged with deep blue; scutellum bright golden-green, rather sparsely punctured and somewhat depressed on the disk; postscutellum blue-green, roughly punctured; metathorax slightly tinged with bluish in certain lights, rounded on the sides, very finely and closely punctured, the posterior face depressed, but not abruptly, less distinctly punctured with a rather deep, longitudinal, impressed line, extreme base with a transverse, semicircular, depressed space which is covered with fine longitudinal striae, slightly radiating posteriorly; tegulae bronze-green, polished. Wings hyaline, faintly iridescent, the extreme apical margin faintly dusky; nervures brown-black. Legs brilliant blue-green, clothed with fine hoary pubescence; tarsi rufo-piceous. Abdomen oblong-ovate, strongly tinged with blue, and with a beautiful violaceous reflection in certain lights, polished, very delicately punctured, the apical margins depressed especially on the sides and impunctured, clothed with a very short, fine, pale pubescence, giving the segments a beautiful sericeous appearance when viewed in certain lights; the pubescence at the base, the extreme sides and apex of the abdomen longer and slightly mixed with black; venter flattened, blue-green and pubescent. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Collection.—Ent. Soc. Philad. and Dr. J. Gundlach. Two specimens.

***Angochlora magnifica*, n. sp.**

Green; face, legs and abdomen more or less deeply tinged with blue; abdomen oblong-ovate, the segments broadly margined at tip with violet; wings hyaline.

Male.—Shaped and sculptured as the preceding species; brilliant green, clothed with pale pubescence; the face more or less deeply tinged with bluish, and above the antennae it is of a deep, opaque, purplish-blue hue; antennae dull black, somewhat piceous. Thorax as in the preceding species; tegulae brownish. Wings hyaline, nervures pale-brownish. Legs as in the preceding species, except that they are more or less tinged with piceous and the femora have a violet reflection. Abdomen oblong-ovate, polished, very delicately punctured, brilliant blue-green, with the apical margins of the segments depressed, impunctured, and broadly violaceous; extreme apex tinged with dull testaceous. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Collection.—Dr. J. Gundlach. One specimen.

Much like *A. elegans*, but is at once distinguished from that species by the abdominal segments being beautifully margined with violaceous.

***Angochlora parva*, Poey MSS.**

Dark bronze-green; abdomen tinged with piceous; head tinged with dull blue, the face densely pubescent; wings hyaline.

Female.—Head large, broader than the thorax, dark bronze-green, tinged with opaque deep blue on the vertex, very closely and finely punctured; sides of the face beneath the antennae, the clypeus and the cheeks, densely clothed with short silvery-white pubescence; clypeus more deeply punctured, depressed and truncate at tip; antennae entirely piceous-brown. Thorax dark bronze-green, somewhat shining, very closely and finely punctured, clothed with a thin pale pubescence, longer and more dense on the scutellum and metathorax; mesothorax with three indistinctly impressed longitudinal lines; scutellum polished, less closely punctured; metathorax bronze-green, the base with a transverse row of short, longitudinal, radiating striae, the posterior face with a deep pit; tegulae pale-brownish, polished. Wings hyaline, iridescent; nervures dull testaceous. Legs piceous, pubescent; tarsi yellowish. Abdomen ovate, subdepressed, clothed with short pale pubescence, rather dense at tip, dark bronze-green, tinged with piceous at base and with bluish towards the apex, the apical margins of the segments mostly dull testaceous, subdepressed and impunctured. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Male.—Resembles the female, but is less robust, the antennae are rather longer than the head and thorax, the latter is more densely pubescent, the wings beautifully iridescent, the legs pale piceous with their tarsi yellow, and the abdomen more slender and elongate, entirely pale piceous, with the segments rather strongly contracted at base. Length 2 lines; expanse of wings $3\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Four ♀, one ♂, specimens.

Genus AGAPOSTEMON, Guér.

***Agapostemon femoralis*, Guér.**

Andrena femoralis, Guér. Icon. Reg. Anim. iii, p. 447, pl. 73, fig. 1; LaSagra's Hist. Cuba, Ins. p. 775, pl. 19, fig. 7.

Agapostemon femoralis, Smith, Brit. Mus. Cat. Hym. ii, p. 88.

Collection.—Ent. Soc. Philad. Forty ♂ specimens.

I have two ♂ specimens before me which differ from the above only by having the head and thorax dull black, very faintly tinged with obscure bluish, instead of being brilliant blue-green. It is probably only a variety.

Agapostemon semiviridis, n. sp.

Metallic green; antennæ, legs and abdomen black, the second, third and fourth segments of the latter with a white fascia at base, broader on each side; wings hyaline, apical margins dusky.

Female.—Head bluish-green, finely and very closely punctured, clothed with pale pubescence, longer on the cheeks and slightly mixed with black on the vertex; cheeks finely aciculate; anterior margin of the clypeus piceous, truncate and fringed with long pale pubescence; mandibles piceous; antennæ piceous, the flagellum paler. Thorax bright golden-green, sometimes tinged with coppery, very closely and minutely punctured, or very finely granulate, clothed with short pale pubescence, slightly mixed with black above; scutellum brilliant golden-green, sparsely punctured; sutures between the mesothorax, scutellum, postscutellum and metathorax tinged with deep blue in certain lights; metathorax covered with close, fine striæ, those at the base longitudinal and radiating posteriorly, those on the sides transverse or somewhat oblique, posterior face with a large, suborbicular, depressed space enclosed by a sharp, well-defined carina, and covered with fine striæ which radiate from the tip of the metathorax; a densely pubescent semicircular space just behind the tubercles which are polished; tegulæ rufo-testaceous. Wings hyaline, slightly iridescent, the apical margins tinged with pale fuscous; nervures brownish. Legs pale piceous, densely clothed, especially the posterior pair, with pale ochraceous pubescence; anterior tibiæ and all the tarsi rufo-testaceous; anterior coxæ green. Abdomen ovate, opaque black, the extreme base, the lateral and apical margins clothed with short pale pubescence; basal margins of the second, third and fourth segments above with a band of dense, white, appressed pubescence, dilated on each side and more or less interrupted on the third and fourth segments; apical segment clothed with coarse black pubescence, with a longitudinal depressed space on the disk fringed with pale pubescence; venter piceous, clothed with pale brownish pubescence. Length 6 lines; expanse of wings 9 lines.

Collection.—Ent. Soc. Philad. Three specimens.

This may be the ♀ of *A. femoralis* Guér.

Agapostemon festinus, n. sp.

Bright green, abdomen tinged with blue; anterior half of clypeus, labrum, mandibles, base of antennæ, most of legs, and basal margin of first three or four segments of abdomen, yellow; wings hyaline.

Male.—Head green, golden on the face and tinged with obscure blue on the vertex, finely and closely punctured, clothed with pale pu-

bescence, long and more dense on the cheeks, and pale ochraceous on the face; anterior half of the clypeus, labrum and the mandibles, yellow, the latter piceous at tips; antennæ as long as the head and thorax, piceous-brown, dull fulvous beneath, basal joint beneath yellow. Thorax brilliant green, clothed with rather thin pale pubescence; mesothorax very finely and closely punctured, and in certain lights the disk has a dull blackish shade, and a finely impressed longitudinal central line; pectus and pleura rugose, golden-green; tubercles smooth and polished with a semicircular pubescent space just behind them; space on each side between the pleura and metathorax transversely rugose; metathorax irregularly rugose, more finely so on each side, the base covered with well-defined somewhat irregular striæ radiating posteriorly, the posterior face with a rather large, orbicular, depressed, bright golden-green space, enclosed by a sharply-defined carina, the surface somewhat rugose with a central line; tegulæ pale brownish or rufo-testaceous. Wings hyaline, somewhat iridescent, the apical margins slightly dusky; nervures fuscous. Legs yellow, pubescent; coxæ green; trochanters except a line beneath, tips of the femora, and the tibiæ exteriorly, dark fuscous; tarsi yellow, more or less tinged with dusky; posterior femora elongate, robust but not globose. Abdomen ovate, delicately punctured, bright green tinged with blue, the basal segment more or less dull piceous; apical margins of the segments subdepressed; across the middle of the first segment an irregular, transverse, yellow band, and at the extreme base of the second, third and sometimes the fourth segments a regular, more or less broad, yellow band, below these bands on the second and third segments there is an opaque blackish, transverse shade; venter dull fulvo-testaceous. Length $3\frac{1}{2}$ —4 lines; expanse of wings 5—6 lines.

Collection.—Ent. Soc. Philad. Three specimens.

Agapostemon Poeyi, Lucas.

Andrena Poeyi, Lucas. Guér. LaSagra's Hist. Cuba, Ins. p. 775.

Female.—Brilliant green, clothed with pale pubescence; head short, rather broad, very densely and deeply punctured; clypeus short, transverse, the anterior margin black and fringed with long pale pubescence; labrum and mandibles piceous, the latter green at base; cheeks coarsely aciculate; antennæ short, piceous. Thorax very densely punctured, somewhat tinged with golden; mesothorax very finely and closely punctured, somewhat rugose; scutellum sparsely punctured on the disk, shining, golden-green; metathorax densely striated, the striæ at the base radiating posteriorly, those on the sides oblique, the posterior face

with a large, subquadrate, depressed, transversely striated space enclosed by a sharply-defined carina; tegulæ fuscous. Wings hyaline, very faintly tinged with pale fuscous, especially on the apical margins; nervures fuscous. Legs piceous, clothed with pale ochraceous pubescence, longer and more dense on the posterior pair. Abdomen ovate, very minutely punctured, shining, bright green, more or less tinged with blue, the base, sides and apex clothed with pale pubescence; when viewed in certain lights, the disk of some of the segments have a transverse band of a deep violet hue; apical segment densely clothed above with fuscous pubescence; venter green, pubescent. Length $4\frac{3}{4}$ lines; expanse of wings $7\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

Not being quite sure that this species is correctly referred, I give a more detailed description of it.

Genus **NOMIA**, Latr.

Nomia Robinsoni, n. sp.

Black; head and thorax clothed with ochraceous pubescence; antennæ beneath and the legs rufo-testaceous; wings subhyaline; abdomen with three or four beautiful green or golden-green bands.

Female.—Black; head rather densely clothed with short pale pubescence; face broad and flat, deeply and rather closely punctured; antennæ piceous-black, the flagellum beneath brownish. Thorax closely and rather finely punctured; mesothorax clothed with short fuscous pubescence, anterior margin with a line of short, dense, pale ochraceous pubescence extending on each side to the base of the wings and covering the tubercles; pleura thinly clothed with pale pubescence, the post-scutellum with short, very dense, pale ochraceous pubescence; metathorax finely punctured, the posterior face concave and the sides with a patch of rather long pale pubescence; tegulæ piceous. Wings hyaline, the apical margins broadly pale fuscous; nervures pale ferruginous. Legs piceous, densely clothed with short pale pubescence; posterior tibiæ and tarsi pale testaceous, densely pubescent. Abdomen ovate, black, somewhat shining, very delicately punctured; the base, sides, and lateral apical margins of the first segment fringed with pale pubescence; apical margins of all the segments depressed and impunctured, those of the second, third and fourth segments pale emerald-green, with a beautiful golden-yellow reflection; apex rather densely clothed with pale pubescence; venter piceous, densely pubescent. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Male.—Black; face densely clothed with short, ochraceous pubescence; antennæ longer than the head and thorax, gradually attenuated

to the tips, piceous, the flagellum fulvous beneath. Thorax as in the ♀, except that the pubescence is more dense and entirely ochraceous and somewhat sericeous; scutellum slightly depressed on the middle; metathorax shining and sparsely punctured. Wings as in the ♀. Legs yellowish-testaceous, clothed with short pale ochraceous pubescence; the coxæ, trochanters, femora, especially above, and a small spot on the posterior tibiæ exteriorly, fuscous; posterior tibiæ short, subtriangular, much dilated and compressed at tip within, with a prominent, obtuse, compressed tubercle on the inner edge; basal joint of the posterior tarsi longer than their tibiæ and slightly dilated at base. Abdomen oblong-ovate, the apical margins of the second, third, fourth and fifth segments above emerald-green, with a beautiful bright golden-yellow reflection, the band on the fifth segment does not extend to the lateral margins; in one specimen the apical bands have a beautiful orange-ferruginous or igneous reflection. Length $5\frac{1}{2}$ —6 lines; expanse of wings 9—10 lines.

Collection.—Ent. Soc. Philad. One ♀, three ♂ specimens.

It gives me pleasure to dedicate this elegant species to my friend Coleman T. Robinson, Esq., of New York City.

Fam. APIDÆ.

Genus **PANURGUS**, Panz.

Panurgus† *parvus*, n. sp.

Dark green, shining; abdomen piceous, segments contracted at base; face densely clothed with silvery-white pubescence; wings hyaline, iridescent.

Female.—Dark green, shining; head very closely and minutely punctured; the face, clypeus and cheeks clothed with a dense, short, silvery-white pubescence; antennæ as long as the head and thorax, stout, piceous, the flagellum beneath rufo-testaceous. Thorax thinly clothed with whitish pubescence, finely punctured, rather sparse on the mesothorax, the disk of which is slightly depressed; at the basal middle of the metathorax a semicircular depressed space, covered with fine radiating striæ; tegulæ rufo-testaceous. Wings hyaline, iridescent; nervures fuscous. Legs piceous, thinly clothed with pale pubescence; tarsi paler. Abdomen oblong-ovate, subdepressed, piceous, smooth and polished; second and third segments contracted at base; apical margins of the segments subdepressed and paler; the apex and venter clothed with pale pubescence. Length 2 lines; expanse of wings $3\frac{1}{2}$ lines.

Male.—Resembles the ♀, but the antennæ are longer and the abdomen narrower and not depressed.

Collection.—Ent. Soc. Philad. ♂; Dr. J. Gundlach ♀. Two specimens.

This species does not answer exactly to the characters of the genus in which I have placed it, but I am unable, at present, to refer it to another which seems more allied. It bears a very close resemblance to *Augochlora parva* described above (p. 171), but is separated at once by the anterior wings having only two submarginal cells. The venation of the wings is very similar to that of *Panurgus*.

Genus **MEGACHILE**, Latr.

Megachile atriceps, n. sp.

Black; thorax and base of abdomen clothed with ochraceous pubescence, rest of abdomen with bright ferruginous pubescence; wings bright yellow, the apical margin fuliginous.

Female.—Large, elongate; head large, subglobose, not wider than the thorax, black, clothed with short, dense, blackish-fuscous pubescence, that on the cheeks longer and whitish, very closely and minutely punctured; clypeus very transverse, rugose, the apical margin truncate; mandibles large, dull black, subobsoletely striated and interspersed with scattered, ill-defined punctures, and clothed with a very short, thin, pale ochraceous pubescence; antennæ as long as the width of the head, black, the flagellum beneath brownish. Thorax black, very closely and minutely punctured, rather densely clothed with ochraceous pubescence, paler beneath, and much longer and more dense on the metathorax; tegulæ rufo-testaceous. Wings bright gamboge-yellow, the apical margins broadly fuliginous; nervures fulvo-ferruginous. Legs black, clothed with pale pubescence, the tarsi within with ferruginous pubescence. Abdomen oblong, not broader than the thorax, the sides subparallel, black, densely clothed with short, bright ferruginous pubescence, longer and more dense on the apical margins of the segments, and deeper in color towards the apex; sides of the basal segment clothed with rather long, dense, ochraceous pubescence; ventral scopa dense and bright ferruginous, ochraceous at base. Length 9 lines; expanse of wings 14 lines.

Collection.—Ent. Soc. Philad. Two specimens.

This fine, large species is readily recognized by the elongate, parallel form, the black head, deep yellow wings, and bright ferruginous pubescence of the abdomen. Prof. Poey writes me that "it makes its nest in dry wood, which it pierces like the *Xylocopæ*."

Megachile Poeyi, Guér.

Megachile Poeyi, Guér. Icon. Règ. Anim. iii, p. 450; LaSagra's Hist. Cuba, Ins. p. 778, pl. 19, fig. 10.

Collection.—Ent. Soc. Philad. Three ♀, three ♂ specimens.

Prof. Poey informs me that he has "found the nest of this species, formed of cuttings of leaves, under stones. It has for its enemy the *Leucospis Poeyi* Guér."

Megachile singularis, n. sp.

Black; head and thorax densely clothed with ochraceous pubescence; wings fusco-hyaline; tibiae and tarsi yellowish-fuscous, the anterior tarsi pale and broadly dilated; abdomen narrower than the thorax, elongate-subquadrate, the apex bidentate.

Male.—Black, very closely and finely punctured; head large, transverse, rather wider than the thorax, the face densely clothed with long ochraceous pubescence, pale on the clypeus, the pubescence on the vertex, occiput and cheeks rather short and tinged with fuscous; eyes large and elongate; mandibles flattened, subtriangular, being subacute at tip and broadly dilated beneath about the middle; on the lower margin of the cheeks the pubescence is long and pale ochraceous; antennæ about as long as the width of the head, black, filiform, the apical joint dilated and compressed. Thorax above densely clothed with dull ochraceous pubescence, somewhat mixed with black on the disk; on the pleura and the metathorax behind the pubescence is sparse especially on the latter; tegulæ piceous, pubescent in front. Wings fusco-hyaline, the apex, especially about the marginal cell, fuliginous; posterior pair clearer; nervures dull ferruginous. Legs pubescent, shining; coxæ, trochanters, anterior femora above and the four posterior femora entirely, piceous-black; the anterior femora beneath, and all the tibiae, dull yellowish-fuscous; the four posterior tarsi paler, and clothed with golden-yellow pubescence; anterior tarsi yellowish-white, the three basal joints broadly and obliquely dilated, and having behind a pale, thick fringe, much longer and yellowish on the basal joint; apical joint fuscous; intermediate tarsi very long and slender, being three times as long as their tibiae, gradually attenuated to the tip, the terminal joint nearly as long as the first joint, with the claws very long, slender, deeply cleft, and very acute; posterior tarsi not much longer than their tibiae, stout, the basal joint dilated, the other joints short and subacute, the claws stout and cleft. Abdomen elongate-subquadrate, about as long as the head and thorax and not so wide as the latter, subdepressed, sides parallel, apical and basal margins of the segments depressed, the anterior face of the first segment deeply concave; dorsal segments

thinly clothed with an erect dull ochraceous pubescence, long on the basal segment and very short on the remaining segments; basal margins of the third and fourth segments and almost the whole of the two apical segments clothed with a short, dense, appressed, ochraceous pubescence; the last segment incurved, with a rounded, depressed, naked space on the disk, below which on the posterior margin are two short, distant, subacute teeth; venter flat, piceous, shining. Length 6 lines; expanse of wings $10\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

***Megachile curta*, n. sp.**

Black; head and thorax densely clothed with long pale pubescence, which is black on the vertex and scutellum; antennæ long; legs simple; wings hyaline; abdomen short, incurved at tip, the basal margins of the segments with a narrow fascia of whitish pubescence as well as an uneven line between mesothorax and scutellum.

Male.—Short and robust, black, very closely and minutely punctured; head large, transverse, rather broader than the thorax, the face densely clothed with long pale ochraceous pubescence, on the vertex and occiput it is black, and on the cheeks and beneath it is long and white; eyes large; mandibles moderate, black, acute at tip and fringed beneath with pale pubescence; antennæ piceous, pale beneath, filiform, slender, as long as the head and thorax together, terminal joint pointed not dilated nor compressed. Thorax short, robust, clothed above with black pubescence, slightly mixed with whitish, on the pleura and beneath it is rather longer and entirely whitish; narrow anterior margin of the mesothorax, covering the tubercles, two short, oblique, longitudinal lines on the disk of the mesothorax in front, and its posterior margin broader above the tegulæ and in front of the scutellum, clothed with short, appressed, pale ochraceous pubescence; scutellum clothed with long black pubescence, and the metathorax, especially on the sides, with long pale pubescence; tegulæ piceous. Wings hyaline, the apical margins pale fuscous and slightly iridescent; nervures fuscous. Legs simple, piceous-black, and clothed, especially the femora beneath, with rather long whitish pubescence; anterior femora beneath at tip tinged with ferruginous. Abdomen very short, about as broad as long, incurved at tip, shining, piceous-black, the apical and basal margins of the segments depressed; basal segment clothed with long pale pubescence; apical lateral margins of the segments fringed with whitish pubescence, and the basal margins of the second and third, and almost the whole dorsal surface of the two following segments, clothed with a very short, dense, appressed,

pale ochraceous pubescence; tip of the terminal segment very slightly emarginate; ventral segments with an apical fringe of whitish pubescence. Length 4 lines; expanse of wings 7 lines.

Collection.—Dr. J. Gundlach. One specimen.

***Megachile maura*, n. sp.**

Entirely black; wings fusco-hyaline; legs piceous.

Female.—Deep shining black, clothed with short, dense black pubescence; the clypeus, a flattened space above it, vertex, disk of mesothorax, scutellum and the abdomen above except the basal segment, naked, smooth and polished; clypeus depressed, rather closely punctured; mandibles robust, broad at tip, sparsely punctured, shining, and deeply grooved along the outer margin; antennæ piceous-black, the flagellum pale beneath. Thorax finely and sparsely punctured; anterior middle of the mesothorax with a longitudinal impressed line abbreviated on the disk; scutellum with a few subobsolete, scattered punctures, the tip rounded; tegulæ piceous. Wings fusco-hyaline, darker on the apical margins; posterior pair clearer; nervures dull ferruginous. Legs piceous, clothed with blackish pubescence, the anterior tibiæ rugose exteriorly. Abdomen short, broad at base, gradually narrowed to the tip which is obtusely pointed and somewhat recurved; the basal segment above thinly clothed with short black pubescence, larger and thicker on the sides; remaining segments above naked, smooth, polished and indistinctly punctured, the apical margins depressed on each side and sometimes pale piceous; apical segment opaque dark fuscous, obtuse-truncate at tip; ventral scope black, long and dense. Length 6 lines; expanse of wings 11 lines.

Collection.—Ent. Soc. Philad. Two specimens.

Closely allied to *M. morio* Smith, and *M. xylocopoides* Smith, but distinct from both species by the punctation being much less dense.

Genus **CERATINA**, Latr.

***Ceratina cyaniventris*, n. sp.**

Bright metallic-green, polished; abdomen deep blue; wings subhyaline, iridescent.

Female.—Head bright metallic green, slightly tinged with bluish in certain lights, deeply and rather closely punctured, slightly pubescent; clypeus sparsely punctured with a conical whitish mark on the disk, the anterior margin truncate and blackish; antennæ piceous. Thorax bright metallic green, slightly tinged with bluish in certain lights, closely and distinctly punctured, sparse on the disk of the mesothorax, which is tinged with golden-green and has four, indistinctly impressed,

longitudinal lines, the middle one abbreviated behind, the extreme lateral one abbreviated before; tegulae piceous. Wings subhyaline, faintly tinged with fuscous, iridescent; nervures blackish. Legs green, pubescent, the tibiae and tarsi piceous. Abdomen subglobose, broader behind, deep blue, tinged with green and purple when viewed in certain lights, closely and rather deeply punctured, the punctures becoming coarser and somewhat rugose towards the tip, which is slightly incurved and clothed with a thin pale pubescence; venter pubescent. Length 3 lines; expanse of wings 5 lines.

Collection.—Ent. Soc. Philad. One specimen.

Genus **NOMADA**, Fabr.

Nomada cubensis, n. sp.

Piceous-black; face, orbits, cheeks, mandibles, base of antennae, collar, tubercles, tegulae, large mark on pleura, scutellum, two spots on metathorax, most of legs, and three bands and four spots on abdomen, yellow; wings subhyaline, fuscous at tips.

Female.—Piceous, closely punctured, slightly pubescent; face, orbits, and mandibles except tips, yellow; clypeus and labrum, dull ferruginous; antennae fulvous above, yellowish-fulvous beneath. Thorax opaque, coarsely punctured, somewhat rugose; collar, tubercles, tegulae, and a large subquadrate mark on pleura, yellow; the pleura beneath tinged with dull rufous, with two round, obscure ferruginous spots before the middle coxae; scutellum entirely yellow, subbilobate, somewhat prominent, with a small yellow spot on each extreme basal corner; postscutellum with a transverse yellow line; metathorax with a large, subovate, yellow mark on each side behind. Wings fusco-hyaline, darker at the extreme apex; nervures dull ferruginous, stigma yellowish. Legs yellow; the coxae, except a spot beneath, the trochanters and the femora, more or less tinged with fuscous; apical joints of tarsi dusky. Abdomen short, ovate, polished, pale piceous, very minutely and closely punctured; first and second dorsal segments with a rather broad, median, yellow band, attenuated on the middle anteriorly; on each side of the third and fourth segments, a yellow spot; the fifth segment almost entirely yellow; apical segment truncate at tip and densely pubescent; beneath pale piceous, pubescent, the third segment with a broad, continuous, yellow band. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Male.—Resembles the female, but is piceous-black, with the yellow markings brighter; the clypeus and labrum are yellow; the antennae are obscure fulvous, paler beneath, with the basal joint beneath tinged

with yellowish; the two round spots before the middle coxae are yellow; the anterior wings have a fuscous cloud at their apex; the fifth segment of the abdomen has a continuous yellow band, the remaining segments immaculate and pubescent, and the apical segment obtusely pointed and depressed. Same size as the female.

Collection.—Ent. Soc. Philad. ♂; Dr. J. Gundlach ♀. Five specimens.

Nomada flaviceps, n. sp.

Piceous-black; most of head, collar, tubercles, tegulae, large mark on pleura, scutellum, two spots on metathorax, most of legs, and three bands on abdomen above, bright yellow; wings subhyaline, apex fuscous.

Male.—Head bright yellow, polished, with a few very indistinct scattered punctures; a large quadrate spot, commencing at the insertion of the antennae, extending back and covering the ocelli, the labrum, tips of mandibles, throat, and the extreme posterior margin of the cheeks. Piceous-black; a minute spot before each posterior ocellus and two approximate spots before the anterior ocellus, yellow; antennae nearly as long as the head and thorax, rufo-piceous, the tips blackish. Thorax piceous-black, polished, the mesothorax finely and sparsely punctured, pleura apparently impunctured; collar, tubercles, tegulae, and a large mark on pleura deeply emarginate beneath, bright yellow; scutellum subbilobate, entirely bright yellow, as well as a minute spot on each extreme basal corner and a transverse line on postscutellum; metathorax very finely punctured, slightly pubescent, with a subtriangular yellow spot on each side behind. Wings pale fusco-hyaline, faintly iridescent, a fuscous cloud at the extreme tip; nervures pale ferruginous, stigma and the costal nerve of the marginal cell yellowish-fulvous. Legs yellowish; coxae piceous, with a yellow spot beneath, very large on the posterior pair; the four anterior trochanters and femora dull ferruginous; posterior trochanters and femora except tips, fuscous; tips of tarsi dusky. Abdomen piceous-black, smooth and polished, slightly pubescent; a broad, continuous, bright yellow band on the middle of the two basal segments and a narrow one on the fourth, almost hidden by the third segment; apical segment depressed and obtusely pointed; beneath, the third segment has a continuous, bright yellow band, gradually attenuated on the middle posteriorly. Length 4 lines; expanse of wings 7 lines.

Collection.—Dr. J. Gundlach. One specimen.

This elegant species is allied to *N. cubensis*, but is easily distinguished by the sparse punctation and the almost entirely yellow head; the markings of the abdomen are also different.

Nomada tibialis, n. sp.

Piceous, with a purplish reflection, especially on the abdomen; sides of the face, spot on the middle, most of clypeus, base of mandibles, collar, tubercles, two spots on pleura, spot on coxæ, basal joint of posterior tarsi exteriorly, and apical margins of abdominal segments, whitish; legs ferruginous; wings subhyaline, fuscous at tips.

Female.—Head broad, piceous-black, shining, indistinctly punctured, clothed with a short silvery-white pubescence, dense on the cheeks; sides of the face broader beneath, a minute spot beneath the base of the antennæ, a transverse mark on the clypeus much produced in the middle posteriorly, and a spot on base of mandibles, white; antennæ nearly as long as the head and thorax, piceous. Thorax piceous-black, with a slight purplish reflection in certain lights, polished, sparsely and finely punctured; mesothorax and pleura mostly tinged with obscure rufous, the latter clothed with a thin silvery-white pubescence; collar, tubercles, two spots on each side of pleura, the anterior one the smallest, and two spots at base of the scutellum, white; scutellum subbilobate, slightly pubescent; metathorax smooth and polished, immaculate, the sides above densely clothed with appressed silvery pubescence; tegulæ piceous. Wings subhyaline, faintly iridescent, the apex with a fuscous cloud; nervures fuscous; third submarginal cell nearly as long as the first, and very much constricted towards the marginal. Legs ferruginous, thinly clothed with whitish pubescence; a spot on the four posterior coxæ beneath, and a line on the basal joint of the posterior tarsi exteriorly, white. Abdomen ovate, piceous-black with a strong purplish reflection, shining, the second segment, except its apical margin, very densely and minutely punctured, the rest apparently impunctured; near the apical margin of each of the four basal segments, a narrow whitish fascia, broader on the first segment, the others slightly undulate and somewhat interrupted on the third segment, the posterior margin of each fascia is fringed with pale pubescence; apical segment truncate, densely clothed with fuscous pubescence, with a transverse space of dense pale pubescence on its disk; beneath fuscous, the sides of the segments rather densely clothed with pale pubescence, a spot on each side of the second segment, and a continuous band on the third, attenuated in the middle posteriorly, whitish. Length 4—4½ lines; expanse of wings 7—8½ lines.

Collection.—Ent. Soc. Philad. Four specimens.

Genus *PASITES*, Latr.*Pasites pilipes*, n. sp.

Chestnut-brown, polished; sides of face, clypeus, collar, tubercles, two spots on pleura, postscutellum, and narrow bands on abdomen, white; hind legs of ♀ densely pilose; wings hyaline, costo-apical margin fuscous.

Female.—Chestnut-brown, polished, clothed with pale pubescence; face flat, highly polished, impunctured; sides of the face obscurely, and the clypeus, whitish; cheeks and labrum densely pubescent; antennæ piceous, paler at base. Thorax indistinctly punctured, pleura and metathorax rather densely clothed with silvery-white pubescence; a line on the collar, tubercles, two spots on pleura, two small spots on scutellum, and the postscutellum, white; scutellum slightly subbilobate; tegulæ brown, the outer margins pale. Wings hyaline, faintly tinged with fuscous, slightly iridescent, the costo-apical margin broadly fuscous. Legs chestnut-brown, clothed with pale pubescence, which is long and dense on the posterior tibiæ and tarsi; posterior coxæ dilated and flattened, with a whitish spot at tip. Abdomen broadly ovate, convex, polished, rather densely clothed with short pale pubescence on the sides and apex; on the middle of the first, second, fourth and fifth segments above, a narrow, rather uneven, whitish fascia, that on the fourth segment interrupted on the middle; on each extreme side of the third segment a short, narrow, whitish line; apical segment truncate, densely clothed with fuscous pubescence; beneath chestnut-brown, immaculate. Length 3½ lines; expanse of wings 6½ lines.

Male.—Resembles the female, except that the abdomen is longer, not so broad, and pointed at tip as in the males of *Nomada*; the posterior legs are not densely pilose as in the ♀. Length 3 lines; expanse of wings 5½ lines.

Collection.—Ent. Soc. Philad. Two specimens.

This species has much the general appearance of a *Nomada*, and in the ♂ specimen, the only difference I can see is, that the anterior wings have only two submarginal cells, instead of three; but in the ♀, the form is more robust, and the hind legs are densely pilose, which is never the case in the females of *Nomada*.

Genus *EPEOLUS*, Latr.*Epeolus Wilsoni*, n. sp.

Black; face, cheeks, collar, posterior margin of mesothorax, two lines on its disk anteriorly, angular mark on pleura, most of metathorax, large indented mark on each side of first abdominal segment and bands on the other segments interrupted on the disk, yellowish; wings fusco-hyaline; tibiæ, tarsi and apex of abdomen dull fulvous.

Male.—Velvety-black; frontal orbits, clypeus, labrum and mandibles,

dull ferruginous; face and cheeks densely clothed with short, appressed, yellowish pubescence, on the vertex and occiput it is thin and erect; antennæ piceous, the three basal joints dull rufous. Thorax finely and closely punctured; a line on the collar extending on each side on the pleura, covering the tubercles, then running down for a short distance and then curving across to near the base of the middle coxæ, two short lines on the anterior middle of the mesothorax, and its posterior margin extending on each side over the tegulæ, clothed with short yellowish pubescence; in front of the tegulæ there is a patch of short yellowish-fuscescent pubescence, continued from the yellow line behind; scutellum black, its posterior margin obtusely emarginate, and the lateral teeth well developed and subacute, the anterior and posterior margin clothed with short yellowish pubescence, as well as the whole of the postscutellum, which has a tuft of long dense yellowish pubescence on each extreme side; metathorax with a large oblique mark of dense yellowish pubescence on each side, deeply emarginate on the outside and behind; thorax beneath densely clothed with an appressed silvery-ochraceous pubescence, which also more or less covers the coxæ and femora beneath; tegulæ dull ferruginous. Wings uniform fusco-hyaline, tinged with yellowish, the apical margins much darker; nervures fusco-ferruginous. Legs piceous, shining; the tibiæ and tarsi dull fulvous, clothed with short golden-yellow pubescence. Abdomen oblong-ovate, deep velvety-black; on each side of the basal segment a large bright yellow mark, deeply indented on the middle within, and dilated on the lateral apical margin; remaining segments with an apical yellow fascia interrupted on the middle, the fasciæ on the fifth and sixth segments are nearly obsolete; two last segments dull ferruginous; terminal segment pubescent, obtusely pointed and depressed at tip, with two diverging carinæ on the disk; beneath piceous, stained with obscure rufous, shining; apical margins of the three basal segments more or less clothed with very fine silvery-ochraceous pubescence, the remaining segments dull ferruginous, their apical margins densely fringed with deep golden-yellow pubescence. Length 7 lines; expanse of wings 13 lines.

Collection.—Ent. Soc. Philad. One specimen.

I dedicate this superb species to Dr. Thomas B. Wilson, to whom I am greatly indebted for the invaluable assistance he has rendered me in the study of Entomology.

Epeolus vicinus, n. sp.

Velvety-black; face, collar, most of pleura, two lines on anterior middle of mesothorax, its lateral and posterior margins, posterior margin of scutellum, postscutellum, lateral marks on metathorax and bands on abdomen interrupted in the middle, yellow; mouth, base of antennæ, tegulæ and legs, ferruginous; wings subhyaline.

♂ ♀.—Very similar to the preceding species, but is much smaller and more robust in proportion to the size, and differs in color and markings as follows:—The head is entirely black, except the labrum and mandibles, which are ferruginous; the two short lines on the anterior middle of the mesothorax and its posterior margin are much broader; the mark on the pleura is much the same in the ♀ and is confluent beneath with the silvery-ochraceous pubescence which covers the under surface, thereby leaving a large rounded black spot on each side of the pleura; in the ♂ this black spot is indistinct, being almost entirely covered by the silvery-ochraceous pubescence; the lateral marks on the metathorax are shaped the same, but not so distinctly defined; the wings are much clearer; the legs, including the coxæ, are entirely ferruginous; the first segment of the abdomen has its basal, apical and lateral margins rather broadly yellowish, the two former are interrupted on the middle, especially the apical margin; the fascia on the second segment is much dilated on each extreme side, nearly reaching the base of the segment; the fasciæ on the remaining segments are very slightly or not at all interrupted on the middle; in the ♀ the fifth segment is depressed, subrugose and fuscous on the disk, truncate at tip, and has a subtriangular yellowish mark on each side. Length 5½ lines; expanse of wings 9 lines.

Collection.—Ent. Soc. Philad. Two ♀, one ♂, specimens.

Epeolus pulchellus, n. sp.

Black; face, collar, spot on anterior middle of mesothorax, a spot on each side before the scutellum, most of pleura, postscutellum, sides of metathorax and broad marks on each side of abdomen above, bright yellow; wings subhyaline, fuscous towards the tips; antennæ, mouth, tegulæ, legs, and apex of venter, ferruginous.

Male.—Robust, deep velvety-black; the face about the insertion of the antennæ, densely clothed with short, appressed, golden-yellow pubescence; labrum and mandibles obscure ferruginous. Thorax coarsely rugose; collar, a rounded spot on the anterior middle of the mesothorax, faintly divided by the finely impressed central line, a rather large transverse mark on each side in front of the scutellum, lateral posterior margin of the scutellum and the postscutellum, deep yellow; pleura marked as in the ♀ of *E. vicinus*; scutellum rugose, its posterior mar-

gin very slightly emarginate and the lateral teeth short and obtuse; on each extreme side of the postscutellum a tuft of yellowish pubescence; metathorax with a deep yellowish mark on each side deeply emarginate on the outside; tegulæ dull ferruginous. Wings fusco-hyaline, fuscous at tips, subhyaline at base, with a brassy-gloss especially towards the apex; nervures fusco-ferruginous. Legs, including the coxæ, entirely pale ferruginous. Abdomen ovate, robust, deep black; on each side of the first segment a large, somewhat irregular, semicircular, bright yellow mark, rounded before and nearly meeting on the posterior middle; on each side of the two following segments a broad, transverse yellow band, largest on the second segment, with the anterior margin slightly concave; on the fourth segment a small cuneiform yellow mark pointed outwardly; on the fifth segment three small, approximate, yellowish spots; remaining segments obscure fuscous, pubescent, immaculate, the apical segment obtusely pointed and depressed; beneath piceous, clothed with pale sericeous pubescence, the four apical segments yellowish-ferruginous. Length $4\frac{1}{2}$ lines; expanse of wings 8 lines.

Collection.—Dr. J. Gundlach. One specimen.

Genus **CÆLIOXYS**, Latr.

Cælioxys Uhlerii, n. sp.

Cælioxys rufipes, Cresson, Proc. Ent. Soc. Philad. ii, p. 407 ♀.

Collection.—Ent. Soc. Philad. One specimen. Mr. P. R. Uhler.

This fine species, which I mistook for *C. rufipes* Guér., differs from that species by the much larger size (nearly three lines longer), the more distinct markings, and the different shape of the anal plates of the abdomen, those of *rufipes* answering to the description given by Guérin of his ♀ specimen from Mexico. (See Proc. Ent. Soc. Philad. ii, p. 408.) The basal segment of the abdomen of *rufipes* is always more or less rufous, while in *Uhlerii* it is black.

Cælioxys rufipes, Guér.

Cælioxys rufipes, Guér. Icon. Reg. Anim. iii, p. 452, pl. 73, fig. 9; LaSagra's Hist. Cuba, Ins. p. 778.

Collection.—Ent. Soc. Philad. Two ♀, one ♂, specimens.

Prof. Poey informs me that "the *Cælioxys* retire for the night, many in company, upon the *Escoba amarga* (*Parthenium hysterophorus*, L.)

M. Guérin describes and figures (LaSagra's Hist. Cuba, Ins. p. 779, pl. 19, fig. 11,) *Cælioxys abdominalis* as being found in the vicinity of Havana, as well as on the Island of St. Thomas, but Prof. Poey informs me that neither Dr. Gundlach or himself, after forty years of research in the Island of Cuba have ever found it.

Cælioxys producta, n. sp.

Black, polished, varied with white pubescence; wings fuliginous, subviolaceous, hyaline at base; legs dull rufous.

Female.—Deep black, polished; head rather closely and deeply punctured, the punctures very sparse on the vertex and between the antennæ, thinly clothed with short pale pubescence, that on the cheeks dense and silvery; face depressed on each side; occiput fringed with whitish pubescence; antennæ piceous-black. Thorax deeply and rather closely punctured, the mesothorax sparsely punctured especially on the disk; lateral anterior margin of the mesothorax, the anterior and posterior margins of the pleura, a spot on the tegulæ, and two spots in front of the scutellum, of dense white pubescence; scutellum flattened, the disk impunctured, the posterior margin sharp, the middle produced, obtusely pointed and slightly recurved, the lateral teeth long, slightly diverging, with the point obtuse and slightly bent downward and inward; metathorax clothed, especially on the sides, with long whitish pubescence; tegulæ black, smooth and polished. Wings with their basal half hyaline, the remainder fuliginous, especially the costal and apical margins, and with a slight violaceous reflection; nervures black. Legs, excepting the coxæ, dark rufous, punctured, clothed with whitish pubescence, which is dense on the femora and tibiæ beneath. Abdomen elongate, conical, polished, deeply and rather closely punctured on the sides, especially the basal segment, very sparse and scattered on the disk; sides of the second and three following segments with the anterior half much depressed, leaving the posterior half elevated and sparsely punctured; apical margins of the first five segments fringed with silvery-white pubescence, very narrow on the middle and gradually broader on the sides; apical segment rather long, sublanceolate, finely punctured, polished, the apical third depressed, coarsely sculptured, rather suddenly narrowed, with the apex rounded and obtuse; venter deeply and sparsely punctured, the apex more closely punctured, the inferior plate slightly longer than the superior, sublanceolate, rather suddenly narrowed towards the tip which is emarginate on each side, making the extreme tip subacutely pointed with a small subacute angle on each side of it. Length 6 lines; expanse of wings 10 lines.

Collection.—Ent. Soc. Philad. One specimen.

Larger than *C. rufipes*, from which it is at once separated by the more sparse punctation, the nearly smooth mesothorax, the different shape of the anal plates of the abdomen and the different coloring of the wings.

Genus **MELISSA**, Smith.**Melissa rufipes**, Perty.*Crocisa rufipes*, Perty, Del. An. Art. p. 149, pl. 28, fig. 10.*Mesocheira azurea*, St. Farg. et Serv. Encycl. Méth. x, p. 106.*Mesophia azurea*, St. Farg. Hym. ii, p. 280.*Melissa rufipes*, Smith, Brit. Mus. Cat. ii, p. 280.**Collection.**—Ent. Soc. Philad. Two (♂ ♀) specimens.

Prof. Poey informs me that this species "retires to a bush to sleep; it seizes a branch with its mandibles and places itself in a horizontal position, the back turned towards the ground."

Genus **MELISSODES**, Latr.**Melissodes Lanierii**, Guér.*Macrocera Lanierii* Guer. Icon. Règ. Anim. iii, p. 455, pl. 74, fig. 7; LaSagra's Hist. Cuba, Ins. p. 780.**Collection.**—Ent. Soc. Philad. ♂; Dr. J. Gundlach, ♀. One ♀, five ♂ specimens.**Melissodes maura**, n. sp.

Entirely deep black; abdomen shining, nearly naked; wings tinged with fuscous.

Female.—Robust, deep black; head, thorax and base of abdomen clothed with rather short, dense, black pubescence; very finely and closely punctured; clypeus covered with dense, deep punctures, the anterior margin truncate or very slightly concave; antennæ black, the flagellum testaceous-brown beneath. Thorax: the punctures on the disk of the mesothorax and metathorax rather sparse and scattered; tegulæ piceous. Wings pale fusco-hyaline, with a very faint violaceous reflection, the apical margins darker; nervures blackish; the first recurrent nervure received by the second submarginal cell beyond its middle, the second recurrent nervure received at the tip of the third submarginal cell, which is as long as the first and rather suddenly constricted towards the marginal cell. Legs black or piceous-black, rather densely clothed with black pubescence, especially on the tibiae and basal joint of the tarsi, much longer and more dense on the posterior pair; tips of tarsi piceous. Abdomen broad, subconvex, shining, very closely and minutely punctured, the apical margins of the segments smooth and polished; basal segment, the basal margins of the other segments, the extreme sides and apex of the abdomen clothed with black pubescence, very short and thin on the basal margins of the second and following segments and much longer and more dense on the basal segment; apical segment depressed on the disk, the tip slightly notched; venter deep black, densely punctured, the apical margins of

the segments with a dense fringe of black pubescence. Length 6 lines; expanse of wings 10 lines.

Collection.—Ent. Soc. Philad. One specimen.**Melissodes pullata**, n. sp.

Black, more or less tinged with fuscous, especially in ♂; hind legs of ♀ densely clothed with fuscous pubescence; abdomen shining; wings subhyaline; clypeus and labrum of ♂ pale testaceous.

Female.—Black; head and thorax densely clothed with black pubescence, slightly tinged with fuscous, finely and closely punctured; clypeus very densely punctured, the apical margin truncate or slightly concave; mandibles fringed beneath with long fuscous pubescence; antennæ black, brownish beneath. Thorax: mesothorax sparsely punctured, especially on the disk; tegulæ shining black. Wings uniformly tinged with pale fuscous, with a faint metallic reflection; nervures fuscous, arranged as in the preceding species. Legs piceous-black, clothed with blackish pubescence, very long and dense on the posterior pair; tips of tarsi rufo-piceous. Abdomen subdepressed, piceous-black, shining, minutely punctured; basal segment, the lateral middle of the second, third and fourth segments and the two apical segments, clothed with rather dense, dark fuscous pubescence; beneath piceous-black, the apical margins of the segments with a fringe of dense dark fuscous pubescence. Length 5 lines; expanse of wings 8 lines.

Male.—Resembles the female, except that the pubescence is entirely dark fuscous, and more sparse on the abdomen and legs; the clypeus and labrum are yellowish-testaceous, with a dusky spot on each side at base of the former; the antennæ are broken off near the base.

Collection.—Ent. Soc. Philad. ♀; Dr. J. Gundlach ♂. Two ♀, one ♂, specimens.

Much less robust than *M. maura*, with the color more or less tinged with fuscous, and not deep black as in that species.

Genus **ANTHOPHORA**, Latr.**Anthophora atrata**, n. sp.

Black, tinged with fuscous: most of clypeus and labrum, and scape of antennæ beneath, white; wings subhyaline; legs rufo-fuscous at base; extreme sides of the abdomen more or less tufted with white pubescence.

Male.—Black; head and thorax clothed with rather short, dense black pubescence, more or less tinged with fuscous in certain lights; the clypeus except a black line on each side at base, a transverse mark above the clypeus, lower sides of the face, and the labrum except a black spot on each side at base, white; clypeus large, prominent, subtriangular, broadly truncate in front; labrum clothed with short pale

pubescence; mandibles piceous; antennæ piceous, the flagellum brown beneath, the scape white beneath. Thorax black above, piceous beneath, clothed with rather short, dense, blackish-fuscous pubescence; tegulæ piceous, pubescent. Wings faintly tinged with pale fuscous; nervures piceous. Legs piceous; the coxæ, trochanters and femora rufo-piceous, sometimes rufo-testaceous, clothed with short, dark fuscous pubescence. Abdomen blackish-piceous, opaque, the apical margins of the segments paler; basal segment clothed with fuscous pubescence, slightly mixed with whitish on the extreme sides; remaining segments almost naked, having a very thin, short, fuscous pubescence; extreme sides of the segments more or less tufted with whitish pubescence; beneath shining, pale rufo-piceous. Length $5\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. Two specimens.

Genus **XYLOCOPA**, Latr.

Xylocopa morio, Fabr.

Apis morio, Fabr. Ent. Syst. ii, p. 315. ♀.

Xylocopa morio, Fabr. Syst. Piez. p. 338. Halid. Trans. Linn. Soc. xvii, p. 319.

Xylocopa cajennæ, St. Farg. Hym. ii, p. 203, ♂. Guér. LaSagra's Hist. Cuba, Ins. p. 776.

Xylocopa teredo, Guilding, Trans. Linn. Soc. xiv. p. 313, pl. 8, figs. 1 ♀, 5 ♂. Westw. Nat. Libr. xxxviii, p. 268, pl. 21, fig. 1 ♂, 2 ♀.

Xylocopa cubæcola, Lucas, LaSagra's Hist. Cuba, Ins. p. 776, pl. 19, fig. 8. ♀.

Collection.—Ent. Soc. Philad. Nine ♀, five ♂ specimens.

There seems to be much uncertainty as to the correct synonymy of this species. All the females before me are black, and all the males are fulvous or honey-yellow; both sexes answer to the description of the species which I have quoted above as synonymous with *X. morio* Fabr., and I have little doubt that they all belong to one and the same species, notwithstanding that Guérin mentions both sexes of *X. cajennæ* in his description of that species, which is probably an error. The females show plainly six dorsal segments to the abdomen, which is naked above, with the extreme sides of the segments and the apical margin of the sixth segment fringed with black pubescence; while the male abdomen shows seven dorsal segments, the last two of which are densely clothed with rather long, deep yellowish-ferruginous pubescence, as well as the two basal segments where the pubescence is much shorter, and the seventh segment has on each side of the middle a dense tuft of long fuscous pubescence. Length ♂ ♀ 9—10 lines.

Genus **EXOMALOPSIS**, Spin.

Exomalopsis pulchella, n. sp.

Black, polished, clothed with pale glittering pubescence; sides of the first segment of abdomen, an oblique line on each side of second, basal margins of third and fourth and the whole of fifth segments, silvery-white; wings hyaline, fuscous at tips; hind legs of ♀ with a dense scopa of long pubescence, the basal half pale, the apical half fuscous.

Female.—Black, polished, strongly tinged with piceous; head feebly punctured; the vertex, occiput, cheeks and labrum, clothed with rather dense, pale, silky pubescence, that on the occiput and cheeks long; sides of the face with a patch of silvery-white pubescence; clypeus flat, truncate in front; antennæ piceous, the flagellum brown beneath. Thorax rather densely clothed with pale ochraceous pubescence, sparse and mixed with blackish on the disk of mesothorax, long and dense on the scutellum, and silvery-white on the pleura beneath; tegulæ rufo-piceous. Wings hyaline, slightly iridescent, the apical margins pale fuscous; nervures and stigma pale fuscous. Legs piceous, paler at base, clothed with silvery-white pubescence; posterior tibiæ and basal joint of tarsi with a dense scopa of long pubescence, that on the tibiæ whitish, tinged with ochraceous, silky, slightly mixed with fuscous at base, that on the basal joint of the tarsi fuscous, mixed with whitish beneath. Abdomen short, subglobose, smooth and polished; base and sides of the first segment, an oblique line on each side of the second, a narrow fascia at the base of the third and fourth, slightly interrupted or attenuated on the middle, and the whole of the fifth segment, clothed with a dense silvery-white pubescence, most obvious in certain lights; beneath rather densely clothed with short, pale glittering pubescence. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Male.—Resembles the female, but not so robust, the pubescence more glittering, the face and clypeus densely clothed with silvery-white pubescence; the pubescence of the hind legs is colored as in the female, but not half so long; the abdomen is not so broad, more pointed at tip, and not so smooth; the fasciæ on the third and three following segments are distinct, while the oblique line on each side of the second segment is obsolete; venter naked, sericeous. Length 3 lines; expanse of wings 6 lines.

Collection.—Ent. Soc. Philad. Three ♀, one ♂, specimens.

Exomalopsis similis, n. sp.

Piceous, clothed with pale ochraceous pubescence; sides of the face, pleura, and markings of abdomen similar to *E. pulchella*, whitish; wings hyaline, tinged with pale fuscous at tips; scopa of hind legs entirely pale ochraceous.

Female.—Piceous, more or less tinged with brownish; head and

thorax as in *E. pulchella*, but more distinctly punctured, not so shining, and the pubescence less glittering; on the scutellum and postscutellum the pubescence is dense and rather long. Wings hyaline, the tips faintly tinged with pale fuscous; nervures fuscous, the stigma testaceous. Legs brown, paler at base, the pubescence pale glittering ochraceous; the posterior pair with the scopa long, dense and entirely silky ochraceous. Abdomen strongly tinged with brownish, broadly ovate, subdepressed, feebly punctured, shining, apical margins of the segments pale brownish; markings similar to those of *E. pulchella*, but less distinct and not so glittering; the apical segment is clothed with pale ochraceous pubescence, as well as the venter. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

Distinguished at once from *E. pulchella* ♀, by the scopa of the hind legs being entirely ochraceous.

***Exomalopsis pubescens*, n. sp.**

Piceous, clothed with short ochraceous pubescence, closely and finely punctured; face densely clothed with pale glittering pubescence; wings subhyaline, iridescent; legs clothed with ochraceous pubescence; abdomen globose, the third and following segments with a fascia of dense ochraceous pubescence.

Male.—Short, robust, piceous-brown, closely and finely punctured, clothed with a short, dense, ochraceous pubescence; face and clypeus with a dense, appressed, pale, glittering pubescence; antennæ piceous at base (flagellum broken off). Thorax densely clothed with dark ochraceous pubescence, longer and somewhat whitish on the pleura beneath; disk of mesothorax naked; tegulæ yellowish-testaceous. Wings faintly tinged with pale fuscous, iridescent; nervures testaceous. Legs pale brownish, clothed with a rather dense ochraceous pubescence; tips of the tibiæ and the tarsi yellowish. Abdomen short, globose, shining, closely, finely and distinctly punctured; base and sides of the first segment, a slightly oblique line on each side of the second, and a fascia on each of the following segments, covering most of the segments and slightly interrupted on the middle of the third segment, of short, dense, appressed, pale ochraceous pubescence, glittering in certain lights; beneath pale testaceous, shining. Length $2\frac{1}{2}$ lines; expanse of wings 5 lines.

Collection.—Dr. J. Gundlach. One specimen.

Smaller, and more distinctly punctured and pubescent than the preceding species, with the abdomen short and globose.

Genus **CENTRIS**, Fabr.

***Centris versicolor*, Fabr.**

Apis versicolor, Fabr. Ent. Syst. ii, p. 340, ♀.

Centris versicolor, Fabr. Syst. Piez. p. 359. St. Farg. Hym. ii, p. 154.

Hemisia versicolor, Klug. Illig. Mag. vi, p. 227.

Centris tabaniformis, Fabr. Syst. Piez. p. 358, ♂.

Centris decolorata, St. Farg. Hym. ii, p. 160, ♂.

Collection.—Ent. Soc. Philad. Two ♀ specimens.

***Centris apicalis*, Guér.**

Anthophora apicalis, Guér. Icon. Règ. Anim. iii, p. 455, pl. 74, fig. 4.

Anthophora versicolora, Guér. LaSagra's Hist. Cuba, Ins. p. 780.

Centris pœcila, St. Farg. Hym. ii, p. 154.

Collection.—Ent. Soc. Philad. Seven ♀, two ♂ specimens.

Closely allied to *C. versicolor*, but is at once distinguished by the legs being entirely black.

***Centris Æthiops*, n. sp.**

Entirely deep black; wings dark fusco-hyaline, with a violaceous reflection; abdomen shining.

Female.—Deep black, shining, closely and finely punctured; occiput and cheeks beneath, clothed with long black pubescence, thin on the face and vertex; clypeus prominent, polished, with a few deep, scattered punctures, the anterior margin truncate; labrum densely pubescent; mandibles piceous; antennæ piceous-black, the flagellum paler beneath. Thorax densely clothed with black pubescence; metathorax naked, shining; tegulæ dull black. Wings dark fusco-hyaline, with a violaceous reflection; nervures black. Legs black, the pubescence black. Abdomen deep shining black, closely and finely punctured, the punctures indistinct on the apical margins of the segments; sides of the basal segment and the apex clothed with black pubescence; beneath tinged with piceous, and clothed with black pubescence. Length 7 lines; expanse of wings $12\frac{1}{2}$ lines.

Collection.—Ent. Soc. Philad. One specimen.

***Centris fulviventris*, n. sp.**

Black; head, thorax, legs, and base and apex of abdomen, densely clothed with fulvo-ochraceous pubescence; legs brown; most of clypeus, labrum, mandibles, flagellum beneath, and the abdomen, fulvous; wings subhyaline.

Female.—Black; head and thorax densely clothed with fulvo-ochraceous pubescence, paler on the cheeks and pleura; a large spot on each side of the clypeus, nearly confluent on the disk, the labrum and the mandibles except tips, pale fulvous; antennæ piceous, the flagellum beneath testaceous; tegulæ piceous, margined exteriorly with testaceous. Wings pale fusco-hyaline; nervures pale fuscous. Legs brown,

paler at base, clothed, especially the posterior pair, with dense fulvo-ochraceous pubescence. Abdomen somewhat narrower than the thorax, fulvous, shining; the basal, apical and ventral segments clothed with ochraceous pubescence. Length $5\frac{1}{2}$ lines; expanse of wings 10 lines.

Collection.—Dr. J. Gundlach. One specimen.

Centris? cornuta, n. sp.

Black; thorax, except disk of mesothorax, base and apex of abdomen, and posterior tibiae, clothed with ochraceous pubescence; disk of mesothorax, and rest of legs, clothed with black pubescence; head large, quadrate; clypeus short, transverse, with a stout incurved tooth on the middle; labrum forming a very large, flattened plate, passing beneath the mandibles, which are long and cleft at tips; most of clypeus, and a stripe down each side of labrum, whitish; abdomen narrow; wings subhyaline.

Female.—Head large, quadrate, black, polished; cheeks and occiput broad; ocelli arranged in a slight curve in a subtriangular depression on the vertex, which is prominent in front of ocelli; eyes ovate, moderate; face very short, clothed with short ochraceous pubescence, mixed with black on the posterior middle; clypeus short, very transverse, emarginate on each side, with a large, very prominent, incurved, subacute tooth on the middle, pale yellowish-white, the anterior and posterior margins and the tooth except its lateral base, black; labrum forming a very large, flattened plate, passing beneath the mandibles, black, polished, with a broad, pale yellowish-white stripe on each side, converging towards the tip, which is truncate, somewhat reflexed and armed above with a long, slender, porrect, subacute spine; the cheeks much produced beneath the base of the mandibles, forming an obtuse process, against which the sides of the labrum seem to rest; mandibles very long, narrow and cleft at tip, shining black, fringed beneath with a row of scattered, black pubescence; antennae black, the flagellum beneath piceous. Thorax robust, clothed with short, dense, pale ochraceous pubescence, sparse on the pleura beneath; mesothorax with a large space of dense black pubescence covering nearly its entire surface; sides of the scutellum with a tuft of long blackish pubescence; metathorax naked, smooth and shining on the middle, and clothed on each side with long, dense, ochraceous pubescence; tegulae piceous, highly polished. Wings faintly tinged with pale fuscous, with a slight metallic gloss; nervures fuscous. Legs piceous-black, clothed with black pubescence, mixed with pale on the femora beneath; posterior tibiae and basal joint of their tarsi flattened and dilated, densely clothed on the outside with short pubescence, that on the tibiae ochraceous, and that on the tarsi black; spurs of the posterior tibiae long and acute, the

inner one pectinated, the pectinations gradually longer towards the base; tarsal claws bidentate. Abdomen narrower than the thorax, oblong-ovate, convex, polished, black, sparsely punctured, clothed with a short, pale ochraceous pubescence, very thin and short on the second and third segments, more dense on the apical segments, and long on the basal segment, the anterior face of which is deeply excavated; beneath shining, sparsely pubescent. Length 7 lines; expanse of wings $10\frac{1}{2}$ lines.

Collection.—Dr. J. Gundlach. One specimen.

This singular species is remarkable for the curiously constructed head, which differs from that of any other Hymenopterous insect known to me. The structure of the antennae and legs, and the neurulation of the wings, coincide with that of *Centris*; but the shape of the head, and of the clypeus, labrum and mandibles, is so very different, that the species will doubtless form a new genus, for which I would propose the name of *Gundlachia*, which may be more fully determined when more specimens have been discovered, and when the parts of the mouth can be examined.

Genus **MELIPONA**, Latr.

Melipona fulvipes, Guér.

Melipona fulvipes, Guér. Icon. Règ. Anim. iii, p. 462, pl. 75, fig. 6. Poey, Mem. Hist. Nat. Cuba, i, p. 142, pl. 6, figs. 14—22. Guér. LaSagra's Hist. Cuba, Ins. p. 781.

Collection.—Ent. Soc. Philad. Numerous ♀, ♂ and ♂ specimens.

Genus **APIS**, Linn.

Apis mellifica, Linn.

Apis mellifica, Linn. Faun. Suec. 1697. Guér. LaSagra's Hist. Cuba, Ins. p. 781. Smith, Bees of Great Britain, p. 241, with full synonymy.

Collection.—Ent. Soc. Philad. Three specimens.

The following species, belonging to the families treated of in this paper, mentioned as having been found on the Island of Cuba, are unknown to me:—

Paniscus rufus, Brullé. Hym. p. 155.

Bracon erythraeus, Brullé, Hym. p. 401.

Pelopæus assimilis, Dahlb. Hymen. Europ. p. 23.

Methoca Poeyi, Guér. Icon. Règ. Anim. iii, p. 430. (See remarks on p. 113 of this paper.)

Pepsis speciosa, Fabr. Syst. Piez. p. 216. Guér. LaSagra's Hist. Cuba, Ins. p. 760.

Eumenes colona, Sauss. Guép. Sol. p. 70. Guér. LaSagra's Hist. Cuba, Ins. p. 767.

- Eumenes ornatus*, Sauss. Guép. Sol. Suppl. p. 147, pl. 8, fig. 3. Guér. LaSagra's Hist. Cuba, Ins. p. 768.
Odynerus brachygaster, Sauss. Guép. Sol. p. 173. Guér. LaSagra's Hist. Cuba, Ins. p. 771, pl. 19, fig. 6.
Odynerus incommodus, Sauss. Guép. Sol. p. 143. Guér. LaSagra's Hist. Cuba, Ins. p. 769.
Polistes americanus, Fabr. Ert. Syst. ii, p. 276. Sauss. Guép. Soc. p. 93, pl. 11, figs. 4, 5. Guér. LaSagra's Hist. Cuba, Ins. p. 772.
Megachile binotata, Guér. Icon. Règ. Anim. iii, p. 450; LaSagra's Hist. Cuba, Ins. p. 777, pl. 19, fig. 9.
Cœlioxys abdominalis, Guér. Icon. Règ. Anim. iii, p. 453; LaSagra's Hist. Cuba, Ins. p. 779, pl. 19, fig. 11.

CORRIGENDA.

- Page 36, line 35, for "*Pimpla terminalis*,"* read "*Pimpla nubecula*."
 28, line 35, for "carina;" read "carina."
 37, lines 21, 23 and 31, for "*terminalis*," read "*nubecula*."
 38, lines 19 and 22, for "*terminalis*," read "*nubecula*."
 84, line 39, for "pair," read "tarsi."
 96, line 22, for "*Smiera palens*," read "*Smiera pallens*."

* Preoccupied by Brullé.

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Description of certain species of DIURNAL LEPIDOPTERA found within the limits of the United States and British America. No. 4.

BY WM. H. EDWARDS,
Newburgh, N. Y.

(Communicated December 12, 1864.)

- | | |
|--------------------------------|--------------------------------|
| 1. MELITÆA PICTA, nov. sp. | 4. HESPERIA MACULATA, nov. sp. |
| 2. SATYRUS RIDINGSII, nov. sp. | 5. " VIATOR, nov. sp. |
| 3. HESPERIA NAPA, nov. sp. | 6. " RICARA, nov. sp. |
| 7. LYCENA RUSTICA, nov. sp. | |

MELITÆA PICTA, nov. sp.

Male. Expands $1\frac{1}{10}$ inch. Upper side black with fulvous and whitish spots as in *M. pratensis* Behr.

Under side of primaries mottled with pale yellow, black and fulvous: the apical third being yellow, interrupted by a black wedge-shaped spot from the costa, and terminated by a curved black bar that extends from the costa to the middle of the disk, and is there connected by a small spot to a large black patch upon the middle of the inner margin; this last is edged without by yellow; another black patch at the inner angle extends so as nearly to connect with the wedge-shaped spot; a faint yellow bar crosses the cell; costa at base yellow; rest of the disk bright fulvous.

Secondaries same yellow with no markings except two small brown patches on hind margin, the one nearest anal angle distinct, the other nearly obsolete, two small spots on costa and one or two dots near the arc.

Body above black, below yellow.

From six specimens taken by Mr. Ridings in Nebraska Territory. This may be readily distinguished from allied species, by the yellow secondaries.

SATYRUS RIDINGSII, nov. sp.

Female. Expands $1\frac{7}{10}$ inch. Color grey brown; both wings have a submarginal series of stripes or oval spots of soiled white, varying in shape in individuals, sometimes connected so as to form a continuous band; within two of these spots on primaries are round black ocelli with minute white pupils; no ocelli upon secondaries.

Under side grey white mottled and streaked with fine brown spots and lines; a broad dentated band of a darker shade crosses the disk of secondaries, edged without by whitish; a submarginal dentated line corresponds to the outer edge of the band on upper surface; primaries have the spots and ocelli repeated; fringes alternate brown and grey.