

6-1-1864

Descriptions of North American Hymenoptera, in the Collection of the Entomological Society of Philadelphia

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Cresson, Ezra Townsend, "Descriptions of North American Hymenoptera, in the Collection of the Entomological Society of Philadelphia" (1864). Co. Paper 388.

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Secondaries white. Middle of the costa and apex and discal dot brown. Beneath much as above, a little paler. Legs buff, base of femora and tips of tibiae and tarsi broadly annulated with brown. Abdomen buff above, beneath brown.

Length of body, .85. Exp. wings, 2.05.

Gulf of Georgia, Cal. (Mus. Comp. Zool. A. Agassiz).

EUCHÆTES Harris.

Euchætes Egle Harris.

Bombyx Egle Drury, Illustr. Nat. Hist. ii. p. 36. Pl. 20, fig. 3. (1773).

Spilosoma Egle Westw., Ed. Drury. (1837).

Euchætes Egle Harr., Rt. Ins. Mass. p. 257. (1841).

Third ed. fig. 172 larva, 173 cocoon, 174 pupa. (1862).

Spilosoma Egle Walk., Cat. Lep. B. M. III. p. 669. (1855).

Euchætes Egle Clem., Proc. Acad. Nat. Sci. Phil. p. 532. (Nov. 1860).

Spilosoma Egle Morris, Synopsis Lep. N. Amer. p. 343. (1860).

Brookline, Mass., (Shurtleff, Harris' Coll.) Norway, Me., (Mus. Comp. Zool. Smith.) London, C. W., (Saunders.)

From the same brood of larvæ, Mr. Shurtleff has raised both the typical forms, and a white variety which agrees well with Dr. Fitch's description of *Hyphantria collaris*. I have since received this albino from Mr. Saunders, of London, C. W., labelled *H. collaris*.

Euchætes eglenensis Clem.

Var? *Euchætes eglenensis* Clem., Proc. Acad. Nat. Sci. Phil. p. 533. (Nov. 1860).

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Descriptions of North American HYMENOPTERA, in the Collection of the
Entomological Society of Philadelphia.

BY E. T. CRESSON.

Fam. EVANIIDÆ.

Genus *FÆNUS*, Fabr.

1. *F. occidentalis*, n. sp.

Black, thorax rugose, third and fourth segments of the abdomen ferruginous, ovipositor long, valves tipped with white.

Female.—Head black, somewhat shining; face and cheeks slightly silvery-sericeous; antennæ black, tinged with piceous beneath. Thorax black, opaque, rather roughly and confluent punctured, mesothorax transversely rugose, especially on the sides; metathorax scabrous. Wings hyaline, nervures and stigma black. Legs black, the anterior pair and the intermediate tibiae at base tinged with piceous; the anterior tibiae at base whitish, the posterior tibiae and their tarsi within near their base with a pale spot. Abdomen long and slender, black; the second, third and fourth segments ferruginous; ovipositor longer than the body, ferruginous, valves black, tipped with white. Length 7 lines; * expanse of wings 8 lines.

Variety ♀.—Has the base of the intermediate tibiae white and the basal joint of the posterior tarsi with a broad white annulus; the sides of the fifth segment of the abdomen are tinged with ferruginous.

Hab.—Rocky Mountains, Colorado Territory. Two specimens. From the Committee on Collecting Fund, (as well as all other species described in this paper from this locality).

Seems to be closely allied to *F. jaculator* Linn., of Europe, which I have not seen. The mandibles have each a very strong, acute, basal, rufous tooth within, as has been observed in *jaculator* and several other species.

2. *F. perplexus*, n. sp.

Black; thorax punctured, not rugose; second, third and fourth segments of abdomen ferruginous; ovipositor long, valves tipped with white.

Female.—Black. Head somewhat shining; antennæ slightly piceous beneath towards the tip. Thorax opaque; mesothorax sprinkled

*In giving the length of the species described in these papers, the ovipositor is not included.

rather sparsely with distinct punctures, which are confluent in front of the scutellum; metathorax roughly punctured. Wings hyaline, nervures black. Legs black, all the tibiae at base with an obscure whitish spot, indistinct on the posterior pair. Abdomen long and slender, black, the second, third and fourth segments ferruginous, the fourth partly blackish; ovipositor longer than the body, ferruginous, valves black, their tips white. Length 5—6 lines; expanse of wings 6—7 lines.

Hab.—Rocky Mountains, Colorado Territory. Four ♀ specimens.

Closely resembles the preceding species, but is smaller, the thorax above has the punctures distinct and somewhat sparse, while *occidentalis* has the punctures rough and confluent, and the sides of the mesothorax transversely rugose; otherwise the two species agree.

3. *F. montanus*, n. sp.

Black, half of the second, the third and part of the fourth segment of the abdomen rufous; ovipositor very short.

Female.—Black; tip of the antennae beneath testaceous; thorax without punctures, minutely shagreened; metathorax roughly punctured. Wings slightly tinged with fuliginous; nervures and stigma black. Legs black; anterior femora at base, apex of all their tibiae within and all the tarsi more or less tinged with pale rufous; posterior femora beneath with a rufous stripe near the tip. Abdomen black, the apical half of the second, the whole of the third and a part of the fourth segments rufous; ovipositor very short, about 2 lines in length, pale rufous, valves black. Length 5 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

Distinct from all other species known to me, by its shorter and much more robust form; the abdomen is not so much compressed and the segments are shorter in proportion to the length of the abdomen, than in the other species.

4. *F. tarsatorius*, Say.

Fenus tarsatorius Say, Long's Second Expedition, ii, p. 321.

This species seems to be closely allied to *F. Barnstonii* Westw., from Hudson's Bay, and having before me ten ♀ specimens of Say's species, it would perhaps be useful to give here a more detailed description of it, which may serve to draw more closely the dividing line between the two species. I have not seen any males of this species.

Female.—Black, subopaque; face, cheeks and the thorax have a more or less distinct silvery-sericeous appearance in certain lights; mandibles, except base and apex, yellowish-ferruginous; antennae blackish-piceous above and rufo-piceous beneath, sometimes the basal joint beneath is rufous, and the joints towards the tip are also sometimes rufous; neck long; thorax roughly and confluent punctured, somewhat transversely rugose above; tegulae and tubercles mostly pale rufous, sometimes piceous; wings hyaline and beautifully iridescent; the two anterior pairs of legs are pale rufous, base and tips of their tibiae, and the base of their tarsi whitish, their femora sometimes obfuscated; the anterior and intermediate coxae are piceous, the anterior pair sometimes rufous, posterior pair always black and rugose; posterior legs black, their trochanters rufous, their tibiae and tarsi near the base white, the latter sometimes reduced to a dot or subobsolete; abdomen long and slender, tip of the second and third segments on each side broadly rufous, sometimes the tip of the fourth segment is obscurely so; in two specimens the rufous coloring is indistinct on the second and third segments; ovipositor about as long as the body, fulvous, valves black, tipped with white.

Hab.—Massachusetts. Mr. James Ridings.

5. *F. incertus*, n. sp.

Black; second, third and fourth segments of the abdomen each with a ferruginous spot on each side at base; ovipositor very short.

Female.—Black; antennae slightly tinged with piceous beneath towards the tip. Thorax dull black, without distinct punctures, minutely shagreened; metathorax roughly punctured. Wings obscure hyaline, nervures and stigma black. Legs black, the two anterior pairs with the base of their tibiae reddish. Abdomen black, apex much broader than usual; sides of the second, third and fourth segments at tip, ferruginous; ovipositor very short, about one line in length, ferruginous, valves black. Length $4\frac{1}{2}$ lines; expanse of wings 5 lines.

Male.—Resembles the female, but the abdomen is more slender, all the tarsi, the two anterior pairs of femora and the posterior femora at base, more or less pale ferruginous.

Hab.—Rocky Mountains, Colorado Territory.

This appears to agree very well with the description of *F. assectator* Linn., of Europe, with the exception of the coloring of the legs.

Genus **AULACUS**, Jurine.1. **A. rufitarsis**, n. sp.

Black; abdomen and tarsi rufous.

Female.—Head black; cheeks, vertex, occiput and mandibles polished; face subopaque, slightly pubescent; antennæ longer than the head and thorax, black. Thorax black, gibbous, deeply and transversely wrinkled above, the furrows apparently impunctured; scutellum more finely wrinkled and having two short longitudinal impressions, close together, on the disk; metathorax rugose. Wings hyaline costa fuliginous, nervures and stigma black, the second transverse nervure almost entirely obliterated. Legs black; femora polished; coxæ rugose; posterior tibiæ flattened and having a few large confluent punctures exteriorly; tarsi rufous, their claws black, sometimes the anterior tarsi are blackish, and in one specimen the two anterior pairs of legs are rufo-piceous. Abdomen bright rufous, polished, impunctured, extreme base black; ovipositor rather longer than the body, yellowish, valves black. Length 5 lines; expanse of wings 8 lines.

Hab.—Rocky Mountains, Colorado Territory.

2. **A. stigmaterus**, n. sp.

Black; the first and second abdominal segments rufous; legs in most part pale fulvous.

Female.—Head black, cheeks, vertex, occiput and mandibles polished, the face slightly pubescent; the anterior margin of the clypeus and a large spot on the mandibles, pale testaceous; antennæ longer than head and thorax, black, reddish at tip. Thorax black, gibbous, rather deeply and transversely wrinkled above, the furrows apparently impunctured; pleura not so coarsely rugose; metathorax coarsely rugose. Wings hyaline, nervures and stigma fuscous; the extreme apex and a subtriangular mark extending from the stigma to the radial nervure at the junction between the marginal and the first submarginal cells, fuscous; posterior half of the second transverse nervure obliterated. Legs pale fulvous, the tarsi paler, all the coxæ and trochanters and the posterior femora except extreme base and apex black, the posterior tibiæ slightly obfuscated. Abdomen black, polished, impunctured; the peduncle and the third and following segments black, the first and second segments being bright rufous; ovipositor rather longer than the body, fulvous, valves black. Length 5 lines; expanse of wings 8 lines.

Hab.—New Jersey. E. T. Cresson.

Seems to be closely allied to *A. Abbottii* Westw., but is much smaller and somewhat differently colored.

Fam. **ICHNEUMONIDÆ**.

Gen. **ICHNEUMON**, Linn.

BLACK SPECIES.

- Section 1*.—Scutellum and abdomen black.....Sp. 1—13
 “ 2.—Scutellum white, abdomen black.....Sp. 14—22
 “ 3.*a.* Scutellum pale, or with pale markings; abdomen black, terminal segment more or less white.....Sp. 23—24
 “ *b.* Scutellum ditto; abdomen black, tip of first segment more or less white.....Sp. 25—27
 “ *c.* Scutellum ditto; abdomen black, apex fulvous.....Sp. —28

YELLOW, RED AND BLACK SPECIES.

- “ 4.—Scutellum ditto; abdomen tricolored—black, red & white or yellow.....Sp. 29—31

YELLOW AND BLACK SPECIES.

- “ 5.—Scutellum pale; abdomen black, with the apex and in general the middle also, banded or spotted with yellow or white.....Sp. 32—34
 “ 6.—Scutellum pale; abdomen black, banded with yellow, the apex always black.....Sp. 35—38

RED AND BLACK SPECIES.

- “ 7.*a.* Scutellum pale; thorax black; abdomen red or red and black.....Sp. 39—46
 “ *b.* Scutellum yellow, yellowish-red, or red; thorax more or less red; abdomen red or red and black.....Sp. 47—63
 “ 8.—Scutellum black, abdomen red or red and black.....Sp. 64—73
 “ 9.—Scutellum yellow; abdomen red or red and black, apex white.....Sp. 74—75

SECTION 1.

1. **Ich. Maurus**, n. sp.

Black; antennæ with a broad white annulus; wings dark fuscous; central area of metathorax rotundate, moderate.

Female.—Black, opaque; head with very narrow pale orbits above the antennæ; clypeus polished, with a rounded impression on each side; antennæ about half the length of the body, black, the 9th to 17th joints white above, spotted beneath with black, apical half involute, flattened toward the tip and brownish-sericeous beneath. Thorax closely punctured; scutellum flat, polished, with a few scattered punctures;

metathorax scabrous, opaque, the elevated lines sharply defined, the central area moderate, rotundate. Wings dark fuscous, with a rather strong violaceous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, anterior tibiae pale in front. Abdomen elongate-subovate, opaque black, slightly tinged with blue, densely and minutely punctured; the first segment broad, bilineated; basal foveæ of the second segment deep and transverse; apical segments more smooth and somewhat shining; ovipositor not exerted. Length 9 lines; expanse of wings 16 lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

2. *Ich. Orpheus*, n. sp.

Black; antennæ with a broad white annulus; wings fuscous, clearer at base; central area of metathorax large, quadrate, transverse.

Female.—Black; the head with the frontal orbits above the antennæ, interrupted at the summit of the eyes, white; antennæ more than half the length of the body, black, with the 10th to 18th joints pure white above, apex slightly involute. Thorax closely punctured, somewhat shining; mesothorax in front with an impressed line on each side; a short line beneath the wings and sometimes one in front, white; scutellum slightly convex, deeply impressed in front; metathorax closely and confluent punctured, the elevated lines not well defined, the central area large, quadrate, somewhat transverse, rather smooth and shining. Wings fuscous, clearer at base, slightly violaceous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular or subtriangular, slightly oblique. Legs black, tips of the anterior femora and their tibiae on the inner side, whitish. Abdomen blue-black, subopaque, densely and finely punctured, basal segment broad, finely aciculate and bilineated; basal foveæ of the second segment deep and transverse; apical segments almost smooth, shining; ovipositor not exerted. Length 9 lines; expanse of wings 15½ lines.

Hab.—Pennsylvania. E. T. Cresson.

Closely resembles *Ich. Maurus*, but differs by the head being broader, the metathorax much smoother and shining, the quadrate central area, the clearer wings, and the stronger punctation of the abdomen, the apex of which is smooth and shining.

3. *Ich. Viola*, n. sp.

Black; antennæ with a broad white annulus; wings deep violaceous; central area of a metathorax somewhat conical, small.

Female.—Black, shining, closely punctured; head with narrow whitish orbits; clypeus polished, with a rounded, well impressed fovea on each side; antennæ rather short, black, the 10th to 18th joints white above, the apical half involute, flattened toward the tip and brownish-sericeous beneath. Thorax with a longitudinal, slightly impressed line on each side anteriorly; scutellum slightly convex, polished; metathorax deeply and confluent punctured, clothed with a short pale pubescence, the elevated lines well defined, the central area small and somewhat conical, almost smooth and rather indistinct. Wings dark fuscous, with a deep violaceous reflection, nervures and stigma black, areolet 5-angular or subtriangular, slightly oblique. Legs black, the anterior tarsi in front whitish. Abdomen black, with a faint tinge of blue, shining, minutely punctured; first segment broad, punctured; basal foveæ of the second segment deep, transverse, and somewhat oblique; apical segments smooth and polished; ovipositor not exerted. Length 8 lines; expanse of wings 14 lines.

Hab.—Pennsylvania. E. T. Cresson.

This fine species closely resembles *Ich. Orpheus*, but is distinguished at once by the different sculpture of the metathorax and the deep violaceous wings.

4. *Ich. saucius*, n. sp.

Black; antennæ with a broad white annulus; wings fuscous; central area of metathorax large, rounded in front and indented behind.

Female.—Black, shining, closely punctured; clypeus with large punctures and a large rounded fovea on each side; antennæ short, slightly involute at tip, the 9th to 17th joints white above and beneath, beyond this annulus the joints are rufous beneath. Scutellum flat, polished, with a few scattered punctures; metathorax strongly and somewhat confluent punctured, the elevated lines tolerably well defined, the central area large, slightly elongate, rounded in front and deeply indented behind. Wings fuscous, marginal cell darker; nervures and stigma black; areolet 5-angular. Legs black, shining, the anterior tibiae and tarsi in front piceous. Abdomen elongate, densely punctured, subopaque, smooth and shining towards the apex; basal segment finely

aciculate, bilineated; basal foveæ of the second segment small; ovipositor not exerted. Length 7 lines; expanse of wings 12 lines.

Hab.—Pennsylvania. E. T. Cresson.

Allied in form and color to the preceding species, but is smaller, the antennæ much shorter, and the sculpturing of the metathorax is very different.

5. *Ich. Afer*, n. sp.

Black; antennæ with a yellowish-white annulus; wings subhyaline; central area of metathorax large and quadrate.

Female.—Deep black, shining, closely and finely punctured; antennæ two-thirds as long as the body, porrect, the 11th to 16th joints yellowish-white, basal joint robust; middle of the face just beneath the antennæ prominent. Scutellum slightly convex; metathorax finely scabrous, the elevated lines distinct, the central area large, quadrate, slightly transverse. Wings subhyaline, tinged with fuliginous and having a slight violaceous reflection; nervures and stigma blackish; areolet 5-angular or subtriangular. Legs black, the anterior tibiæ and all the tarsi at tips piceous. Abdomen robust, shining, finely punctured; petiole slender; the first segment broad, finely aciculate; basal foveæ of the second segment indistinctly impressed; ovipositor not exerted. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely allied to *Ich. malacus* Say, but is smaller and with clearer wings. I have before me 14 specimens of *malacus*, all of which have the central area of the metathorax large and quadrate, and the wings dark fuscous with a rather strong violaceous reflection. Length $6\frac{1}{2}$ — $7\frac{1}{2}$ lines; expanse of wings 12—13 lines.

6. *Ich. ater*, n. sp.

Black; antennæ with a white annulus; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Black, subopaque; head with narrow white frontal orbits not reaching the clypeus which is shining and having a rather deep rounded fovea on each side; antennæ short, flattened towards the tip and slightly involute, the 8th and 14th joints white. Thorax finely punctured, subopaque; a minute white spot on each side in front of the tegulæ; scutellum flat, triangular, polished, distinctly punctured; metathorax finely scabrous, the elevated lines tolerably well defined and

shining, the central area large, subquadrate, rather smooth. Wings subhyaline, faintly tinged with fuliginous; nervures blackish, stigma piceous; areolet 5-angular, almost triangular. Legs black, the anterior tibiæ in front pale. Abdomen elongate, subopaque, very finely and densely punctured; first segment rather broad, bilineated and finely aciculate; basal foveæ of the second segment deep, transverse and somewhat oblique; apical segments smoother and shining; ovipositor not exerted. Length 7 lines; expanse of wings 11 lines.

Hab.—New York (Mr. James Angus); Illinois (Dr. Saml. Lewis).

7. *Ich. cineticornis*, n. sp.

Black; antennæ with a broad white annulus; wings fuliginous; central area of metathorax large, quadrate.

Female.—Black, closely punctured; antennæ more than half the length of the body, black, the 9th to 17th joints white above and beneath. Thorax opaque, scutellum convex, strongly punctured; metathorax confluent punctured, the elevated lines sharply defined, the central area large, quadrate. Wings tinged with fuliginous; nervures and stigma blackish; areolet 5-angular. Legs black, the anterior tibiæ in front yellowish. Abdomen elongate, rather slender, subopaque, densely and finely punctured, apical segments smooth and shining; the basal foveæ of the second segment deep and oblique; ovipositor yellow, exerted about one line. Length $6\frac{1}{2}$ lines; expanse of wings 10 lines.

Hab.—Pennsylvania. Mr. Chas. A. Blake.

Resembles *Ich. ater*, but the antennæ are longer and more slender, and the white annulus broader; the head is entirely black, the central area larger and quadrate and the areolet of the superior wings is 5-angular and not subtriangular.

8. *Ich. Blakei*, n. sp.

Black; antennæ with a broad white annulus; wings blackish-fuscous; central area of metathorax obsolete.

Male.—Head black, the clypeus and mandibles shining, clothed with short black pubescence; palpi black; antennæ porrect, three-fourths the length of the body, black, the 8th to 18th joints pure white, the 8th and 15th to 18th joints spotted beneath with black. Thorax black, closely punctured; mesothorax in front with a deeply impressed longitudinal line on each side, between which there is a longitudinal carina more distinct on the extreme front; scutellum convex, black, very

deeply impressed in front and connected with the mesothorax on each side by a sharp carina; metathorax scabrous, opaque black, the elevated lines broken and indistinct, the central area obsolete, the lateral tubercles prominent. Wings ample, blackish-fuscous, with a slight violaceous gloss; areolet 5-angular, the exterior nervure of which has a small hyaline spot on its middle, the cubital nervure and the second recurrent nervure, near the areolet, have also a small hyaline spot. Legs black, shining, the anterior femora with a whitish spot at tip and their tibiae a whitish line on the inner side. Abdomen elongate, slender, black with a slight tinge of blue; the basal segment elongate, with two well defined carinae extending from the angle forward on the petiole, on each side of the angulation a minute tubercle; the first and second segments roughly punctured, the latter having the basal foveae transverse and rather deep; the fourth and following segments polished; venter black, shining. Length 9 lines; expanse of wings $15\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

I dedicate this very distinct and elegant species to my friend Mr. Charles A. Blake of Philadelphia.

9. *Ich. flavicornis*, n. sp.

Black, opaque; antennae orange-yellow; wings dark fuscous, with a strong aeneous reflection; central area of metathorax large, subquadrate, transverse.

Male.—Opaque deep black; head with the frontal orbits yellow, sometimes subobsolete or wanting; antennae two-thirds the length of the body, orange-yellow, with the extreme base and apex blackish, scape deep black. Thorax closely punctured, with a rather deep indentation on each side of the mesothorax in front; scutellum convex, punctured, somewhat shining, deeply impressed in front and connected to the mesothorax on each side by a sharply defined carina, metathorax scabrous, the elevated lines tolerably well defined, the central area rather large and transverse. Wings dark fuscous, with a strong aeneous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, the anterior pair tinged with pale rufous on the inner side. Abdomen elongate, opaque black, immaculate, densely and finely punctured; basal segment finely aciculate, bilineated; basal foveae of the second segment rather large and deep, more coarsely aciculate; beneath black. Length 9 lines; expanse of wings $15\frac{1}{2}$ lines.

Hab.—New York. Mr. James Angus.

10. *Ich. montanus*, n. sp.

Blue-black; wings fusco-hyaline; central area of metathorax large, quadrate, transverse.

Male.—Entirely blue-black; the head and thorax having a slight tinge of green, rather densely punctured; antennae almost as long as the body, black, opaque. Scutellum convex, deeply impressed in front and connected with the mesothorax on each side by a sharp carina; metathorax densely and confluent punctured, the elevated lines well defined, the central area large, quadrate, transverse. Wings fusco-hyaline, darkest on the apical margin and having a slight violaceous reflection; nervures black; areolet 5-angular. Legs blue-black, the inner side of the anterior tibiae and tarsi and a spot at the tips of the anterior femora, whitish. Abdomen elongate, rather slender, densely punctured; basal segment somewhat shining, deeply tinged with blue, bilineated and finely aciculate; apical segments smoother. Length 7 lines; expanse of wings $11\frac{1}{2}$ lines.

Female.—Resembles the male, except that the color is more bluish, the antennae are shorter and the 11th to 14th joints above are white; the ovipositor is yellowish and exerted about one line.

Hab.—Rocky Mountains, Colorado Territory. 3 ♂ and 2 ♀ specimens.

11. *Ich. pedalis*, n. sp.

Black; wings fusco-hyaline; legs fulvous; central area of metathorax transverse.

Male.—Black, densely punctured; antennae brown-black, more than half the length of the body. Thorax shining; scutellum rather convex, punctured shining; metathorax scabrous, opaque, the elevated lines well defined, the central area rather large, transverse, the posterior margin bent inwards. Wings fusco-hyaline, with a slight violaceous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs fulvous, their coxae, trochanters and the extreme tips of the posterior tibiae, black. Abdomen opaque, densely punctured; basal foveae of the second segment deep and oblique. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

12. *Ich. Ormenus*, n. sp.

Black, shining; wings subhyaline; legs fulvous; central area of metathorax large, elongate-subquadrate.

Female.—Black, closely punctured, clypeus shining, with a deeply

impressed point on each side, mandibles and palpi piceous; antennæ short, involute, fusco-sericeous. Thorax somewhat shining, finely punctured; tegulæ rufo-testaceous; scutellum flat, smooth and polished; metathorax densely and somewhat roughly punctured, the elevated lines well defined, the central area large, elongate-subquadrate. Wings subhyaline, faintly stained with fuscous; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs fulvous, the coxæ, the posterior femora at tip and their tarsi black. Abdomen elongate, rather slender, densely and finely punctured, the apical segments smooth and shining; the first segment bilineated, finely aciculate; basal foveæ of the second segment deep; beneath black; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Pennsylvania. E. T. Cresson.

13. *Ich. semilævis*, n. sp.

Black; antennæ with a narrow white annulus; wings subhyaline; femora fulvous; central area of metathorax quadrate.

Female.—Black; head shining, closely punctured; face short, a rounded carina beneath the insertion of the antennæ; narrow orbits above the antennæ and a spot at the summit of the eyes, white; clypeus with a few large punctures, its anterior margin and the mandibles toward their tips, rufo-piceous; antennæ short, involute, the joints submoniliform, black, the 10th to 16th joints white above, beneath towards the tip they are brown-sericeous and flattened, basal joint robust, shining black. Thorax polished, sparsely punctured, the disk above as well as the scutellum almost destitute of punctures, being very smooth and shining; scutellum flat; metathorax densely and rather roughly punctured, the elevated lines tolerably well defined, the central area quadrate, not very distinct. Wings almost hyaline, faintly stained with fuliginous, nervures and stigma black; areolet 5-angular. Legs black, shining; all the femora and the anterior and intermediate tibiæ and tarsi rufous, the latter obfuscated at tips. Abdomen black, tinged with purple, polished towards the tip; petiole short; the 1st segment bilineated, finely aciculate; basal foveæ of the second segment deep and oblique, between these foveæ the surface is longitudinally rugose, the rugosity extending down the middle of the segment almost to its tip; the seventh segment sulcate above. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles *Ich. Ormenus* in size and form, but otherwise quite distinct.

SECTION 2.

14. *Ich. vittifrons*, n. sp.

Black; face whitish, with a broad black stripe down its middle; scutellum white; wings fuscous, hyaline at base; central area of metathorax indistinct.

Male.—Head black, the face below the antennæ, clypeus, orbits not reaching the vertex behind, and the middle of the mandibles, white; the face with a broad black vitta extending from the base of the antennæ to the anterior margin of the clypeus; antennæ porrect, more than half the length of the body, black, the basal joint whitish beneath. Thorax black, shining, rather sparsely punctured, a well impressed longitudinal line on each side of the mesothorax in front, which become obsolete before reaching the disk; tegulæ, a sutural line before and a short line beneath the wings, white; scutellum rather flat, white, with a deep impression at base and connected to the mesothorax on each side by a sharply defined carina; behind the scutellum a short transverse white line; metathorax confluent punctured, the elevated lines indistinct, the central area small, subobsolete, its shape indistinct. Wings broad, dark fuscous, with a strong violaceous reflection, the base especially of the posterior pair, hyaline; nervures black, areolet 5-angular or subtriangular, rather oblique. Legs black, the anterior coxæ beneath, a spot on the intermediate coxæ beneath, the anterior and intermediate femora exteriorly at base, their tarsi and all their tibiæ exteriorly, white. Abdomen elongate, black, closely punctured, shining, especially at tip; basal segment deeply punctured, the peduncle rather short; basal foveæ of the second segment deep and transverse; beneath, black. Length 9 lines; expanse of wings 15 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

15. *Ich. audax*, n. sp.

Black; face, scutellum and legs in part, yellowish-white; wings subhyaline; central area of metathorax transverse.

Male.—Head black, the face beneath the antennæ, frontal orbits not reaching the vertex, clypeus, a spot on the mandibles, and the palpi, yellowish-white; antennæ two-thirds the length of the body, black, the basal joint beneath whitish. Thorax black, finely and confluent punctured; tegulæ except at base, a sutural line before and a short line

beneath the wings, white; scutellum convex, profoundly impressed in front, entirely whitish; metathorax roughly punctured, the elevated lines distinct, the central area transversely subquadrate, its margins smooth and shining. Wings subhyaline, tinged with fuliginous, with a faint violet reflection; nervures and stigma black; areolet 5-angular. Legs black, anterior pair with a spot on their coxæ beneath, and their tibiæ and tarsi white; intermediate pair with the tips of their trochanters and femora, and their tibiæ and tarsi white; posterior pair with a small spot at the base of their femora within, the basal two-thirds of their tibiæ and their tarsi also white; all the tarsal claws black. Abdomen entirely opaque black; basal segment bilineated, finely aciculate, as is also the base of the second segment, the foveæ of which are large and deeply impressed; beneath black. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

16. *Ich. caliginosus*, n. sp.

Black; antennæ with a white annulus; scutellum white; wings fusco-hyaline; central area of metathorax large, quadrate and transverse.

Female.—Black, subopaque, densely and finely punctured; clypeus shining, with a few large punctures; antennæ half the length of the body, black, the 10th to 15th joints white above. Thorax densely and confluent punctured, with an abbreviated impressed line on each side of the mesothorax in front; scutellum rather flat, smooth and shining, with a large white spot occupying nearly its whole surface and slightly indented posteriorly; metathorax scabrous, the elevated lines well defined, the central area large and transversely quadrate. Wings fuscous, nervures black, stigma piceous, areolet 5-angular. Legs shining black, inner side of the anterior tibiæ and tarsi whitish. Abdomen entirely black; the first segment broad and finely aciculate, the peduncle slender; basal foveæ of the second segment deep and oblique; apical segments rather smooth and shining; ovipositor subexserted, yellowish. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

17. *Ich. Bronteus*, n. sp.

Black; the face, scutellum and legs in part, yellow; wings subhyaline; central area of metathorax rather large, subquadrate.

Male.—Black, subopaque, closely punctured; the face beneath the

antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ black, more than half the length of the body, correct, the basal joint beneath yellow. Thorax somewhat shining above, clothed with short fuscous pubescence, an abbreviated impressed line on each side of the mesothorax in front; the tegulæ, a short line in front and another beneath the wings, yellow; scutellum convex, smooth, yellow, slightly pilose; metathorax scabrous, the elevated lines well defined, the central area rather large, subquadrate. Wings subhyaline, faintly fuliginous, and with a brassy reflection; nervures fuscous, stigma fulvous; areolet 5-angular. Legs yellow, the two anterior pairs of coxæ, except a spot beneath, their femora posteriorly and the posterior coxæ, femora and tibiæ at tip, black. Abdomen long and rather slender, subopaque, densely and finely punctured; the basal segment bilineated and finely aciculate; basal foveæ of the second segment deep; on each side of the third segment at base a small obscure testaceous spot; apical segments smoother; beneath, the second, third and part of the fourth segments are yellowish. Length 8 lines; expanse of wings 12 lines.

Hab.—Pennsylvania. E. T. Cresson.

18. *Ich. tenebrosus*, n. sp.

Black; face and scutellum yellow; legs fulvous; wings hyaline; central area of metathorax quadrate, elongate.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ more than half the length of the body, black, the basal joint beneath yellow. Thorax black, shining, closely punctured; tegulæ, a short line before and another beneath the wings, yellow; scutellum rather flat, yellow, smooth and shining; metathorax roughly punctured, opaque black, the elevated lines well defined, the central area longitudinally quadrate. Wings hyaline; nervures fuscous, testaceous at base, the stigma fulvous; areolet 5-angular. Legs pale fulvous, the anterior and intermediate coxæ black above, yellow beneath, the posterior pair entirely black, as well as the extreme tips of the posterior tibiæ; posterior femora of a more deeper fulvous; tips of tarsi blackish. Abdomen elongate, rather slender, minutely punctured, opaque black, slightly shining towards the apex; first segment bilineated and finely aciculate; basal foveæ of the second segment oblique; on each side of the third segment at base an obscure ferruginous spot; beneath black, the second

and third segments pale testaceous, obfuscated on each side. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

19. *Ich. pullatus*, n. sp.

Black; face and scutellum white, the former with a black stripe down its middle; wings clear; central area of metathorax transverse, rather large.

Male.—Black; head with the orbits, interrupted behind, the face, clypeus, spot on mandibles, and the palpi, whitish; a broad black vitta extending from the base of the antennæ to the anterior margin of the clypeus; antennæ three-fourths the length of the body, slender, black, the basal joint beneath with a white spot. Thorax densely and finely punctured; the mesothorax in front with a shallow impression on each side; the collar above, tegulæ, a sutural line before and a short one beneath the wings, white; scutellum rather convex, polished, yellowish-white, behind it a small spot of the same color; metathorax rather finely and confluent punctured, the elevated lines tolerably well defined, shining, the central area rather large or moderate, semicircular, transverse, convex in front. Wings almost hyaline, having a very faint tinge of fuliginous especially on the apical margin; nervures fuscous, costa piceous, stigma paler; areolet 5-angular. Legs black, a spot on the anterior coxæ beneath, the anterior femora and tips of the middle femora within and the two anterior pairs of tibiae and tarsi, except a black line behind, whitish; the basal two-thirds of the posterior tibiae and the joints of the tarsi exteriorly except their extreme tips also whitish; tips of all the tarsi black. Abdomen elongate, rather slender, shining, densely and finely punctured; basal segment bilineated, rather smooth, the peduncle short; basal foveæ of the second segment small, deep and oblique; apical segments polished; beneath black. Length $6\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}$ —11 lines.

Hab.—Delaware (Dr. Wilson); Illinois (Dr. Lewis).

20. *Ich. cordatus*, n. sp.

Black; sides of face, a cordate spot on scutellum and legs in part, white; wings subhyaline; central area of metathorax transverse.

Male.—Head black, the frontal orbits (interrupted on each side of the insertion of the antennæ, narrow above, broader below and constricted on each side of the clypeus), a spot on each side of the clypeus, spot on mandibles, and the palpi, white; antennæ more than half

the length of the body, black. Thorax black, shining, closely punctured; a spot on tegulæ, a spot before and a line beneath the wings white; scutellum rather flat, smooth and shining, black with a rather large, cordate, white spot; metathorax black, subopaque, the elevated lines well defined, the central area transverse, subreniform, being rounded in front and emarginate behind. Wings subhyaline, apical margins slightly fuliginous, nervures and stigma black, areolet 5-angular. Legs black, tips of the four anterior femora and their tibiae and tarsi exteriorly, white, the tips of the latter and the claws, black; inner half of the posterior tibiae also white. Abdomen elongate, black with a slight tinge of blue, somewhat shining, rather smooth, the punctures close, but distinct and uniform, becoming less obvious towards the tip; first segment bilineated, shining, the peduncle slender; basal foveæ of the second segment obliquely impressed; beneath black. Length 6 lines; expanse of wings 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

21. *Ich. obliteratedus*, n. sp.

Black; scutellum white; wings subhyaline, areolet incomplete; central area of metathorax obliterated.

Male.—Jet-black, subopaque, densely punctured; a minute whitish spot at the summit of the eyes; antennæ about half the length of the body, entirely black. Thorax shining above, confluent punctured; a spot on tegulæ, a short line before and a line beneath the wings, white; scutellum rather convex, deeply impressed in front, with a large quadrate white spot; metathorax opaque, scabrous, the elevated lines indistinct, the central area obliterated. Wings subhyaline, apical margins smoky; areolet subtriangular, incomplete, the outer nervure being almost entirely obliterated. Legs black; tips of the anterior and intermediate femora, the anterior tibiae and tarsi, the intermediate tibiae and tarsi exteriorly, and the posterior tibiae at base, white. Abdomen elongate, rather slender; basal segment, broad posteriorly, bilineated and roughly punctured; basal foveæ of the second segment small and indistinct; the second and third segments above densely punctured, the apical ones smoother and shining, especially the sixth and seventh; beneath black, shining. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

22. *Ich. subcyaneus*, n. sp.

Black, with a bluish tinge; annulus on the antennæ and the scutellum white; wings subhyaline; central area of metathorax quadrate, moderate.

Female.—Black, tinged with blue, shining, finely and densely punctured; frontal orbits pale, subobsolete; antennæ involute, black, 10th to 16th joints whitish. Scutellum flat, polished, yellowish-white; metathorax finely punctured, the elevated lines well defined, the central area moderate, quadrate. Wings almost hyaline, having a faint tinge of fuliginous; nervures fuscous, costa blackish, stigma brown; areolet 5-angular. Legs black, the two anterior pairs tinged with brown. Abdomen stout, subovate, strongly arcuated, deeply tinged with dark blue; basal segment very broad, bilineated, punctured and subobsoletely aciculate, the tip deeply incised; basal foveæ of the second segment transverse, rather deeply impressed; apical segments smooth and polished; ovipositor not exerted. Length 5 lines; expanse of wings $9\frac{1}{2}$ lines.

Hab.—New Jersey. Mr. Wm. Wenzel.

SECTION 3—*a*.23. *Ich. scelestus*, n. sp.

Deep black, annulus on the antennæ, spot on scutellum and another on terminal segment of the abdomen whitish; wings dark fuscous; central area of metathorax large, quadrate, elongate.

Female.—Deep black, shining, densely and finely punctured; on each side of the clypeus a deep fovea; antennæ short, slightly involute, black, 9th to 13th joints whitish, spotted on the outside with blackish; scutellum rather flat, polished, with a small yellowish spot posteriorly; metathorax finely and densely punctured, the elevated lines well defined, the central area large, elongate-quadrate. Wings dark fuscous, with a rather strong violaceous and cupreous reflection; nervures and stigma black; areolet 5-angular, with a small hyaline spot on its outer nervure and two others below. Legs deep black, the anterior tibiae and tarsi pale in front. Abdomen elongate, strongly arcuated, feebly punctured, shining; basal segment bilineated, smooth on the disk and deeply punctured laterally; apical segments polished, the extreme tip with a rounded yellowish-white spot; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

24. *Ich. extrematis*, n. sp.

Deep black; annulus on antennæ, scutellum and extreme apex of abdomen above, white; wings subhyaline; central area of metathorax moderate, subquadrate.

Female.—Deep black, somewhat shining, densely and finely punctured; clypeus on each side with a deep fovea; antennæ about half the length of the body, slightly involute, black, 8th to 13th joints above white; scutellum flat, polished, yellowish-white; metathorax finely punctured, the elevated lines well defined, the central area moderate, subquadrate, slightly transverse. Wings subhyaline, tinged with fuliginous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, somewhat oblique. Legs black, sericeous, the anterior pair brownish in front, the posterior trochanters white. Abdomen rather stout, subovate, shining, the 2nd and 3rd segments opaque; basal segment rather broad, glossy, bilineated, obsoletely aciculate; basal foveæ of the 2nd segment subobsolete; apical segments polished; terminal segment above and the posterior margin of the 6th segment, white; beneath black; ovipositor not exerted. Length 5 lines; expanse of wings 8 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely allied to *Ich. brevicinctor* Say, but is shorter and more robust, and the wings are shorter and darker; it is readily distinguished from Say's species by the posterior trochanters being entirely white.

Ich. brevicinctor Say also belongs to this Section.

SECTION 3—*b*.25. *Ich. cæruleus*, n. sp.

Deep blue, shining; thorax tinged with green; orbits, two spots on clypeus, lateral sutures of mesothorax, two short lines on its disk and sides of scutellum, whitish; wings clear; central area of metathorax moderate, quadrate, indistinctly defined.

Female.—Deep dark blue, shining, clothed with a very short pale pubescence; head black with a bluish-green tinge, closely punctured; the orbits (interrupted behind), a round spot on each side of the clypeus, the labrum, a spot on the mandibles and the palpi, whitish; labrum and mandibles fringed with yellowish pubescence; antennæ short, involute, black, the 10th to 15th joints above white, the tip beneath fuscous. Thorax rather closely and finely punctured; the mesothorax black more or less tinged with green, the pleura and metathorax green.

ish-blue; the collar above, outer margin of the tegulæ, a sutural line before and a short line beneath the wings, and two longitudinal lines on the disk of mesothorax, white; scutellum same color as the mesothorax, sparsely punctured, polished, its lateral margins whitish; post-scutellum with a transverse white spot; metathorax finely and confluent punctured, the elevated lines tolerably well defined, the central area moderate, subquadrate, indistinctly defined, smooth and shining. Wings almost hyaline, being faintly tinged with fuscous; nervures and stigma black; areolet 5-angular. Legs black, the anterior coxæ beneath, the four anterior femora at tip and their tibiæ in front, and sometimes the posterior tibiæ at base exteriorly, whitish. Abdomen elongate, stout, brilliant deep blue, closely and finely punctured, shining; basal segment rather broad, bilineated, finely aciculate, and with a small whitish spot, sometimes obsolete or wanting, on each extreme apical corner, the peduncle short; extreme base of the second segment, between the basal foveæ which are deep, is coarsely aciculate; apical segments polished, impunctured. Length 6—8 lines; expanse of wings 10—13 lines.

Hab.—Mass., N. Y., N. J., Penn., Md., Ill. Eight ♀ specimens.

This is a very beautiful species; it agrees in some respects with the description given of *Ich. pulcher* Brullé, but I cannot satisfy myself of their identity. In this species the scape of the antennæ is always black, the face is black with narrow white orbits, and the sides of the mesothorax and surface of the metathorax are not ornamented with yellow lines or spots, as is said to be present in *pulcher*. I have not seen the male.

26. *Ich. Azotus*, n. sp.

Black; face, orbits, lateral lines of mesothorax and two lines on its disk, scutellum, and apex of the first abdominal segment, white; wings hyaline; central area of metathorax moderate, transverse.

Male.—Black, shining; the face beneath the antennæ, orbits, clypeus, mandibles except base, and the palpi, white; antennæ porrect, about three-fourths the length of the body, black, the basal joint beneath white. Thorax finely and closely punctured, with an impressed line on each side of the mesothorax in front; the tegulæ, a broad sutural line before and a short line beneath the wings, and two short lines on the disk above, white; scutellum rather flat, polished, white except

its anterior margin which is black; a transverse white line on the post-scutellum; metathorax densely and confluent punctured, the elevated lines well defined, the central area moderate, narrow and transverse, the space in front convex. Wings hyaline, slightly fuliginous at tip; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, the two anterior pairs in front and their coxæ beneath, as well as a line on the posterior tibiæ and tarsi behind, white. Abdomen elongate, rather slender, densely and very finely punctured; basal segment bilineated, closely punctured, the extreme apex with a large white spot on the disk and a smaller one on each side, having the appearance of a transverse band trilobed in front; basal foveæ of the second segment large, deep and somewhat oblique; apical segments rather smooth and shining. Length $7\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Delaware. Dr. T. B. Wilson.

Closely resembles *Ich. otiosus* Say, but the antennæ have no white annulus, the face is entirely white, the colors of the legs are differently arranged and the metathorax has no lateral white spot as is always present in that species.

27. *Ich. agnitus*, n. sp.

Black; antennæ with a broad white annulus; orbits, a spot on each side of clypeus, lateral lines of mesothorax and the scutellum, white; wings subhyaline; central area of metathorax subquadrate.

Female.—Black, shining. Head with the orbits of the eyes and a spot on each side of the clypeus, white; antennæ about half the length of the body, the apex involute, the 9th to 15th joints white, spotted beneath with black. Thorax strongly punctured; tegulæ black; the collar above, a sutural line before and a short line beneath the wings, white; scutellum flat and polished, with a large round white spot covering nearly its entire surface, behind it an obsolete pale spot; metathorax densely and confluent punctured, the elevated lines tolerably well defined, the central area moderate, subquadrate, rather smooth. Wings subhyaline, slightly stained with fuscous; nervures and stigma black; areolet 5-angular or subtriangular, slightly oblique. Legs black, the anterior and middle femora at tip, the anterior tibiæ in front and a spot on the posterior coxæ beneath, white. Abdomen elongate, black, slightly tinged with blue, densely and minutely punctured; basal segment bilineated, broad posteriorly, distinctly punctured and having at its

extreme tip above a narrow white line and a minute white dot on each side of it; basal foveæ of the second segment deep; apical segments smooth and shining; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Differs from *Ich. otiosus* Say, by having a white spot on each side of the clypeus, by the absence of the lines on the disk of the thorax, by the different coloration of the legs, by the absence of the lateral spots on the metathorax and by the different shaped central area, which in *otiosus* is transverse, rounded in front and deeply indented behind.

The following species also belong to this Section:—*Ich. unifasciatus* Say, *Ich. otiosus* Say, *Ich. navus* Say and *Ich. pulcher* Brullé, all of which are known to me, except the last.

SECTION 3—c.

28. *Ich. apicalis*, n. sp.

Black; face yellow; scutellum pale; legs and apex of abdomen fulvous; wings subhyaline; central area of metathorax large, quadrate, indistinct.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ rather more than half the length of the body, black, the basal joint beneath yellow. Thorax black, shining, closely punctured; tegulæ, a spot before and a line beneath the wings, yellow; scutellum rather flat, smooth and shining, black, with a subquadrate, obscure yellowish spot; metathorax roughly punctured, opaque black, the elevated lines tolerably distinct, the central area quadrate, not well defined. Wings fusco-hyaline; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular. Legs fulvous, anterior and intermediate coxæ black above, yellow beneath, the posterior pair entirely black; the four anterior legs yellowish in front. Abdomen black, elongate, minutely punctured; first segment finely aciculate, bilineated, the foveæ of the second segment profoundly impressed; second, third and fourth segments opaque, the apical ones smooth and shining; last segment fulvous; beneath blackish, with the middle of the 2nd and three following segments pale yellow, the apical ones fulvous. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

SECTION 4.

29. *Ich. variegatus*, n. sp.

Black; face, scutellum, metathorax, legs in most part, and basal $\frac{1}{2}$ of second abdominal segment, yellow; rest of abdomen, except basal segment, rufous; wings subhyaline; central area of metathorax subquadrate and transverse.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, spot on mandibles, and the palpi, bright yellow; antennæ porrect, nearly as long as the body, black, basal joint beneath yellow. Thorax black, polished, very finely punctured; tegulæ, a sutural line before and a line beneath the wings, yellow; scutellum slightly convex, polished, entirely bright yellow; metathorax densely punctured, yellow except its anterior and lateral margins, the elevated lines tolerably well defined, the central area moderate, transverse, subquadrate. Wings subhyaline, slightly fuliginous; nervures and stigma piceous, paler at base; areolet 5-angular. Legs bright yellow, the posterior coxæ, femora and apical half of the tibiæ, black. Abdomen elongate, rather slender, opaque, densely and very finely punctured; basal segment black, distinctly bilineated and finely aciculate; second segment bright yellow, its apical half dull rufous, the basal foveæ small, black, coarsely aciculate; remaining segments dull rufous, the third segment having on each side an irregular yellowish stain dilated laterally; apical segments smoother than the basal ones; beneath pale ferruginous, the middle of the segments stained with yellowish. Length 8 lines; expanse of wings $11\frac{1}{2}$ lines.

Variety ♂.—Differs from the above as follows:—The four anterior femora have a black spot behind, the wings are clearer, the apical half of the 2nd abdominal segment is yellowish-ferruginous as also the basal foveæ, the 3rd segment above is entirely yellow, except the basal incisure which is black, the remaining segments are dull rufous, the 4th and 5th each having a narrow black fascia at base. Length $6\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

30. *Ich. inconstans*, n. sp.

Black; face, scutellum, legs, the 2nd, 3rd, 4th and two apical segments of abdomen, more or less yellow; wings subhyaline; central area of metathorax moderate, subquadrate.

Male.—Head black; the face beneath the antennæ, clypeus, mandibles (except the base which is piceous), and the palpi pale yellow; antennæ porrect, rather more than half the length of the body, black,

basal joint beneath yellow. Thorax black, minutely punctured, shining; tegulæ, a spot before and a line beneath the wings, white; scutellum flat, polished, white; metathorax entirely black, finely and confluent punctured, opaque, the elevated lines well defined, the central area moderate, subquadrate, rounded in front and obtusely indented behind. Abdomen elongate, rather slender, finely and densely punctured; basal segment black, distinctly bilineated and finely aciculate; second and third segments bright yellow, their apical third stained with ferruginous and their extreme apex obfuscated; fourth segment brown-black with a large angular yellow spot on each side, almost meeting on the disk; the two following segments black, the apical ones fulvous; beneath colored as above. Length 7—8 lines; expanse of wings 11—11½ lines.

Hab.—Rocky Mountains, Colorado Territory.

31. *Ich. Grotei*, n. sp.

Black; face and scutellum yellow; metathorax yellowish-ferruginous; abdomen ferruginous and yellow, banded with black; central area of metathorax small, transverse.

Male.—Head black; the face beneath the antennæ, orbits, clypeus, mandibles except base and extreme tips, and the palpi, yellow; antennæ porrect, rather more than half the length of the body, brown-black, basal joint beneath yellow. Thorax black, finely and rather closely punctured, shining; tegulæ, a broad sutural line before and a short one beneath the wings, an oblique line on each side of the pectus, yellow or yellowish-ferruginous; a spot on each side of the pleura and two lines on the disk of the mesothorax, almost confluent behind and diverging in front, rufous and subobsolete; scutellum rather convex, shining, yellow, immediately behind it a short transverse yellowish-ferruginous line; metathorax almost entirely yellowish-ferruginous, the elevated lines tolerably well defined, the central area small, transverse, subquadrate, the posterior margin bent inwards. Wings subhyaline, with a brassy gloss, the apical margin faintly tinged with fuliginous; nervures blackish, pale testaceous at base, as well as the outer margin of the costa; stigma fulvous; areolet 5-angular. Legs yellow, more or less varied with fulvous, the posterior coxæ, trochanters, femora and tips of the tibiæ fulvous, the latter obfuscated at tips. Abdomen long and rather slender, densely and finely punctured, opaque-yellow,

varied with fulvous or pale ferruginous, the tips of the first, second, third and fourth segments bright yellow, their middle yellowish-ferruginous, their basal third black, as well as the base of the fifth and sixth segments, the remainder of these segments and also the apical segment entirely, fulvous; basal segment distinctly bilineated; basal foveæ of the second segment small and transverse; fifth and following segments smoother than the preceding ones, and somewhat shining; beneath, the segments are yellow varied with fulvous, the basal segment black, the middle of the second and three following segments yellow with a black spot on each side at base; apical segments fulvous. Length 6½—7½ lines; expanse of wings 11—12½ lines.

Variety ♂.—Differs from the above by having the cheeks, disk of the thorax above and the sides of the pleura more or less yellowish-ferruginous; in one specimen the pleura has on each side a broad yellowish-ferruginous dash. Length 6 lines.

Hab.—Rocky Mountains, Col. Ter. Illinois. Dr. Saml. Lewis.

The two specimens from Illinois are not so bright in color as those from Colorado, the ferruginous color being very dull, approaching fuscous, especially at the apex of the abdomen. I have no doubt of their identity.

I dedicate this beautiful species to my friend Mr. Aug. R. Grote of New York.

Ich. jucundus Brullé also belongs to this Section.

SECTION 5.

32. *Ich. nobilis*, n. sp.

Black; face, scutellum, metathorax and legs in part, and posterior portion of the first 4 abdominal segments, yellow; central area of metathorax transverse.

Male.—Head black; the face beneath the antennæ, orbits, clypeus, mandibles and palpi, yellow; antennæ porrect, about half the length of the body, black, basal joint beneath yellow. Thorax black, shining, closely punctured, clothed with short fuscous pubescence; collar above, tegulæ, a broad sutural line before and a short line beneath the wings, yellow; scutellum convex, yellow, as well as a short line behind it; metathorax mostly yellow, its anterior, posterior and lateral margins black, the elevated lines well defined, the central area moderate, transverse. Wings subhyaline, stained with yellowish; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs yellow, a

spot on the intermediate coxæ beneath, the posterior coxæ, their femora except extreme base and apex, and the tips of their tibiæ, black. Abdomen elongate, stout, black; the first segment, except peduncle, apical two-thirds of the second, and the apical half of the two following segments, yellow; remaining segments black, narrowly margined at tip with obscure yellowish, shining; basal segment bilineated, finely aciculate; basal foveæ of the 2nd segment small; beneath colored same as above, except that the black bands of the 2nd, 3rd and 4th segments are interrupted on the middle. Length 9 lines; expanse of wings 15 lines.

Hab.—Illinois. Dr. Saml. Lewis.

Closely resembles *Ich. lætus* Brullé, but is much larger, the wings longer, and the central area of the metathorax differently shaped; the colors are arranged pretty much the same, but the apical segments of *lætus* are always black.

I would remark here that *Ich. parata* Say, Contrib. Macl. Lyc. i, p. 68, and *Ich. parata* Say, Bost. Journ. Nat. Hist. i, p. 228, refer to two separate and distinct species; the former belongs, I think, to *Ischnus*, and the latter is a true *Ichneumon*, and identical with *Ich. lætus* Brullé,—Say having mistaken the two for ♂ and ♀ of the same species. I have six specimens of the former species, all males, and fifteen of the latter, also all males. They are widely distinct and answer exactly to the descriptions given of them. I have therefore separated the two as follows:—

Ischnus paratus Say.—*Ichneumon parata* Say, Contrib. Macl. Lyc. i, p. 68.

Ichneumon lætus Brullé.—*Ich. parata* Say, Bost. Jour. Nat. Hist. i, p. 228.

33. *Ich. flavizonatus*, n. sp.

Black; face, scutellum, legs, two spots on metathorax and 5 bands on the abdomen, yellow; wings subhyaline; central area of metathorax transverse.

Black; the face, clypeus, mandibles except base and apex, frontal orbits not reaching the vertex, and the palpi, yellow; antennæ about half the length of the body, porrect, black or brown above, fulvous beneath, obfuscated at the tips, the basal joint beneath yellow. Thorax densely and finely punctured; the collar above, tegulæ, a short sutural line before and a short line beneath the wings, yellow; scutellum rather convex, polished, entirely yellow, with a small transverse spot immediately behind it; metathorax densely and rather finely punc-

tured, opaque black, with a rather large yellow spot on each side, sometimes reduced to a small round spot, the elevated lines well defined, the central area subquadrate, transverse, moderate, its margins polished. Wings subhyaline, more or less stained with fuscous; nervures fuscous, testaceous at base; stigma fulvous; areolet 5-angular or subtriangular. Legs yellow, the posterior coxæ beneath and the tips of their femora and tibiæ, black; tips of the tarsi sometimes blackish. Abdomen elongate, opaque, finely punctured, the punctures coarser at base of the second segment; basal segment distinctly bilineated and finely aciculate; basal foveæ of the second segment deep, coarsely aciculate; apex of all the segments above with a more or less broad yellow or yellowish-white band, sometimes slightly indented anteriorly; in one specimen the bands are much narrowed and that on the 5th segment is wanting and that on the 7th segment is interrupted in the middle; in another specimen the bands of the two apical segments are nearly white and occupy almost the whole surface; beneath pale fulvous, the 2nd, 3rd and 4th segments each with a large lateral blackish spot, remaining segments black. Length $7\frac{1}{2}$ lines; expanse of wings 12 lines.

Hab.—New York (Mr. James Angus); Virginia (Dr. T. B. Wilson).

Allied to *Ich. lætus* Brullé, but is more robust, the bands of the abdomen much narrower and continued on the apical segments, and the central area of the metathorax is transverse.

34. *Ich. atrifrons*, n. sp.

Black, antennæ with a broad whitish annulus; scutellum, sides of metathorax, and the apical and lateral margins of the abdominal segments, yellow; legs fulvous varied behind with yellow; wings clear; central area of metathorax, elongate-quadrate.

Female.—Black, somewhat shining, finely and densely punctured; head entirely black, except the frontal orbits above the antennæ which are broadly yellow; antennæ two-thirds the length of the body, black, the 10th to 15th joints whitish, basal joint beneath pale brownish. Thorax: collar above, tegulæ, a short sutural line before and a spot beneath the anterior wings, another spot beneath the posterior pair and a round spot on each side of the pleura immediately over the intermediate coxæ, yellow; scutellum flat, polished, yellow, with a transverse yellow spot behind it, the carina on each side in front of the

scutellum with a small yellow spot exteriorly; metathorax finely and densely punctured, black, with a very large longitudinal spot on each side of the middle and a small rounded yellow spot on the extreme sides, the elevated lines well defined, the central area moderate, quadrate, elongate. Wings hyaline, nervures testaceous, stigma pale fulvous, areolet 5-angular. Legs dull fulvous, the coxæ, trochanters and the four anterior femora behind yellow, posterior coxæ at base beneath and at the insertion of the trochanters behind, black. Abdomen elongate, rather robust, strongly arcuated, basal segments opaque, apical ones shining; basal segment rather narrow, bilineated, finely aciculate; basal foveæ of the second segment scarcely impressed; the apical and lateral margins of all the segments, broader at the apical corners, yellow; beneath blackish; ovipositor fulvous, exerted about half a line. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

To this Section also belongs *Ich. comptus* Say and *Ich. concinnus* Say, the last of which is unknown to me.

SECTION 6.

35. *Ich. comes*, n. sp.

Black; face, two lines on mesothorax, scutellum, spot on pleura, W on metathorax, legs in part, and the 2nd and 3rd abdominal segments, yellow; central area of metathorax quadrate.

Male.—Head black; face beneath the antennæ, frontal orbits, clypeus, mandibles except tips, palpi, and a spot on the cheeks just above the base of the mandibles, yellow; antennæ porrect, about two-thirds the length of the body, black, basal joint beneath, yellow. Thorax black, shining, finely punctured; collar above, tegulæ, a broad sutural line before and a narrow one beneath the wings, two lines on the disk of mesothorax (which are confluent before reaching the posterior margin, diverging in front and becoming confluent with the sutural lines), and a rather large irregular mark on pleura, enclosing a small black spot, yellow; scutellum convex, yellow, polished, behind it a short, transverse, yellowish spot; the lateral carinæ of the scutellum have an exterior yellow spot; metathorax scabrous, black, with a yellow mark behind having somewhat the shape of a W; elevated lines well defined, the central area moderate, quadrate, not at all transverse. Wings subhyaline, slightly stained with yellowish; nervures pale fuscous, testa-

ceous at base, stigma pale fulvous; areolet 5-angular. Legs yellow; the posterior coxæ, their femora except extreme base, and the apex of their tibiæ, black; tips of the tarsi brown, the four anterior femora stained with blackish behind. Abdomen elongate, rather stout, black; the 2nd, except a transverse irregular blackish mark at tip, and the whole of the 3rd segment, yellow; basal segment bilineated, finely aciculate; basal foveæ of the 2nd segment deep; apical segments smoother than the basal ones; beneath colored same as above, except that the 4th segment is stained with yellowish. Length 7— $8\frac{1}{2}$ lines; expanse of wings 12— $13\frac{1}{2}$ lines.

Hab.—Illinois (Dr. Saml. Lewis); Delaware (Dr. T. B. Wilson).

The lines on the disk of the mesothorax, and the irregular mark on the pleura are sometimes wanting; the foveæ of the 2nd abdominal segment are sometimes black, and the irregular black mark on the apical half of this segment sometimes forms a regular band.

This species is closely allied to *Ich. lætus* Brullé, and may possibly prove to be a variety of it. The wings are, however, longer, the antennæ are entirely black, except the basal joint beneath, and the basal segment of the abdomen is always black; only two segments are yellow, while *lætus* has four.

36. *Ich. parvus*, n. sp.

Black; face, scutellum; legs in part, and the apical half of the three first abdominal segments, yellow; wings subhyaline; central area of the metathorax moderate, subquadrate.

Male.—Black, finely punctured, shining; the face, clypeus, spot on mandibles and the palpi, yellow; antennæ about half the length of the body, porrect, black, the basal joint beneath yellow. Thorax entirely black; scutellum slightly convex, polished, entirely yellow; metathorax finely punctured, the elevated lines well defined, the central area moderate, subquadrate, somewhat elongate, rounded in front and indented behind. Wings subhyaline, slightly iridescent; nervures fuscous, paler at base, stigma brown or fulvous; areolet 5-angular. Legs yellow; the coxæ, the four anterior femora behind, the posterior femora entirely and their tibiæ at tips black; tips of the tarsi blackish, and sometimes the posterior tarsi are almost entirely blackish. Abdomen elongate, rather slender, apical segments smooth and shining, the basal ones finely punctured; basal segment bilineated, finely aciculate; basal foveæ

of the second segment small, not deep; apex of the first segment and the apical two-thirds of the two following segments yellow, in one specimen the apical middle of the fourth segment is obscurely yellowish; beneath colored same as above. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Hab.—New York (Mr. Angus); Illinois (Dr. Lewis).

About half the size of *Ich. lætus* Brullé, which it resembles in color, except that the meso- and metathorax are immaculate.

37. *Ich. pictifrons*, n. sp.

Black, face spotted with yellow; scutellum, legs in part, and the 2nd and 3rd abdominal segments yellowish; wings subhyaline; central area of metathorax large, transversely quadrate.

Male.—Black, very finely punctured; a wedge-shaped stripe on each side of the face, two small spots immediately beneath the antennæ, clypeus, except a blackish spot on its middle, and a spot on the mandibles, yellow; antennæ more than half the length of the body, porrect, black, tip of the basal joint beneath yellowish. Thorax entirely black; scutellum slightly convex, yellow, stained with fulvous at base and apex; metathorax finely and densely punctured, the elevated lines well defined, the central area large, transversely quadrate, its posterior margin rather indistinct. Wings subhyaline, slightly stained with fuliginous, and having a slight violaceous reflection at tips; nervures blackish, stigma brown; areolet 5-angular. Legs yellowish; the coxæ, the four anterior femora behind, the posterior femora entirely and the apex of the posterior tibiæ, black; tips of the tarsi also blackish. Abdomen elongate, rather slender, basal segment bilineated and finely aciculate; basal foveæ of the second segment large and deeply impressed; apical segments smooth and shining; the second and third segments yellowish-fulvous, the anterior half of the second segment paler; beneath colored same as above. Length 5 lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

38. *Ich. bizonatus*, n. sp.

Black; face, annulus on antennæ, scutellum, legs in part, and two bands on abdomen, yellow; wings subhyaline; central area of metathorax large, quadrate.

Female.—Head black, shining, sides of the face and frontal orbits, yellow, the latter tinged with ferruginous near the summit of the eyes;

middle of the face and the clypeus rufous, the latter with a yellow spot on each side, the mandibles near their tips also rufous; antennæ two-thirds the length of the body, black, the basal joint beneath yellow, and the 8th to 12th joints yellowish-white, spotted beneath with black. Thorax black, rather densely and closely punctured, shining, the tegulæ and a spot before the wings honey-yellow; a line beneath the wings and the scutellum yellow, the latter flat, smooth and shining; metathorax scabrous, the elevated lines well defined, the central area large, quadrate. Wings subhyaline, slightly stained with fuscous and having a brassy gloss, the nervures and stigma testaceous, the areolet 5-angular. Legs black, apex of the anterior and intermediate femora and the tibiæ and tarsi yellow, the latter obfuscated at tips, the anterior femora stained with ferruginous on the inside; the posterior femora entirely black, the basal half of their tibiæ yellow, the tarsi dusky. Abdomen black, the petiole rather slender; first segment bilineated, finely aciculate, the second and third segments above very finely and closely punctured, the remaining segments smooth and shining; at the base of the second and third segments above a rather narrow transverse yellow band, the posterior margin of which is denticulated, that on the second segment covering the base and extending down for a short distance on each side of the segment, that on the third segment not quite reaching the base and is somewhat dilated on each side; beneath, the second, third and fourth segments are yellowish, the rest black; ovipositor scarcely exerted. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

SECTION 7—*a.*

39. *Ich. ambiguus*, n. sp.

Black; the face, orbits, two lines before the wings, scutellum and the anterior legs in front, white; wings fuliginous; central area of metathorax small, subconical.

Male.—Elongate. Head black, the face beneath the antennæ, the orbits interrupted behind, clypeus, spot on mandibles, and the palpi, white; antennæ porrect, more than half the length of the body, black, basal joint beneath white. Thorax black, shining, closely punctured; mesothorax in front with two impressed longitudinal lines reaching the disk; the collar above, an abbreviated sutural line before and a dot beneath the wings, white; scutellum flat, polished, with a large round

white spot; metathorax scabrous, the elevated lines well defined, the central area small, elongate, subconical, smooth and polished. Wings fuliginous, darkest along the costa; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular. Legs black, the intermediate coxæ beneath with a rounded white spot, the anterior and intermediate legs in front white, tarsal claws black. Abdomen elongate, sublinear, depressed, opaque yellowish-ferruginous; basal segment black, bilineated, finely aciculate at tip; basal foveæ of the second segment deep and oblique; apical segments somewhat shining. Length 10 lines; expanse of wings 15 lines.

Hab.—Pennsylvania. E. T. Cresson.

40. *Ich. vinulentus*, n. sp.

Black; face, scutellum and legs in part, white; abdomen rufous; wings subhyaline; central area of metathorax quadrate.

Male.—Head black, the face below the antennæ, frontal orbits, clypeus, a spot near the tip of the mandibles, and the palpi, white; antennæ two-thirds the length of the body, blackish, the basal joint beneath white. Thorax black, shining, finely, closely and uniformly punctured; tegulæ, a cuneiform mark before and a short line beneath the fore-wings, white; scutellum almost flat, smooth, shining and entirely white; metathorax opaque black, finely scabrous, the elevated lines smooth and shining, the central area large, quadrate, not at all transverse, more finely sculptured than the rest of the metathorax. Wings subhyaline, with a slight brassy gloss; the nervures and stigma dark fuscous, the former much paler at base; areolet 5-angular or almost triangular. Legs white; the coxæ, except a small spot posteriorly, the outer surface of the anterior and intermediate femora except their extreme base and apex, the posterior femora except their extreme base, and almost the terminal half of the posterior tibiæ, black. Abdomen rufous; the basal segment black, distinctly bilineated, finely aciculate, interspersed with a few punctures at base; basal foveæ of the second segment deep and somewhat oblique, this and the following segments opaque, very densely and finely punctured, the punctures becoming finer and the surface smoother towards the apex. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

41. *Ich. consimilis*, n. sp.

Black; face, scutellum and legs in part, yellow; abdomen brick-red; wings subhyaline; central area of metathorax subquadrate, moderate.

Male.—Head black, the face below the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ two-thirds the length of the body, black, the basal joint beneath with a broad yellow line. Thorax black, finely, closely and uniformly punctured; tegulæ, a narrow sutural line before the wings abbreviated before and suddenly dilated behind, and a short line beneath the wings, yellow; scutellum convex, entirely pale yellow; a small, transverse, subobsolete, yellowish line behind the scutellum; metathorax black, rather finely rugose, the elevated lines well defined; the central area subquadrate, rounded in front and obtusely emarginate behind. Wings subhyaline, slightly tinged with fuscous and with a brassy gloss; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular or subtriangular. Legs yellow; coxæ, trochanters, anterior and intermediate femora exteriorly except tips, the posterior femora entirely, as well as the tips of the posterior tibiæ, black. Abdomen brick-red, darker towards the apex; basal segment black, distinctly bilineated, finely aciculate; basal foveæ of the second segment deep and somewhat oblique, and between which the surface is finely aciculate; second and following segments opaque, very finely and densely punctured; ventral segments stained with yellowish, with a more or less dusky spot on each side especially towards the tip. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Closely resembles *Ich. vinulentus*, but besides the difference of color, the scutellum is much more convex and the sculpture of the metathorax is different, the central area being smaller and differently shaped.

42. *Ich. juxtus*, n. sp.

Black; face, scutellum and legs in part, yellow; abdomen dull ferruginous; wings subhyaline; central area of metathorax large, transversely subreniform.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ more than half the length of the body, black, the basal joint beneath yellow. Thorax black, finely punctured; a sutural line before the wings, tegulæ and a line beneath the wings, pale yellowish; a sub-

obsolete, quadrate, ferruginous spot on the disk of the mesothorax; scutellum rather flat, pale yellowish, shining, a short transverse line of the same color just behind; metathorax opaque black, with a subobsolete, longitudinal, rufous stripe on each side; densely and roughly punctured, clothed like the head and thorax with short pale brownish pubescence; the elevated lines well defined, the central area large, transversely subreniform, being broadly rounded in front and emarginate behind. Wings subhyaline, with a faint violaceous and brassy gloss; nervures fuscous, pale at base, stigma ferruginous; areolet 5-angular. Legs yellow; the four anterior coxæ black, more or less stained with ferruginous beneath, as well as their femora beneath; posterior coxæ black with a subobsolete rufous spot behind, their femora, except their base and trochanters which are rufous, and the tips of their tibiæ, black. Abdomen dull ferruginous, the apical margin of each segment with an indistinct darker stain, the basal half of the petiole blackened; first segment distinctly bilineated and finely aciculate; basal foveæ of the second segment small, not deep, this and the following segments densely and finely punctured, the punctures becoming finer and the surface smoother towards the tip; beneath, the basal segment is black, the disk of the second and third and the apical margin of the following segments are yellowish. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles the two preceding species, but differs much in the distribution of color, and especially in the shape of the central area of the metathorax which in this species is transversely subreniform, while in the two preceding species it is quadrate or subquadrate.

43. *Ich. animosus*, n. sp.

Black; face, scutellum and legs in part, yellow; wings hyaline; abdomen dull rufous banded with black; central area of metathorax elongate.

Male.—Head deep black, shining; face beneath the antennæ, frontal orbits, clypeus, mandibles, except base and apex, and the palpi, bright yellow; antennæ two-thirds the length of the body, black, basal joint beneath bright yellow. Thorax deep black, shining, finely and rather sparsely punctured; tegulæ, a short line before and a line beneath the wings, yellow; scutellum rather flat, shining, entirely bright yellow, except a sinuate line at base, which gives the yellow a cordate

appearance with its apex truncate; metathorax scabrous, opaque black, the elevated lines well defined, the central area rather small, elongate, narrow, rounded in front and truncate behind. Wings nearly hyaline; nervures fuscous, pale testaceous at base, stigma and most of the costa fulvous; areolet 5-angular. Legs bright yellow; anterior coxæ black above, yellow beneath, intermediate pair almost entirely yellow, having a black stripe on the exterior side, posterior pair entirely black; posterior side of the four anterior femora with a broad black vitta margined above with pale ferruginous, posterior femora, except extreme base and apex, and the apical half of their tibiæ, black. Abdomen dull rufous, subopaque; basal segment black, bilineated, faintly aciculate, with a subobsolete rufous dot at the extreme tip; on each side of the second segment at base a somewhat obliquely impressed fovea; a black mark occupies nearly the basal half of this segment, the posterior margin being concave and leaving an obtuse lobe on each side not touching the lateral margin of the segment; basal margin of the four following segments black, that on the third segment slightly and gradually dilated on the disk, that on the fourth and fifth segments suddenly and broadly dilated on the disk reaching the middle of the segments, that on the sixth segment small; the apical segment entirely rufous; beneath pale rufous, stained with yellowish on the middle of the second, third and fourth segments. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

44. *Ich. vultus*, n. sp.

Black; face bright yellow; legs and abdomen rufous; wings subhyaline; central area of metathorax rather large, lunate.

Male.—Black, finely and densely punctured; face beneath the antennæ, orbits, interrupted behind, clypeus and spot on mandibles, bright yellow; palpi pale; antennæ more than half the length of the body, porrect, black, opaque, basal joint beneath yellowish. Thorax shining; tegulæ, a dot before them and the apical half of the scutellum pale honey-yellow; scutellum rather flat, polished; metathorax densely punctured, the elevated lines sharply defined, the central area rather large, lunate, transverse, rounded in front and indented behind. Wings subhyaline, slightly tinged with fuliginous; nervures and stigma fuscous; areolet 5-angular or subtriangular. Legs rufous, tibiæ and tarsi tinged with yellow, the coxæ, trochanters and the apex of the posterior tibiæ,

black. Abdomen elongate, finely and closely punctured, shining, rufous, base of petiole blackish; basal segment not much dilated, bilineated, the disk with a shallow fovea; basal foveæ of the second segment deep and oblique; basal incisures of the 3rd and 4th segments blackish; apical segments smooth and polished, the last one tinged with yellowish. Length 4 lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

45. *Ich. fuscifrons*, n. sp.

Black; face dark brown, basal half of antennæ, two spots on metathorax, legs and abdomen rufo-fuscous; scutellum and middle of antennæ white; wings hyaline; central area of metathorax rather large and subquadrate.

Female.—Head black, the face beneath the antennæ, the frontal orbits, the clypeus and mandibles, dark brown; palpi paler; antennæ about half the length of the body, the 8 basal joints rufo-fuscous, the 7 following white and the remainder black above, fuscous beneath. Thorax black, clothed with short yellowish-sericeous pubescence; the tegulæ, a spot before and another beneath the posterior wings, rufous; a short line beneath the anterior wings and the scutellum, yellowish-white, the latter rather flat, polished; metathorax densely punctured, opaque, with a dull rufous spot on each side, the elevated lines sharply defined, the central area large, subquadrate, slightly elongate. Wings hyaline, nervures fuscous, stigma pale testaceous, areolet 5-angular. Legs pale rufo-fuscous, the intermediate coxæ yellowish beneath. Abdomen elongate, rufo-fuscous; a small spot on each side of the first segment at tip, an obsolete spot on each side of the third segment posteriorly and the disk of the two apical segments, yellowish; basal segment with the peduncle black, rather slender; apical segments smoother and somewhat shining. Length 6 lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

46. *Ich. funestus*, n. sp.

Black; head varied with dull rufous; antennæ with a white annulus; scutellum yellow; abdomen rufo-fuscous; wings hyaline; central area of metathorax large, quadrate.

Female.—Head black, the orbits (yellowish in front), and the lower part of cheeks, dull rufous; antennæ short, involute, black, 9th to 15th joints white. Thorax feebly punctured, shining, black; beneath the anterior wings a short yellowish line; scutellum flat, polished, yellow, with a yellow spot behind; metathorax finely punctured, the elevated

lines well defined, the central area large, quadrate, slightly transverse. Wings subhyaline, faintly tinged with fuliginous; nervures fuscous; stigma fulvous; areolet 5-angular or subtriangular. Legs black, the tibiæ piceous and the tarsi ferruginous. Abdomen robust, strongly arcuated, rufo-fuscous, polished towards the apex; basal segment blackish, bilineated, finely aciculate; basal foveæ of the second segment rather deep and coarsely aciculate; ovipositor not exerted. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Pennsylvania. Mr. J. H. B. Bland.

To this Section also belongs *Ich. grandis* Brullé, *Ich. devinctor* Say (= *tibialis* Brullé), and *Ich. succinctus* Brullé, the first of which is unknown to me.

SECTION 7—b.

47. *Ich. seminiger*, n. sp.

Dull rufous; apex of antennæ, thorax beneath, metathorax and basal margin of 3rd and 4th abdominal segments, black; scutellum yellow; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Dull rufous. Head: palpi pale; antennæ about half the length of the body, involute, the 1st to 8th joints rufous, sometimes fuscous, the 9th to 15th joints whitish or yellowish, the remainder blackish or brownish, the basal joint beneath always rufous. Thorax finely punctured, shining, black; the mesothorax above dull rufous; scutellum flat, polished, yellow; metathorax finely punctured, black, the elevated lines well defined, the central area large, subquadrate, truncate in front and deeply indented behind. Wings subhyaline, slightly and uniformly stained with fuscous; nervures fuscous, paler at base; stigma pale fulvous; areolet 5-angular, rather oblique. Legs rufous, shining, coxæ black, the four anterior ones occasionally reddish beneath. Abdomen rather short, robust; basal segment broad, bilineated, finely aciculate, and having a small round yellowish spot on each side, sometimes obsolete or wanting; petiole black; basal foveæ of the second segment small, not deep; basal margin of the third and fourth segments above narrowly black; apical segments smoother than the basal ones; ovipositor not exerted. Length $5\frac{1}{2}$ lines; expanse of wings $9\frac{1}{2}$ lines.

Hab.—Mass., N. J., Penn., Virginia.

Allied to *Ich. suturalis* Say, but differs by the tricolored antennæ,

by the thorax beneath and the metathorax being black, and by the central area of the latter being quadrate and not at all elongate.

48. *Ich. discus*, n. sp.

Black: face, mesothorax, scutellum, legs and abdomen, except sutures, fulvo-ferruginous; wings subhyaline; central area of metathorax large, quadrate.

Male.—Head black, shining; face beneath the antennæ, frontal orbits, clypeus and mandibles, except base and apex, yellowish-fulvous; palpi yellowish; antennæ about half the length of the body, black, the basal joint beneath fulvous. Thorax black, closely punctured, shining, the disk above, and a spot before the wings, obscure ferruginous; scutellum rather flat, smooth and shining, yellowish-ferruginous; metathorax opaque black, the elevated lines well defined, the central area large, quadrate, slightly transverse. Wings subhyaline, slightly stained with fuliginous; nervures blackish, testaceous at base, stigma fuscous; areolet 5-angular. Legs fulvous above, yellow beneath; the coxæ and a spot on the trochanters, black, the four anterior coxæ with a large yellow spot beneath. Abdomen ferruginous, darker towards the apex; basal segment black, distinctly bilineated, and having an obscure ferruginous spot at the extreme tip; basal margin of the second and three following segments narrowly black, the second and third segments above paler ferruginous than the others; beneath, the segments are dull ferruginous, stained with fuscous on the disk of the second, third and fourth segments. Length 6 lines; expanse of wings 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

49. *Ich. subrufus*, n. sp.

Dull rufous; tips of antennæ, pectus, pleura, metathorax and coxæ black; scutellum and basal portion of antennæ tinged with yellowish; wings fusco-hyaline; central area of metathorax obsolete.

Female.—Dull rufous; antennæ about half the length of the body, involute at tip, the 17 basal joints submoniliform, rufous, golden sericeous, apical joints black. Thorax finely punctured, shining, black; the collar and mesothorax rufous, the latter slightly stained on the disk in front with fuscous; scutellum rather flat, polished, yellowish-ferruginous; metathorax black, finely punctured, the elevated lines not distinct, the central area obsolete. Wings fusco-hyaline with a yellowish tinge; nervures fuscous, paler at base; stigma fulvous; areolet 5-angular. Legs pale rufous, the coxæ black. Abdomen elongate; basal

segment broad, bilineated, finely aciculate; basal foveæ of the second segment oblique, not deep; terminal margins of the segments with an indistinct darker stain; apical segments smooth and polished; beneath slightly tinged with yellowish; ovipositor not exerted. Length 7 lines; expanse of wings 10½ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

Allied to *Ich. seminiger*, but differs by being larger and more elongate, by the bicolored antennæ, by the central area of the metathorax being obsolete, and by the abdomen being entirely rufous.

50. *Ich. vicinus*, n. sp.

Dull rufous; antennæ tricolored; scutellum yellowish-white; sutures of the thorax and of the third and fourth segments of abdomen black; wings clear; central area of metathorax rather large, elongate-quadrate.

Female.—Dull rufous, approaching brown, shining; antennæ about half the length of the body, slightly involute, the 1st to 8th joints rufous, the 9th to 14th white above, spotted with rufous beneath, apical joints blackish. Thorax feebly punctured, the sutures of the pleura, the surface beneath between the four anterior legs, and the spaces on each side of scutellum, blackish; scutellum rather flat, polished, pale yellow; metathorax finely punctured, the elevated lines distinct, the central area large, longitudinally quadrate. Wings almost hyaline; nervures fuscous, testaceous at base; stigma pale fulvous; areolet 5-angular. Legs rufous, the basal third of the posterior femora and tips of their tibiae black. Abdomen elongate, subovate; basal segment almost smooth, shining, bilineated, indistinctly aciculate; basal foveæ of the second segment oblique and scarcely impressed; basal margin of the third and fourth segments above narrowly black; apical segments smooth and polished; ovipositor not exerted. Length 5 lines; expanse of wings 8 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Resembles *Ich. seminiger*, but not so robust, the thorax above and beneath and the metathorax is rufous, not black, and the basal segment of abdomen not so broad as in that species.

51. *Ich. rutilus*, n. sp.

Pale rufous; antennæ fuscous, with a broad whitish annulus; incisures of thorax blackish; scutellum white; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Pale rufous; frontal orbits yellowish; clypeus rather large,

truncate in front, with a deep puncture on each side; its apical two-thirds, as well as the mandibles, blackish; palpi dusky; eyes prominent; antennæ as long as the body, fuscous, the base of the 3 or 4 basal joints rufous, the 9th to 13th joints white, basal joint beneath entirely rufous. Thorax densely punctured, dull rufous, tinged with brown, the incisures blackish; the dorsal lines scarcely impressed; a dot before and a line beneath the anterior wings, yellow; scutellum flattened, pale yellowish-white, polished, the space on each side blackish, as well as the postscutellum except a small rufous spot beneath the scutellum; metathorax densely punctured, pale rufous, tinged laterally with yellowish, the elevated lines tolerably well defined, the central area large and subquadrate, the lateral tubercles strongly developed and subacute, the incisure at the base of the posterior coxæ and abdomen, black. Wings subhyaline, faintly tinged with fuscous; nervures and stigma pale fulvous; areolet large, 5-angular. Legs rufous, extreme tips of the posterior femora, apical half of their tibiæ and the basal and apical joints of their tarsi, black. Abdomen short, ovate, flattened above, shining at tip; basal segment longer than the second, strongly arcuated, flattened, broad at tip, somewhat bilineated; basal foveæ of the second segment rather large and deep; extreme apical segment obsoletely tinged with yellowish; ovipositor black, exerted about one line. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

Resembles *Ich. vicinus*, but is more robust, and is at once distinguished from that species by the prominent tubercles on the metathorax.

52. *Ich. annulipes*, n. sp.

Rufous, the thorax blackish; antennæ with a white annulus; scutellum yellow; wings clear; central area of metathorax obsolete; tibiæ with a yellow band.

Female.—Yellowish-rufous, finely punctured, shining; palpi pale yellowish; antennæ half the length of the body, involute, blackish, the 9th to 14th joints white, basal joint robust, rufous. Thorax blackish, the disk of the mesothorax and a sutural line before the wings rufous; tegulæ and a short line beneath the wings yellowish; scutellum flat, polished, yellow, with a transverse yellow spot behind it; metathorax densely punctured, deeply impressed behind, black, the posterior angles

rufous, the elevated lines and central area obsolete, the latter almost entirely so. Wings hyaline, very faintly tinged with fuliginous, iridescent; nervures and stigma fuscous, the latter paler; areolet 5-angular. Legs yellowish-rufous; trochanters and band on the tibiæ, subobsolete on the two anterior pairs and very distinct on the posterior pair, yellow; posterior coxæ, femora and base and apex of their tibiæ, piceous. Abdomen subovate, shining, pale rufous; basal segment rather broad, bilineated, basal foveæ of the 2nd segment obsolete; apical segments smooth and polished, the last segment with a yellowish tinge; ovipositor not exerted. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Delaware. Dr. T. B. Wilson.

53. *Ich. pusillus*, n. sp.

Yellowish-rufous, the thorax partly blackish; antennæ with a white annulus; scutellum and subobsolete bands on tibiæ, yellowish; wings clear; central area of metathorax obsolete.

Female.—Yellowish-rufous, rather slender, shining; antennæ more than half the length of the body, involute, rufo-piceous, the 9th to 15th joints white, basal joint robust, rufous. Thorax pale rufous above, blackish beneath; scutellum flat, polished, yellow, with a rufous spot behind; metathorax densely punctured, blackish, rufous behind, the elevated lines and central area obsolete. Wings hyaline, iridescent; nervures and stigma fuscous, the latter paler; areolet 5-angular. Legs yellowish-rufous, all the tibiæ with a subobsolete yellow band, more obvious on the posterior pair. Abdomen elongate-subovate, polished, yellowish-rufous, the last segment tinged with yellow; ovipositor not exerted. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Delaware. Dr. T. B. Wilson.

Closely allied to *Ich. annulipes*, but is smaller, much less robust, and paler in color, with the antennæ rather longer.

54. *Ich. longulus*, n. sp.

Yellowish-ferruginous; face and scutellum, yellow; incisures of abdomen above black; wings subhyaline; central area of metathorax rather large, quadrate.

Male.—Yellowish-ferruginous, subopaque; face beneath the antennæ, clypeus, labrum, mandibles and lower part of the cheeks, yellow; antennæ correct, half as long as the body, black, basal joint yellowish-ferruginous, paler beneath. Thorax polished, sparsely punctured; metathorax slightly stained with fuscous; tegulæ, a sutural line before

and a short line beneath the wings, yellowish; scutellum rather convex, yellow, polished, the space on each side blackish; metathorax indistinctly punctured, opaque, the elevated lines indistinct, central area rather large, quadrate, not well defined. Wings fusco-hyaline, with a slight violaceous reflection; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs yellowish-ferruginous varied with yellow; tips of posterior tibiae blackish. Abdomen very elongate, rather slender; basal segment distinctly bilineated and finely aciculate; basal foveæ of the second segment deep and oblique; the third and three following segments each with a narrow black fascia at base above; apical segments smoother; beneath yellowish-ferruginous, the middle of the segments stained with yellowish. Length 7 lines; expanse of wing 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles *Ich. propinquus*, but the color is paler, the form much more elongate and slender, and the antennæ almost entirely black. It is possible, however, that it may be the male of that species.

55. *Ich. propinquus*, n. sp.

Reddish-fulvous; apical half of antennæ, sutures of the thorax and the basal margin of 2nd, 3rd and 4th abdominal segments, black; wings fusco-hyaline; central area of metathorax moderate, quadrate, rather transverse.

Female.—Bright reddish-fulvous, shining, very minutely punctured; antennæ half the length of the body, involute, apical half blackish. Thorax: the mesothorax shining; a line on the collar above, the sutures of the pleura and the spaces on each side of the scutellum, black; scutellum slightly convex, polished, tinged with yellowish; metathorax finely punctured, the elevated lines tolerably distinct, the central area moderate, quadrate, slightly transverse. Wings fusco-hyaline, with a slight yellowish tinge; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular. Legs bright fulvous, polished, basal sutures of the coxæ blackish. Abdomen elongate-subovate, rather robust; basal segment distinctly bilineated, finely aciculate; basal foveæ of the 2nd segment small, black, as well as the margin between them; 3rd and 4th segments with a narrow black band at base; apical segments smooth and polished; beneath tinged with yellowish; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

Closely resembles *Ich. suturalis* Say, but is at once distinguished from that species by the slightly transverse subquadrate central area of the metathorax. I have before me numerous specimens of *suturalis* from Mass., N. Y., N. J., Penn., Del., Va., and Illinois, and all of them have the central area large and elongate; they vary in the black sutural bands of the abdomen being sometimes indistinct, and at other times broad, especially that on the 4th segment.

56. *Ich. subfuscus*, n. sp.

Reddish-brown; face, basal half of antennæ, and scutellum tinged with yellowish; apical half of antennæ, sutures of thorax, and base of 2nd and 3rd abdominal segments, blackish; wings fusco-hyaline; central area of metathorax large, elongate.

Female.—Reddish-brown; the face and frontal orbits tinged with yellowish; antennæ two-thirds the length of the body, slender, the basal half pale rufous, the remainder black. Thorax finely and indistinctly punctured, the mesothorax polished, the pleura indistinctly aciculate; all the sutures, except those in front of the wings, blackish; scutellum flat, polished, tinged with yellowish, the space on each side, including the postscutellum, blackish; metathorax densely and finely punctured, the elevated lines well defined, the central area large and elongate. Wings long, fusco-hyaline; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs rufo-fuscous, the posterior tibiae at tip blackish. Abdomen rather short, robust, shining, very minutely punctured; first segment rather broad, bilineated and finely aciculate, petiole moderate, blackish at base; basal foveæ of the 2nd segment small, slightly impressed, coarsely aciculate and blackish; base of the 3rd and 4th segments above with a blackish band not reaching the lateral margins, that on the 4th segment occupies almost the basal half and is twice as broad as that on the 3rd segment; apical segments polished; beneath same color as above, the apical margins of the segments with a darker stain; ovipositor subexserted. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

This species is allied to *Ich. suturalis* Say and *Ich. propinquus* n. sp.; from the former it differs by the darker color, the longer antennæ and wings, and the more robust form; from *propinquus* it differs by the darker color, the longer antennæ and in the shape of the central area of the metathorax.

57. *Ich. brevipennis*, n. sp.

Reddish-brown; sutures of thorax and abdomen blackish; wings short, subhyaline; central area of metathorax small, transversely subquadrate.

Female.—Reddish-brown, robust; antennæ darker towards the tip, involute, about half the length of the body. Thorax densely and finely punctured; the sutures beneath and on each side of the scutellum, blackish; scutellum flat, polished, tinged with yellowish; metathorax finely punctured, the elevated lines tolerably distinct, the central area rather small and transversely subquadrate. Wings short, subhyaline, slightly tinged with fuliginous, the posterior pair clear; nervures fuscous, stigma fulvous; areolet 5-angular or subtriangular. Legs stout, reddish-brown, the posterior tibiæ at tips and their tarsi obfuscated. Abdomen rather short, robust; basal segment broad, finely aciculate; basal foveæ of the 2nd segment transverse, indistinctly impressed; basal margin of the 2nd, 3rd and 4th segments above, narrowly black; the basal and two or three apical segments paler in color than the rest; ovipositor reddish, exserted about $1\frac{1}{2}$ lines. Length $5\frac{1}{2}$ lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

In color, this species resembles *Ich. subfuscus*, but is readily distinguished by its much shorter wings.

58. *Ich. sandix*, n. sp.

Yellowish-rufous, thorax beneath blackish, antennæ tricolored; wings dark fuscous; central area of metathorax moderate, subquadrate.

Female.—Dull yellowish-rufous, rather shining, feebly punctured; antennæ two-thirds as long as the body, slightly involute at tip, basal joints pale rufous, the middle yellowish, the apical joints blackish. Thorax above rufous, beneath black; pleura with a rufous spot, tegulæ and scutellum rufous, the latter flat and polished, the space on each side blackish; metathorax rufous above, black beneath, densely and rather roughly punctured, profoundly impressed behind, the elevated lines well defined, the central area moderate transversely subquadrate, not well defined. Wings dark fuscous, with a strong æneous reflection; nervures black, stigma brown; areolet 5-angular. Legs rufo-fulvous, coxæ black, the posterior pair tinged with rufous behind. Abdomen rather short, ovate, subdepressed, basal segment broad, bilineated and slightly aciculate, peduncle slender; basal foveæ of the second seg-

ment small, subobsolete, apical segments slightly obfuscated; ovipositor not exserted. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—New York. Mr. James Angus.

59. *Ich. ? trogiformis*, n. sp.

Dull rufous, thorax beneath and metathorax blackish; antennæ finely subserrate, with a yellowish annulus; wings blackish-violaceous; segments of the abdomen strongly contracted at incisures.

Male.—Head large, transverse, subquadrate, slightly broader than the thorax, rufous, paler in front, feebly punctured, shining; clypeus polished; mandibles with a yellowish spot; antennæ more than half the length of the body, porrect, finely subserrate, black above, brown beneath, the four basal joints rufous, the 14th to 20th joints yellow, apical joints gradually attenuated. Thorax densely, deeply and confluent punctured, the mesothorax and a large irregular stain on the pleura, rufous; remainder of the pleura and the metathorax black, the latter sometimes tinged with rufous; the collar and scutellum tinged with yellowish, the latter rather convex; metathorax scabrous, the elevated lines obsolete, the central area small, elongate, subobsolete. Wings ample, blackish-violaceous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, rather oblique, the 2nd recurrent nervure with a process in the middle. Legs moderately long and slender, pale rufous, the tibiæ and tarsi tinged with yellowish; posterior coxæ black, their femora obfuscated. Abdomen elongate, not broad, the apex incurved, densely and profoundly punctured; the segments strongly contracted at the incisures as in the genus *Trogus*; rufous; basal segment not much dilated, subconvex, deeply punctured, with a depression on each side at tip, petiole rather short and stout, blackish; basal foveæ of the 2nd segment small, rather deep; the apical segments have the punctures gradually finer, and the last two are smooth, shining and yellowish-sericeous; beneath tinged with yellowish. Length 6 lines; expanse of wings 10 lines.

Hab.—New Jersey. E. T. Cresson.

This singular insect probably does not belong to this genus; in general appearance it resembles that of *Trogus*, but the head is much larger, the antennæ are shorter and subserrate, the areolet of the wings differently shaped, the scutellum not elevated, and the abdomen not so broad. The structure does not satisfactorily agree with that given of

Pristiceros, the principal character of which seems to be the serrate antennæ.

60. *Ich. rubicundus*, n. sp.

Pale rufous; antennæ with a whitish annulus; wings subhyaline; central area of metathorax moderate, subquadrate.

Female.—Entirely pale rufous, densely punctured, subopaque; face short; antennæ rather short, rufous at base, whitish in the middle and piceous at tip; scutellum slightly convex, polished; metathorax shining, finely punctured, the elevated lines tolerably well defined, the central area moderate, elongate-subquadrate, polished. Wings subhyaline, the anterior pair rather strongly fuliginous, posterior pair paler and iridescent; nervures and stigma blackish, the latter whitish at base; areolet 5-angular, the 2nd recurrent nervure angulated. Legs color of the body, the tarsi obfuscated, tips of the posterior femora and tibiæ sometimes blackish. Abdomen rather stout, densely punctured; basal segment rather broad, indistinctly bilineated and finely aciculate; basal foveæ of the 2nd segment obsolete; apical segments darker, smooth and polished; ovipositor not exerted. Length $3\frac{1}{4}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

61. *Ich. lævigatus*, n. sp.

Rufo-ferruginous, shining; antennæ with a broad yellowish annulus: wings clear; central area of metathorax large, irregularly subquadrate.

Female.—Entirely rufo-ferruginous, smooth and shining; face beneath the antennæ tinged with yellowish; antennæ short, slightly involute, basal joint rufous, 2nd to 7th piceous, 8th to 13th yellow, remaining joints blackish above, rufo-piceous beneath. Thorax finely punctured, somewhat flattened on the disk above; scutellum flat, polished, slightly tinged with yellowish; metathorax somewhat roughly punctured, subopaque, the elevated lines well defined, the central area large, irregular, slightly transverse. Wings almost hyaline, very faintly tinged with fuliginous; nervures blackish, fuscous at base, stigma rather large, black; areolet 5-angular. Legs short and rather stout, color of the body, clothed with very short yellowish pubescence. Abdomen rather short, stout, smooth and polished; basal segment not much dilated, rather convex, minutely and obsoletely aciculate, lateral margins carinated, deeply incised at tip; basal foveæ of the second seg-

ment very transverse and rather deeply impressed; incisures of the segments somewhat fuscous; ovipositor not exerted. Length 4 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

62. *Ich. dorsalis*, n. sp.

Black; middle of face, mesothorax, scutellum and abdomen, rufous; wings dark fuscous; central area of metathorax large, transversely subquadrate.

Female.—Head black, shining, middle of the face, clypeus, mandibles, narrow frontal orbits, and the vertex and occiput, rufous; antennæ as long as the thorax, involute, brown, beautifully golden-sericeous, blackish towards the base, basal joint robust, black, shining. Thorax black, the whole of the mesothorax above and the scutellum rufous, the latter slightly convex, depressed and flattened in front and connected with the mesothorax on each side by a sharp carina; post-scutellum with an obsolete rufous spot; metathorax scabrous, opaque black, the elevated lines sharply defined, the central area large, transversely subquadrate, the posterior margin bent inwards. Wings fuscous, with a violaceous reflection; nervures black, the stigma rufous at base; areolet 5-angular. Legs shining black, the extreme base and apex of the femora, and the tibiæ and tarsi, rufous, the tibiæ varied with rufo-piceous. Abdomen short, robust, rufous, the petiole rather slender, black; first segment bilineated and finely aciculate; basal foveæ of the second segment transverse, rather deep, this and the third segment above subopaque, very densely punctured, the remaining segments shining, the punctures less distinct; beneath, the segments, excepting the first, are rufous with their middle obfuscated. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

63. *Ich. Lewisii*, n. sp.

Cinnamon-brown; the pleura, metathorax, coxæ and the first and base of third segments of abdomen black; antennæ tricolored; wings dark fuscous; central area of metathorax large and subquadrate.

Female.—Head cinnamon-brown, palpi paler; antennæ more than half the length of the body, slightly involute, basal joint pale rufous, gradually shading into pale yellow, which color extends to the 18th joint, beyond which the joints are blackish above and dull rufous beneath. Thorax black, the mesothorax above, as well as the scutellum,

dark brown, the latter polished, slightly convex and impressed anteriorly; metathorax scabrous, black, elevated lines not well defined, the central area large, subquadrate and somewhat transverse. Wings dark fuscous with a strong violaceous reflection; costa and stigma except tip fulvous, nervures blackish; areolet 5-angular. Legs pale brown, the coxæ and trochanters black. Abdomen ovate, rather short and broad, cinnamon-brown, subopaque; basal segment broad, very much dilated, confluent punctured and having a tubercle on each side; peduncle slender; basal foveæ of second segment shallow; apical segments smoother and pilose; beneath, the second and following segments are cinnamon-brown, obfuscated on their middle; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

The following species also seem to belong to this Section:—*Ich. suturalis* Say, *Ich. Lariæ* Curtis, *Ich. ferrugator* Kirby, *Ich. duplicatus* Say, *Ich. residuus* Say, *Ich. hilaris* Say, *Ich. bifasciatus* Say and *Ich. pennator* Fab., all of which are unknown to me except the first.

SECTION 8.

64. *Ich. regnatrix*, n. sp.

Large, black; antennæ with a white annulus; wings blackish; central area of metathorax small, elongate, conical; abdomen excepting basal segment rufous.

Female.—Black, subopaque, thinly clothed with short black pubescence. Head entirely black, sometimes the frontal orbits above the antennæ are narrowly white; clypeus shining, with a deep, rounded fovea on each side; antennæ short, black, the apical half involute, flattened towards the tip, the 10th to 16th joints above white, beyond this the joints beneath are sometimes tinged with rufous. Thorax closely punctured, the mesothorax in front with an impressed line on each side not reaching the disk; scutellum black, convex, punctured, shining; metathorax densely and confluent punctured, somewhat scabrous, opaque, the elevated lines well defined, central area small, conical, elongate. Wings blackish-fuscous, with a rather strong violaceous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, slightly oblique. Legs black, the anterior tibiæ whitish in front. Abdomen elongate-subovate, minutely punctured, opaque rufous, the segments strongly incised and compressed at

the sutures as in the genus *Trogus*; basal segment black, broad at the apex, bilineated, confluent punctured; basal foveæ of the second segment very deep, transverse, slightly oblique and strongly aciculate; the two apical segments clothed above with rufous pubescence, as well as the ventral segments which are also rufous, shining. Length 11—12 lines; expanse of wings 17—19 lines.

Hab.—Penn., Del., Va. Dr. T. B. Wilson.

A fine, large species, probably the same as Say's variety of his *Ich. devinctor* with black scutellum and legs, but in that species the scutellum is flat, the central area of the metathorax is large and subquadrate, the abdomen more smoothly and finely punctured and the segments not contracted at their sutures as in *regnatrix*.

This species seems very close to *Ich. grandis* Brullé, but among a dozen individuals I cannot find one with a yellow spot on the scutellum, as is mentioned by Brullé.

Ich. tibialis Brullé seems to be identical with *Ich. devinctor* Say.

65. *Ich. semicoccineus*, n. sp.

Black, face yellow, wings dark fuscous, abdomen bright rufous, central area of metathorax moderate, transverse.

Male.—Head black, the face beneath the antennæ, narrow frontal orbits, clypeus, a spot on mandibles and the palpi yellow, the face with a large black spot on its middle, sometimes reduced to a mere dot; antennæ porrect, more than half the length of the body, black, brownish beneath towards the tip, basal joint beneath yellow. Thorax black, shining, finely and sparsely punctured; scutellum slightly convex, polished, black, deeply impressed in front; metathorax somewhat scabrous, the elevated lines well defined, the central area transverse, moderate, its margin smooth and shining. Wings blackish-fuscous, with a strong æneous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, slightly oblique. Legs black, the anterior and intermediate tibiæ yellowish in front. Abdomen elongate, sublinear, bright rufous, opaque, the segments strongly incised; the basal segment black, slender, rather broad at tip, bilineated; basal foveæ of the second segment deep; beneath, the segments are yellowish-ferruginous. Length 8 lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Delaware and Virginia. Dr. Thos. B. Wilson.

66. *Ich. californicus*, n. sp.

Black, the legs and abdomen brown; wings dark fuscous, with a violet reflection; central area of metathorax narrow, transverse.

Male.—Black, subopaque; clypeus polished, mandibles and palpi, piceous; antennæ porrect, more than half the length of the body, black, tinged with piceous beneath. Thorax finely punctured; scutellum convex, shining; metathorax confluent punctured, the elevated lines well defined, the central area narrow, transverse. Wings dark fuscous, with a violaceous reflection; nervures and stigma black, areolet 5-angular. Legs brown, shining, the anterior pair paler in front, the coxæ and posterior tarsi black. Abdomen elongate, compressed, opaque dark brown, densely punctured; basal segment black, bilineated and finely aciculate; basal foveæ of second segment deep, transverse and oblique, near the tip of this segment is a triangular impression; apical segments smoother and somewhat shining; beneath pale brown. Length 7 lines; expanse of wings 11 lines.

Hab.—California. Dr. Geo. H. Horn.

67. *Ich. incertus*, n. sp.

Black; antennæ with a whitish annulus; legs and abdomen rufous; wings violaceous-black; central area of metathorax transversely subquadrate.

Female.—Head and thorax black, finely and densely punctured, shining; clypeus polished, with a deeply impressed fovea on each side and a slight one on its middle; antennæ more than half the length of the body, porrect, 11th to 15th joints white, tinged with ferruginous exteriorly, apical joints beneath rufous. Thorax with an impressed line on each side of the disk anteriorly; tegulæ black; scutellum convex, polished, black; postscutellum with two deep punctures; metathorax densely and rather roughly punctured, the elevated lines tolerably well defined, the central area moderate, transversely subquadrate. Wings ample, blackish-fuscous, with a deep violaceous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, with 5 small hyaline spots on each side and 3 below. Legs rufous, the coxæ and trochanters black, the four posterior tarsi piceous. Abdomen robust, subovate, shining, rufous, petiole black; basal segment broad, bilineated and finely aciculate; basal foveæ of the second segment deep and oblique; apical segments polished; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings 12 lines.

Hab.—New Jersey. E. T. Cresson.

Closely resembles *Ich. rufiventris* Brullé, of which it may be a variety, but the annulus of the antennæ is larger, the central area of metathorax is smaller and less quadrate, and the legs and the basal segment of the abdomen are rufous instead of black. The size and general appearance is much the same in both species.

68. *Ich. virginicus*, n. sp.

Black; antennæ with a white annulus; abdomen rufous; wings hyaline; central area of metathorax small, conical, polished.

Female.—Head large, black, face short, densely punctured, clothed with pale pubescence, prominent in the middle, with a small tubercle beneath the insertion of each antenna; frontal orbits, interrupted on each side of the antennæ, yellowish; clypeus short and very transverse, with a deep fovea on each side, apical margin depressed, smooth and tinged with rufo-piceous; mandibles large, black, polished; palpi yellowish-white; antennæ short, involute, black, 7th to 18th joints above white, apical joints beneath tinged with rufous, basal joint very robust, remaining joints short, submoniliform. Thorax black, shining, closely punctured, clothed with a very fine pale glittering pubescence; tegulæ piceous, before which there is a short, narrow white line; scutellum black, rather flat, densely punctured; metathorax black, densely and strongly punctured, the elevated lines well defined, the central area rather small, subconical, smooth and polished. Wings clear, nervures and stigma black, areolet 5-angular or subtriangular, rather oblique, the 2nd recurrent nervure angular. Legs short and stout, black, the tibiae and tarsi piceous, clothed with very short, sparse, yellowish pubescence; femora short and thick. Abdomen short, subovate, slender at base, finely punctured, shining, rufous, the petiole blackish; basal segment bilineated, densely and rather deeply punctured; basal foveæ of the second segment small, not deep; apical segments polished; ovipositor not exerted. Length 6 lines; expanse of wings 10 lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

This may be identical with *Ich. detritus* Brullé, but is rather doubtful. It is however distinct from any other species known to me.

69. *Ich. Syphax*, n. sp.

Black, glossy; antennæ involute, with a whitish annulus; wings subhyaline; abdomen ferruginous; central area of metathorax large, quadrate.

Female.—Head and thorax black, shining, closely punctured; cly-

peus with a deep fovea on each side; antennæ black, slender, involute, the 9th to 14th joints whitish above; scutellum slightly convex, black, polished, impunctured; metathorax finely scabrous, opaque, the elevated lines well defined, the central area large, quadrate and slightly transverse. Wings subhyaline, slightly stained with fuscous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular. Legs black, shining; the anterior tibiæ and tarsi in front, pale. Abdomen elongate-ovate, ferruginous, convex above especially towards the apex which is polished; basal segment black, rather broad, bilineated and minutely punctured, petiole slender. Length $7\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

70. *Ich. limbifrons*, n. sp.

Black; lateral margins of the face white; legs and abdomen, except base and apex, rufous; wings subhyaline; central area of metathorax moderate, subconical.

Male.—Black, finely punctured; lateral margins of the face and a spot on each side of the clypeus, white; antennæ more than half the length of the body, porrect, entirely opaque black. Thorax and scutellum entirely black, somewhat shining, the latter slightly convex; metathorax finely punctured, shining, the elevated lines well defined, the central area moderate, subconical, rounded in front, indented behind. Wings subhyaline, tinged with fuliginous and iridescent; nervures and stigma black; areolet subtriangular. Legs rufous, the anterior pair yellowish, the coxæ and trochanters black, the tarsi obfuscated. Abdomen elongate, rather slender, shining, rufous, the petiole, disk of the 5th and the two apical segments, black; basal segment not much dilated, indistinctly bilineated, punctured; basal foveæ of the 2nd segment deep and oblique; beneath colored same as above. Length 4 lines; expanse of wings $5\frac{1}{4}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

71. *Ich. exiguus*, n. sp.

Black, polished; abdomen and legs rufous; wings hyaline; central area of metathorax small, lunate.

Female.—Black, polished, indistinctly punctured; face short, slightly pubescent; mandibles mostly rufous; antennæ short, piceous, basal joint beneath rufous. Thorax smooth and polished; scutellum rather flat;

metathorax finely punctured, the elevated lines well defined, the central area very small, lunate. Wings hyaline, iridescent; nervures and stigma black; areolet 5-angular. Legs rufous; posterior coxæ black. Abdomen short and stout, subovate, smooth and polished, rufous; basal segment broad, obsoletely aciculate; basal foveæ of the 2nd segment obsolete; ovipositor not exerted. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

72. *Ich. rufizonatus*, n. sp.

Black; antennæ with a narrow white annulus; wings subhyaline; second and third segments of abdomen ferruginous; central area of metathorax large and quadrate.

Female.—Black, shining; clypeus polished, with a deep fovea on each side; antennæ about half the length of the body, black, sericeous beneath, the 9th to 12th joints white above. Thorax closely punctured; scutellum slightly convex, punctured; metathorax finely scabrous, the elevated lines well defined, the central area large, quadrate, slightly elongate. Wings subhyaline, slightly stained with fuliginous, and having a faint metallic reflection; nervures and stigma black; areolet 5-angular. Legs black, the anterior tibiæ and tarsi in front whitish. Abdomen elongate-ovate, black, convex above and polished towards the apex; basal segment bilineated, minutely punctured, petiole slender; second and third segments ferruginous above and beneath. Length 7 lines; expanse of wings 11 lines.

Hab.—New Jersey. E. T. Cresson.

73. *Ich. involutus*, n. sp.

Black, polished; antennæ strongly involute, legs and the 2nd and 3rd segments of the abdomen rufous; wings fuliginous; central area of metathorax large, quadrate, polished.

Female.—Black, polished, finely punctured; face short; clypeus very transverse, with a large deep puncture on each side; mandibles rufous, cheeks with scattering punctures; antennæ short, strongly involute, black, apical two-thirds tinged with rufous, and densely clothed with yellowish-sericeous pubescence, basal joint robust, globose, rufous beneath. Thorax closely and finely punctured, indistinctly so on the disk above which is polished; scutellum rather flat, polished; metathorax densely punctured, subopaque, the elevated lines not well de-

finer, the central area large, quadrate, polished. Wings fuliginous; nervures and stigma black; areolet 5-angular or subtriangular. Legs yellowish rufous, the coxæ tinged with piceous, the tarsi obfuscated at tips. Abdomen stout, subovate, polished, finely and uniformly punctured, indistinctly so at tip; basal segment rather broad at tip, bilineated, black, its extreme apical margin rufous, as well as the whole of the 2nd and 3rd segments except the apical margin of the latter which is blackish; remaining segments black; basal foveæ of the 2nd segment obsolete; beneath as above; ovipositor not exerted. Length 4 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

Ich. rufiventris Brullé and *Ich. detritus* Brullé also belong to this Section, the last of which is unknown to me.

SECTION 9.

74. *Ich. terminalis*, n. sp.

Rufous, head, mesothorax, pleura and apical segments, except a white spot at tip, blackish; antennæ with a white annulus; scutellum yellow; wings clear; central area of metathorax moderate, subquadrate.

Female.—Head blackish, palpi pale; antennæ about half the length of the body, slightly involute, the basal joints somewhat rufous, the 9th to 14th joints pure white, the apical joints brown-black. Thorax minutely punctured, black, with a large rufous stain on the pleura; tegulæ pale rufous; scutellum flat, polished, pale yellow; metathorax densely punctured, entirely pale rufous, the elevated lines tolerably well defined, the central area subquadrate. Wings hyaline, iridescent; nervures fuscous, stigma pale; areolet 5-angular or subtriangular, the 2nd recurrent nervure sinuate. Legs pale rufous, tips of the posterior femora and tibiæ blackish, their tarsi obfuscated. Abdomen stout, subovate, pale rufous; petiole slender; basal segment bilineated, polished; 2nd and 3rd segments finely and densely punctured, the basal foveæ of the former obsolete; apical segments smooth and polished; the 4th, except its basal margin, and the remaining segments black; a small spot on the middle of the 6th and the whole of the 7th above, pure white; ovipositor not exerted. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

75. *Ich. soror*, n. sp.

Yellowish-rufous; antennæ with a white annulus; scutellum, the four anterior coxæ and a spot on apical segment of abdomen yellowish; wings clear; central area of metathorax moderate, subrotundate.

Female.—Yellowish-rufous, shining; antennæ short, blackish, the 9th to 15th joints white, basal joint beneath rufous. Thorax above slightly tinged with fuscous; tegulæ and a short line beneath the wings, surrounded by a blackish spot, yellowish; scutellum flat, polished, yellowish, with a subobsolete pale spot behind, space on each side blackish; metathorax finely punctured, the elevated lines not well defined, the central area moderate, subrotundate, polished. Wings hyaline, very faintly fuliginous, iridescent; nervures and stigma fuscous, the latter pale at base; areolet 5-angular or subtriangular, the 2nd recurrent nervure sinuate. Legs pale rufous, the four anterior coxæ yellow, the tips of the posterior femora and tibiæ, and their tarsi, blackish. Abdomen robust, subovate, shining; basal segment rather broad, bilineated, polished; 2nd and 3rd segments finely punctured, apical segments polished; last segment above yellow; beneath tinged with yellow; ovipositor not exerted. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. T. B. Wilson.

76. *Ich. velox*, n. sp.

Reddish-brown; antennæ with a broad white annulus; thorax beneath blackish; wings hyaline; central area of metathorax large, quadrate; apical segment of abdomen with a yellow spot.

Female.—Reddish-brown; clypeus and occiput blackish; antennæ about half the length of the body, black, tip slightly involute, the 9th to 16th joints white. Thorax black; mesothorax above brown, as well as the tegulæ, a spot beneath the wings, the scutellum and the anterior margin of the metathorax; scutellum flat, punctured, shining; metathorax finely punctured, the elevated lines well defined, the central area large, quadrate. Wings long, ample, hyaline; nervures fuscous, stigma paler; areolet 5-angular or subtriangular. Legs reddish-brown, the intermediate and posterior femora in part black, the latter almost entirely so. Abdomen elongate-ovate, reddish-brown, subopaque, shining at tip; basal foveæ of the second segment transverse; apical segment with a large yellow spot above; beneath brownish. Length 5 lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

This species belongs to this Section, and was accidentally omitted in the Table given on page 135; the scutellum and last abdominal segment differs in color from that stated in the Table, which should therefore be amended to read as follows:—

Section 9.—Scutellum yellow or red; abdomen red or red and black, apex white or yellow.....Sp. 74—76

Genus **ISCHNUS**, Grav.

Under this genus, I have placed those species which only differ from *Ichneumon*, in the basal segment of the abdomen being smooth and polished, while those of the latter genus have that segment more or less rugged.

1. *Isch. jejunus*, n. sp.

Black; face, two lines or a spot on mesothorax, and scutellum, white; wings subhyaline; central area of metathorax small, slightly elongate.

Male.—Black; the face beneath the antennæ, orbits, clypeus, spot on mandibles and the palpi, white; antennæ porrect, more than half the length of the body, black, basal joint beneath white. Thorax closely punctured; the tegulæ, a sutural line before and a short line beneath the wings, and two lines or a spot on the disk of mesothorax, white; scutellum flat, punctured, white; metathorax confluent punctured, the elevated lines well defined, the central area small, subconical, rather elongate. Wings subhyaline, slightly tinged with fuscous; nervures and stigma black; areolet 5-angular. Legs black, the two anterior pairs in front, their coxæ beneath, and the base of the posterior tibiæ exteriorly, whitish. Abdomen long and slender, subcylindrical, finely punctured, black with a slight bluish tinge; peduncle slender, the tip of the basal segment only slightly dilated, subconvex, rather smooth and shining; basal foveæ of the second segment small and deep; apical segments smooth and shining. Length 7 lines; expanse of wings 11 lines.

Hab.—Illinois (Dr. Saml. Lewis); Massachusetts (F. G. Sanborn).

2. *Isch. sublatus*, n. sp.

Black; face, scutellum, two spots on metathorax and the four anterior legs, white; wings hyaline; central area of metathorax small, rotundate or slightly subquadrate.

Male.—Head black, the face, orbits very wide on the cheeks, clypeus, mandibles and palpi, white; antennæ porrect, almost as long as the body, black, the basal joint beneath white. Thorax black; a spot

on the disk of mesothorax, the tegulæ, a sutural line before and a short line beneath the anterior wings, a spot beneath the posterior wings, and the collar above, white; scutellum flat, whitish, with a short transverse whitish line behind it; metathorax somewhat finely punctured, shining, a rather large whitish spot on each side behind, the elevated lines well defined, the central area small, rotundate or slightly subquadrate. Wings hyaline, faintly fuliginous at tips; nervures and stigma black; areolet 5-angular. Legs black; the anterior pair, excepting the femora behind, the intermediate pair with the coxæ beneath, the trochanters, the tarsi, and the femora and tibiæ exteriorly, white; the basal half of the posterior tibiæ and tarsi at base, also white. Abdomen elongate, subcylindrical, slender, black, immaculate, minutely punctured, shining; basal segments slender, subconvex, rather smooth; basal foveæ of the second segment small, not deep; beneath black. Length 7 lines; expanse of wings 11½ lines.

Hab.—Illinois (Dr. Saml. Lewis); Virginia (Dr. T. B. Wilson).

Same form as *Isch. jejunus*, but that species has the antennæ shorter and the metathorax immaculate.

3. *Isch. proximus*, n. sp.

Black; antennæ with a broad white annulus; face, scutellum, two short lines on mesothorax, two spots on metathorax and the anterior legs in part, white; wings hyaline; central area of metathorax small, quadrate.

Male.—Head black; the face beneath the antennæ, broad orbits, clypeus, spot on mandibles, and the palpi, white; antennæ porrect, three-fourths the length of the body, the 17th to 23rd joints, and the basal joint beneath, white. Thorax black, shining, sparsely punctured above, closely beneath; mesothorax with the dorsal lines well impressed; tegulæ, a broad sutural line before and a short one beneath the wings, the collar above and two short lines on the disk of mesothorax, white; scutellum rather flat, smooth and shining, white, as well as a transverse spot behind it; metathorax confluent punctured, black, with two white spots behind, the elevated lines tolerably well defined, the central area small and subquadrate. Wings hyaline; nervures and stigma black; areolet 5-angular. Legs black; anterior and middle pairs with their coxæ beneath, the trochanters, femora, tibiæ and tarsi in front, white, tips of tarsi blackish; posterior pair with their coxæ behind and the extreme two-thirds of their tibiæ, also white. Abdomen

elongate, subcylindrical, black, densely and finely punctured; 1st segment convex above, smooth and polished, not much wider than the peduncle; foveæ of the 2nd segment small; apical segments gradually smoother and more shining; beneath black. Length 7 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Pennsylvania. E. T. Cresson.

Resembles *Isch. sublatus*, and may prove to be a variety of it.

4. *Isch. Wilsoni*, n. sp.

Black; the face, scutellum, legs, and 2nd and 3rd abdominal segments yellow; wings subhyaline.

Male.—Head black; the face beneath the antennæ, orbits, interrupted behind near the summit and broad above base of mandibles, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ slender, more than half the length of the body, porrect, blackish-brown above with a very narrow pale annulus in the middle, covering two or three joints, beneath pale fulvous, darker towards the apex; basal joint beneath yellow. Thorax black, shining, finely punctured, clothed with very short, fine, pale sericeous pubescence; tegulæ, a short sutural line before and another beneath the wings, yellow; scutellum rather convex, polished, yellow; metathorax black, finely punctured, the elevated lines sharply defined, the central area rather small, subquadrate, rather elongate. Wings subhyaline, slightly fuliginous; nervures fuscous, paler at base, stigma pale fulvous; areolet 5-angular. Legs yellow, the posterior coxæ, their femora and tips of their tibiæ black; apical joints of the tarsi often black. Abdomen elongate, subcylindrical, shining, black; basal segment narrow, convex, smooth and polished, petiole slender; on each side of the second segment at base a short longitudinal impressed line; apical segments polished; second and third segments yellow, their extreme apical margins black, somewhat dilated in the middle, apical half of the second segment often stained with pale ferruginous. Length 5—6 lines; expanse of wings $6\frac{1}{2}$ — $8\frac{1}{2}$ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

5. *Isch. Blandii*, n. sp.

Black; face, orbits, broad annulus on antennæ, lateral margins of thorax and scutellum, apical margins of abdominal segments, and tarsi, white; metathorax and legs in part, reddish; wings hyaline.

Male.—Head black, the face, orbits—broad on the cheeks,—clypeus,

mandibles and palpi, white; antennæ nearly as long as the body, porrect, black, the 15th to 24th joints entirely, and the outer sides of the four following joints, white. Thorax black, finely punctured; sides of the pleura and most of the metathorax rufo-fulvous; a line on the collar extending down on each side, tegulæ, a sutural line before and a short one beneath the wings, two short dorsal lines, and a large patch on the pleura in front and beneath, white; scutellum rather flat, polished, black, the lateral and apical margins, the outer sides of the carina on each side of the scutellum in front, and the postscutellum, white; metathorax finely punctured, rufo-fulvous, the anterior portion above and a quadrate mark behind, blackish, the elevated lines well defined, the posterior ones yellowish, the central area rather large, subelongate. Wings hyaline, apical margins faintly smoky; nervures fuscous, the stigma paler; areolet subtriangular. Legs rufo-fulvous, the 4 anterior coxæ, the trochanters, anterior tibiæ in front and all the tarsi, more or less white; posterior tibiæ and tarsal claws, black. Abdomen elongate, subcylindrical, black, minutely punctured, shining; basal segment slightly dilated, subconvex, its sides, as well as most of the petiole, fulvous; basal foveæ of second segment small, and deep; apical margins of the first six segments and the whole of the seventh, except two black dots, white, the band on the third segment interrupted in the middle. Length 5 lines; expanse of wings 8 lines.

Hab.—Pennsylvania. Mr. Jas. H. B. Bland.

6. *Isch. vinnulus*, n. sp.

Black; antennæ with a yellowish annulus; face, orbits, lateral margins of mesothorax, a spot on its disk, tegulæ, most of pectus, scutellum, an ill defined W on metathorax and the coxæ, whitish; part of the 3rd, 4th and 5th, and all of the remaining segments of the abdomen, and the femora, fulvous; wings hyaline.

Male.—Head black, the face, clypeus, mandibles, orbits, broad on the cheeks, and the palpi, white; antennæ porrect, three-fourths as long as the body, black above, brown beneath, the 16th to 24th joints yellowish, the basal joint beneath whitish. Thorax black, shining, feebly punctured, a quadrate spot on the disk of the mesothorax, the tegulæ, a sutural line before and a short line beneath the fore-wings, extending down the suture and meeting the large spot which covers the pleura beneath, a line above the anterior coxæ, a spot beneath the hind wings and an angular line immediately behind it, all whitish;

scutellum slightly convex, smooth and polished, pale yellowish-white, as well as a spot behind it; metathorax black, densely punctured, rather shining, a large white mark on its posterior face, somewhat resembling an ill-defined W, elevated lines tolerably distinct, central area small, quadrate. Wings hyaline, slightly iridescent, the extreme tips faintly fuliginous; nervures fuscous, pale at base, stigma pale brown; areolet 5-angular or subtriangular. Legs: coxæ and trochanters whitish; the posterior coxæ exteriorly, extreme tips of their femora and the apical half of their tibiæ, black; the anterior legs before, the basal half of the posterior tibiæ and their tarsi, yellowish; remainder of the legs fulvous, much paler on the two anterior pair and deeper on the posterior femora. Abdomen elongate, subcylindric, very slender at base; basal segment not much dilated at tip, black, smooth and polished, its extreme apex with a whitish band; the 2nd and 3rd segments finely punctured, shining, the basal two-thirds of the 2nd, and the basal half of two following segments not reaching the lateral margins, black, remainder of the segments fulvous, tinged with yellowish on the 2nd and 3rd, the former having a fulvous dot on each side of the basal third; beneath paler, the black bands of the upper surface showing through. Length 6 lines; expanse of wings 10 lines.

Hab.—Pennsylvania. Mr. J. H. B. Bland.

7. *Isch. contiguus*, n. sp.

Black; antennæ with a yellowish annulus; clypeus, scutellum, a trilobed mark on metathorax, and the legs in part, yellowish; apical half of the 1st and 2nd abdominal segments, pale fulvous, remaining segments dull rufo-fulvous; wings hyaline.

Male.—Black, polished, clothed with a very short, fine, glittering pubescence; the clypeus, mandibles, palpi and the frontal orbits beneath the antennæ, broad beneath the eyes, yellowish-white; antennæ porrect, almost as long as the body, black, the 11th to 17th joints yellowish, the basal joint beneath whitish. Thorax glossy; the mesothorax with an impressed line on each side in front; the tegulæ, a spot before and a line beneath the wings, yellowish-white; scutellum slightly convex, polished, entirely yellowish-white, as well as a transverse spot behind, the carina on each side of the scutellum anteriorly is whitish behind; metathorax roughly punctured, black, with a large, transverse, trilobed, pale yellowish mark posteriorly, the middle lobe largest and

almost reaching the postscutellum; the elevated lines and central area obsolete. Wings hyaline, with a faint yellowish gloss; nervures fuscous pale testaceous at base, stigma pale brown; areolet 5-angular. Legs: the two anterior pairs yellowish-fulvous; the anterior coxæ, the intermediate pair above and a double line on the posterior pair behind, whitish; the middle coxæ beneath, the posterior coxæ, their femora, except extreme base, and the apical third of their tibiæ, black; the four anterior tibiæ, the basal two-thirds of the posterior pair, and all the tarsi, pale yellowish. Abdomen elongate, subcylindrical, very slender at base, polished; basal segment with a small tubercle on each side before the apical third; basal two-thirds of the first segment and the basal half of the two following segments, black; apex of the first and apical half of the 2nd segments, pale fulvous; remaining segments dull rufo-fulvous. Length 5 lines; expanse of wings $9\frac{1}{2}$ lines.

Hab.—Maryland. E. T. Cresson.

At first sight this species closely resembles *Isch. vinnulus*, but the markings of the head and thorax are differently arranged. They are certainly distinct.

8. *Isch. W-album*, n. sp.

Black; antennæ with a yellowish annulation; face, orbits, lateral margins of mesothorax and a spot on its disk, large spot on each side of pleura beneath, scutellum, W on metathorax and the coxæ, yellowish-white; abdomen, except 1st segment, and the femora pale fulvous; wings hyaline.

Male.—Head black; face, orbits, broad on the cheeks, clypeus, mandibles and palpi, yellowish-white; antennæ more than half the length of the body, porrect, black above, pale brown beneath, the 17th to 24th joints, and the basal joint beneath yellowish. Thorax black, shining, feebly punctured, the mesothorax impressed on each side in front; the collar above, a quadrate spot on the disk of the mesothorax, tegulæ, a sutural line before and a line beneath the fore wings, a large spot on each side of the pleura beneath, an oblique line on each side above the anterior coxæ and also a spot in front, a spot beneath each hind wing and another large transverse one behind, all yellowish-white; scutellum rather convex, polished, entirely pale yellow, as well as a transverse spot behind it; metathorax rather densely punctured, black, with a large, more or less distinct, W-shaped, yellowish-white mark, the elevated lines not well defined, the central area small and transverse.

Wings hyaline, faintly fuliginous at apical margins; nervures fuscous, pale at base, stigma pale brown; areolet 5-angular, slightly subtriangular. Legs pale fulvous; the coxæ except a large black spot on the outside of the posterior pair, whitish; the trochanters, the four anterior tibiae in front and a band on the posterior tibiae near their base, also whitish; extreme base of the posterior tibiae as well as their apical half exteriorly, blackish. Abdomen elongate, subcylindric, slender at base, pale fulvous, darker towards the apex, shining, finely punctured; basal segment smooth and polished, black above and beneath, a triangular spot at its tip and its sides whitish; base of second segment depressed; beneath colored as above. Length 6 lines; expanse of wings 9 lines.

Hab.—Pennsylvania (C. A. Blake); Delaware (Dr. Wilson); New Jersey (Cresson).

9. *Isch. volens*, n. sp.

Yellowish-rufous; face, scutellum, two spots on metathorax, and the four anterior coxæ, yellowish; base of the 2nd and three following abdominal segments black; wings subhyaline.

Male.—Yellowish-rufous, shining, covered with a very short pale pubescence; the face beneath the antennæ, clypeus, spot on mandibles, palpi, and the outer orbits indistinctly, yellowish; the space immediately behind the base of the antennæ blackish; antennæ more than half the length of the body, porrect, yellowish-rufous, paler beneath, sometimes the 15th to 21st joints above are yellowish. Thorax dull rufous, sometimes brownish, finely punctured; the collar above, tegulæ, a spot before and a line beneath the wings yellowish; the pleura is stained with blackish along the sutures and beneath; scutellum rather convex, polished, as well as a short transverse line or two spots behind it, the space on each side is black; metathorax rather feebly punctured, shining, clothed behind with white pubescence, yellowish-rufous, its extreme sides black, and having two large yellowish spots behind, the elevated lines indistinct, the central area moderate, subquadrate, polished. Wings subhyaline, tinged with fuliginous; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular or subtriangular. Legs yellowish-rufous; the four anterior coxæ and trochanters yellowish, the posterior tibiae and tarsi obfuscated. Abdomen elongate, subcylindrical, slender at base, densely and finely punctured; basal segment smooth and polished; base of the 2nd and three following segments

above with a black transverse mark, broadest on the 2nd and narrowest on 5th segment, the black color not reaching the lateral margins; remaining segments entirely yellowish-rufous; apical segments shining. Length $6\frac{1}{2}$ lines; expanse of wings 10 lines.

Hab.—Virginia (Dr. Wilson); Illinois (Dr. Lewis).

10. *Isch. scitulus*, n. sp.

Blackish; face, orbits, annulus on antennæ, scutellum, coxæ and trochanters, yellowish; spot on pleura, most of metathorax and the abdomen, except base, pale rufous; wings hyaline, iridescent.

Male.—Head black; the face, clypeus, orbits, interrupted on each side near the summit, mandibles, except tips, and the palpi, pale yellowish; antennæ almost as long as the body, porrect, black, brown beneath, the 15th to 21st joints and the basal joint beneath, yellowish. Thorax black, tinged with brown above; collar above, tegulæ, a sutural line before and a short line beneath the fore-wing, a spot beneath the hind-wing, and an oblique line above the anterior coxæ, all yellowish; a transverse rufous mark on each side of the pleura; scutellum polished, yellowish, as well as a transverse spot behind it; metathorax finely punctured, profoundly impressed behind, pale rufous, its sides black and bilobed with black in front, on each side behind a small subobsolete yellowish spot. Wings hyaline, iridescent, the apical margins faintly tinged with fuliginous; nervures fuscous, pale at base, stigma blackish; areolet 5-angular. Legs: the four anterior coxæ, all the trochanters and the four anterior legs in front, yellowish-white; a spot on the four anterior femora behind, the posterior coxæ, their femora except extreme base, and the apical half of their tibiae, black; remainder of the legs pale fulvous. Abdomen elongate, cylindric, slender at base, shining, dull rufous; basal segment linear, smooth and polished, black, its extreme apex rufous; basal half of the second segment depressed on each side. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Illinois. Dr. Samuel Lewis.

11. *Isch. iridescens*, n. sp.

Yellow-rufous; antennæ black with a broad whitish annulation; face and tarsi whitish; apex of abdomen obfuscated; wings beautifully iridescent.

Male.—Yellowish-rufous, shining; face, frontal orbits, clypeus, spot on mandibles, space beneath the eyes and the palpi, whitish, the vertex and occiput piceous; antennæ more than half the length of the body,

black, the 10th to 15th joints whitish, the basal joint beneath pale fulvous. Thorax polished, the tegulae whitish, the suture just beneath the wings and pleura beneath immediately behind the fore legs, blackish; scutellum slightly convex, dull rufous as well as a spot behind it, the space on each side blackish; metathorax minutely punctured, shining, yellowish-rufous, the elevated lines tolerably well defined, the central area small, rather elongate. Wings hyaline, beautifully iridescent, nervures and stigma pale fuscous, the former pale at base; areolet 5-angular. Legs yellowish-rufous, the four anterior coxae and all the tarsi, whitish; extreme tips of the tarsi blackish. Abdomen slender at base, polished, yellowish-rufous, the three apical segments brownish. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

12. *Isch. albitarsis*, n. sp.

Very slender, black; most of the face, scutellum and tarsi, whitish; abdomen rufous; wings hyaline.

Male.—Very slender, black, shining; face: the inner orbits, broad beneath the antennae, a bilobed spot just beneath the antennae, most of the clypeus, a spot on each mandible, and the palpi, whitish; antennae slender, about as long as the body, black, the basal joint beneath with a white spot. Thorax finely punctured; the tegulae, a sutural line before and a short line beneath the fore-wing, the collar above and a spot on each side of the pleura just above the anterior coxa, whitish; scutellum slightly convex, polished, black, with a rather large whitish spot, and a short transverse whitish line behind it; metathorax black, finely and densely punctured, truncate behind, the elevated lines not well defined, the central area rather large, subquadrate, obsoletely defined. Wings hyaline, faintly tinged with fuliginous, slightly iridescent; nervures fuscous, pale at base, stigma black; areolet 5-angular or subtriangular. Legs black, the four anterior coxae and trochanters beneath, their femora, tibiae and tarsi before and the posterior tarsi, except base and extreme apex, whitish. Abdomen elongate, slender, cylindric, polished, rufous, the apex slightly blackish; basal segment linear, with a slight tubercle on each side behind the middle. Length 4½–5 lines; expanse of wings 6–7 lines.

Hab.—Illinois. Dr. Samuel Lewis.

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longated into an acute spine; beneath testaceous, minutely punctured, clothed with golden pubescence; head, back of the gular suture deeply excavated; margin of the episterna of the metathorax, and posterior coxal plates, piceous; tips of the femora and tibiae black; tibiae armed with two long acute spurs; tarsi black. Length $8\frac{1}{2}$ lines.

From J. H. B. Bland.

EPILACHNA MACULIVENTRIS, n. sp.

Fulvous; subopaque, each elytron marked with eight black spots.

Hab. Rocky Mountains, Colorado Territory. (Coll. Ent. Soc. Phila.)

Body fulvous, subopaque, clothed with yellowish pubescence; head closely punctured, eyes black, mandibles black; antennae light yellow, terminal joints brownish. Thorax densely punctured, about twice as wide as long, densely punctured, lateral margins slightly rounded, somewhat narrowed in front; lateral margins dark brown. Scutellum black. Elytra densely punctured, each elytron marked with eight black spots in the following order: three near the base, the central one slightly nearer the tip, three on the centre forming a transverse row, two on posterior fourth, the lateral spot nearest the tip; the spot on the humerus is elevated and somewhat shining; epipleurae brownish; beneath, roughly punctured; prothorax fulvous; mesothorax, metathorax and the 1th to 4th of the abdominal segments piceous; a fulvous lateral spot on the 1st, 2nd, 3rd and 4th abdominal segments; two apical segments and legs fulvous. Length $3\frac{1}{2}$ lines.

Two specimens examined, in one of which the thorax is slightly darker on the disk above.

From Mr. Chas. Wilt.

Descriptions of North American HYMENOPTERA, in the Collection of the Entomological Society of Philadelphia.

BY E. T. CRESSON.

(Continued from page 196.)

ICHNEUMONIDÆ.

Genus *MESOLEPTUS*, Grav.

SECTION 1.—Scutellum and abdomen black, margins of the segments

sometimes pale..... Sp. 1—7

" 2.—Scutellum black, abdomen red or red and black..... Sp. 8—25

" 3.—Scutellum pale or red, abdomen red, or red and black, or yellowish..... Sp. 26—30

SECTION 1.

1. *Mesoleptus major*, n. sp.

Opaque-black; legs dull rufous; wings hyaline, areolet small, subtriangular and petiolated.

Male.—Opaque-black, clothed with a thin, very fine, short, whitish pubescence, especially obvious on the face; mandibles entirely black; palpi pale; antennae rather more than half the length of the body, entirely black; tegulae also black; metathorax finely scabrous, somewhat longitudinally sulcate behind and with a transverse, rather ill-defined carina at base. Wings hyaline, slightly iridescent, nervures and stigma black, the former pale at base; areolet minute, subtriangular, petiolated. Legs dull rufous, all the coxae and trochanters black. Abdomen elongate, slender, subfusiform; the first segment slender at base, swollen and convex at tip, shining; apical segments broad and subcompressed. Length $4\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

This species makes an oval cocoon, 4 lines long and 2 broad, of a dirty white color with a broad black transverse band near each end.

2. *Mesoleptus annulipes*, n. sp.

Black; spot on mandibles, palpi, tegulae, 4 anterior coxae, all the trochanters and annulus on posterior tibiae, whitish; wings hyaline, areolet minute, oblique, petiolated.

Female.—Black, clothed with a thin, fine whitish pubescence, more obvious on the face; spot on each mandible and the palpi, whitish; antennae nearly as long as the body, entirely black; tegulae whitish; metathorax with the elevated lines well defined, the central area large

and subrhomboidal. Wings hyaline, beautifully iridescent; nervures and stigma black, the former pale at base; areolet minute, oblique and petiolated. Legs pale rufous, the four anterior coxæ and all the trochanters whitish; posterior coxæ and tarsi black, the latter whitish at base, the posterior tibiæ white with broad black band at tip and another near the base. Abdomen elongate, slender at base, broad and compressed at tip, the first segment slender at base, swollen and convex at tip; apex of abdomen truncate, the ovipositor subexserted. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Canada West. Mr. B. Billings, Jr.

Resembles *M. validus*, but is at once distinguished from that species by the minute, petiolated areolet of the wings, by the more compressed abdomen, the shorter ovipositor and the different coloration of the legs.

This species makes an elongate-ovate cocoon, 4 lines long by $1\frac{1}{2}$ wide, of a pure white color, with a rather broad black band near each end.

3. *Mesoleptus? validus*, n. sp.

Black; wings hyaline, areolet triangular; legs pale rufous, the posterior tibiæ and tarsi annulated with black and white; basal segment of abdomen much dilated at tip.

Female.—Black, rather shining, robust, slightly pubescent; head and antennæ entirely black, the latter nearly as long as the body; tegulæ pale testaceous; metathorax sulcate behind and transversely aciculate, the elevated lines distinct, the central area not defined. Wings hyaline, nervures and stigma blackish, the former pale at base; areolet rather large, subtriangular, subpetiolated. Legs pale rufous, the four anterior tibiæ and tarsi in front, yellowish-white; posterior coxæ and their trochanters above, black, their tibiæ whitish with a broad black annulus at tip and a narrow one near the base, their tarsi black with the base of the first three joints whitish. Abdomen robust, subfusiform, entirely black; first segment slender at base and much dilated at tip; apical segments broad and subcompressed; ovipositor exserted nearly the whole length of the body, piceous. Length 4 lines; expanse of wings 6 lines.

Male.—Resembles the female, except that the antennæ are longer and the abdomen subcylindric.

Hab.—Pennsylvania. Mr. C. A. Blake.

This may not belong to *Mesoleptus* on account of its long ovipositor and robust basal segment of the abdomen, otherwise it has the characters of that genus.

4. *Mesoleptus tibiator*, n. sp.

Black; most of mandibles, palpi, tegulæ and trochanters, yellowish-white; legs pale yellowish-red, the posterior tibiæ and tarsi black, the former with a broad whitish band; wings hyaline, areolet minute, subtriangular, petiolated.

Male.—Black, opaque, thinly clothed with whitish pubescence, more obvious on the face; most of the mandibles, and the palpi, yellowish-white; antennæ as long or nearly as long as the body, black; tegulæ yellowish-white; metathorax with the elevated lines well defined, the central area moderate, subrotundate. Wings hyaline, iridescent; nervures and stigma fuscous; areolet minute, subtriangular, slightly oblique and petiolated. Legs pale yellowish-red, the trochanters pale yellowish-white, the posterior coxæ entirely black or dull rufous more or less tinged with blackish, their tibiæ black, with a broad whitish band on the middle, their tarsi also black with their extreme base whitish. Abdomen black, slender at base, rather broad and compressed at tip; first segment gradually dilated at the apex, sometimes the apical margin of the 2nd segment is obscurely pale; ventral segments stained with yellowish. Length $2\frac{1}{2}$ —3 lines; expanse of wings 4— $4\frac{1}{2}$ lines.

Hab.—New Jersey (Cresson); Illinois (Dr. Lewis).

Much smaller than *M. annulipes* to which it is closely allied.

5. *Mesoleptus dubitatus*, n. sp.

Black; most of mandibles, palpi and tegulæ, yellowish-white; legs in most part and the apical margins of abdominal segments, dull rufous; wings hyaline, areolet subtriangular, petiolated.

Female.—Dull black, clothed with a thin pale glittering pubescence, which is more obvious on the face and pleura; most of mandibles and the palpi, yellowish-white; antennæ two-thirds the length of the body, entirely black; tegulæ pale yellowish; metathorax with the elevated lines well defined, the central area rather large and subquadrate. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet small, subtriangular, petiolated. Legs dull rufous, the trochanters yellowish, the tibiæ and tarsi more or less obfuscated; the posterior coxæ, their trochanters above, and the base of their femora within, black. Abdomen rather short and stout, slender at base and becoming gradu-

ally broader and subcompressed towards the tip; black, somewhat shining, the apical margins of all the segments indistinctly dull rufous; ventral segments stained with yellowish; ovipositor exerted about one line. Length $2\frac{1}{2}$ —3 lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Resembles *M. tibiator* in size and form, but the hind tibiae are rufous and the abdominal segments are obscurely tipped with rufous.

6. *Mesoleptus obliteratedus*, n. sp.

Black; mouth, tegulae, four anterior coxae and trochanters and the venter, yellowish; legs pale fulvous; wings hyaline, iridescent, areolet wanting.

Female.—Black, slightly pubescent; most of mandibles and palpi yellowish; antennae nearly as long as the body, black, basal joint beneath and the tegulae yellowish; metathorax with the elevated lines obsolete. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet wanting. Legs pale fulvous, the four anterior coxae and all the trochanters, yellowish; the posterior coxae, tips of their tibiae and most of their tarsi, black or blackish. Abdomen subfusiform, black, rather slender at base, broad and subcompressed at tip; first segment rather broadly dilated at tip, slender at base; ventral segments yellowish; ovipositor exerted about one line. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

7. *Mesoleptus compressus*, n. sp.

Black; mouth and tegulae yellowish; legs mostly yellowish-red; wings hyaline, iridescent; areolet small, oblique, subpetiolated; abdomen much compressed.

Male.—Black, slightly pubescent; most of the mandibles and the palpi, yellowish; antennae more than half the length of the body, entirely black; tegulae yellowish; metathorax with the elevated lines rather indistinct, the central area small and subquadrate. Wings hyaline, beautifully iridescent; nervures and stigma pale ferruginous, the former pale yellowish at base; areolet small, very oblique and subpetiolated. Legs pale yellowish-red, the anterior pair in front, the trochanters, and the base of the posterior tarsi, pale yellowish; posterior coxae and trochanters above more or less blackish, their tarsi obfuscated. Abdomen slender at base, very broad and much compressed at tip; entirely black, except a very obscure rufous stain on each side of the

third segment; basal segment slightly dilated at tip; beneath, black. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Pennsylvania. E. T. Cresson.

SECTION 2.

8. *Mesoleptus obscurus*, n. sp.

Black; mouth and tegulae yellowish; wings hyaline, areolet minute, petiolated; legs rufous, the trochanters yellowish; abdomen with the tip and sides of the 3rd and 4th segments obscure rufous.

Female.—Black, slightly pubescent, most of mandibles and the palpi, pale yellowish; antennae two-thirds the length of the body, black, the basal joint beneath dull yellowish; tegulae pale yellowish; metathorax with the elevated lines tolerably distinct, the central area rather large and subquadrate. Wings hyaline, iridescent, nervures fuscous, pale testaceous at base, costa and stigma pale testaceous, areolet minute, petiolated. Legs rufous, coxae black, the two anterior pairs rufous beneath, their trochanters yellowish, the posterior tibiae and tarsi slightly obfuscated. Abdomen elongate, slender at base, rather broad and subcompressed at tip; first segment slightly dilated towards the tip where it narrows again to the base of the 2nd segment; apical margins and sides of 3rd and 4th segments obscurely rufous; ventral segments yellowish; ovipositor exerted about one line. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

9. *Mesoleptus argentifrons*, n. sp.

Black; face densely clothed with silvery pubescence; mandibles, palpi, 4 anterior coxae and trochanters, pale yellowish; legs and a band on the 2nd and following abdominal segments rufous; wings hyaline, areolet minute, subtriangular, petiolated.

Male.—Black, clothed with a thin silvery pubescence, very dense on the face; mandibles and palpi pale yellowish; antennae as long as the body, black, the basal joint piceous; tegulae yellow; the elevated lines of the metathorax tolerably well defined, the central area rather large, subtriangular. Wings hyaline, nervures and stigma black, areolet minute, subtriangular, petiolated. Legs pale rufous, the four anterior pair tinged with yellowish; the four anterior coxae and trochanters beneath, yellowish; posterior coxae, their trochanters at base and all the tarsi more or less blackish, the posterior tibiae sometimes tinged with yellow. Abdomen long, slender, subcylindric, rufous; the first,

the second except its apical margin, and a large spot on the disk of all the following segments, black, sometimes the apical segments are obfuscated and the black spots indistinctly defined; apex not compressed; beneath pale rufous. Length $2\frac{1}{2}$ —3 lines; expanse of wings $3\frac{1}{2}$ —4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

10. *Mesoleptus conjunctus*, n. sp.

Black; mouth, tegulae and venter, pale yellowish; legs pale fulvous, posterior tibiae with a faint whitish annulus; wings hyaline, areolet triangular, petiolated; apex of the 2nd and 3rd, and sides of the two following abdominal segments, rufous.

♂ ♀.—Black; most of mandibles and the palpi, yellowish; antennae two-thirds the length of the body in the ♀, and as long as the body in the ♂, entirely black; tegulae yellowish; metathorax with the elevated lines not well defined, the central area moderate, subquadrate. Wings hyaline, iridescent; nervures and stigma pale fuscous, paler at base; areolet triangular, petiolated. Legs pale fulvous, the four anterior coxae black, their tibiae blackish, with a broad obscure, whitish annulus in the middle, their tarsi obfuscated. Abdomen subfusiform, black, slender at base, broad and compressed at tip; basal segment slightly dilated at tip; apical margins of the 2nd and 3rd, and the sides of the two following segments, rufous; ventral segments yellowish, spotted with black towards the apex; ovipositor of the ♀ exerted about one line. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Allied to *M. argentiifrons*, but easily distinguished by the much larger areolet of the wings, and the different coloration of the legs and abdomen.

11. *Mesoleptus Oxylus*, n. sp.

Black; spot on mandibles, palpi, tegulae and base of four anterior legs, yellow; wings hyaline, areolet small, triangular, petiolated; legs and middle of the abdomen, rufous.

Female.—Black; face and thorax with a slight silvery pubescence; a spot on each mandible and the palpi, pale yellowish; antennae three-fourths the length of the body, black, the base beneath piceous. Thorax black, the tegulae pale yellowish, the elevated lines on the metathorax well defined, the central area elongate, moderate, five or six-sided. Wings hyaline, iridescent; nervures pale fuscous, stigma and costa pale testaceous; areolet small, triangular, petiolated. Legs pale rufous,

the four anterior trochanters beneath yellowish, the posterior tarsi obfuscated, pale at base. Abdomen black, the apical half of the 2nd, the 3rd except its base and the 4th segment entirely, rufous, sometimes the base of the 5th segment is also rufous; apex rather broad and compressed; beneath, more or less tinged with yellowish; ovipositor exerted about half a line. Length $2\frac{1}{2}$ —3 lines; expanse of wings $4\frac{1}{2}$ lines.

Male.—Resembles the female, except that the antennae are longer, with its basal joint sometimes entirely dull rufous, and the apex of the abdomen subcylindric, scarcely compressed. Length 3 lines.

Hab.—Delaware (Dr. T. B. Wilson); Illinois (Dr. Samuel Lewis).

This seems to be the most common species.

12. *Mesoleptus affinis*, n. sp.

Black; spot on mandibles, palpi, tegulae and base of four anterior legs, yellow; wings hyaline, areolet minute oblique, petiolated; legs and the apical two-thirds of abdomen, rufous.

Male.—Black, the head and thorax with a slight silvery pubescence; a spot on each mandible, and the palpi, pale yellowish; antennae as long as the body, black, the basal joint dull rufous. Thorax black, the tegulae pale yellowish, metathorax with the elevated lines indistinct, the central area very elongate, not well defined. Wings hyaline, iridescent; nervures and stigma black; areolet minute, oblique, petiolated. Legs pale rufous, the anterior coxae and all the trochanters, yellowish, the posterior tarsi obfuscated, pale at base. Abdomen obscure rufous, the first segment except extreme tip, basal half of the second, and extreme base of the third, black; middle of the apical segments obfuscated; apex broad, compressed, appendages blackish. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Very closely allied to *M. Oxylus*, but differs by the minute oblique areolet of the wings, by the anterior coxae and all the trochanters being yellow, and by the apical segments of the abdomen being broadly compressed and entirely rufous.

13. *Mesoleptus flavirictus*, n. sp.

Black; face silvery; mandibles, palpi, basal joint of antennae beneath, tegulae and the legs at base, yellow; rest of legs and the abdomen except base and apex, rufous; wings hyaline, areolet small, oblique.

Female.—Black, thinly clothed with silvery pubescence, more obvi-

ous on the face; mandibles except tips, and the palpi, pale yellow; antennæ two-thirds the length of the body, blackish at base, dull rufous towards the tip, basal joint beneath yellow; tegulæ pale yellowish; elevated lines on metathorax not well defined, the central area rather large, elongate. Wings hyaline, iridescent; nervures and stigma pale fuscous, the former yellowish at base; areolet small, subtriangular, oblique, petiolated. Legs pale rufous, the four anterior coxæ, all the trochanters, extreme base of the tibiæ and most of the tarsi, yellowish; posterior tibiæ and tarsi obfuscated at tips. Abdomen elongate, subcompressed, broad at tip, rufous; the first, most of the 2nd, extreme base of the 3rd and the two or three apical segments, black; beneath tinged with yellowish; ovipositor subexserted. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Pennsylvania. E. T. Cresson.

Closely allied to *M. Oxytus* and *M. affinis*, but is larger and easily distinguished by the basal joint of the antennæ being yellow beneath.

14. *Mesoleptus subrubidus*, n. sp.

Black; spot on mandibles, palpi, tegulæ and trochanters, pale yellowish; wings hyaline, areolet triangular, petiolated; legs and abdomen except base, rufous.

Male.—Black, clothed with a thin, pale, glittering pubescence; spot on each mandible and the palpi, pale yellowish; antennæ porrect, as long as the body, entirely black; tegulæ pale yellowish; metathorax with the elevated lines tolerably distinct, the central area large, subquadrate. Wings very faintly tinged with fuscous, iridescent; nervures and stigma fuscous, the former yellowish at base; areolet small, triangular, petiolated. Legs rufous; the four anterior coxæ and all the trochanters beneath, pale yellowish: posterior coxæ, except tips, black. Abdomen long, slender at base and gradually thickened towards the tip which is subcylindric, shining, rufous, the first, second except tip and the extreme base of the third segments, black; apex sometimes slightly obfuscated. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—New Jersey (Cresson); Illinois (Dr. Lewis).

Resembles *M. Oxytus* in coloring, but is much larger, more elongate and slenderer.

15. *Mesoleptus? dimidiatus*, n. sp.

Black; mouth and tegulæ yellowish; legs and middle of abdomen pale rufous; venter yellowish; wings hyaline, areolet minute, oblique, petiolated; ovipositor long.

Female.—Black, shining, slightly pubescent; most of mandibles and the palpi, yellowish; antennæ two-thirds the length of the body, black, the basal joint beneath dull yellow; tegulæ pale-yellowish; metathorax slightly sulcate behind and somewhat transversely aciculate, the elevated lines well defined, the central area rather large, pentangular, the lower portion open. Wings hyaline, slightly iridescent, nervures and stigma blackish, pale at base; areolet minute, oblique and petiolated. Legs pale rufous, the tarsi paler, obfuscated at tip, the posterior coxæ black. Abdomen robust, subfusiform, slender at base, broad and subcompressed at the apex; first segment dilated at tip, the peduncle slender; apex of the 1st, the whole of the 2nd and the base of the 3rd segments, pale rufous; remaining segments black; ventral segments yellowish; ovipositor as long as the abdomen, rufo-piceous. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

This may not belong to *Mesoleptus* on account of its long ovipositor; otherwise it has the characters of that genus.

16. *Mesoleptus decoloratus*, n. sp.

Black; face, legs and middle of abdomen obscure yellowish-red; wings hyaline, areolet triangular; abdomen clavate.

Male.—Black, slightly pubescent; face beneath the antennæ, clypeus and mouth, obscure testaceous; antennæ very slender, longer than the body, rufo-fuscous, pale at base; tegulæ and a minute spot before the wings, pale yellowish; metathorax with the elevated lines tolerably distinct, the central area elongate. Wings ample, hyaline, iridescent; nervures and stigma fuscous, pale yellowish at base; areolet triangular. Legs pale rufous, the tarsi paler. Abdomen slightly petiolated, clavate, dull yellowish-red, the basal segment, except tip, and the two or three apical segments black, the second segment sometimes obfuscated on its basal half. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Resembles *M? dimidiatus* much in coloration, but the antennæ and wings are half again as long, and the abdomen differently shaped.

17. *Mesoleptus distinctus*, n. sp.

Black; spot on mandibles, palpi, inner side of antennæ at base and tegulæ, yellow; wings hyaline, iridescent, areolet triangular, petiolated; legs and most of abdomen, pale rufous.

Female.—Black; spot on mandibles and the palpi, pale yellowish; eyes large, prominent, approximate beneath the antennæ; antennæ porrect, nearly as long as the body, black, the 3rd to 6th or 8th joints yellowish on the inside. Thorax thinly clothed with a short, fine, pale, glittering pubescence; tegulæ pale yellowish; metathorax with the elevated lines well defined. Wings very faintly tinged with fuscous, beautifully iridescent; nervures and stigma fuscous; areolet small, triangular, petiolated. Legs pale rufous, all the trochanters beneath pale yellowish, the posterior tibiæ slightly obfuscated, the posterior coxæ mostly black. Abdomen rather slender, broad and subcompressed at tip, rufous, the first, second except tip and the base of the third segments, black, the fifth and sixth segments sometimes obfuscated; ovipositor exerted about one line. Length 3 lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—New Jersey. E. T. Cresson.

Easily distinguished from all other species known to me, by the basal joints of the antennæ being yellowish on the inside.

18. *Mesoleptus porrectus*, n. sp.

Black; most of mandibles, palpi and tegulæ, yellowish; legs and abdomen, pale rufous; wings hyaline, areolet minute, oblique, petiolated; ovipositor nearly as long as the abdomen.

Female.—Black; most of the mandibles and the palpi, yellowish; antennæ three-fourths the length of the body, black above, somewhat piceous beneath; tegulæ yellowish; metathorax with the elevated lines tolerably distinct, the central area narrow and very elongate. Wings hyaline, iridescent; nervures and stigma fuscous, the former yellowish at base; areolet minute, oblique, petiolated. Legs, including the coxæ, entirely yellowish-rufous. Abdomen slender at base, very broad and much compressed at tip, which is abruptly truncate, the ovipositor, which is more than half the length of the abdomen, is porrect; extreme base of the first segment and the middle of the three apical segments, blackish, the remainder yellowish-rufous. Length 3 lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

19. *Mesoleptus subtennis*, n. sp.

Black; most of mandibles, palpi, basal joint of antennæ beneath, tegulæ, legs, and middle of abdomen, yellow or reddish-yellow; wings hyaline, areolet minute, oblique, petiolated.

Male.—Slender, black; most of the mandibles and the palpi, yellowish; antennæ as long or a little longer than the body, black, the basal joint beneath with a yellow spot; tegulæ yellowish; the elevated lines on the metathorax rather indistinct. Wings very faintly tinged with fuscous, iridescent; nervures and stigma fuscous, the former yellowish at base; areolet minute, oblique, petiolated. Legs, including the coxæ, entirely reddish-yellow; the posterior tibiæ and tarsi sometimes slightly obfuscated. Abdomen elongate, rather slender, rather broad and subcompressed at tip, black; apex of the first, whole of the second and the basal half of the third and fourth segments, reddish-yellow. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

20. *Mesoleptus nigripes*, n. sp.

Black; spot on mandibles yellowish; wings subhyaline, areolet small, triangular, petiolated; apical half of the fourth and all the following segments dull rufous.

Female.—Black, rather short, clothed with a thin whitish pubescence; each mandible with an obscure yellowish spot; antennæ rather more than half the length of the body, entirely black; metathorax with the elevated lines well defined, the central area pentangular, moderate. Wings slightly stained with fuliginous; nervures and stigma black; areolet small, triangular, petiolated. Legs black, the anterior pair rufo-piceous in front. Abdomen rather stout, the first segment and basal half of the second, black, the remainder rufous; apex broadly compressed; beneath stained with yellowish; ovipositor rufous, exerted about one line. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

21. *Mesoleptus hostilis*, n. sp.

Black; mandibles mostly yellowish; most of abdomen and legs obscure rufous; wings hyaline, areolet minute, subtriangular, petiolated.

Male.—Black, rather slender, clothed with a thin whitish pubescence; each mandible with a large yellowish spot; antennæ as long as the body, entirely black; metathorax with the elevated lines indistinct, the central area moderate, elongate. Wings hyaline, with a faint tinge of fuli-

ginous, iridescent; nervures and stigma black; areolet subtriangular, minute, petiolated. Legs rufo-piceous, the anterior pair paler; coxæ, trochanters and most of the four posterior femora, black; posterior tarsi blackish. Abdomen long, slender, subcylindric, shining, dull rufous, except the basal segment; apex not compressed; sometimes the two apical segments are obfuscated. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Illinois. Dr. Samuel Lewis.

This may be the male of *M. nigripes*.

22. *Mesoleptus vicinus*, n. sp.

Black; mandibles, palpi and tegulæ, pale yellowish; legs and abdomen except base, rufous; wings hyaline, areolet triangular, petiolated.

Female.—Black, thinly clothed with a pale glittering pubescence; most of mandibles and the palpi, yellowish; antennæ three-fourths the length of the body, black; tegulæ yellowish; metathorax with the elevated lines well defined, the central area subquadrate. Wings almost hyaline, iridescent; nervures and stigma testaceous, the former much paler at base; areolet small, subtriangular, petiolated. Legs rufous, the trochanters yellowish, the posterior coxæ piceous. Abdomen elongate, slender at base, gradually thickened and subcompressed towards the apex; rufous, the first and second segments except their tips, black; beneath, slightly tinged with yellowish; ovipositor rufous, exerted about one line. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—New Jersey. E. T. Cresson.

Resembles *M. hostilis*, but is more robust, and the legs are almost entirely rufous.

23. *Mesoleptus vultus*, n. sp.

Black; face, palpi, basal joint of antennæ beneath, tegulæ and four anterior coxæ and trochanters, pale yellowish; legs and apex of the four basal segments of the abdomen, pale rufous; wings hyaline, areolet 5-angular.

Male.—Black, shining; face, clypeus, mandibles and palpi, pale yellowish; antennæ porrect, about as long as the body, piceous, the basal joint beneath, pale yellowish, the apical joints beneath tinged with rufous. Thorax polished; tegulæ and a spot before the fore-wings, pale yellowish; the elevated lines on the metathorax tolerably well defined, the central area moderate, subrotundate. Wings hyaline, iridescent; nervures and stigma fuscous, the former pale at base; areolet 5-angular.

Legs yellowish-rufous, the four anterior coxæ and trochanters pale yellowish, the posterior tibiæ and tarsi obfuscated. Abdomen long and slender, black, shining at tip; apical margins of the 1st, 2nd and 4th segments and the apical half of the 3rd segment, pale rufous, that on the 4th segment obscure. Length 3 lines; expanse of wings 4 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

24. *Mesoleptus flavifrons*, n. sp.

Black; face, mouth, spot on each side of mesothorax, tegulæ and four anterior coxæ, yellow; legs and abdomen, except base, honey-yellow; wings large, hyaline, areolet subtriangular, oblique; subpetiolated; abdomen clavate.

Male.—Head black, shining; the face beneath the antennæ, clypeus, mandibles and palpi, yellow; antennæ very slender, longer than the body, brown-black, paler towards the tips, the two basal joints beneath yellowish. Thorax black, shining; a spot on each side of the mesothorax anteriorly, tegulæ, and small spot before and another beneath the fore-wings, yellow; scutellum convex, black; metathorax black, shining, almost smooth, without elevated lines, except a few longitudinal rugæ on the disk. Wings long and ample, hyaline, beautifully iridescent; nervures fuscous, pale testaceous at base, stigma black, with an obscure pale spot at base; areolet subtriangular, slightly oblique and subpetiolated, the 2nd recurrent nervure somewhat angular in the middle. Legs honey-yellow, the four anterior coxæ and all the trochanters, pale yellowish; tips of the posterior tibiæ black. Abdomen clavate, slender at base; 1st segment sublinear, slender, slightly dilated at tip, with a rather prominent tubercle on each side of the middle; the segments gradually dilated from the 2nd segment to the tip; basal segment black, its tip and all the remaining segments honey-yellow; beneath paler. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—New Jersey. E. T. Cresson.

25. *Mesoleptus bicolor*, n. sp.

Black; mouth, antennæ, legs and abdomen dull honey-yellow; wings hyaline, areolet oblique, subpetiolated; abdomen slightly petiolated, subclavate.

Male.—Head black, anterior margin of the clypeus and most of mandibles rufo-testaceous; palpi whitish; antennæ very slender, longer than the body, dull honey-yellow. Thorax black; tegulæ whitish; scutellum and metathorax black, the elevated lines of the latter subobsolete. Wings ample, hyaline, iridescent; nervures fuscous, pale testa-

ceous at base; stigma rather large, fuscous, pale at base and tip; areolet small, oblique and subpetiolated. Legs slender, yellowish; the posterior pair honey-yellow; the anterior and middle coxæ yellowish-white; tips of tarsi blackish. Abdomen slightly petiolated, subclavate, dull honey-yellow, apex obfuscated; basal segment gradually dilated towards the tip, the sides somewhat carinated, without tubercles. Length 4 lines; expanse of wings 7 lines.

Hab.—Pennsylvania. Mr. C. A. Blake.

Same form as *M. longicornis*, but differs by the head and thorax being black.

SECTION 3.

26. *Mesoleptus longicornis*, n. sp.

Dull yellowish-red; head and pleura beneath, black; face and tarsi yellowish; wings hyaline, areolet triangular, oblique, subpetiolated; abdomen subpetiolated.

Male.—Head transverse, black; the face beneath the antennæ, clypeus, mandibles and palpi, yellow; antennæ slender, longer than the body, orange-yellow, slightly involute at tips which are blackish. Thorax dull rufous, the dorsal lines tolerably well impressed; pleura beneath and slightly on the sides, black; tegulæ yellowish, scutellum and metathorax dull yellowish-rufous, the extreme sides of the latter with a large black spot. Wings large, hyaline, somewhat iridescent; nervures fuscous, pale at base, stigma testaceous; areolet small, obliquely triangular, subpetiolated. Legs pale honey-yellow, the posterior femora obfuscated, their tibiæ at tip blackish; all the tarsi yellowish-white, the claws blackish. Abdomen elongate, subclavate, subpetiolated, entirely honey-yellow, slightly dusky at the apex; basal segment sublinear, slightly and gradually dilated towards the tip, without lateral tubercles; ventral segments stained with yellowish. Length 5 lines; expanse of wings 11 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

27. *Mesoleptus concolor*, n. sp.

Dull honey-yellow; wings hyaline, areolet subtriangular; abdomen clavate.

Female.—Entirely dull honey-yellow, slightly tinged with brownish, shining, clothed with a thin pale, subsericeous pubescence; antennæ very slender, rather longer than the body; tegulæ pale yellowish; metathorax polished, the elevated lines distinct, the central area elongate, with a large, quadrate area on each side. Wings ample, hyaline, glossy,

iridescent; nervures and stigma blackish, pale at base; areolet subtriangular, very slightly petiolated. Legs color of the body, tolerably slender. Abdomen, slender at base and gradually dilated towards the apex, polished; basal segment dilated at tip, the sides carinated without tubercles, and the disk slightly canaliculate; apical segments thickened and sometimes subcompressed. Length $3\frac{1}{2}$ —4 lines; expanse of wings 6—7 lines.

Hab.—New Jersey. E. T. Cresson.

28. *Mesoleptus unicolor*, n. sp.

Yellowish-testaceous; wings hyaline, areolet subtriangular, oblique; abdomen slightly petiolated, clavate.

Entirely dull yellowish-testaceous or pale honey-yellow, the face, tegulæ, pleura and tarsi much paler; antennæ very slender and longer than the body; mesothorax more or less obfuscated on the disk; metathorax with the elevated lines not well defined, the central area narrow and very elongate. Wings ample, hyaline, glossy and beautifully iridescent; nervures fuscous, pale at base, stigma large, fuscous, pale at base; areolet subtriangular, rather oblique, and slightly petiolated, the outer nervure rounded, the 2nd recurrent nervure straight. Legs rather slender, color of the body, the tarsi paler and blackish at tip. Abdomen clavate, slightly petiolated, slender at base and thickened towards the apex, polished; basal segment gradually dilated towards the tip, the sides carinated and without tubercles; apical segments rather broad, subcompressed, and somewhat obfuscated. Length 3 lines; expanse of wings 6 lines.

Hab.—Pennsylvania; Delaware. Dr. Thos. B. Wilson.

Smaller than *M. concolor* and somewhat paler in color, otherwise they are much alike.

29. *Mesoleptus discolor*, n. sp.

Pale testaceous; the vertex, antennæ, mesothorax, scutellum, metathorax, sides of pleura, and basal segment of abdomen, blackish; wings hyaline, areolet subtriangular, oblique.

Male.—Pale testaceous, shining; a large spot encircling the ocelli, and the occiput, blackish; antennæ very slender, longer than the body, blackish, pale testaceous at base. Thorax: mesothorax blackish, with two subobsolete, pale, longitudinal lines on the disk; tegulæ and pleura pale testaceous, the latter with a large blackish patch on each side; scu-

tellum dull testaceous; metathorax blackish on the disk, and pale on the sides. Wings ample, hyaline, glossy and iridescent; nervures fuscous, pale at base; stigma large, blackish, pale at base; areolet subtriangular, oblique, subpetiolated, 2nd recurrent nervure slightly bent. Legs slender, color of the body, the coxæ paler. Abdomen slightly petiolated, clavate, polished, pale testaceous, the first segment blackish, gradually dilated towards the apex, without lateral tubercles; apical segments faintly obfuscated. Length 3 lines; expanse of wings 6 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

This may possibly be a variety of *M. unicolor*, which it resembles much in size and form, but the coloration is quite different.

30. *Mesoleptus antennatus*, n. sp.

Pale ferruginous; head and antennæ black, the latter with a broad white annulus; palpi, four anterior coxæ and all the tarsi, pale; wings hyaline, areolet triangular, scarcely petiolated.

Male.—Pale ferruginous, shining; head black, pubescent, mouth rufo-piceous, palpi pale; antennæ as long as the body, black, the basal joint beneath pale ferruginous, beyond the middle a broad white annulus. Thorax: mesothorax varied with fuscous, the pleura tinged with yellowish; lines of the metathorax rather indistinct, the central area very elongate. Wings hyaline, beautifully iridescent; nervures and stigma dark fuscous, the former testaceous at base; areolet triangular, scarcely petiolated. Legs pale ferruginous, the four anterior coxæ and legs in front and the posterior tarsi except tips, pale; posterior tibiae obfuscated. Abdomen long, slender, polished, the extreme base and apex more or less obfuscated. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Readily distinguished by the broad whitish annulus on the antennæ and the general coloration.

Genus *TRYPHON*, Grav.

SECT. 1.—Scutellum and abdomen black.....	Sp. 1—3
“ 2.—Scutellum pale; abdomen black, the margins of the segments pale.....	Sp. 4—5
“ 3.—Scutellum pale; abdomen yellow and black.....	Sp. 6
“ 4.—Scutellum black; abdomen red, or red and black, or black and yellow.....	Sp. 7—16

SECTION 1.

1. *Tryphon pedalis*, n. sp.

Black, shining; legs pale fulvous, posterior tibiae and tarsi black, annulated with white; wings hyaline, iridescent, areolet small, oblique, subpetiolated; abdomen sessile.

Male.—Black, shining, slightly pubescent; most of the mandibles and the palpi, whitish; antennæ as long as the body, piceous, the basal joint black. Thorax polished, the dorsal lines well impressed, deeply so in front; tegulæ whitish; metathorax with the elevated lines tolerably well defined, the central area moderate, subquadrate. Wings hyaline, iridescent; nervures and stigma blackish, pale at base; areolet small, oblique, subpetiolated. Legs pale fulvous, the posterior tibiae black, with a broad white annulus in the middle; their tarsi also black, annulated with white. Abdomen black, shining, sessile; basal segment with two sharply defined longitudinal carinæ on the disk; apical segment somewhat pointed. Length $2\frac{3}{4}$ lines; expanse of wings 5 lines.

Hab.—Illinois. Dr. Samuel Lewis.

2. *Tryphon carinatus*, n. sp.

Black; face and legs yellow or yellowish-red; wings obscure hyaline, areolet wanting; legs short and thick, abdomen sessile, subclavate, basal segments carinated.

Male.—Black, rather shining, thickly clothed with pale pubescence; face, except a short elongate blackish mark just beneath the antennæ, clypeus, except a blackish spot on each lateral margin, tips of the mandibles and the palpi, yellowish; antennæ about as long as the body, black; tegulæ obscurely yellowish; scutellum flat, rather large, its sides carinated; metathorax with the elevated lines longitudinal and sharply defined, the central area narrow and extending the whole length of the metathorax. Wings obscure hyaline, iridescent; nervures and stigma black, the former pale at base; areolet wanting. Legs short and thick as in *Exochus*; pale rufous, the two anterior pairs more or less tinged with yellowish, the posterior coxæ mostly black, and their tarsi brownish. Abdomen sessile, subclavate; basal segment with four sharply defined longitudinal carinæ; the second segment longitudinally rugose, with a well defined carina down its middle; the three following segments rather densely and deeply punctured and clothed with pale, appressed pubescence, the punctures on the apical segments fine and indistinct. Length 3 lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

This little species has much the general appearance of an *Exochus*, but the face is flat and not protuberant. The metathorax and base of the abdomen are acutely carinated and the legs are short and thick.

3. *Tryphon? limatus*, n. sp.

Black, polished; mouth yellowish; antennæ brownish; legs fulvous, hind tibiae white, their tips and the tarsi black; wings hyaline, areolet oblique, petiolated; abdomen subpetiolated.

Male.—Black, highly polished; face rather densely punctured, somewhat protuberant just beneath the antennæ; clypeus very transverse, much depressed at base, and almost entirely yellowish, as well as the mandibles and palpi; antennæ nearly as long as the body, brownish, the extreme base black; tegulae whitish; metathorax convex, smooth and polished, without elevated lines. Wings ample, hyaline and iridescent; nervures and stigma blackish, whitish at base; areolet oblique, subtriangular, petiolated. Legs slender, rather long, fulvous, the four anterior tibiae and tarsi paler; tips of the posterior femora, and tibiae, and their tarsi except base, black; rest of the posterior tibiae and base of their tarsi, white. Abdomen elongate, subpetiolated, slightly compressed at tip; first segment contracted near the base and gradually dilated to the tip; second segment at base with a well impressed fovea on each side. Length 4 lines; expanse of wings 8 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

SECTION 2.

4. *Tryphon? submarginatus*, n. sp.

Black; most of the face, mouth, sides of mesothorax, scutellum and apical margins of abdominal segments, white; pleura and legs in part pale rufous, posterior tibiae and tarsi black, the former with a broad white annulus; wings hyaline, iridescent, areolet wanting; abdomen subsessile.

Male.—Black; two ill-defined lines on the face beneath the antennæ spreading on each side of the clypeus and continued beneath the eyes, the clypeus, mandibles except tips and the palpi, whitish; antennæ slender, rather longer than the body, rufo-piceous, the basal joint beneath pale. Thorax: mesothorax and pectus black; tegulae, a broad sutural line before the wings, extending to the dorsal lines where it is suddenly truncate, dilated and pointed before and behind, a line beneath the fore-wings and a subobsolete spot beneath the hind-wings, whitish; pleura, except a space beneath the fore-wings, rufous; scutellum rather

convex, whitish, the space on each side black; postscutellum black with a transverse whitish spot on the middle; metathorax rufous, stained with blackish on the disk, the elevated lines obsolete, the central area small, elongate and ill-defined. Wings long and ample, hyaline, iridescent; nervures and stigma black, pale at base; areolet wanting, the 2nd recurrent nervure somewhat angular in the middle. Legs slender, posterior pair long; pale rufous; the four anterior coxæ, the trochanters and most of the tarsi, whitish; posterior tibiae whitish, its tip and extreme base, black, their tarsi entirely black. Abdomen subsessile, elongate-subovate, black, shining towards the tip; basal segment grooved down the middle; apical margins of all the segments narrowly whitish, rather indistinct on the first three segments; ventral segments white. Length $3\frac{1}{2}$ lines; expanse of wings 7 lines.

Hab.—Illinois. Dr. Samuel Lewis.

5. *Tryphon pleuralis*, n. sp.

Black; mouth and tegulae, yellowish-white; pleura, scutellum and legs, rufous; wings hyaline, areolet small, oblique, subpetiolated; abdomen with the apical margins of the dorsal segments pale; abdomen subpetiolated.

Female.—Black, subopaque, clothed with a very short, whitish pile; clypeus, mandibles, a spot on the cheeks beneath, and the palpi, whitish; antennæ slender, rather longer than the body, piceous, tinged with yellowish towards the base beneath; mesothorax and pectus black, pleura and scutellum dull rufous, as well as a spot behind the scutellum; tegulae pale yellowish-white; metathorax entirely black, the elevated lines obsolete, the central area elongate, moderate. Wings hyaline, beautifully iridescent; nervures and stigma blackish, pale at base; areolet small, obliquely subtriangular and subpetiolated; the transverse cubital nervure within the submarginal cell very much arcuated towards the costa, the 2nd recurrent nervure straight, or slightly oblique. Legs slender, pale rufous; the four anterior coxæ, trochanters and tarsi, whitish; the posterior tibiae and tarsi and the tips of the other tarsi blackish, extreme base of the posterior tibiae whitish. Abdomen subpetiolated or slightly subsessile; black, shining towards the apex; extreme apical margins of the segments whitish, obsolete or subobsolete on the three basal segments, and distinct on the apical ones, the lateral margins of which are rather broadly marked with white; first segment longer than the second, much narrowed toward the base, and again

slightly dilated before reaching the base, the lateral tubercles not prominent, situated a little before the middle, disk faintly canaliculate; beneath stained with whitish; ovipositor subexserted. Length 3 lines; expanse of wings 5 lines.

Hab.—New Jersey. E. T. Cresson.

SECTION 3.

6. *Tryphon* ? *trifasciatus*, n. sp.

Black, polished; tegulae, scutellum, postscutellum, part of metathorax, legs and three bands on abdomen, yellow; wings subhyaline, areolet wanting; legs short and thick; abdomen subpetiolated, clavate.

Male.—Black, polished, clothed with a rather thin pale pubescence; head entirely black, eyes prominent, face narrow, palpi pale; antennae nearly as long as the body brownish above, yellowish beneath, the basal joint beneath yellow. Thorax: the pleura protuberant beneath the wings, with a deep cavity before and behind to receive the anterior and intermediate femora in repose; scutellum and postscutellum yellow; metathorax small, shining, pubescent, black with a large transverse yellowish spot across its middle, sometimes obsolete, immediately behind the postscutellum a well impressed point, and at the insertion of the abdomen several short elevated ridges. Wings subhyaline, faintly stained with fuscous; nervures and stigma fuscous, the former pale at base; areolet wanting, the 2nd recurrent nervure very much angular near its base. Legs short and thick as in *Exochus*; yellow, the posterior coxae beneath and the apical half of their femora, black; sometimes the four anterior femora exteriorly, the tips of the posterior tibiae and tips of all the tarsi, are blackish. Abdomen subpetiolated or slightly subsessile, clavate, polished, black, the apical half of the three basal segments yellow; basal segment somewhat canaliculate or carinated on the disk towards the base. Length 5 lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—Pennsylvania. Mr. Chas. A. Blake.

SECTION 4.

7. *Tryphon americanus*, n. sp.

Black; face, palpi and four anterior legs, yellow; abdomen, except basal segment, rufous; wings hyaline, areolet triangular.

Male.—Head black, the face beneath the antennae, clypeus, mandibles except tips, and the palpi, yellow; immediately beneath the antennae a longitudinal, abbreviated, blackish line and on each lateral mar-

gin of the clypeus a blackish, well impressed puncture; antennae two-thirds the length of the body, porrect, blackish, the base and apex yellowish, the basal joint beneath yellow. Thorax black, shining; tegulae pale yellowish; metathorax shining, with four sharply defined longitudinal carinae, the two middle ones approximate. Wings hyaline; nervures and stigma fuscous, pale at base; areolet small, triangular, slightly petiolated, the second recurrent nervure angular in the middle. Legs: the two anterior pairs, the posterior coxae and trochanters, and the basal half of their tibiae, and most of their tarsi beneath, yellow; the posterior femora rufous, their extreme tips, the apical half of their tibiae and most of their tarsi above, black. Abdomen elongate, subsessile, rufous; basal segment except its apex, black, flattened, with two elevated lines, very slightly dilated at the apex; apical segment faintly tinged with yellowish. Length 5 lines; expanse of wings 8 lines.

Hab.—Delaware (Dr. Thos. B. Wilson); Canada West (Mr. B. Billings, Jr.)

8. *Tryphon affinis*, n. sp.

Black; mouth, legs and abdomen, rufous; wings hyaline, areolet subtriangular, petiolated; abdomen subsessile, subclavate.

Female.—Head black; clypeus, mandibles and palpi, dull yellowish; antennae two-thirds the length of the body, blackish, yellowish at base and at tips. Thorax shining, black; tegulae pale yellow; scutellum and metathorax black, the latter polished, with four very sharply defined longitudinal carinae as in the preceding species. Wings obscure hyaline, faintly tinged with fuliginous at tips; nervures and stigma blackish, whitish at base; areolet minute, subtriangular, slightly oblique, petiolated; 2nd recurrent nervure angular in the middle. Legs pale rufous, the two anterior pairs and the posterior trochanters tinged with yellowish; posterior femora at tips, their tibiae, except a broad, pale, ill-defined annulus near the base, and most of their tarsi, blackish. Abdomen subsessile, subclavate, shining, rufous, the first segment except tip, black, with two approximate, well-defined longitudinal carinae on the middle towards the base; apical segments very slightly compressed. Length 4 lines; expanse of wings 6 lines.

Hab.—Pennsylvania and New Jersey. E. T. Cresson.

Closely allied to *T. americanus*, but is smaller, with the face entirely black.

9. *Tryphon seminiger*, n. sp.

Black; face silvery; mouth yellowish; legs and abdomen, except base, rufous; wings subhyaline, areolet oblique, petiolated; abdomen subsessile, subclavate.

Female.—Black, thinly clothed with very short whitish pubescence, more obvious and silvery on the face; clypeus, mandibles and palpi dull yellowish; antennæ two-thirds the length of the body, black above, brownish beneath; tegulæ dull yellowish; metathorax with the elevated lines irregular, tolerably well defined. Wings faintly tinged with fuliginous; nervures and stigma black, pale at base; areolet minute, oblique, petiolated; 2nd recurrent nervure angular in the middle. Legs obscure rufous, the four anterior tibiæ and tarsi tinged with yellowish; coxæ black; the posterior femora and tibiæ at tips and their tarsi, obfuscated. Abdomen subsessile, clavate, rufous; basal segment black, except the extreme tip, with two approximate carinæ on the middle towards the base. Length $3\frac{1}{2}$ —4 lines; expanse of wings 6— $6\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely resembles the two preceding species in form and color, but is at once distinguished by the sculpture of the metathorax, which in this species is irregular and not sharply defined, while in the other two there are four very sharply defined and regular longitudinal carinæ.

10. *Tryphon semirufus*, n. sp.

Black; tegulæ yellow; legs and abdomen rufous; wings hyaline, areolet wanting; abdomen subsessile, subovate.

Female.—Black; clypeus polished, with large deep punctures; spot on mandibles at base and the palpi, yellowish; antennæ two-thirds the length of the body, brown-black, the basal joint beneath rufous; tegulæ pale yellowish; metathorax with the elevated lines irregular and ill-defined, the central area small and elongate, subobsolete. Wings hyaline, iridescent; nervures and stigma blackish, pale at base; areolet wanting; 2nd recurrent nervure straight. Legs, with the coxæ, rufous; apical half of the posterior femora blackish, their tarsi obfuscated. Abdomen rather short, subovate, subsessile, somewhat flattened above, the apex slightly compressed and tinged with blackish. Length 3 lines; expanse of wings 5 lines.

Hab.—Illinois. Dr. Samuel Lewis.

11. *Tryphon analis*, n. sp.

Black; face yellow; legs and abdomen, except apex, rufous; wings hyaline, areolet triangular, petiolated; abdomen sessile, flattened.

Male.—Head black; face beneath antennæ, clypeus, mandibles and palpi, yellowish; lateral margins of the clypeus and extreme tips of mandibles, black; face somewhat elevated with a deep, subtriangular incisure towards the base of the antennæ; antennæ three-fourths as long as the body, brown above, the two basal joints black, beneath reddish-brown, the basal joints paler. Thorax smooth and polished; tegulæ yellow; metathorax shining, the elevated lines irregular and tolerably well defined, the central area moderate and subquadrate. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet small, triangular, petiolated; 2nd recurrent nervure angular in the middle. Legs, with the coxæ, pale rufous, the trochanters yellowish, the tips of the posterior femora, tibiæ and tarsi somewhat obfuscated. Abdomen sessile and flattened as in *Bassus*, the dorsal surface of the three basal segments being somewhat uneven, the first segment with two carinæ near its base; the four basal segments pale rufous, the apical margin of the fourth and the remaining segments black, polished. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Pennsylvania. E. T. Cresson.

This species has much the form of those of the genus *Bassus*.

12. *Tryphon festivus*, n. sp.

Black; mouth, antennæ and four anterior legs, yellowish; posterior legs and abdomen except base, rufous; wings long, hyaline, areolet oblique, petiolated; abdomen subsessile, subclavate.

Male.—Black, shining, clothed with a short, thin, whitish pubescence, which is most obvious and silvery on the face; clypeus, mandibles and palpi, yellowish; antennæ as long as the body, brownish above, yellowish beneath, the basal joint yellow beneath; tegulæ pale yellow; metathorax punctured, the elevated lines obsolete. Wings long, hyaline, iridescent; nervures and stigma blackish, pale at base; areolet small, oblique and petiolated; 2nd recurrent nervure with a rudimental nervure on its exterior middle. Legs: the two anterior pairs yellowish, slightly tinged with rufous; the posterior pair dull rufous, somewhat obfuscated; their coxæ black, with the tips beneath and the trochanters, yellowish. Abdomen subsessile, or slightly subpetiolated, subclavate; basal segment carinated on its disk, with slight

indications of a tubercle on each side of the basal third, its color is black, except the tip which is rufous as well as all the remaining segments. Length $3\frac{1}{2}$ lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

13. *Tryphon tibialis*, n. sp.

Black; mouth, base of antennæ beneath, tegulæ and most of legs, yellowish; middle of abdomen pale rufous, wings hyaline, iridescent, areolet minute, oblique, petiolated; hind tibiæ and tarsi annulated with black and white; abdomen subpetiolated, clavate.

Male.—Black, polished, slightly pubescent; face clothed with silvery pubescence, the clypeus, mandibles except tips, and the palpi, yellowish; antennæ rather longer than the body, rather slender, brown-black, the two basal joints beneath yellow. Thorax polished, tegulæ yellowish; metathorax with the elevated lines not well defined, the central area moderate, quadrate. Wings hyaline, beautifully iridescent; nervures and stigma dark fuscous, pale at base; areolet minute, oblique and petiolated; 2nd recurrent nervure slightly bent inwards near the base. Legs pale fulvous, the four anterior coxæ, their tibiæ and tarsi and all the trochanters, pale yellowish; posterior tibiæ black with a broad whitish annulus on the middle, their tarsi black, the joints whitish at base. Abdomen subpetiolated, subclavate, polished, black, the apical third of the first, the second and third segments pale yellowish-rufous, on each side of the third segment a rounded blackish stain; basal segment slightly carinated on the disk, with a small, ill-defined tubercle on each side about the middle. Length $2\frac{3}{4}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

14. *Tryphon rufocinctus*, n. sp.

Black; most of legs and the 2nd and 3rd segments of abdomen, dull rufous; wings hyaline, iridescent, areolet wanting; abdomen nearly sessile.

Female.—Black, subopaque; head and antennæ entirely black, the latter two-thirds the length of the body; tegulæ pale yellowish; metathorax with the elevated lines subobsolete, the central area small and elongate. Wings hyaline, beautifully iridescent; nervures and stigma black, pale at base; areolet wanting. Legs dull rufous or brownish, all the coxæ and the posterior femora black. Abdomen almost sessile, black, the 2nd and 3rd segments rufous; apical segments shining. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

15. *Tryphon minimus*, n. sp.

Black; middle of face, clypeus, mouth, tegulæ, broad sutural line before the wings, spot on each side of pleura behind and the coxæ and trochanters, yellow; legs and 3rd abdominal segment, fulvous; wings hyaline, areolet wanting; abdomen subsessile.

Female.—Black, polished; a large quadrate spot on the middle of the face, clypeus, large spot on the mandibles, and the palpi, yellow; eyes prominent; antennæ as long as the body, brown-black, the basal joint beneath tipped with yellowish. Thorax: tegulæ, a broad sutural line before the wings, extending to the dorsal lines where it is suddenly truncate, dilated and pointed before and behind, an irregular line beneath the fore-wings, a spot beneath the hind-wings and an elongate spot on each side of the pleura behind just before the middle coxæ, all yellowish; metathorax punctured, without elevated lines. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet wanting; 2nd recurrent nervure straight. Legs fulvous; the posterior tibiæ at tips and their tarsi obfuscated; all the coxæ and trochanters bright yellow. Abdomen subsessile or very nearly sessile, with a stout tubercle on each side of the first segment near the base; middle of the two basal segments somewhat concave; the apical margin of the 2nd and the whole of the 3rd segments above, fulvous; apical segments polished. Length $1\frac{1}{4}$ lines; expanse of wings $3\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

16. *Tryphon capitatus*, n. sp.

Black, polished; head, pectus, pleura, legs and 3rd abdominal segment, pale fulvous; wings hyaline, stigma large, areolet wanting; abdomen subsessile.

Male.—Head rather large; subquadrate, entirely pale fulvous, shining, face paler; eyes small, round and black; antennæ as long as the body, brown-black, the basal joint yellowish. Thorax polished; mesothorax black; tegulæ, collar, pectus and pleura pale fulvous; scutellum and metathorax black, the extreme sides of the latter pale fulvous. Wings ample, hyaline, beautifully iridescent; nervures fuscous, pale at base, stigma large, black; areolet wanting. Legs, with the coxæ, pale fulvous, the tips of the posterior tibiæ, brownish. Abdomen subsessile or slightly subpetiolated, subclavate, polished, black, the 3rd segment pale fulvous; basal segment with a prominent tubercle on each side of the middle. Length 2 lines; expanse of wings 4 lines.

Hab.—Pennsylvania. E. T. Cresson.

Genus *CTENISCUS*, Haliday.1. *Cteniscus mediatu*s, n. sp.

Black; face, orbits, tegulae, a sutural line before the wings, coxae and trochanters yellowish; rest of legs pale rufous; wings hyaline, iridescent, areolet oblique, petiolated; abdomen subsessile, with a yellowish spot at tip of each segment.

Male.—Black, polished; face, frontal orbits, cheeks beneath, clypeus, mandibles and palpi, pale yellow; antennae as long as the body, black above, brown beneath, the basal joint beneath yellowish. Thorax: tegulae, a broad sutural line before and a short line beneath the wings, and an oblique line on each side of the pectus, pale yellow; scutellum rather convex, black, its tip yellowish; metathorax with the elevated lines tolerably well defined, the central area elongate. Wings hyaline, beautifully iridescent; nervures and stigma fuscous, pale at base; areolet small, oblique and petiolated. Legs pale rufous, all the coxae and trochanters pale yellow, the posterior tibiae and tarsi obfuscated. Abdomen subsessile, polished, somewhat flattened, black, all the segments with an apical yellow spot on the disk above, the spots becoming more transverse towards the apex; the incisure between the 3rd and 4th segments tinged with fulvous; basal segment subopaque, slightly canaliculate; base of 2nd segment somewhat depressed and uneven. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

2. *Cteniscus dorsalis*, n. sp.

Yellowish-brown; face, orbits, tegulae, a line before the wings, four anterior coxae and trochanters, and a spot on the disk of each abdominal segment, yellow; wings hyaline, iridescent, areolet oblique; abdomen sessile.

Male.—Yellowish-brown, polished; the face beneath the antennae, frontal orbits, lower half of the cheeks, clypeus, mandibles and palpi, pale yellow; antennae about as long as the body, rufo-piceous, the basal joint beneath tinged with yellowish. Thorax: tegulae, a broad sutural line before, and a short one beneath the fore-wings, pale yellow; scutellum somewhat produced, with a large pale spot; metathorax convex, polished, the elevated lines subobsolete. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet oblique, the 2nd recurrent nervure rounded outwardly, and received by the areolet at its tip. Legs color of the body, the four anterior coxae and trochanters pale yellowish. Abdomen sessile, robust, only slightly narrowed at base,

yellowish-brown or obscurely honey-yellow, each segment having on its disk at tip a transverse yellowish spot, very small on the first segment and becoming larger towards the apex; first segment slightly broader at tip than at base, the lateral margins somewhat carinated and the tubercles scarcely defined; the second segment has on each side an oblique well-impressed line, diverging from the basal middle to the lateral margin. Length $2\frac{1}{2}$ —3 lines; expanse of wings 5—6 lines.

Hab.—Illinois. Dr. Samuel Lewis.

3. *Cteniscus orbitalis*, n. sp.

Fulvous; head large, white, vertex and occiput black; scutellum whitish; wings hyaline, areolet oblique, petiolated; abdomen subsessile, subclavate.

Male.—Head large, nearly quadrate, black, the face, frontal orbits, cheeks, clypeus, mandibles except tips, and the palpi pure white; antennae nearly as long as the body, basal half blackish, apical half yellowish, basal joint robust and piceous beneath. Thorax fulvous, polished, posterior margin of the mesothorax in front of scutellum, blackish; tegulae, a sutural line before the wings and another down each side of the pectus, whitish; scutellum and postscutellum whitish, the spaces on each side blackish; metathorax entirely fulvous, the elevated lines well defined, the central area moderate and elongate. Wings hyaline, iridescent; nervures and stigma fuscous, pale at base; areolet small, oblique and petiolated. Legs fulvous, the four anterior coxae and trochanters whitish. Abdomen subsessile, subclavate, polished, entirely fulvous, slightly dusky towards the tip. Length 3 lines; expanse of wings 6 lines.

Hab.—Pennsylvania. E. T. Cresson.

Readily distinguished by the large black and white head, the rest of the body being fulvous.

4. *Cteniscus flavicoxae*, n. sp.

Black; face, orbits, tegulae and coxae, yellow; legs and abdomen, except base, fulvous; wings hyaline; areolet oblique, petiolated; abdomen subsessile.

Female.—Head rather large, black, polished; face, except a dark stain on its middle, frontal orbits, narrowed on each side of antennae, cheeks beneath, clypeus, mandibles and palpi, pale yellow; antennae as long as the body, blackish, the apical third yellowish, the two basal joints beneath yellow. Thorax black, polished; the tegulae, a short

sutural line before, and a minute line beneath the fore-wings, yellow; scutellum black, its tip yellowish; metathorax black, shining, the elevated lines well defined, the central area moderate, subrotundate. Wings hyaline, iridescent; nervures fuscous, pale at base, stigma large, black with a pale spot at base; areolet minute, oblique and petiolated. Legs fulvous, all the coxæ and trochanters pale yellow, the posterior tibiae brownish. Abdomen subsessile, rather short, broad and subdepressed, polished; basal segment black, remaining segments fulvous, except the sides of the 2nd, 3rd and 4th segments which are blackish. Length $2\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

5. *Oteniscus clavatus*, n. sp.

Black; face, tegulæ, tip of scutellum, most of legs and the abdomen except base, yellowish; wings subhyaline, iridescent, areolet triangular, petiolated; abdomen clavate.

Male.—Shining, slightly pubescent; head black, face beneath the antennæ, clypeus, mandibles and palpi, yellow; antennæ longer than the body, black, honey-yellow towards the base, especially beneath. Thorax black; tegulæ pale yellow; scutellum convex, black, with a yellowish spot at tip and another on postscutellum; metathorax with the elevated lines well defined, the central area moderate, quadrate. Wings slightly stained with fuscous, iridescent; nervures and stigma testaceous, pale at base; areolet small, triangular, petiolated. Legs pale fulvous, coxæ black, the two anterior pairs beneath, all the trochanters and the anterior tibiae and tarsi, yellowish; posterior tibiae and tarsi blackish, the former with a broad pale annulus on the middle. Abdomen elongate, clavate, slender at base, polished; basal segment sublinear, carinated above and with a prominent tubercle on each side at base; 2nd segment depressed at base with a slight carina on the middle; remaining segments convex and gradually dilated, the tip obtusely pointed; the 1st and base of the 2nd segments blackish, remaining segments honey-yellow, with the apical margins of the 3rd, 4th and 5th segments yellow, margined in front with black. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Genus *EXOCHUS*, Grav.

Section 1.—Arolet small.

1. *Exochus apicalis*, n. sp.

Black, shining; face, orbits and tegulæ, yellowish; legs and apex of abdomen rufous.

Male.—Black, shining, thinly clothed with a very short, appressed, pale pubescence; face, mouth and orbits, yellowish, tinged with pale rufous; antennæ about half the length of the body, rufo-piceous. Thorax flattened above, shining; tegulæ yellowish; metathorax abruptly truncate behind, its posterior face concave, on the disk above two not well-defined, approximate, longitudinal carinæ forming a narrow, elongate central area. Wings hyaline; nervures and stigma black, the former pale at base; areolet minute, oblique and petiolated. Legs rufous, the coxæ black. Abdomen sessile, shining, cylindrical, very slightly narrowed at base; the two apical segments rufous. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Illinois. Dr. Samuel Lewis.

2. *Exochus fulvipes*, n. sp.

Black, polished; legs pale fulvous; wings hyaline, areolet oblique, petiolated.

Male.—Black, smooth and polished, slightly pubescent; palpi pale-yellowish; antennæ brown-black above, rufo-piceous beneath, tinged with yellow towards the base; tegulæ pale yellowish. Wings hyaline, slightly iridescent; nervures and stigma black, pale at base; areolet minute, oblique, and petiolated. Legs entirely pale fulvous. Abdomen subcylindric, slightly narrowed at base, the second and following segments equilateral. Length $2\frac{1}{2}$ —3 lines; expanse of wings 4—5 lines.

Female.—Resembles the male, but the abdomen is shorter and broader; the ovipositor is yellowish and slightly exerted.

Hab.—Pennsylvania. E. T. Cresson.

3. *Exochus pygmaeus*, n. sp.

Black, polished; legs pale fulvous; wings hyaline, areolet triangular, not petiolated.

Male.—Differs from *E. fulvipes* only in the much smaller size, and in the areolet of the superior wings being triangular, much larger and not at all petiolated. Length 2 lines; expanse of wings $3\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Section 2.—Areolet wanting.

4. *Exochus lævis*, n. sp.

Black, polished, legs reddish-brown; wings hyaline.

♂ ♀.—Black, smooth and polished, thinly clothed with a short, appressed, pale pubescence; palpi piceous; antennæ blackish, three-fourths the length of the body, thickened at base; tegulæ pale testaceous; metathorax polished, truncate behind, the elevated lines distinct, the central area elongate. Wings hyaline; nervures and stigma black. Abdomen highly polished, slightly narrowed at base, the first segment canaliculate, the remaining segments equilateral and subcylindric; ovipositor of the female rufous, scarcely exerted. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—California ♀ (Dr. Horn); Illinois ♂ (Dr. Lewis).

I see none but sexual differences between the specimen from California and those from Illinois.

5. *Exochus pleuralis*, n. sp.

Black; face, orbits, tegulæ, pectus, pleura, most of the legs and a triangular spot on each side of the 2nd, 3rd and 4th abdominal segments, yellowish; wings hyaline.

Male.—Black, polished, slightly pubescent; the face, mouth, and the frontal orbits very broad above and beneath the eyes, yellow; antennæ three-fourths the length of the body, brown-black above, rufopiceous beneath. Thorax: mesothorax black; tegulæ, pectus and pleura, yellowish, the latter slightly stained with pale rufous; scutellum black, pale at tip; metathorax black above, its extreme sides reddish-yellow, polished, the elevated lines tolerably well defined, the central area large and quadrate. Wings hyaline, the nervures and stigma blackish, the former pale at base. Legs pale yellowish, the posterior femora pale rufous, and the extreme tips of their tibiæ and tarsi blackish. Abdomen black, polished, subcylindric, slightly narrowed at base; the first segment with two longitudinal carinæ on the disk and one on each lateral margin; on each side of the 2nd, 3rd and 4th segments at tip a rather large, triangular, pale testaceous spot; beneath, stained with yellowish. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

6. *Exochus dorsalis*, n. sp.

Black; face, orbits, line before the wings, pleura and most of legs, yellowish; mesothorax rufous; wings hyaline.

Male.—Head black, the face, frontal orbits broad above and beneath

the eyes, and the mouth, pale yellowish; antennæ two-thirds the length of the body, black above, tinged with piceous beneath. Thorax: mesothorax flat, feebly punctured, polished, dull rufous, blackish in front; pectus stained with blackish; the tegulæ and a sutural line before the wings, pale yellowish-white; pleura pale fulvous; scutellum flat, polished, dull rufous margined with whitish; postscutellum black with a transverse white spot on its middle just beneath the scutellum; metathorax smooth and polished, black, its extreme sides pale fulvous, the elevated lines indistinct, the central area large, elongate-subquadrate. Wings hyaline, iridescent; nervures and stigma black. Legs pale fulvous, the anterior coxæ beneath, all the femora at tips, and most of the tibiæ and tarsi, white; posterior tibiæ black at base and apex, as well as the apex of all the tarsi. Abdomen cylindrical, scarcely narrowed at base, black, highly polished, its extreme apex with a somewhat obscure whitish spot. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—New Jersey. E. T. Cresson.

7. *Exochus pallipes*, n. sp.

Black; face, scutellum, pleura and legs, pale yellowish; wings hyaline.

Male.—Black, somewhat shining, thinly clothed with a fine, short, whitish pubescence; face and frontal orbits broad above and beneath the eyes, pale yellowish; antennæ two-thirds the length of the body, blackish above, rufopiceous beneath. Thorax: mesothorax black; tegulæ, pectus and pleura, pale yellowish, the latter slightly stained with pale rufous; scutellum dull rufous, its tip pale yellowish, postscutellum with a yellowish transverse spot on its middle; metathorax black, its extreme sides yellowish-red, the elevated lines not well defined, the central area large, elongate, irregular. Wings hyaline; nervures and stigma black. Legs pale yellowish-white, the posterior femora slightly stained with pale fulvous; apex of their tibiæ and tips of the tarsi, blackish. Abdomen black, shining, slightly narrowed at base; beneath, stained with pale yellowish. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Genus *TROGUS*, Grav.*Trogus flavipennis*, n. sp.

Black; head, antennæ, legs, scutellum and base of abdomen, yellowish-ferruginous; rest of abdomen yellow; wings yellow, apical margins fuliginous.

Head yellowish-ferruginous, the frontal orbits tinged with yellowish;

on each side of the clypeus a black spot; antennæ two-thirds the length of the body, porrect, pale rufous, blackish toward the tips. Thorax black, densely and finely punctured; middle of mesothorax faintly sulcate and having on each side of this an abbreviated dull rufous stripe connecting with the sutural line which is also broadly dull rufous; tegulæ yellowish; a line beneath the front wings rufous; scutellum very much elevated, in the shape of a stout, subobtus tubercle, bright rufous, yellowish behind and black laterally; postscutellum with a yellow spot; metathorax scabrous, black, clothed with short black pubescence; the elevated lines sharply defined. Wings yellowish, apical margins fuliginous, with a violaceous reflection; nervures fuscous, their base, as well as the stigma and costa, yellowish-ferruginous; areolet oblique, slightly petiolated. Legs yellowish-ferruginous; the coxæ and the posterior femora except extreme base and apex, black. Abdomen flattened above, with a slight carina down the middle; basal segment sharply bicarinated, yellowish-ferruginous, the petiole black; the second segment also yellowish-ferruginous; remaining segments yellow, paler towards the apex; the 3rd, 4th and 5th segments above with a subobsolete ferruginous dot on each side. Length 9 lines; expanse of wings 17 lines.

Hab.—Rocky Mountains, Colorado Territory.

Genus **HOPLISMENUS**, Grav.

Hoplismenus thoracicus, n. sp.

Pale rufous; head, mesothorax, most of hind legs and apex of abdomen, black; a broad annulus on antennæ and a spot on tip of abdomen, white; wings hyaline.

Male.—Head entirely black, palpi pale; antennæ very slender, rather longer than the body, black, the 3rd to 5th joints pale rufous, the 8th to 13th joints white, spotted beneath with blackish. Thorax pale rufous, very finely and closely punctured; mesothorax and pectus, black; scutellum gibbous, acutely carinated on each side, pale rufous, as well as the postscutellum; metathorax finely rugose, the elevated lines sharply defined, the central area moderate, transversely subquadrate, the posterior face obliquely depressed, the lateral tubercles not very prominent, obtuse; tegulæ piceous. Wings hyaline, faintly iridescent; nervures and stigma fuscous, pale at base; areolet small, subtriangular. Legs slender; with their coxæ, pale rufous, the four anterior trochanters,

femora and tibiæ more or less dusky; posterior femora, except base, their tibiæ, except a pale annulus near the base, and most of their tarsi, blackish. Abdomen scarcely as long as the head and thorax, subovate, depressed, rufous, apical half of the 3rd, and the remaining segments, black, the extreme apex with a transverse white spot; basal segment strongly arcuated, slightly dilated towards the tip, bicarinated above, and uneven at tip; 2nd segment somewhat rugose. Length 4 lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—Pennsylvania. Mr. Tryon Reakirt.

Closely allied to *H. dimidiatus* (Europe), but the antennæ are longer and the mesothorax is entirely black.

Genus **CRYPTUS**, Fabr.

SECTION 1.—Scutellum and abdomen black.....	Sp. 1—6
" 2.—Scutellum pale; abdomen black.....	Sp. 7—8
" 3.—Scutellum with pale markings; abdomen red or red and black.....	Sp. 9—10
" 4.—Scutellum black; abdomen red or red and black.....	Sp. 11—24
" 5.—Thorax, scutellum and abdomen yellowish-red.....	Sp. 25

SECTION 1.

1. *Cryptus robustus*, n. sp.

Black, shining, abdomen very robust; wings fuliginous, with a bluish gloss; legs rufous, posterior femora undulate, constricted at tip; metathorax with a transverse central area.

Female.—Very robust, deep black, shining; face broad, minutely punctured, with a subobsolete, obtuse, rounded tubercle beneath the antennæ, the front just behind the antennæ deeply excavated, the surface somewhat wrinkled; the orbits behind very narrowly and subobsoletely yellowish; clypeus polished, its lateral and apical margins much depressed, leaving the middle prominent; mandibles also polished, with a few punctures; palpi blackish, fulvous at base; antennæ nearly as long as the body, setaceous, slightly involute, black, the 3rd joint rather longer than the 4th and 5th together, the basal joint robust, tinged with rufous within. Thorax shining above, the dorsal lines deep, but not reaching the posterior margin; mesothorax feebly punctured, the pleura very densely punctured, somewhat aciculate, a spot beneath the posterior wings and the space between the anterior and middle coxæ, polished; scutellum convex, polished, deeply impressed in front; postscutellum also polished; metathorax very densely punctured, opaque,

rather truncate behind, the lateral tubercles acute, from each of these tubercles a carina proceeds forward and forms a well-defined, transverse, semicircular central area on the disk. Wings ample, fuliginous, with a bluish gloss, the posterior pair clearer; nervures and stigma black; areolet rather large, subquadrate or 5-angular, the lower nervure broadly angular, the cubital nervure with a rudimental nerve within the first submarginal cell. Legs rufous, polished, the coxæ and trochanters black, the posterior tibiæ and tarsi reddish-brown; femora rather robust, the two posterior pair undulate beneath and somewhat suddenly constricted at tip. Abdomen very robust, ovate, shining black, faintly tinged with blue; basal segment much arcuated, short, polished, flattened above, and broad at tip, which is sulcate on the middle and on each side; venter polished; ovipositor two-thirds as long as the abdomen, black. Length 6—7 lines; expanse of wings $11\frac{1}{2}$ —12 lines.

Hab.—Rocky Mountains, Colorado Territory.

2. *Cryptus proximus*, n. sp.

Black; wings fuliginous, with a bluish gloss; legs rufous, femora simple; metathorax with a large, triangular central area.

Female.—Differs from *C. robustus*, to which it is closely allied, as follows:—More elongate and much less robust; the 3rd joint of the antennæ not as long as the 4th and 5th together, the two latter being each two-thirds the length of the 3rd joint; the mesothorax more opaque and densely punctured; the central area of the metathorax is large and triangular; the legs rather longer, the femora slender, simple, not at all undulate beneath or constricted at tips, the 4th, 5th and 6th joints of the posterior tarsi are yellowish; the abdomen more elongate, much less robust, and the ovipositor as long as the body, rufo-piceous, with the valves black. Length 7 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

3. *Cryptus luctuosus*, n. sp.

Black; frontal orbits whitish; femora rufous; wings smoky, hyaline with a bluish gloss; metathorax without a central area; ovipositor short.

Female.—Black, shining; frontal orbits beneath the antennæ whitish; clypeus polished, a slight prominence between it and the base of the antennæ, behind the latter the front is rather deeply excavated and aciculate; antennæ more than half the length of the body, rather slender, somewhat involute, black, brownish-sericeous towards the tip, basal

joint robust and polished, the 3rd and 4th joints about equal in length, the 5th a little shorter. Thorax above polished, minutely punctured, the dorsal lines very deep and large, beneath the wings very densely punctured, a polished spot beneath the posterior wings, as well as the space between the anterior and middle coxæ; scutellum polished; metathorax somewhat rugose, opaque, truncate behind, the carina bordering the truncation sharply defined, the lateral tubercles prominent and subacute. Wings uniformly tinged with fuliginous, and having a bluish gloss; nervures and stigma black; areolet 5-angular, the lower nervure broadly angular. Legs black, polished, all the femora, and the anterior tibiæ and tarsi, rufous. Abdomen short and robust, subovate, shining; the basal segment flattened, strongly arcuated, broad at tip, the peduncle short and polished; ovipositor rather longer than the first segment, rufous, valves black. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Shorter and stouter than *C. proximus*, and without any central area on the metathorax.

4. *Cryptus nubilipennis*, n. sp.

Black; antennæ with a white annulus; wings with a fuliginous band across their apical third; legs mostly rufous; ovipositor longer than the body.

Female.—Black; face short and broad, finely punctured; the orbits behind subobsoletely rufous; the front not depressed behind the antennæ; clypeus small, transverse, polished, with a deep puncture on each side; mandibles small, polished, which, as well as the clypeus, is tinged with piceous; antennæ more than half the length of the body, subporrect, rather slender, black, the 8th to 11th joints more or less white, basal joint robust, the 3rd and 4th joints subequal, the 5th and 6th shorter, subequal. Thorax densely and very finely punctured, shining, the dorsal lines not deep; scutellum slightly convex, densely punctured; metathorax finely scabrous, somewhat rounded behind, the elevated lines indistinctly defined, and forming a large, nearly obsolete, rhomboidal central area, the lateral tubercles small. Wings smoky-hyaline, the extreme tips and a broad band on the apical third, not quite reaching the posterior margin of the wing, fuliginous; nervures and stigma black; areolet 5-angular. Legs rather slender, rufous; the coxæ and trochanters black; the four anterior femora at base, apex of

the posterior tibiae and all the tarsi, brownish. Abdomen rather short, robust, subovate; basal segment strongly arcuated, rather longer than the second, flattened, broad at tip and somewhat bilineated; ovipositor longer than the abdomen, rufous, valves black. Length $4\frac{1}{2}$ lines; expanse of wings 8 lines.

Hab.—Rocky Mountains, Colorado Territory.

Allied to *C. luctuosus* but is easily distinguished from that species by the band on the wings.

5. *Cryptus crassicornis*, n. sp.

Black; antennae much thickened, opaque; frontal orbits white; legs rufous, the tarsi yellowish; wings subhyaline; abdomen slender.

Male.—Deep black, slightly pubescent; face rather long, eyes prominent; the orbits, more or less interrupted on each side near the vertex and beneath the eyes, sometimes ending in a spot on each side of the clypeus, narrowly whitish; clypeus small, prominent, polished; mandibles projecting; basal joint of palpi yellowish; the front behind the antennae deeply excavated; antennae nearly as long as the body, opaque black, much thickened at base, and gradually attenuated towards the tip, which is very slender, basal joint robust, subglobular, clothed with black pubescence, 3rd joint about $\frac{1}{4}$ th longer than the 4th, the 5th and 6th joints each as long as the 4th, remaining joints gradually diminish in length, the incisures indistinct. Thorax above shining, not densely punctured, the dorsal lines not deeply impressed, on the pleura the punctures are very dense; beneath the posterior wings a smooth, polished spot, as well as the surface between the anterior and middle coxae; scutellum subconvex, shining, rather densely punctured; metathorax opaque, scabrous, pubescent, the elevated lines and lateral tubercles not well defined, in some specimens there is a faint indication of a subquadrate central area. Wings subhyaline, faintly tinged with fuliginous, and having a slight bluish gloss; nervures and stigma black; areolet 5-angular or somewhat 4-angular, the cubital nervure with a process within the first submarginal cell. Legs long and rather slender, rufous; four anterior tibiae in front and the tarsi toward the tips more or less tinged with yellowish, the posterior tibiae and tarsi sometimes brownish; all the coxae and the trochanters, black. Abdomen elongate, slender, shining; the basal segment as long as the 2nd, polished, the apical third subquadrate, not much dilated, the lateral tubercles

prominent; the remaining segments sometimes faintly tinged with deep blue, and polished towards the apex. Length $6\frac{1}{2}$ — $7\frac{1}{2}$ lines; expanse of wings 10—11 $\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Readily distinguished by the incrassate antennae.

6. *Cryptus velox*, n. sp.

Black; antennae with a narrow white annulus; legs rufous; wings hyaline, iridescent; ovipositor as long as the abdomen.

Female.—Black; face short and broad; clypeus slightly prominent, polished, with a slight puncture on its disk; mandibles piceous; front behind the antennae slightly excavated; antennae nearly as long as the body, slightly involute at tip, black, the 9th to 11th joints white, basal joint robust, piceous beneath, the 3rd, 4th and 5th joints long, subequal, the 6th shorter, about as long as the 7th joint. Thorax polished, finely punctured, the dorsal lines well impressed; scutellum slightly convex, smooth and polished, deeply impressed in front; metathorax shining, finely punctured, the elevated lines not distinct, but forming a small, subobsolete, triangular central area. Wings ample, hyaline, somewhat iridescent; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular or somewhat 4-angular, the lower nervure angular. Legs rather slender, pale rufous, the four anterior tarsi at tips, the apex of the posterior femora, their tibiae and tarsi, blackish. Abdomen elongate, subovate; basal segment not longer than the second, broad, almost sessile, flattened above; apical segments polished; ovipositor as long as the abdomen, rufous, valves black. Length 4 lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—New York. Mr. James Angus.

SECTION 2.

7. *Cryptus excelsus*, n. sp.

Black; antennae tricolored—fulvous, yellow and black; face, tegulae, scutellum, posterior face of metathorax, and most of the legs, yellow; basal half of posterior femora, fulvous; wings subhyaline; basal segment of abdomen long and linear.

Female.—Black, shining, slightly pubescent; face, except on each side of the clypeus, frontal orbits not reaching the summit, a short line behind the eyes, the clypeus except its extreme apical margin, the labrum and the palpi, yellow; mandibles projecting, narrow, acute,

shining black, between them a tuft of yellowish pubescence; antennæ porrect, two-thirds the length of the body, somewhat thickened, basal joint black, yellow beneath, the 8 following joints fulvous, paler beneath, the 6 following joints yellow, the apical ones black above, fulvous beneath, the 2nd, 3rd and 4th basal joints are blackish above, the 3rd joint nearly as long as the 4th and 5th together. Thorax finely punctured, the dorsal lines deeply impressed; collar above, a line or two spots in front of the mesothorax, tegulæ and a spot behind the posterior wings, yellow; scutellum rather convex, polished, yellow, as well as a line on the postscutellum; metathorax densely punctured, black, with a large subtrefoil, or sometimes an angular, yellow mark on its posterior face, as well as a spot on each side of it, anteriorly there is a curved well-defined carina extending from side to side. Wings subhyaline, stained with fuscous, and having a slight violaceous reflection at tips; nervures fuscous, pale at base, stigma brown; areolet large, slightly oblique, subquadrate or 5-angular, its lower nervure angular. Legs polished, long and slender, especially the posterior pair; the two anterior pairs except their coxæ above, the basal two-thirds of the posterior tibiæ, sometimes a spot on their coxæ behind at base, and their tarsi entirely, yellow; the apical half of the posterior trochanters and the basal half of their femora, bright fulvous; remainder black. Abdomen elongate, fusiform, shining, black; basal segment much longer than the second, linear, not at all dilated, somewhat flattened above, scarcely arcuated, polished and having on each side beyond the middle a prominent tubercle, the apex slightly swollen and often with a yellowish spot on each side, sometimes the lateral margins and under surface of this segment including the petiole, are yellowish; ovipositor nearly as long as the abdomen, rufous or piceous, valves black. Length 6—7 lines; expanse of wings 9—10½ lines.

Variety ♀.—The face black, the frontal orbits, two connected spots beneath the antennæ, a semicircular spot on the clypeus and the labrum, yellow; base of the scutellum black; metathorax entirely black except a subarcuated yellow line posteriorly; abdomen entirely black except the first segment beneath which is tinged with rufous; posterior coxæ immaculate. Length 4½ lines; expanse of wings 7 lines.

Male.—Resembles the female, but much more slender, the antennæ

are fuscous above with a broad yellowish annulus, the basal half of the scutellum is black, and the postscutellum, metathorax and abdomen are immaculate, the latter very slender. Length 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

8. *Cryptus juncus*, n. sp.

Black; spots on the face, most of antennæ, scutellum, posterior face of metathorax and the legs, except coxæ and posterior femora, yellow; abdomen very slender, basal segment long and linear.

Female.—Black, shining; frontal orbits, a line on the orbits behind, two spots just beneath the antennæ, most of the clypeus and labrum, and the palpi, yellow; antennæ porrect, nearly as long as the body, yellowish, blackish at base and apex especially above, basal joint black, yellow beneath, the 3rd joint about two-thirds the length of the 4th and 5th together, the incisures indistinct. Thorax densely and finely punctured, the dorsal lines well impressed; collar above, two spots in front of mesothorax, and tegulæ, yellow; scutellum convex, polished, yellow, as well as a narrow line on each side extending to the base of the posterior wings and a spot on the postscutellum; metathorax as in the preceding species, except that the large yellow mark on its posterior face is subtriangular. Wings hyaline, slightly iridescent, the apical margins slightly fuliginous; nervures fuscous, pale at base, stigma brown; areolet large, subquadrate, its lower nervure angular. Legs long and slender, especially the posterior pair, polished, yellow; the coxæ, except a spot at the base of the posterior pair behind, the posterior trochanters and their femora, black. Abdomen elongate, very slender, slightly fusiform; basal segment polished, half again as long as the second segment, cylindric, slightly arcuated, not at all dilated at tip, the lateral tubercles not visible; ovipositor about half the length of the abdomen, rufo-piceous, valves black. Length 6 lines; expanse of wings 9½ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely allied to *C. excelsus*, but is much more slender, the basal segment of the abdomen longer, more cylindric, not depressed above and without lateral tubercles, the legs and antennæ are differently colored and the wings clearer.

SECTION 3.

9. *Cryptus iridescens*, n. sp.

Black; spot on mandibles, palpi, tegulae, scutellum, four anterior coxae and trochanters, yellowish-white; legs and abdomen, except tip, pale rufous; the three apical segments black, the 7th with a whitish spot; wings hyaline, beautifully iridescent.

Male.—Black, slightly pubescent; spot on each mandible, and the palpi, yellowish-white; face flat, clypeus shining; antennae slender, nearly as long as the body, black, the basal joint beneath ferruginous, the joints indistinct. Thorax shining; dorsal lines of the mesothorax tolerably well impressed; pleura finely striated; a line over the collar, tegulae, a small spot before and another beneath the fore-wing, a large spot on scutellum and the postscutellum, yellowish-white; scutellum polished, the excavation in front longitudinally striated; metathorax finely reticulated, near the base a transverse carina arcuated on the disk, and behind the middle on each side a small, semicircular, transverse carina, in the place of tubercles. Wings hyaline, beautifully iridescent; nervures and stigma pale fuscous; areolet rather large, 5-angular or subquadrate. Legs pale rufous, the four anterior coxae and trochanters yellowish, as well as the base of the posterior tibiae and the 2nd, 3rd and 4th joints of their tarsi; base of the posterior trochanters, tips of their femora, rest of their tibiae and tarsi, blackish or dusky. Abdomen elongate, subclavate, pale rufous, shining; basal segment slightly arcuated, polished, with a small tubercle on each side of the apical third; the three apical segments black, the 7th segment with a rounded white spot above; sometimes the base of the 2nd and apical margin of the 5th segments are blackish. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

10. *Cryptus soror*, n. sp.

Black; most of clypeus and mandibles, palpi, tegulae, spot on scutellum and 4 anterior trochanters, whitish; wings hyaline, iridescent. Legs and abdomen rufous; basal half of the 2nd, base of the 3rd and 5th, and the apical segments, except a small obscure whitish spot on the 7th, black.

Male.—Black, slightly pubescent, sculptured as in the preceding species; most of the clypeus and mandibles, and the palpi, whitish; antennae as long as the body, slender, black, basal joint beneath rufous, the joints indistinctly defined; tegulae, a minute dot beneath the fore-wing, a spot on scutellum and the postscutellum, whitish. Wings hya-

line, iridescent; nervures and stigma pale fuscous, yellowish at base; areolet large, subquadrate. Legs pale rufous, the four anterior trochanters, pale yellowish, their coxae somewhat tinged with yellowish; tips of posterior femora black, their tibiae, except base which is pale, and their tarsi, dusky. Abdomen elongate, slender, subclavate, pale rufous, shining; basal segment slightly arcuated, polished, with a tubercle on each side of the apical third; basal half of 2nd, basal margins of the 3rd and 5th, and the three apical segments, except an obscure whitish spot on the 7th segment above, black. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Closely allied to *C. iridescens*, but the antennae are longer, the areolet of the wings larger, and the abdomen and legs differently colored.

SECTION 4.

11. *Cryptus americanus*, n. sp.

Black; abdomen rufous; wings subhyaline; ovipositor as long as the body.

Female.—Black; apical margin of the clypeus and the frontal orbits, obsoletely whitish; face minutely punctured, much depressed just behind the insertion of the antennae, and finely and transversely aciculate; between the clypeus and the antennae there is a small rounded obtuse tubercle; palpi pale fuscous; antennae nearly as long as the body, very slender, curved at the apex, piceous, the basal joint robust, black, the 3rd and 4th joints nearly equal in length, the 3rd longest, the 5th joint shorter than the 4th, 6th about half the length of the 5th. Thorax very densely and finely punctured; mesothorax with two deeply impressed longitudinal lines, approximate posteriorly; scutellum convex, smooth and polished; metathorax rugose, slightly pubescent, abruptly truncate behind, the lateral angles prominent, acute or subacute. Wings subhyaline, more or less tinged with fuscous; nervures and stigma black; areolet 5-angular or somewhat triangular. Legs black, shining; the four anterior tibiae and tarsi rufo-piceous, the posterior pair piceous. Abdomen oblong-ovate, bright rufous, shining; the basal segment arcuated, broad at tip, smooth and polished, with a shallow longitudinal groove on each side; ovipositor as long as the abdomen, rufo-piceous, valves black. Length 3–6 lines; expanse of wings 5–10 lines.

Hab.—Delaware (Dr. Wilson); Illinois (Dr. Lewis).

This species varies much in size.

12. *Cryptus persimilis*, n. sp.

Black; legs and abdomen rufous; wings fusco-hyaline; ovipositor nearly as long as the body.

Female.—Black, shining; frontal orbits pale; face minutely punctured, much depressed just behind the insertion of the antennae; between the clypeus and base of antennae a rounded obtuse tubercle; clypeus rather prominent, convex, rounded and somewhat depressed in front; palpi piceous; antennae more than half the length of the body, very slender, slightly curved at tip, black, the 3rd to 6th joints as in *americanus*. Thorax polished, feebly punctured; the mesothorax with two deeply impressed longitudinal lines approximating posteriorly; tegulae rufo-piceous; scutellum polished; metathorax densely punctured, truncate behind, the elevated lines indistinct. Wings fusco-hyaline, with a brassy gloss; nervures fuscous, stigma ferruginous; areolet 5-angular. Legs rufous, the coxae and trochanters black; tips of posterior tibiae and their tarsi somewhat obfuscated. Abdomen oblong-ovate, shining, basal segment much arcuated, polished, sides slightly grooved, broad at tip, most of the petiole blackish; ovipositor nearly as long as the abdomen, rufous, valves black. Length 4 lines; expanse of wings 7 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Closely allied to *C. americanus*, but is at once distinguished by its red legs and darker wings.

13. *Cryptus limatus*, n. sp.

Black; antennae with a more or less distinct whitish annulus; abdomen rufous, polished; ovipositor very short.

Female.—Black, shining; face densely and minutely punctured, coarser on the clypeus, the anterior margin of which is rounded and somewhat reflexed; mandibles tinged with rufous, pubescent; cheeks and occiput polished; antennae as long as the body, rather slender, black, brownish beneath especially towards the apex, the 10th to 12th joints above, white, the 3rd, 4th, 5th and 6th joints subequal, the 6th rather the shortest. Thorax very densely and finely punctured, shining, the mesothorax with a shallow depressed line on each side; scutellum convex, finely punctured; metathorax short, truncate behind, somewhat longitudinally rugose, near the base a transverse acute carina extending all the way across, behind this another acute carina slightly oblique and interrupted in the middle and terminating on each side in

a short subacute tubercle. Wings subhyaline, more or less tinged with fuscous; nervures and stigma black; areolet 5-angular or somewhat 4-angular, the anterior and lateral nervures equal, the posterior nervure angular. Legs black, the anterior tibiae and all the tarsi more or less tinged with pale rufous. Abdomen ovate, robust, bright rufous, highly polished; basal segment somewhat flattened, the apical third rather suddenly quadrate, the lateral angles prominent, extreme base of the petiole blackish; ovipositor very short, scarcely as long as the second segment. Length $4\frac{1}{2}$ —5 lines; expanse of wings 7—8 lines.

Hab.—Delaware and Virginia. Dr. Thos. B. Wilson.

Resembles *C. americanus*, but is more robust, the abdomen is highly polished, the areolet of the wings is quadrate, and the ovipositor is scarcely one-fourth as long as in that species.

14. *Cryptus similis*, n. sp.

Black; antennae above with a white annulus; abdomen and most of the legs, rufous; posterior tarsi with a broad white annulus; wings almost hyaline.

Female.—Black, shining, clothed with a short pale pubescence, more obvious in certain lights; face densely punctured, the clypeus rounded in front, the margin somewhat reflexed and polished; palpi pale; antennae as long as the body, black, sometimes tinged with rufous beneath, the 8th to 12th joints white above, the 3rd to 6th joints proportioned as in *limatus*, but longer and slenderer. Thorax shining, densely punctured; tegulae whitish; metathorax sculptured as in *limatus*. Wings almost hyaline, very faintly tinged with fuliginous; nervures and stigma black; areolet quadrangular, as in *limatus*. Legs rufous, the four anterior pair paler in front; the coxae, trochanters, tips of the posterior femora, and their tibiae black; posterior tarsi black, the second, third and fourth joints white. Abdomen oblong-ovate, rufous, highly polished; basal segment much arcuated, elongate and slender, not much dilated at tip, the apical third subquadrate, the angles not prominent; ovipositor shorter than the abdomen. Length 4 lines; expanse of wings 7 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Closely resembles *C. limatus*, but is smaller and distinguished at once by the color of the legs, which is mostly rufous, with the posterior tarsi mostly white; the basal segment of the abdomen is more linear and not so abruptly quadrate at the tip.

This and the three preceding species are remarkably similar in their general appearance, but may be readily distinguished by the following characters:—

C. americanus has the antennæ very slender, except the basal joint, and entirely black, the 6th joint about $\frac{1}{4}$ th the length of the 3rd; the face just beneath the antennæ has a small, obtuse, rounded tubercle; the clypeus is small and rather prominent; the mesothorax has two deeply impressed lines; the areolet of the wings is 5-angular or subtriangular; the legs are almost entirely black; the abdomen is shining, but not polished, and the ovipositor is about as long as the abdomen.

C. persimilis has all the characters of *americanus*, except that the legs are mostly rufous instead of black.

C. limatus is more robust; has the antennæ much stouter and annulated, the 6th joint nearly as long as the 3rd; the face broader, shorter and without the frontal tubercle; the clypeus is twice as large and not prominent, but broadly rounded in front; the mesothorax has no deeply impressed lines; the areolet of the wings is almost quadrate; the metathorax has two transverse carinæ; the legs are almost entirely black, but shorter; the abdomen is ovate, more robust, highly polished, the basal segment flattened and suddenly quadrate at tip, and the ovipositor is very short.

C. similis has all the characters of *limatus*, except that it is smaller, less robust, the antennæ rather longer, more slender and the joints longer, the legs mostly rufous, the posterior tarsi broadly annulated with white, the basal segment of the abdomen more linear and the ovipositor longer.

15. *Cryptus albitarsis*, n. sp.

Black, densely sculptured; most of legs and abdomen except tip, rufous; posterior tarsi white; wings subhyaline.

Male.—Robust, black, densely sculptured, slightly pubescent; head densely punctured, face flat, clypeus shining, palpi fuscous; antennæ about as long as the body, rather slender, black, 2nd joint beneath and extreme base of the 3rd, rufous, the joints rather indistinct, the 3rd longest, 4th shorter and subequal with the two or three following joints. Thorax finely and densely rugose, somewhat shining; mesothorax densely punctured, the dorsal lines not well impressed; scutellum flat, punctured; metathorax more coarsely rugose, somewhat reticulated, a

well-defined transverse carina at base, and another one a little behind the middle, slightly arcuated and subobsolete in the middle and more prominent and acute on each side where the tubercles are usually placed; tegulæ black. Wings hyaline, faintly tinged with fuscous; nervures and stigma black; areolet large, subquadrate. Legs rufous, their coxæ and trochanters, except the apical half of the posterior pair, black; posterior femora at tip and their tibiæ dusky, their tarsi white, the extreme base and apex black. Abdomen oblong-subovate, not much longer than the head and thorax, rufous, polished; apical two-thirds of the 5th, and the whole of the following segments, black; on the apical third of the 3rd and 4th segments a transverse, rather indistinct, blackish line; basal segment protuberant at tip, with a well-developed tubercle on each side of the apical third; 2nd segment broad and flattened, the basal foveæ shallow. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Easily distinguished by its robust form, short abdomen, dense sculpture and white posterior tarsi.

16. *Cryptus pumilus*, n. sp.

Black; smooth, base of antennæ, legs, and abdomen, except 1st segment, rufous; wings subhyaline; basal segment of abdomen black, striated.

Female.—Black, shining; mandibles and palpi testaceous; antennæ more than half the length of the body, rather stout, blackish, the basal third pale rufous. Thorax smooth and polished; scutellum flattened, smooth and polished, with a transverse, striated excavation in front; metathorax with the elevated lines sharply defined, the central area large, reniform and striated obliquely, the posterior declivity rather abrupt and also striated, the lateral tubercles prominent; tegulæ yellowish. Wings hyaline, the anterior pair slightly tinged with fuscous, iridescent; nervures and stigma pale at base, the latter rather large; areolet small, 5-angular. Legs, with their coxæ, entirely pale rufous, the posterior tibiæ at tips, dusky. Abdomen ovate, long and slender at base, somewhat flattened, polished, rufous; basal segment black, long, slender, gradually dilated towards the tip, which is longitudinally striated above, and with two longitudinal carinæ extending nearly the whole length of the segment, the lateral tubercles not visible, the extreme lateral margins at tip, yellow; the following segments together

ovate, apical segment slightly tinged with yellowish; ovipositor very short, rufous. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

17. *Cryptus subargenteus*, n. sp.

Black, silvery-sericeous; legs and abdomen, except 1st segment, rufous; wings hyaline, iridescent.

Female.—Black, clothed with a very fine silvery-sericeous pile, most obvious on the face; head rather large, transverse; face short and broad; eyes prominent; clypeus, vertex, occiput and cheeks, polished; a spot on each mandible, and the palpi, whitish; antennæ three-fourths the length of the body, slender, brown, tinged with rufous at base and beneath. Thorax polished; mesothorax with the dorsal lines well impressed; scutellum flat, polished; metathorax pubescent, with the elevated lines sharply defined, the central area large, elongate-subquadrate; tegulæ pale yellowish. Wings hyaline, faintly tinged with fuscous, iridescent; nervures and stigma fuscous; areolet small, 5-angular or subquadrate. Legs slender, pale rufous, the four anterior coxæ and trochanters whitish, the posterior tibiæ and tarsi slightly dusky. Abdomen elongate, slender, strongly arcuated, shining; the 1st segment long, linear, black, polished, slightly dilated at tip, with an obtuse tubercle on each side of the middle; 2nd and following segments together oblong-ovate, subsericeous, rufous, faintly tinged with dusky at tip; ovipositor about as long as the basal segment of the abdomen, rufous, valves blackish. Length 3 lines; expanse of wings 5 lines.

Hab.—Pennsylvania. E. T. Cresson.

Distinguished at once from the other species by the silvery face.

18. *Cryptus pusillus*, n. sp.

Black; most of antennæ, legs and 2nd segment of abdomen, rufous; 1st segment of the latter striated; wings subhyaline.

Female.—Black, polished, slightly pubescent; mandibles piceous, palpi pale; antennæ two-thirds the length of the body, rather short, pale rufous, fuscous towards the tip. Thorax shining, minutely punctured; metathorax with the elevated lines sharply defined, the central area rather large and triangular, and immediately behind it the posterior face is abruptly and deeply excavated, the lateral tubercles prominent; tegulæ pale rufous. Wings subhyaline, uniformly tinged with pale rufous, slightly iridescent; nervures and stigma fuscous, the latter

rather large; areolet small, 5-angular. Legs, with their coxæ, entirely pale rufous. Abdomen ovate, flattened, polished, black, the 2nd segment entirely and the anterior margin of the 3rd obscurely, rufous, as well as the lateral margins of the 1st segment, this segment is dilated towards the tip and covered above with fine longitudinal striæ, the lateral tubercles are subobsolete; apical segment slightly tinged with yellowish; ovipositor nearly as long as the abdomen, piceous. Length $2\frac{1}{2}$ lines; expanse of wings 4 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Allied to *C. pumilus*, but only the middle of the abdomen is rufous.

19. *Cryptus frater*, n. sp.

Black; legs and the 2nd, 3rd and 4th abdominal segments, rufous; wings subhyaline; ovipositor short.

Female.—Black, finely sculptured, slightly pubescent; face flat, palpi fuscous; antennæ nearly as long as the body, slender, piceous, tinged with ferruginous towards the middle, the joints distinct, 3rd joint longest, 4th slightly shorter, and the remaining joints gradually shorter. Thorax: mesothorax shining, minutely punctured, the dorsal lines not well impressed, under a strong lens distinctly and closely punctured; pleura and pectus minutely striated, subopaque; metathorax finely rugose, subopaque, near the base a well-defined transverse carina slightly arcuated in the middle, and on each side behind a short carina where the tubercles are usually placed. Wings subhyaline, faintly iridescent; nervures and stigma fuscous; areolet moderate, 5-angular or subquadrate. Legs rufous, their coxæ and trochanters black, the posterior tarsi slightly dusky. Abdomen, oblong-ovate, very slender at base, polished, black, the 2nd, 3rd and 4th segments rufous; basal segment slender, arcuated, its tip piceous, and on each side of the apical third a stout tubercle, between which there is a deep fovea; ovipositor short, not as long as the 1st segment of the abdomen, piceous, valves black. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Illinois. Dr. Samuel Lewis.

20. *Cryptus subgracilis*, n. sp.

Rather slender, black; antennæ piceous; legs fuscous, the two anterior pairs pale; abdomen rufous, apex black; wings fusco-hyaline.

Female.—Black, slightly pubescent; head densely and finely punctured, face flat, clypeus shining; antennæ nearly as long as the body,

slender, piceous, basal joint black, 3rd joint longest, 4th and 5th subequal, each one-third shorter than the 3rd, the joints distinct. Thorax: mesothorax shining, closely punctured, the dorsal lines obsolete; pleura minutely rugose or striated; scutellum rather convex, punctured; metathorax finely rugose, or somewhat reticulated, a well defined, transverse, arcuated carina at base, and on side behind, an oblique, slightly angular, well defined carina; tegulae black. Wings pale fusco-hyaline, slightly iridescent; nervures and stigma black; areolet large, subquadrate. Legs fuscous, their coxae black, the four anterior tibiae and tarsi tinged in front with obscure yellowish. Abdomen very slender at base, remaining segments together, oblong-ovate, polished, rufous, the 3 apical segments black; basal segment long, arcuated, without lateral tubercles; ovipositor about as long as the 1st segment of abdomen, rufous, valves black. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

More slender than *C. frater* to which it is closely allied, but sufficiently distinct.

21. *Cryptus extrematis*, n. sp.

Black; antennae with a broad white annulus; legs and three basal segments of abdomen rufous, large spot on the 6th or 7th segment and the posterior tarsi, white; wings clear; ovipositor nearly as long as the abdomen.

Female.—Black, shining, somewhat robust; head short and broad; antennae as long as the body, slender, black, the 7th to 12th joints white, the 3rd and 4th joints long, the 3rd rather the longest, 5th a little shorter than the 4th, and the 6th about half as long as the 3rd. Thorax finely punctured, the dorsal lines rather deep; scutellum subconvex, polished; metathorax finely scabrous, opaque, its base smoother and shining, the elevated lines tolerably well defined, forming a large, more or less distinct, subrhomboidal central area, lateral tubercles not well defined. Wings faintly tinged with fuscous; nervures and stigma blackish, pale at base; areolet large, subquadrate. Legs pale rufous, the posterior femora and tibiae at tips, and the base and apex of their tarsi, blackish, rest of their tarsi white. Abdomen rather stout, subovate, polished, rufous or yellowish-rufous; basal segment strongly arcuated, broad at tip; the 4th and following joints black, the 6th or 7th or both more or less white above; ovipositor about as long as the body, rufous, valves black. Length $4-5\frac{1}{2}$ lines; expanse of wings $6-9\frac{1}{2}$ lines.

Male.—Resembles the female, but much slenderer, the antennae is more or less yellowish or whitish beneath, the four anterior coxae are white, as well as the posterior tarsi except extreme tips; the abdomen much more elongate and subcylindric, the basal segment mostly all black, linear, with a projection on each side behind the middle, the 2nd, 3rd and most of the 4th segments are rufous, the 7th, and sometimes the 6th, segment has a rounded white spot above. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Hab.—Mass. (Sanborn); Penn. (Auxer); Delaware (Dr. Wilson).

This is closely allied to *C. nuncius* Say, but is at once distinguished from that species by having the white spot or spots on the apex of the abdomen, otherwise they are very similar.

22. *Cryptus ultimus*, n. sp.

Black; the legs and four basal segments of the abdomen pale rufous, rest of the abdomen black except a large white spot on the seventh segment; wings subhyaline; ovipositor nearly as long as the abdomen.

Female.—Black, shining, robust; head short and broad, entirely black; antennae rather more than half the length of the body, brown-black, black at base, the 3rd and 4th joints long and subequal, 5th shorter, 6th shorter than the 5th. Thorax densely and finely punctured, opaque, the dorsal lines not deep; scutellum polished; metathorax densely punctured, opaque, the elevated lines tolerably well defined, the lateral tubercles small, acute. Wings slightly tinged with fuscous; nervures and stigma pale fuscous; areolet large, subquadrate or 5-angular, the lower nervure broadly angular, the outer nervure rather shorter than the inner nervure. Legs pale rufous, tips of the four posterior femora and of their tibiae, black. Abdomen robust, ovate, pale rufous, shining; basal segment arcuated, broad at tip, slender at base, polished; the 5th and apical segments black, polished, the seventh segment above with a large white spot posteriorly, the fourth segment above is somewhat stained with blackish posteriorly; ovipositor nearly as long as the abdomen, rufous, valves black. Length 4 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

Closely allied to *C. extrematis*, but readily distinguished by its much shorter and entirely black antennae and by the coloring of the posterior legs.

23. *Cryptus incertus*, n. sp.

Black; antennæ slightly annulated with white; legs and abdomen bright rufous, the 3 apical segments of the latter black, the terminal one with a large white spot above; wings fusco-hyaline.

Female.—Black, finely and densely punctured, subopaque, slightly pubescent; face flat; clypeus shining; mandibles rufous in the middle; palpi piceous; antennæ slender, two-thirds the length of the body, piceous, paler beneath towards the base and again towards the tip, about the middle above a small whitish annulus, 3rd and 4th joints long and subequal, 5th joint shorter, the 6th shorter than the 5th. Thorax finely rugose, the mesothorax indistinctly so, the dorsal lines not well impressed; metathorax more coarsely rugose, or reticulated, near the base a slight transverse carina, and about the middle another one strongly arcuated anteriorly and ending on each side in a prominent flattened ridge or tubercle; tegulæ rufous. Wings subhyaline, uniformly tinged with pale fuscous, slightly iridescent; nervures and stigma fuscous; areolet large, subquadrate. Legs, with their coxæ, bright rufous; tips of the posterior femora black, tips of their tibiæ and of all the tarsi dusky. Abdomen oblong-ovate, strongly arcuated at base, smooth and polished, bright rufous; apical margin of the 4th segment, and the remaining segments entirely, except a large white spot on the 7th segment above, black; ovipositor more than half the length of the abdomen, rufo-piceous, valves black. Length $3\frac{1}{2}$ lines, expanse of wings 6 lines.

Hab.—Delaware. Dr. Thomas B. Wilson.

Closely allied to *C. ultimus*, but the antennæ are longer, with a slight white annulus, the wings darker, and the abdomen not so robust.

24. *Cryptus alacris*, n. sp.

Black; annulus on antennæ and spot on tip of abdomen, white; legs and three basal segments of abdomen, rufous; wings hyaline; ovipositor as long as the abdomen.

Female.—Black, shining, slightly pubescent; mouth piceous, palpi pale; antennæ more than half the length of the body, rather slender, black, with a whitish annulus about the middle, basal joints beneath sometimes pale rufous. Thorax minutely punctured; mesothorax smooth and polished; a line over the collar, sometimes subobsolete, and tegulæ, whitish; metathorax subopaque, minutely rugose, the elevated lines longitudinal and subobsolete, the posterior face deeply excavated,

and sometimes tinged with rufous, lateral tubercles scarcely visible. Wings ample, hyaline, iridescent; nervures and stigma black; areolet moderate, 5-angular. Legs, with their coxæ, entirely rufous, moderate. Abdomen oblong-ovate, slender at base, rather broad and sometimes slightly compressed at tip, shining, the three basal segments rufous, the remainder black, with a white spot at tip above; basal segment gradually dilated towards the tip, without lateral tubercles; ovipositor as long as the abdomen, rufo-piceous. Length $2\frac{1}{2}$ lines, expanse of wings $4\frac{1}{2}$ lines.

Hab.—Delaware (Dr. Wilson); Illinois (Dr. Lewis).

Resembles *C. incertus*, but is much smaller, the antennæ shorter and stouter, the wings clear, ovipositor longer, and the color somewhat different.

SECTION 5.

25. *Cryptus pallidus*, n. sp.

Pale honey-yellow; head black, face rufous; antennæ black with a white annulus; collar, tegulæ and spot on tip of abdomen, white; wings hyaline.

Female.—Pale honey-yellow; head black, most of face, clypeus, and mandibles, rufous; palpi pale; antennæ more than half the length of the abdomen, rather slender, black, with a broad white annulus about the middle, the three or four basal joints, especially beneath, pale rufous. Thorax shining; mesothorax polished; the dorsal lines tolerably well impressed; scutellum slightly convex, polished; metathorax minutely rugose, subopaque, the elevated lines not well defined, longitudinal, the central area very elongate, broad behind and narrowed in front, the posterior declivity abrupt, the carina bounding it above sharply defined, and ending on each side in a short subacute tubercle. Wings hyaline, faintly tinged with yellowish, iridescent; nervures and stigma pale testaceous; areolet 5-angular, moderate. Legs rather slender, color of the body; the coxæ tinged with yellowish. Abdomen about as long as the head and thorax, oblong-ovate, slender at base, faintly compressed at tip; three basal segments opaque, apical segments polished, with an obscure whitish spot at extreme tip above; basal segments gradually dilated towards the tip, without lateral tubercles; ovipositor two-thirds the length of the abdomen, piceous. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thomas B. Wilson.

PHYGADEUON, Grav.

1. *Phygadeuon major*, n. sp.

Black; antennæ with a yellowish annulus; legs and abdomen, except base, rufous, apex with a yellow spot; wings subhyaline.

Female.—Black, shining, clothed with a short, fine, yellowish pubescence, more obvious when viewed in profile; face densely and finely punctured; clypeus polished, tinged with rufous, with a deep fovea on each lateral suture, mandibles also tinged with rufous; palpi testaceous; antennæ rather short, stout, involute at tip, black, the 8th to 12th joints yellow, the three basal joints tinged with rufous, beyond the annulus beneath the joints are obscurely ferruginous. Thorax shining, finely and closely punctured, the mesothorax flattened, less distinctly punctured; scutellum polished, obscure rufous, as well as a transverse spot behind it; metathorax rugose, a rather large subquadrate, almost smooth, shining space on each side at base, the elevated lines sharply defined, the central area moderate, 6-angular, posterior face suddenly depressed and bounded above by a sharply defined carina, arcuated in the middle and prominent on each side; tegulæ rufous. Wings hyaline, slightly tinged with yellowish; nervures and stigma ferruginous; areolet 5-angular. Legs stout, rufous; posterior coxæ, except tips, black, their femora and tibiæ at tips blackish. Abdomen stout, about as long as the head and thorax, ovate, highly polished, rufous, base of the 1st segment black, its tip broad, the petiole short and stout, on the apical third two short well defined longitudinal carinæ, and the lateral margins also acutely carinated; apical segment with a large yellow spot; ovipositor short, rufous. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Hab.—Illinois. Dr. Samuel Lewis.

This is the largest species of this genus so far known to me.

2. *Phygadeuon annulatus*, n. sp.

Black; annulus on antennæ, tegulæ, and spot on apex of abdomen, whitish; legs and abdomen, except three apical segments, rufous; wings subhyaline.

Female.—Black, shining; face punctured, the vertex, occiput and cheeks polished; most of the clypeus, the mandibles and palpi, pale rufous; antennæ more than half the length of the body, rather stout, fuscous, tinged with rufous at base and again towards the tip, the 7th to 12th joints white, not so broad beneath. Thorax minutely sculptured, shining; mesothorax polished, somewhat flattened, apparently

impunctured, the dorsal lines tolerably well impressed; metathorax indistinctly sculptured, the elevated lines obsolete, abruptly truncate behind; tegulæ pale yellowish. Wings subhyaline, tinged with pale fuscous; nervures and stigma pale fuscous, paler at base; areolet 5-angular. Legs, with their coxæ, rufous, the posterior tibiæ dusky at tips. Abdomen subovate, somewhat flattened, about as long as the head and thorax, rufous, shining; base of the 1st and the three apical segments, except a pale yellowish spot on the last segment above, black; apical half of 1st segment dilated and truncate, the petiole stout; ovipositor rather more than half the length of the abdomen. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thomas B. Wilson.

3. *Phygadeuon cincticornis*, n. sp.

Black, polished; annulus on antennæ and spot on tip of abdomen, yellowish; mouth, legs and three basal segments of abdomen, rufous; wings hyaline; ovipositor long.

Female.—Black, polished, slightly pubescent; most of the face, clypeus, mandibles, except tips, and palpi, dull rufous; antennæ about as long as the head and thorax, stout, black, the three basal joints beneath rufous, the 9th to 12th joints pale yellowish, spotted with blackish beneath, basal joint very robust. Thorax polished, minutely punctured; dorsal lines of mesothorax obsolete; scutellum flattened, punctured; metathorax minutely sculptured, the sides pubescent and shining, the elevated lines tolerably well defined, the central area elongate, narrow; tegulæ piceous. Wings hyaline, slightly iridescent; nervures and stigma black, pale at base; areolet 5-angular. Legs, with their coxæ, entirely rufous. Abdomen elongate, polished, dull rufous, the 4th and following segments black, the apex with a small yellowish spot; basal segments slightly and gradually dilated to the tip, without lateral tubercles; ovipositor as long as the abdomen, rufous. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Illinois. Dr. Samuel Lewis.

4. *Phygadeuon montanus*, n. sp.

Black, polished; antennæ, legs and abdomen, dull rufous; wings subhyaline; metathorax deeply excavated behind.

Female.—Black, polished, thinly clothed with pale pubescence; head subquadrate; face, beneath the antennæ, slightly protuberant; mouth

piceous, palpi pale; antennæ short and stout, involute, rufous, with a white sericeous pile. Thorax polished, without distinct punctures; mesothorax flattened, with a few subobsolete punctures on the disk; scutellum flat, with two deep, subtransverse excavations in front; metathorax almost smooth, shining, the elevated lines distinct, the central area large and semicircular, and immediately behind it a very deep, abrupt, arcuated excavation, the carina bounding it in front ends each side in an obtuse flattened tubercle; tegulæ rufous. Wings subhyaline, slightly iridescent, the anterior pair tinged with fuscous, the posterior pair clearer; nervures fuscous, paler at base, stigma black; areolet subquadrate, moderate. Legs thickened, rufous, clothed with a short whitish pile; most of the posterior coxæ and their femora, as well as the middle femora slightly, more or less blackish. Abdomen about as long as the head and thorax, flattened, highly polished, subovate, dark rufous, sides blackish; first segment robust, arcuated, broadly dilated at tip, with a slight tubercle on each side of the posterior third, petiole short and stout; apical segments slightly incurved; ovipositor short, rufous. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Rocky Mountains, Colorado Territory.

5. *Phygadeuon vulgaris*, n. sp.

Black; basal two-thirds of antennæ, legs and abdomen, rufous; wings subhyaline; metathorax deeply excavated behind.

Female.—Black, shining, slightly pubescent; head subquadrate, mandibles dull rufous, palpi pale yellowish; antennæ short and stout; basal two-thirds pale rufous, often paler towards the middle, apical third piceous, basal joint robust, elongate. Thorax polished, densely and minutely punctured; mesothorax somewhat flattened; scutellum flat, polished, sparsely punctured, with two deep, slightly transverse excavations in front; metathorax finely rugose, with a polished space on each side at base enclosed by elevated lines, which are tolerably distinct, the central area rather large, transversely and irregularly subquadrate, immediately behind it a very deep, abrupt, arcuated excavation, and on each side of it a prominent, flattened, obtuse tubercle; tegulæ rufous. Wings hyaline, slightly but uniformly tinged with fuscous, faintly iridescent; nervures and stigma fuscous; areolet moderate. Legs, with their coxæ, pale rufous, posterior pair darker and often more or less dusky. Abdomen about as long as the head and

thorax, ovate, flattened, highly polished, bright rufous, the extreme base sometimes blackish and the extreme apex sometimes slightly yellowish and pubescent; basal segment squarely dilated at tip, forming a slight angle on each side about the middle, petiole short and stout; ovipositor about half the length of the abdomen, rufous. Length $2\frac{1}{2}$ — $3\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ — $5\frac{1}{2}$ lines.

Hab.—Penn., Del. (Dr. Wilson); Illinois (Dr. Lewis). Ten ♀ specimens.

This is our most common species; it varies much in size, and the rufous color is sometimes very pale, the antennæ are always black at tips and in some specimens there is a more or less pale annulus, the rufous color at base gradually shading into pale yellowish towards the middle.

6. *Phygadeuon subfuscus*, n. sp.

Black, shining; base of antennæ, legs and abdomen, except base, dark rufous; wings subhyaline; metathorax excavated behind; ovipositor very short.

Female.—Black, polished; head transversely subquadrate, entirely black; palpi pale; antennæ half the length of the body, stout, rufous, gradually shading into fuscous towards the apex. Thorax minutely punctured; mesothorax somewhat flattened, polished and feebly and sparsely punctured; scutellum triangular, slightly depressed, with a transverse, rather deep excavation in front; metathorax finely sculptured, a large shining space on each side at base, the elevated lines distinct, the central area moderate, semicircular, and immediately behind it a deep, abrupt excavation, the tubercle on each side scarcely visible. Wings hyaline, faintly tinged with pale fuscous; nervures and stigma pale fuscous, paler at base; areolet 5-angular. Legs, including the coxæ, rufous, the posterior tibiæ and tarsi dusky. Abdomen as long as the head and thorax, ovate, flattened, polished, dark rufous or rufofuscous; basal segment black, gradually dilated towards the tip, carinated laterally and with a shallow fovea on the disk, petiole rather short and stout; ovipositor subexserted. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

7. *Phygadeuon mandibularis*, n. sp.

Black; mandibles, base of antennæ, tegulæ, legs and abdomen, rufous; wings subhyaline; mandibles very large and pubescent.

Female.—Black, shining, slightly pubescent, more dense on the face;

head densely punctured; clypeus very transverse, fringed with pale pubescence, and tinged with dark rufous; mandibles very prominent, long and rather slender, deeply bifid at tips, which are black, the rest rufous and pubescent; palpi pale rufous; antennæ short and stout, involute, rufous at base, yellowish in the middle, and fuscous at tip, the apical third beneath tinged with rufous. Thorax densely and finely punctured; mesothorax and scutellum flattened, the latter with two deep, slightly transverse excavations in front; elevated lines of the metathorax sharply defined, the central area rather large, transverse and irregular, on each side of it are two spaces, the basal one large, somewhat rounded, smooth and shining, the posterior one smaller, oblique, irregular and striated, posterior declivity abrupt, the lateral tubercles scarcely visible; tegulæ rufous. Wings subhyaline, slightly and uniformly tinged with fuscous; nervures fuscous, stigma pale fulvous; areolet 5-angular. Legs, with their coxæ, rufous, pubescent. Abdomen subovate, polished, dark rufous; basal segment gradually dilated towards the tip which is broad and depressed, without lateral tubercles; ovipositor short, rufous. Length $3\frac{1}{4}$ lines; expanse of wings $5\frac{1}{4}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

Easily distinguished from all the other species known to me by the very prominent mandibles.

Genus **MESOSTENUS**, Grav.

1. **Mesostenus albopictus**, n. sp.

Black, variegated with white markings; antennæ long, with a broad white annulus; legs yellow, posterior pair very long, mostly black; wings hyaline; abdomen banded with white; metathorax with two acute spines or tubercles.

Male.—Black, shining, slightly pubescent; face beneath the antennæ, orbits, very broad behind, clypeus, labrum, base of mandibles, and the palpi, white; antennæ longer than the body, porrect, the 12th to 19th joints white. Thorax black, shining, densely punctured, the dorsal lines deeply impressed; a line on the collar above and sides, a line or spot in front of the anterior coxæ, a round spot on the disk of mesothorax, tegulæ, a broad sutural line before and a spot beneath the forewings, a large, elongate, irregular mark on each side of the pleura, as well as a slightly oblique line just beneath it in front of the middle coxæ, and a large transverse mark immediately behind the posterior wings, all white; scutellum subconvex, shining, punctured, its apex

white as well as a narrow marginal line extending to the base of the posterior wings; the carina on each side in front of the scutellum and a spot on postscutellum, also white; metathorax coarsely and confluent punctured, clothed with pale pubescence, the transverse carina in front sharply defined, the lateral tubercles strongly developed and acute; a broad, elongate mark on each side constricted and pointed before, two short, approximate lines in front of the tubercles sometimes confluent with them, and two broad lines covering the tubercles and extending to the posterior margin where they become confluent with the lateral marks, all white. Wings hyaline, sometimes faintly tinged with fuscous; nervures and stigma black; areolet minute, quadrate. Legs long and slender, especially the posterior pair, pale yellowish; the four anterior coxæ and trochanters and a broad line on the posterior coxæ behind, white; rest of the posterior coxæ, their trochanters at base, their femora entirely, the apical fourth of their tibiæ, and extreme tips of all the tarsi, black. Abdomen short, slender, fusiform, about as long as the head and thorax, black, polished; the peduncle, and apical margins of all the segments, broadly white. Length of body 6 lines, of antennæ 7 lines, of posterior legs 10 lines; expanse of wings $11\frac{1}{4}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

This is a very conspicuous species and readily distinguished by its very elongate antennæ and posterior legs, in which respect it resembles certain species of the genus *Arotes*.

2. **Mesostenus albomaculatus**, n. sp.

Black; antennæ with a broad white annulus; orbits, spot on clypeus and mandibles, a round spot on the disk of thorax and several on the sides, scutellum, two large oval spots on metathorax, and apical margins of the abdominal segments, white; legs pale fulvous, posterior pair varied with black and white; wings hyaline; ovipositor short.

Female.—Black, slightly pubescent; the orbits interrupted behind and very broad on the cheeks, a spot on the clypeus, middle of mandibles and the palpi, white; antennæ rather longer than the body, porrect, black, the 9th to 13th joints white, spotted beneath with black. Thorax densely punctured, the dorsal lines rather deeply impressed in front, obsolete behind; a round spot on the disk of the mesothorax, tegulæ, an elongate spot before and another beneath the anterior wings, a large spot just behind the posterior wings, another on each side of

the pleura and a line on each side of the pectus, white; scutellum polished, with a large white spot covering almost its entire surface, behind it a small transverse spot; metathorax finely scabrous, opaque, the anterior carina well defined, the lateral tubercles prominent but obtuse, on each side posteriorly a large oval white spot covering the tubercles. Wings hyaline; nervures and stigma black; areolet larger than usual, quadrate. Legs pale fulvous, the anterior and middle coxæ, a large spot on the posterior coxæ, an annulus near the base of their tibiæ and their tarsi, except extreme base and apex which are black, white; rest of posterior coxæ and tibiæ and the extreme tips of their femora black. Abdomen robust, ovate, shining, black, densely and finely punctured; basal segment about as long as the second, stout, the apex broad, convex and rather deeply punctured, petiole short and robust, flattened and polished; apical margins of all the segments white, those of the three basal segments broad; apical segments polished; ovipositor short, scarcely half the length of the abdomen, rufo-piceous, valves black. Length 5 lines; expanse of wings 9 lines.

Hab.—Pennsylvania. Mr. George Newman.

More robust than *M. albopictus*, with the posterior legs much shorter. The ornamentation is, however, very different.

3. *Mesostenus thoracicus*, n. sp.

Yellowish-rufous; head, antennæ, mesothorax and pectus, black, with white lines; antennæ with a broad white annulus; ovipositor as long as the abdomen; posterior tarsi ♂, white.

Female.—Head black; orbits, interrupted behind and broad on the cheeks, a large spot on the face just beneath the antennæ sometimes confluent on each side with the orbits, the clypeus, labrum, spot on mandibles, and the palpi, white; antennæ nearly as long as the body, black, the 8th to 13th joints white. Thorax: mesothorax and pectus black, densely and deeply punctured, the dorsal lines deeply impressed; the collar above, tegulæ, a broad sutural line before and a short line beneath the wings, and an oblique line on each side of the pectus, white; pleura yellowish-rufous; scutellum, subconvex, shining, black, its lateral margins and the carina on each side which connects it with the mesothorax, white, having the appearance of a V; postscutellum also black, with a white spot beneath the scutellum; metathorax densely punctured, slightly pubescent, shining, entirely yellowish-rufous, rather

abruptly truncate behind, the elevated lines indistinct, the lateral tubercles small and acute or subacute. Wings hyaline; nervures and stigma black, the latter with a pale spot at base; areolet very minute, quadrate. Legs yellowish-rufous, the four anterior coxæ whitish, the posterior tibiæ sometimes obfuscated, their tarsi yellowish. Abdomen elongate, subovate, shining, yellowish-rufous; basal segment polished, the apical third quadrate; sometimes the terminal segment is tinged with yellow; ovipositor as long as the abdomen, rufo-piceous, valves black. Length 4—5½ lines; expanse of wings 6½—8 lines.

Male.—Resembles the female, but is more slender, the antennæ are rather longer than the body, the annulus distinct above, but indistinctly defined beneath and yellowish; the face is entirely white; the space between the anterior and middle coxæ is also white; the extreme base of the metathorax is blackish; the four anterior coxæ and trochanters are white, as well as the posterior tarsi, except extreme base and apex which are black; the extreme tips of the posterior femora and most of their tibiæ also black, and the apical segments of the abdomen are sometimes obfuscated, probably from discoloration. Length 4 lines; expanse of wings 7 lines.

Hab.—N. Y. (Grote); Penn. (Cresson); Delaware (Dr. Wilson).

This species is easily distinguished by its pale rufous color, with the head and mesothorax black variegated with white lines.

4. *Mesostenus gracilis*, n. sp.

Pale yellowish-rufous; head, antennæ and mesothorax black, varied with white; wings subhyaline, iridescent; metathorax unarmed.

Male.—Pale yellowish-rufous, slender, shining; head black; the orbits, interrupted behind, a large spot on the face confluent with the orbits, clypeus, most of mandibles, and the palpi, white; antennæ long, porrect, entirely black. Thorax shining; mesothorax black, the dorsal lines deeply impressed; pectus also black; tegulæ, a sutural line before and a short line beneath the wings, and a line on the collar extending down on each side of pectus, white; anterior part of the pleura stained with blackish and having an obscure whitish spot on each side between the anterior and middle coxæ; scutellum and postscutellum black, polished, the former with its tip and lateral margins narrow white, extending forward upon the lateral carinæ, in the shape of a V; meta-

thorax yellowish-rufous, its base blackish, the elevated lines not well defined, the lateral tubercles wanting. Wings subhyaline, slightly stained with fuscous, iridescent; nervures and stigma fuscous; areolet minute, quadrate. Legs slender, yellowish-rufous, the four anterior coxæ and trochanters white beneath, black above, as well as the posterior trochanters above; posterior tibiæ and tarsi more or less obfuscated. Abdomen elongate and slender, subcylindric, shining; basal segment linear; apical segments polished, slightly obfuscated. Length $3\frac{1}{2}$ lines; expanse of wings 5 lines.

Hab.—Virginia. Dr. Thomas B. Wilson.

Closely allied to *M. thoracicus*, but is much smaller and slenderer, the antennæ are entirely black and the posterior legs are differently colored.

5. *Mesostenus? fulvus*, n. sp.

Fulvous; head black, the face and orbits, white; antennæ black with a white annulus; wings hyaline; posterior tarsi white.

Male.—Fulvous, shining; head black, the face, orbits very broad on the cheeks, clypeus, mandibles and palpi, white; antennæ rather longer than the body, porrect, black, the 11th to 13th or 14th joints white, the basal joint beneath with a white spot. Thorax opaque above, the dorsal lines very deeply impressed and black; tegulæ, a sutural line before and a short line beneath the anterior wings, line on the collar extending down its sides, a line on the pleura in front and a spot before the middle coxæ, white; scutellum slightly convex, fulvous, the lateral carinæ in front white, the space on each side blackish; postscutellum with a fulvous transverse spot; metathorax fulvous, blackish at extreme base, the posterior face tinged with whitish, the elevated lines sharply defined, the lateral tubercles strongly developed, rather obtuse and white. Wings hyaline, iridescent; nervures and stigma blackish-fuscous, the latter with a longitudinal, fulvous line through the center; areolet small, quadrate, the outer nervure indistinct or wanting. Legs fulvous, the four anterior pair yellow in front, the posterior pair very long, somewhat tinged with brown; the four anterior coxæ and trochanters, and the 2nd, 3rd and 4th joints of the posterior tarsi, pure white. Abdomen rather short; a little longer than the head and thorax, subovate, shining, reddish-fulvous; basal segment about as long as the second, apical half broad, convex, petiole short, stout, flattened;

apical segments sometimes tinged with yellowish. Length $3-3\frac{1}{2}$ lines; expanse of wings $6-6\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

This species may not belong to this genus on account of the areolet of the superior wings being incomplete.

Genus *RHYSSA*, Grav.

1. *Rhyssa Nortoni*, n. sp.

Black, varied with ferruginous and spotted with yellow; antennæ black; legs mostly yellow; wings subhyaline.

Female.—Head black; the cheeks and broad frontal orbits, bright yellow, the latter emarginate on each side of the insertion of the antennæ; mandibles black, shining; palpi testaceous; antennæ more than half the length of the body, black, apical joint tinged with rufous. Thorax sculptured like that of *R. lunator* Fabr., black; the mesothorax dull rufous, with the incisures and a line down the middle, blackish; on each side of the collar a large, concave, smooth, polished space, margined above with dull rufous and posteriorly with black; an oval elevated spot on each side beneath the insertion of the anterior wings, the scutellum and postscutellum, bright yellow; metathorax smooth and shining, pale ferruginous above, with the extreme posterior margin and two large spots on each side, bright yellow; tegulæ pale. Wings hyaline, tinged with yellowish, and having a violet reflection in certain lights; stigma dull rufous, nervures black; areolet shaped like that of *lunator*, and connects at its apex with the second recurrent nervure. Legs bright yellow, varied with honey-yellow; coxæ black, the anterior pair brown-black with a small yellowish spot in front; middle and posterior femora obfuscated, their tips bright yellow, their tibiæ honey-yellow; tarsal claws blackish at tips. Abdomen brown above, the basal segment pale ferruginous; on each side of the 2nd and following segments, anteriorly, a rather large ferruginous stain, which becomes confluent on the disk of the 2nd and 3rd segments; a semicircular spot on the apex of the 1st and 2nd segments, a large rounded spot on each side of the three following segments, and a transverse spot on each side of the two apical segments, all bright yellow; ventral segments yellowish-ferruginous, their apical margins bright yellow; ovipositor nearly twice the length of the body, brown-black, polished, valves brown-black,

the grooves white, more distinctly so at tip. Length 13 lines; of ovipositor 25 lines; expanse of wings 22 lines.

Hab.—Rocky Mountains, Colorado Territory.

It gives me pleasure to dedicate this most elegant species to Mr. Edward Norton, the distinguished American hymenopterist.

2. *Rhyssa albomaculata*, n. sp.

Black; antennæ with a broad white annulus; thorax and abdomen spotted with white; legs pale fulvous; wings hyaline.

Female.—Black, shining; the orbits white; antennæ three-fourths the length of the body, black, with a broad white annulus near the tip. Thorax gibbous, the mesothorax transversely rugose, the pleura smooth and polished; a broad line on each side just beneath the mesothorax, a transverse mark on each side of the collar, the tegulae, a spot beneath the wings, and an elongate, slightly oblique mark above and a little before the middle coxæ, all white; scutellum black, its apical half white, slightly emarginate before, also a small transverse white spot behind; metathorax rather smooth at base, transversely aciculate at apex, on each side behind a large white spot, and just beneath a smaller white spot. Wings hyaline, the nervures black, pale at base, stigma also black, with a pale spot at base; areolet minute, petiolated. Legs pale fulvous, the four anterior coxæ with a lateral white spot, the middle ones elongate; posterior coxæ with a white spot at base above; tips of the posterior tibiae and of all the tarsi, dusky. Abdomen black, shining; the two basal segments with an angular white mark on each side at tip; the four following segments with two spots on each side, the extreme lateral ones longitudinal and pointed before; on each side of the 7th segment a broad, oblique, white stripe; ovipositor longer than the body, piceous, the valves black, their extreme tips within, white. Length $11\frac{1}{2}$ lines; of ovipositor $13\frac{1}{2}$ lines; expanse of wings 17 lines.

Hab.—New Jersey. E. T. Cresson.

Very similar to *R. persuasoria* Linn., formerly known only as a European species, but of which I have a ♀ and 2 ♂ specimens from the Rocky Mountains, precisely identical with European specimens with which I have carefully compared them, both ♂ and ♀. The ♀ of *R. persuasoria* differs from the ♀ *albomaculata*, above described, as follows: The antennæ are entirely black, the spots on the pleura are much re-

duced; scutellum with a large subtriangular, white spot at tip; the upper spot on each side of the metathorax is much smaller than the lower one; the wings are slightly iridescent, the areolet much larger, more oblique, and scarcely petiolated; the legs are dark fulvous, the posterior tibiae and tarsi blackish, the posterior coxæ immaculate, the anterior trochanters are white in front; the abdomen is marked the same, except that the spots on the 7th segment are situated as on the preceding segments.

3. *Rhyssa nitida*, n. sp.

Black; face and frontal orbits white; legs pale fulvous, varied with white and dusky; wings hyaline, iridescent.

Male.—Black, polished; face beneath the antennæ, the frontal orbits not quite reaching the summit of the eyes, and the palpi, white; antennæ two-thirds the length of the body, piceous, paler towards the apex. Thorax: mesothorax coarsely and transversely rugose; pleura and metathorax polished, slightly pubescent; scutellum transversely aciculate. Wings hyaline, iridescent; nervures and stigma fuscous, the former pale at base and the latter with a pale spot at base; areolet minute, oblique and petiolated. Legs pale fulvous; the anterior coxæ and trochanters entirely, the anterior femora in front, their base and apex behind, their tibiae and tarsi, the middle trochanters, tips of their femora, their tibiae within, and the basal two-thirds of the posterior tibiae within, all white; the middle tarsi, tips of the posterior femora, their tibiae at tips and without, and their tarsi, dusky. Abdomen twice as long as the head and thorax, slender, polished, immaculate above; beneath, the incisures are narrowly whitish. Length 7 lines; expanse of wings 9 lines.

Hab.—Virginia. Dr. T. B. Wilson.

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