

DESCRIPTIONS OF NEW ICHNEUMONIDÆ IN THE COLLECTION  
OF THE U. S. NATIONAL MUSEUM.\*

BY

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This paper represents the results of a continuation of the work mentioned in the introduction to the previous paper by the writer, on the new Braconidæ in the collection of the Museum, published on pages 611-671 of the Proceedings for 1888. It is prepared at Dr. Riley's instance, and is based upon the collections donated by him and upon his recent rearings at the Department of Agriculture, including, as before, a large number of bred species. Where source is not indicated, it is from Dr. Riley's collecting.

Subfamily ICHNEUMONINÆ.

ERISTICUS Wesmæl.

This genus is confined to Europe and no species has yet been described in it from North America. The species described in it below agree with the definition of the genus very closely, but may possibly be separated subsequently upon comparison with authentic European types.

All the species but one are smooth, highly polished, and were taken in Wisconsin.

The following table will aid in determining the species:

Thorax, black .....	2
Thorax dark ferruginous, four terminal abdominal segments, black, ♀.	
	<i>E. minutus</i> sp. nov.
2. Abdomen not entirely ferruginous.....	3
Abdomen entirely ferruginous; scutellum, postscutellum, and a spot on the disk of metathorax, yellow. ♀ .....	<i>E. rufigaster</i> sp. nov.
3. Scutellum and postscutellum, yellow.	
Metathorax, entirely black.	
Three basal abdominal segments, red, the following black, ♂.	
	<i>E. apicalis</i> sp. nov.
Two basal abdominal segments, red, the following black. ♀.	
	<i>E. basilaris</i> sp. nov.
Second abdominal segment, only red. ♀ .....	<i>E. cinctus</i> sp. nov.
Metathorax with two yellow spots.	
Second abdominal segment and apex of third, red. ♂ ...	<i>E. binotatus</i> sp. nov.

\* This paper has been prepared from material in the Museum, and the types are all in the Museum collection.—C. V. Riley, *Honorary Curator of Insects*.

*Eristicus minutus* sp. nov.

*Female*.—Length, 8<sup>mm</sup>. Head and thorax dark ferruginous, opaque, finely punctulate, two spots on the mesonotum anteriorly and the scutellum and post-scutellum, yellow; antennæ short involuted, the three or four basal joints of flagellum about twice as long as thick, a little narrowed basally, the joints beyond fourth or fifth, transverse; scutellum flattened, truncate behind; metathorax areolated, the posterior face is centrally hollowed, side areas black, the spiracles linear, about two and a half times as long as wide; legs ferruginous, all the femora somewhat swollen, the posterior coxæ with a large yellowish spot above basally; abdomen highly polished, ferruginous, the four terminal segments black, gastrocæli shallow, almost obliterated, ovipositor slightly exerted.

Wings fusco-hyaline; stigma yellowish, areolet pentagonal, the upper side being half the length of the lower outer side, the cubital nervure geniculated at about the middle but without a stump of a vein.

HABITAT.—Wisconsin.

Described from one female specimen.

*Eristicus erythrogaster* sp. nov.

*Female*.—Length, 13<sup>mm</sup>. Head and thorax black, polished; head with a few punctures, a spot on orbits below antennæ and two above at summit of eyes, yellow; clypeus and mandibles, except apex, reddish-yellow; antennæ black, involuted, first joint of flagellum about two and a half times as long as thick, the three or four following joints hardly twice as long as thick, the joints beyond these shorter; tegulæ ferruginous; upper margin of the prothorax interrupted anteriorly, two moderately large spots on mesopleura, spot on disk of mesonotum, scutellum, post-scutellum, a quadrate spot on disk of metathorax, and a spot on metapleura, lemon-yellow; metathorax areolated, truncate posteriorly, the face not hollowed, the spiracles as in previous species; legs ferruginous, all coxæ and first joint of all trochanters, black. Abdomen ferruginous, smooth, highly polished, gastrocæli obsolete, or only indicated by a slight transverse scar in the highly polished surface. Wings hyaline, with a very faint fuscous tinge; stigma and veins piceous, the stigma paler along the inner margin.

HABITAT.—Wisconsin.

Described from one specimen.

*Eristicus apicalis* sp. nov.

*Male*.—Length, 13<sup>mm</sup>. Head, antennæ, thorax, all coxæ and four terminal abdominal segments, black; a spot on scape beneath, face, clypeus and mandibles, except tips, a small dot at summit of eyes and a spot at middle of post-orbits, tegulæ, costæ, scutellum and post-scutellum, yellow; legs and three basal abdominal segments, ferruginous.

The antennæ are porrect, gradually acuminate towards apex; the head and thorax shining, with some scattered punctures; metathorax areolated, spiracles long, linear, contracted at middle; abdomen highly polished, the petiole somewhat conically produced above at the bend just in front of the spiracles, gastrocœli distinct, transverse. Wings subhyaline; stigma and parastigma black, veins brown.

HABITAT.—Wisconsin.

Described from four male specimens.

*Eristicus basilaris* sp. nov.

*Female*.—Length, 12<sup>mm</sup>. Head, thorax, and abdomen, except the two basal segments, black, polished; the head and thorax show a few scattered punctures; there is a small yellow spot at summit of eyes and another one at the middle of the post-orbits; the clypeus and mandibles wholly black; the antennæ are involuted at tips, black, the first joint of flagellum about twice as long as thick, the following gradually become shorter and shorter to the seventh, from thence they are transverse shorter than wide; scutellum and post-scutellum, yellow; metathorax areolated, spiracles linear about five times as long as wide; legs ferruginous, all coxæ and the first joint of anterior and middle trochanters and the posterior trochanters, black; abdomen highly polished, the petiole blackish basally, gastrocœli nearly obsolete, only indicated by a transverse roughness in the polished surface; ovipositor very slightly exerted. Wings subhyaline; stigma and veins brownish-yellow, the costal edge black.

HABITAT.—Wisconsin.

Described from two specimens.

*Eristicus cinctus* sp. nov.

*Female*.—Length, 14<sup>mm</sup>. Black, polished; a line beneath tegulæ and the scutellum lemon-yellow; legs and second abdominal segment flavo-ferruginous; coxæ and first joint of trochanters, tips of posterior femora, extreme tips of tibiæ, and first joint of maxillary palpi, black.

The head and thorax, although polished, show a distinct scattered punctuation; the metathorax is distinctly areolated, the surface of the areas more or less rugulose, the spiracles very long and linear; the gastrocœli are long, slightly oblique, deep. Wings fusco-hyaline; stigma yellowish, veins black.

HABITAT.—Wisconsin.

Described from one specimen.

*Eristicus binotatus* sp. nov.

*Male*.—Length, about 16<sup>mm</sup>, the abdomen being incurved and an exact measurement can not be made. Black; lower orbits connected with two oblique marks on face beneath the antennæ, a spot on scape beneath, pupil on tegulæ and a line beneath, the scutellum, a lateral spot

on metathorax, and anterior and middle legs, yellow; posterior legs, second abdominal segment, and the apex of the third, ferruginous; all coxæ and first joint of trochanters black, the apical half of posterior femora and the apex of tibiæ black, their tarsi from apex of first joint fuscous.

The whole insect is polished, but the head and thorax are sparsely punctulate; the gastrocæli large, distinct, with three or four raised lines at bottom, and the apex of petiole is aciculated. Wings fusco-hyaline; veins piceous, stigma paler.

HABITAT.—Wisconsin.

Described from one specimen.

#### ICHNEUMON Linn.

##### *Ichneumon xanthopsis* sp. nov.

*Male*.—Length, 8<sup>mm</sup>. Head and thorax black, subopaque, finely punctulate; face, clypeus, mandibles, palpi, orbits narrowly to summit, then interrupted and followed by a dot and a slight dot at middle of post-orbits, yellow; antennæ porrect, black, scape beneath and a spot above, yellow; tegulæ and a short line beneath, scutellum and a dot on metascutellum, yellow; legs yellow; all coxæ, first joint of trochanters, a long streak on anterior and middle femora beneath, posterior femora entirely, apex of their tibiæ and the tarsi, black. Abdomen black, moderately finely punctulate; apex of petiole, the second segment, except gastrocæli, third segment, except narrowly at base and apical two-thirds of fourth segment, yellow; gastrocæli rather large and deep, black, with some raised lines, the space between them reddish and aciculated. Wings, subhyaline; veins brownish; the cubital nerve is broken at about the middle with the stump of a vein; the areolet is pentagonal, the upper side about as long as the lower side.

HABITAT.—St. Louis, Mo.

This species is very close to *I. parvus* Cr., but it is slightly smaller and a little differently colored; the sculpture of the second abdominal segment in *I. parvus* is coarser, more strongly aciculated, the aciculations extending nearly to the middle of the abdomen, and the discal areolet has the upper side only about half the length of the lower outer side.

##### *Ichneumon xanthogrammus* sp. nov.

*Male*.—Length, 8<sup>mm</sup>. Black and yellow; face, clypeus, mandibles palpi, orbits widened on cheeks, a broad ring on antennæ, superior margin of prothorax, a line on sides and spot beneath, two lines on disk of mesothorax, a short line on the shoulders, tegulæ, and a line beneath, a large spot on mesopleura, spot beneath insertion of hind wings, apical half of metathorax, apex of all the abdominal segments and a large spot above on last segment, all yellow; legs yellow, the posterior pair tinged with ferruginous, the coxæ with a large black spot at sides.

Wings hyaline, very slightly tinged with fuscous; veins piceous, the stigma with a fulvous spot at base.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

*Ichneumon fulvopictus* sp. nov.

*Male*.—Length, 17<sup>mm</sup>. Black, opaque, confluent punctate; face, clypeus, mandibles, except tips and the palpi, yellow; post-orbits and base of cheeks, ferruginous. Antennæ porrect, gradually acuminate toward apex, ferruginous. Apical half of scutellum, yellow. Metathorax rugose, areolated, spiracles very large, linear, more than four times as long as wide; legs fulvous and ferruginous, anterior and middle coxæ and first joint of trochanters above, black, the middle femora with a black spot behind rear apex; posterior coxæ as well as the first joint of trochanters above entirely black, the femora ferruginous with a black streak beneath and widened and almost encircling the apex above, tibiæ and tarsi fulvous or yellow, the apex of tibiæ dusky. Wings fuliginous, the costæ, parastigma and stigma, fulvous; veins black. Apex of second abdominal segment and sutures of fourth and fifth and the following segments fulvous.

HABITAT.—Missouri.

Described from one specimen in Riley collection.

*Ichneumon leucopsis* sp. nov.

*Male*.—Length, 8<sup>mm</sup>. Head and abdomen black; thorax and legs, ferruginous; the face, clypeus, mandibles, except tips, palpi, orbits, interrupted behind, scape beneath, tegulæ and line in front, a short one beneath and anterior and middle coxæ and trochanters, white; the antennæ are porrect, acuminate towards apex, black. The head and thorax are minutely punctulate; sides of prothorax, sutures of thorax, lines in parapsidal grooves anteriorly, space surrounding insertion of wings and around the scutellum and posterior face of metathorax, black; scutellum red with a whitish posterior margin; metathorax areolated, the spiracles linear. Abdomen long, minutely punctate, opaque, black, the extreme apical edges of the second and the following segments red; gastrocæli rather large, distinct. Apex of posterior femora above, black; tibiæ and tarsi more or less fuscous. Wings hyaline; stigma and veins dark brown; at base of stigma and between it and the parastigma is a small whitish spot; the areolet is pentagonal, the upper side being short, hardly one-third the length of the lower outer side.

HABITAT.—Alameda, Cal.

Described from a single specimen, reared in March, from an unknown Tortricid pupa found on oak.

This species seems to be very distinct from any of our described forms and I know of no species with which it can be compared.

**AMBLYTELES** Wesmael.*Amblyteles contractus* sp. nov.

*Female*—Length, 7<sup>mm</sup>. Head and thorax black; palpi, clypeus, spot on face, anterior orbits, antennæ, mesonotum, scutellum, legs and abdomen, ferruginous; all coxæ black. The head and thorax are moderately punctulate; metathorax minutely rugose, distinctly areolated, the spiracles ovate. Abdomen a little longer than the head and thorax together, the apex of petiole bent, aciculated, the two following segments finely punctulate, the segments beyond almost smooth, and at apex of the third segment is a strong constriction or deep transverse groove. Wings subhyaline; stigma and veins pale yellowish-brown; the cubital nervure has a little stump of a vein at about its middle; areolet pentagonal, the upper side being about the same length as the lower outer side.

HABITAT.—Alaska.

Described from one specimen. The species may be at once recognized by the strong constriction at the apex of the third segment.

*Amblyteles Cookii* sp. nov.

*Female*.—Length, 11<sup>mm</sup>. Ferruginous; antennal joints 8 to 15, yellow; suture of thorax, posterior femora and apex of tibiæ and the five terminal abdominal segments, black, the seventh with a large spot above and the extreme margin of eighth, yellow. Wings subhyaline; the areolet large, pentagonal, the upper side being the same length as the lower outer side, the cubital nervure with a distinct stump of a vein at about the middle. The antennæ are moderately slender, the first joint of flagellum twice the length of the second, the following a little longer than wide. The second abdominal segment is moderately punctulate, the third less distinctly punctulate, the following being smooth and shining; gastroceli distinct, but neither large nor deep.

HABITAT.—Lansing, Mich.

Described from one specimen received from Prof. A. J. Cook.

**PHÆOGENES** Wesmael.*Phæogenes gelechiæ* sp. nov.

*Male and female*.—Length, 7 to 8<sup>mm</sup>. Black, polished, sparsely punctulate; clypeus, mandibles, two basal antennal joints beneath and legs, in male, ferruginous, in the female the disk of clypeus is black, the antennæ ferruginous, except toward apex above, while the collar has a ferruginous blotch in the middle above. Thorax in both sexes exhibits indications of parapsidal grooves anteriorly, the sides of collar and pleuræ with some raised lines and punctures; metathorax distinctly areolated, the surface of the areas being rugose, except the lateral areas anteriorly, these are smooth with a few scattered punctures; the middle

discal area is obcordate, the long area of the oblique, posterior face being concave and transversely lined or coarsely transversely aciculated.

Abdomen about one-third longer than the head and thorax together, shaped as in *P. ater* Cr.; in the female highly polished with a few scattered punctures on the second and third segments, the apex of petiole smooth and the segments apically narrowly margined with red; in the male *all* the segments are punctulate and covered with a fuscous pubescence, the base of the second and third segments red, and the apical margin of all the segments, except the petiole, more broadly margined with red than in the female, the two terminal segments being entirely black; in this sex the posterior coxæ and first joint of the trochanters are black, the anterior and middle pairs being dusky. Wings hyaline, pubescent, iridescent; stigma and veins piceo-black.

HABITAT.—New Hampshire.

Described from two specimens, one male, one female, received from Mrs. Mary Treat, reared in August, 1880, from *Gelcehia solidaginis* Riley.

*Phæogenes missouriensis* sp. nov.

*Female*.—Length, 5<sup>mm</sup>. Black, polished, the head and thorax with a few small, scattered punctures; clypeus, mandibles, palpi, antennæ (dusky toward apex), and legs, ferruginous. The antennæ are short, stout, involuted at tips. Collar at sides and pleuræ with raised lips; metathorax distinctly areolated, the areas rugose, posterior face concave, transversely lined. Abdomen longer than head and thorax together, smooth, polished, except the apex of petiole, which shows some short, grooved lines, and the second segment, which has some minute, scattered punctures; the base, apex and sides of second segment, the posterior lateral corners, and apical margin of third, and the extreme apical edges of the following segments, ferruginous; tip of ovipositor exposed. Wings hyaline; stigma and veins brown; areolet pentagonal, the upper side the shortest, the others about equal.

HABITAT.—Missouri.

Described from a single female in Riley collection.

*Phæogenes hemiteloides* sp. nov.

*Female*.—Length, 3.2<sup>mm</sup>. Black, polished, the head and thorax with a few scattered punctures. Antennæ ferruginous, gradually becoming dusky toward apex, the flagellum beneath much paler; clypeus, mandibles, palpi and legs, pale ferruginous, the posterior coxæ being dusky basally. Collar, metathorax and sculpture, as in *P. missouriensis*. Abdomen polished, black, apical margins of second and third segments narrowly, and the extreme apical edges of the following segments, reddish-yellow, the petiole microscopically shagreened, the second segment with a few minute punctures, scattered over the polished surface. Wings hyaline; stigma and veins pale brown, areolet complete, the submedian cell a little longer than the median.

HABITAT.—Washington, D. C.

Described from one specimen reared March 12, 1884, from a sawfly on black birch.

This pretty little species, as well as the previous described species, looks much like an *Hemiteles*, but the complete areolet, absence of parapsidal grooves, the subexserted ovipositor and rounded metathoracic spiracles show that both belong to the *Ichneumoncs Pneustici*, but the mandibles could not be critically examined and they may belong to one of the other genera in this group.

*Phæogenes ruficornis* sp. nov.

*Female*.—Length, 3.6<sup>mm</sup>. Black, subopaque, moderately closely punctulate; antennæ moderately stout, involuted, brown, the scape a little paler beneath; clypeus, mandibles and legs ferruginous; palpi and tegulæ yellow; abdomen rather closely punctulate, the apical margins of all the segments after the petiole, narrowly ferruginous. the petiole with distinct punctures, the venter ferruginous; ovipositor slightly exserted. Wings hyaline, very faintly tinged; stigma and veins pale brown, the costæ to parastigma, yellow.

HABITAT.—St. Louis, Mo..

Described from one specimen in Riley collection.

*Phæogenes montivagus* sp. nov.

*Male*.—Length, 6<sup>mm</sup>. Black, polished, sparsely covered with a whitish pile; face minutely punctulate, with a somewhat prominent V-shaped ridge, the sides of which extend to the base of each antenna; middle of mandibles, palpi, spot on scape beneath, legs, second abdominal segment, except extreme basal lateral angles and four spots on disk, third segment wholly, most of the disk of fourth, and a spot at base of fifth, ferruginous; basal lateral angles and four spots on second segment, all coxæ and first joint of trochanters, middle tarsi, spot at base and the apex of posterior tibiæ and tarsi, black; metathorax areolated, the middle discal area hexagonal, spiracles round; the petiole and basal two-thirds of second abdominal segment, longitudinally aciculated. Wings subhyaline, iridescent; tegulæ yellow; stigma and veins brown-black, the cubital nervure with a stump of a vein before the middle.

HABITAT.—West Cliff, Custer County, Colo.

Described from one specimen received from Mr. T. D. A. Cockerell.

**ISCHNUS** Grav.

*Ischnus americanus* sp. nov.

*Female*.—Length, 8.75<sup>mm</sup>. Black, smooth, polished; mandibles, except tips, palpi, legs and abdomen, ferruginous; the petiole along the sides and at base, black. Antennæ 20-jointed black, when extended backwards reach to about the apex of the metathorax, and are covered with black pile, the third joint long, about one-third longer than the follow-



ing joint, the following joints gradually become shorter and shorter, to the last joint, the six or seven apical joints not being longer than wide, the last being fusiform and about twice as long as the penultimate. Thorax with parapsidal grooves indicated anteriorly, the collar with raised lines on the sides, the scutellum high, convex; metathorax obliquely truncate posteriorly, distinctly areolated, the upper surface very short, the lateral posterior angles rather prominent, spiracles very large and round. Abdomen rather long, pointed fusiform, the venter not retracted but convex, the whole surface, except the petiole, smooth and highly polished, the petiole gradually bent with large round spiracles between the middle and the apex; on the disk is a central, longitudinal groove abbreviated before attaining the apex, and on both sides of the groove are some raised longitudinal lines. Wings hyaline, stigma and veins brown-black, the areolet pentagonal, the upper side the shortest.

HABITAT.—Kansas.

Described from one specimen. The large round metathoracic spiracles and the high convex scutellum will enable this species to be at once recognized.

**NEMATOMICRUS** Wesmael.

*Nematomicrus coloradensis* sp. nov.

*Female*.—Length, 6<sup>mm</sup>. Black, smooth, highly polished; palpi, legs and abdomen, ferruginous. Antennæ short, rather stout with close set joints, three or four basal joints of flagellum submoniliform, the first joint being not much longer than thick; the scape very stout, oval. Head subquadrate; thorax without parapsidal grooves, the disk flattened; scutellum flat; metathorax distinctly areolated, punctate, the spiracles round; legs rather short, stout, the femora especially so, particularly the posterior pair, posterior coxæ and first joint of trochanters, black, the middle and posterior tibiæ armed at apex with two divergent spines, and the apices of all the tibiæ are surrounded by numerous short, stout spines. Abdomen pointed, fusiform, highly polished and sparsely pubescent, the ovipositor very slightly exerted; the petiole is black, broadened posteriorly, and with some longitudinal striæ before the apex. Wings hyaline; stigma and veins brown-black, the areolet pentagonal, all the sides equal.

HABITAT.—Custer County, Colo.

Described from one specimen, received from Mr. T. D. A. Cockerell.

**COLPOGNATHUS** Wesmael.

*Colpognathus euryptychiæ* sp. nov.

*Female*.—Length, 8<sup>mm</sup>. Dark ferruginous, shining, the apex of abdomen only slightly dusky, similar in stature to *C. helvus* Cr., but slightly more robust. The antennæ are 26-jointed, involuted, dusky towards apex, with the joints 10 to 13 more or less distinctly yellow, the second,

third and fourth joints of the flagellum each being longer; scape stout, swollen. Head and thorax finely punctulate; head subquadrate, as broad as the broadest part of the thorax, the face sparsely pubescent; metathorax very slightly longer than high, truncate behind and distinctly areolated, the spiracles small, oval. Abdomen about half again as long as the head and thorax together, microscopically shagreened, the petiole longitudinally aciculated, the ovipositor slightly exerted. Wings subhyaline; stigma and veins brown-black, a pale spot between parastigma and stigma, the areolet large, pentagonal, the sides nearly equal, the outer nervure being delicate and pale.

HABITAT.—Washington, D. C.

Described from two specimens, reared August 18, 1884, from *Euryptychia saligneana* Clem.

The uniformly darker color, stouter form, more prominent ovipositor, sculpture, and antennal characters at once distinguish this species from *C. helvus* Cr.

*Colpognathus annulicornis* sp. nov.

*Female*.—Length, 5.5<sup>mm</sup>. Pale ferruginous, similar to *C. helvus* Cr., but smaller; the antennæ brown with annulus in the middle, the joints nine to thirteen being yellow, joints one, two and three of flagellum being about equal in length, the fourth and fifth being slightly shorter. The punctuation of the thorax and abdomen is rather coarse, nearly confluent, here differing decidedly from both *C. helvus* and *C. euryptychia*. Wings hyaline, stigma and veins ferruginous, the stigma paler basally; areolet pentagonal, the upper side the same length as the lower outer side.

HABITAT.—Bayou Sara, La.

Described from one specimen taken by Mr. E. A. Schwarz, in February, 1879.

**HERPESTOMUS** Wesmæel.

*Herpestomus plutellæ* sp. nov.

*Male*.—Length, 5.4<sup>mm</sup>. Black, polished; antennæ dark brown above, fulvo-ferruginous beneath; head and thorax sparsely finely punctulate, the latter anteriorly with a few transverse wrinkles, the pleuræ more distinctly punctate, the metathorax strongly areolated, the surface of areas transversely wrinkled; spiracles small, round; mandibles outwardly black, inwardly ferruginous, the inner tooth shorter than the outer and situated its length below the outer tooth; palpi and legs, ferruginous, all tarsi, apex of middle tibiæ, streak inwardly on posterior femora, the base and apex of tibiæ, dusky, posterior coxæ and first joint of trochanters, black. Abdomen black, shagreened, the gastrocœli large, distinct, and distant from the basal margin; they, as well as the apical margins of the second, third and fourth segments, are red, the basal margin of third narrowly, and a slight tinge on the extreme

apical edge of the fifth segment is also red; the petiole is shining black, minutely longitudinally aciculated. Wings hyaline, strongly iridescent; tegulae yellow; stigma and veins brownish-black.

HABITAT.—Lafayette, Ind.

Described from two specimens, reared by Mr. F. M. Webster, from *Plutella cruciferarum*.

#### Subfamily CRYPTINÆ.

##### STILPNUS Grav.

##### *Stilpnus texanus* sp. nov.

*Female*.—Length, 5.6<sup>mm</sup>. Head, thorax, petiole, a narrow streak at base of second abdominal segment, the fourth and following segments, except an oblique lateral blotch on the fourth and extreme apical edges of this and following segments, black, the second and third segments and the apical edges of the other segments, rufous. Legs, yellowish-red, the posterior tibiæ black at base and apex, tarsi fuscous. The head and thorax are polished, covered with a white glittering pile, which is denser on the face; metathorax rugose, areolated, the spiracles small, round. Mandibles red, palpi yellow. Antennæ 22-jointed, black, scape with a reddish blotch beneath, the first joint of flagellum is the longest, although only slightly longer than the second. Thorax with distinct parapsidal grooves. The abdomen is oval, with a long petiole, the petiole being but slightly wider at the apex than at base, only slightly bent and with two longitudinal keels above and two along the sides, the spiracles being placed at about the middle; the body of abdomen is composed of only five segments, the first three comprising the greater part of it and moderately minutely punctate and pubescent; the ovipositor short, hardly as long as the three terminal segments. Wings, dusky hyaline; tegulae yellowish; stigma and veins, brown-black; the cubitus is broken much before the middle by a stump of a vein, the areolet pentagonal, the lower outer side being a little shorter than the upper side, while the other sides are about of an equal length.

HABITAT.—Texas.

Described from one specimen in the Belfrage collection.

##### EXOLYTUS Förster.

##### *Exolytus gelechiæ* sp. nov.

*Male*.—Length, 5<sup>mm</sup>; black, subopaque, minutely shagreened, the apical margin of the second and lateral and apical margins of the third abdominal segments and the venter, yellowish-red. Antennæ 29-jointed, black, the scape beneath and the third joint at base, red; palpi, white. Legs, reddish-yellow; the coxæ and trochanters, black. Thorax with parapsidal grooves distinct anteriorly; metathorax scabrous, areolated; the spiracles small, round. Abdomen 7-jointed, elongate, the petiole widened at apex and longitudinally aciculated, the small spiracles are



## 8. Metathorax spined.

Black; the second and third abdominal segments, except apex, red.

*H. bicornutus* sp. nov.

Black; abdomen red, blackish at apex, the last segment with a large white

spot above; antennæ 25-jointed, ringed with white..... *H. annulicornis* sp. nov.

## Metathorax not spined.

Abdomen: with the second and third segments, except lateral margins and a blotch at base of fourth, red, the rest black; antennæ 26-pointed (*n*-ale).

*H. albiscapus* sp. nov.

Abdomen with the second and third segments, including lateral margins reddish yellow; antennæ 22-jointed..... *H. mellicornis* sp. nov.

Abdomen red, the petiole black.

Antennæ female 21-jointed, male, 25-jointed.

Petiole and second abdominal segment aciculated..... *H. texanus* sp. nov.

Antennæ (? broken.)

Petiole and abdomen granulated, apex black..... *H. virginiensis* sp. nov.

Petiole aciculated, rest of abdomen smooth polish.... *H. rubricornis* sp. nov.

Antennæ, male, 23-jointed, petiole aciculated, rest of abdomen smooth.

*H. Townsendi* sp. nov.

Antennæ 26-jointed, male.

Petiole and basal two-thirds of second segment longitudinally aciculated.

*H. syrphicola* sp. nov.

9. Small, slender, head quadrate..... *H. pallidus* sp. nov.

**Hemiteles Belfragei** sp. nov.

*Female*.—Length, 5 to 6<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Robust, black, shagreened, opaque, pubescent; the abdomen beyond the second segment smooth, polished; the lateral membranous part at apex of petiole, a large spot at apex of fifth segment, and the sixth and seventh segments, white; the petiole has two keels on the disk abbreviated posteriorly; palpi and antennæ ferruginous, the latter 24-jointed; thorax with the parapsidal grooves strongly indicated anteriorly for one-third the length of the mesonotum, then entirely obliterated; metathorax strongly areolated, the surface of the areas being more or less wrinkled or rugulose; the spiracles round; legs ferruginous. Wings hyaline, with two transverse smoky bands, one narrow at about one-third the length of the wing, the other wider, taking in the upper part of the stigma and all of the marginal cell; tegulæ yellow; stigma and veins black, the former with a yellowish spot basally; the cubitus is broken at the middle by a small stump of a vein; hind wings hyaline.

**HABITAT**.—Texas.

Described from two specimens in Belfrage collection.

**Hemiteles melitææ** sp. nov.

*Female*.—Length, 5<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Yellowish-brown, shagreened, opaque; the thorax has three black streaks posteriorly; the metathorax above basally, a median line on the posterior face, streak on petiole, and the terminal abdominal segments are more or less black. Antennæ 23-jointed, filiform, the first three joints of flagellum being long; thorax

without parapsidal grooves; metathorax areolated, the spiracles small and round. Wings hyaline, with two transverse smoky bands, the first across the basal nervure, the other taking in the upper two-thirds of the stigma and all of the marginal cell, the marginal cell though has a clear space next the stigma and there are two or three small clear dots in the areolet; stigma and veins black, except a spot at base of stigma, the median and submedian nervures, the first recurrent nervure and the portion of the cubitus in the clear space between the bands, which are yellow; the cubitus is without a stump of a vein at the middle; hind wings hyaline.

HABITAT.—Alameda, California.

Described from three specimens received from Mr. Albert Kæbele, reared in July, 1887, from *Melitæa chalcon*. This species is allied to *H. utilis* Norton, but its darker color, more robust form, and the number of joints in the antennæ readily separate it.

*Hemiteles coleophoræ* sp. nov.

*Female*.—Length, 3<sup>mm</sup>; ovipositor, 0.6<sup>mm</sup>. Yellow-ferruginous, opaque, shagreened, the sutures behind the scutellum alone being black. The antennæ are 22-jointed; wings as in *H. melitæa*.

HABITAT.—Los Angeles, California.

Described from one specimen received from Mr. Albert Kæbele, reared during July, 1886, from a case-bearing Tineid, *Coleophora* sp. found on willow.

This might easily be confounded with *H. utilis* Norton, but the paucity of joints in the antennæ and the uniformly colored abdomen will at once distinguish it.

*Hemiteles variegatus* sp. nov.

*Female*.—Length, 2.4<sup>mm</sup>.; ovipositor, 0.4<sup>mm</sup>. Brownish-yellow, varied with black, minutely shagreened and opaque; the head is large transverse, wider than the thorax, stemmaticum blackish; antennæ 18-jointed; thorax without parapsidal grooves, and with three black blotches posteriorly; metathorax areolated, the disk black; petiole more or less black, a blotch on disk of second and third segments, and the following segments black. Wings hyaline, with two transverse dusky bands.

HABITAT.—Alameda, California.

Described from two specimens received from Mr. Albert Kæbele, reared October 14th, 1885, from a *Bucculatrix* found feeding on *Quercus agrifolia*. The paucity of joints in the antennæ and its minute size will readily distinguish this pretty little species. It looks very much like a winged *Pezomachus*.

*Hemiteles nigriceps* sp. nov.

*Female*.—Length, 4<sup>mm</sup>.; ovipositor, 1<sup>mm</sup>. Yellowish-red; the head, a spot on the metapleura and the apex of abdomen, black. Wings fusco-

hyaline; stigma and veins brown, the stigma with a large yellowish spot at the base. The whole surface of this insect is smooth and polished.

HABITAT.—Martinez, California.

Described from a single specimen, received from Mr. H. W. Turner, December 13, 1882.

The antennæ are broken off and the number of joints can not be determined, but its peculiar color, smooth polished surface, ought to enable the species to be at once recognized.

*Hemiteles graciliaræ* sp. nov.

*Female*.—Length, 3.4<sup>mm</sup>.; ovipositor, 0.6<sup>mm</sup>. Black, shining, shagreened; the abdomen from apical half of third segment smooth, polished, the petiole longitudinally aciculated. Antennæ 23-jointed, pale ferruginous, above slightly dusky, the first three joints of flagellum of about an equal length; mandibles and legs, including coxæ, reddish-yellow; palpi white; thorax with parapsidal grooves indicated anteriorly. Wings hyaline, iridescent; stigma and veins pale brown.

HABITAT.—Kirkwood, Missouri.

Described from a single specimen received from Miss Mary Murtfeldt, reared August 17, 1886, from *Gracilaria packardella*. This species is closely allied to *H. aletivæ* Riley, but the number of antennal joints and the slight difference in sculpture of abdomen will distinguish it.

*Hemiteles bucculatricis* sp. nov.

*Female*.—Length, 2<sup>mm</sup>.; ovipositor, 0.6<sup>mm</sup>. Black, shagreened, the thorax opaque, the head and abdomen shining; the abdomen beyond the third segment is smooth polished, the petiole finely aciculated.

Antennæ 21-jointed, ferruginous; thorax with parapsidal grooves indicated anteriorly; tegulæ yellowish-white; legs honey-yellow, hind coxæ, femora, and a spot near base and at apex of tibiæ ferruginous; wings hyaline; stigma and veins pale brown.

HABITAT.—Washington, D. C.

Described from one specimen, reared August 19, 1884, from a *Bucculatrix* found on oak.

*Hemiteles hydrophilus* sp. nov.

*Female*.—Length 4<sup>mm</sup>.; ovipositor 1.2<sup>mm</sup>. Black, shagreened; the apical edges of abdominal segments red. Antennæ 22-jointed, black, the suture between second and third joints red; thorax with parapsides indicated anteriorly; tegulæ white; metathorax distinctly areolated, the spiracles round. Legs yellowish-red, posterior tibiæ and tarsi fuscous. Wings hyaline, iridescent, stigma and veins brown, the submedian cell a little longer than the median.

HABITAT.—Nova Scotia.

Described from one specimen, labeled "Dipped from the surface of the ocean, 94 miles from Nova Scotia, July 3, 1887." This occurred amongst numerous species so collected by the U. S. Fish Commission schooner *Grampus*, lat. 42° 50' N., long. 67° 29' W.; current from the north.

*Hemiteles annulatus* sp. nov.

*Male*.—Length 4<sup>mm</sup>. Black, shagreened; the apical edges of abdominal segments reddish-yellow, the petiole and second and third segments aciculated.

Antennæ 23-jointed, black, scape beneath, suture between second and third joints and mandibles, reddish-yellow; palpi white; thorax with complete parapsidal grooves; tegulæ yellowish-white; metathorax areolated, the surface of areas with raised lines; legs honey-yellow, the posterior pair ferruginous, the posterior coxæ, apex of tibiæ and tarsi, black. Wings hyaline, iridescent; stigma and veins brown, the median and submedian cells of equal length.

HABITAT.—Los Angeles, Cal.

Described from a single specimen received from Mr. A. Kæbele, reared from an unknown Tortricid pupa, in April, 1887.

*Hemiteles columbianus* sp. nov.

*Male*.—Length 3.2<sup>mm</sup>. Black; head and thorax smooth, polished, the parapsides only faintly indicated anteriorly; metathorax minutely rugose, areolated; abdomen shagreened, the extreme apical edges of second and third segments, red. Antennæ 24-jointed; legs dark honey-yellow, all coxæ, first joint of trochanters and femora, except tips, black. Wings hyaline; stigma and veins brown, the median and submedian cells of an equal length.

HABITAT.—Washington, D. C.

Described from one specimen, reared from an unknown case-bearing Tineid, *Coleophora* sp.; no date of rearing is given.

*Hemiteles Rileyi* sp. nov.

*Male*.—Length 5<sup>mm</sup>. Black; basal two-thirds of second, basal one-third of third, and extreme apical edges of second, third, and fourth abdominal segments, red; the abdomen is punctate. Antennæ 25-jointed; the scape beneath, mandibles, palpi, tegulæ, anterior, and middle coxæ and trochanters white; anterior and middle legs, honey-yellow, posterior legs ferruginous, coxæ black, extreme apex of femora, tibiæ and tarsi fuscous. Metathorax rugose, strongly areolated. Wings hyaline, iridescent; stigma and veins brown, the cubitus with a stump of a vein at the middle.

HABITAT.—St. Louis, Missouri.



**Hemiteles bicornutus** sp. nov.

*Male*.—Length, 5<sup>mm</sup>. Black, polished; apex of petiole, second and basal two-thirds of third abdominal segment, red. Antennæ broken; mandibles and palpi ferruginous; thorax with the parapsidal grooves distinct anteriorly for two-thirds the length of mesonotum; metathorax areolated, the posterior lateral angles prominently produced; legs reddish-yellow, all coxæ and first joint of trochanters basally, black; the petiole has two parallel keels its entire length, the spiracles being prominent. Wings hyaline, iridescent; tegulæ yellowish; stigma and veins brown, the median and submedian cells of an equal length, the cubitus slightly geniculated just before the middle with a bulla just behind, but without a stump of a vein.

HABITAT.—St. Louis, Missouri.

Described from one specimen.

**Hemiteles annulicornis** sp. nov.

*Female*.—Length, 5<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Head and thorax black, shagreened; legs and abdomen yellow-ferruginous; knees and apex of posterior tibiæ dusky; apex of abdomen and ovipositor black, the sixth abdominal segment having a large white spot above. Mandibles, except teeth, and palpi ferruginous. Antennæ 25-jointed, dark ferruginous, joints 8, 9, and 10, white. Thorax with complete parapsidal grooves; the pleuræ and metathorax finely rugose, the latter with two transverse keels and the posterior lateral angles produced into small but prominent spines, the spiracles round. Wings dusky hyaline, probably due to cyanide bottle; stigma and veins brown, the submedian cell shorter than the median.

HABITAT.—Texas.

Described from a single specimen in Belfrage collection. This may not be an *Hemiteles*, although the areolet is open along the outer side.

**Hemiteles albiscapus** sp. nov.

*Male*.—Length, 6<sup>mm</sup>. Black, polished and covered with a whitish pubescence; the disks of the second and third and the basal portion of the fourth abdominal segments, rufous. Head subquadrate; mandibles and palpi white. Antennæ 26-jointed, filiform, black, the scape yellowish-white. Thorax with only slight indications of parapsidal grooves anteriorly; a curved carina extends from tegulæ to basal side of scutellum; tegulæ white; metathorax areolated, the spiracles round. Legs reddish-yellow, the anterior and middle coxæ and trochanters white, apex of posterior tibiæ and their tarsi above, dusky. Wings hyaline; stigma and veins brown.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

**Hemiteles mellicornis** sp. nov.

*Female*.—Length, 3.4<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Black, shagreened; abdomen polished, black, the petiole longitudinally aciculated, second and third segments piceous, the third paler at base, the lateral margins honey-yellow. Antennæ, 22-jointed, dark honey-yellow; mandibles pale; palpi and tegulæ, white; thorax with parapsidal grooves indicated only anteriorly; pleuræ almost smooth, polished; metathorax areolated; wings, hyaline, iridescent; stigma and veins pale brown, the submedian cell a little longer than the median.

HABITAT.—Washington, D. C.

Described from one specimen, captured May 18, 1882.

**Hemiteles hemerobii** sp. nov.

*Male*.—Length, 3<sup>mm</sup>. Black; minutely confluent punctate; abdomen, black, sparsely punctate; the basal half of second and third segments and the apical edge of third, reddish-yellow. Antennæ, 22-jointed, black above, dull ferruginous beneath; the scape white beneath; thorax with parapsidal grooves only slightly indicated anteriorly; tegulæ, white; pleura, smooth, polished in the center, with coarse punctures along the sutures; metathorax, short, coarsely areolated, the areas rugose; legs, reddish-yellow, trochanters white, apex of posterior femora and their tibiæ for more than the apical half and tarsi, dusky; wings hyaline, iridescent; stigma and veins brown, the former with a yellowish spot at base; the cubitus is broken before the middle by a rather long stump of a vein; the median and submedian cells of an equal length.

HABITAT.—Grand Ledge, Michigan.

Described from a single specimen reared from an *Hemerobius* cocoon in July, 1881.

**Hemiteles texanus** sp. nov.

*Female*.—Length, 5<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Head and thorax black, polished; legs and abdomen, except the black petiole, ferruginous. Head subquadrate; antennæ, 21-jointed; thorax without grooves; metathorax distinctly areolated, the spiracles small, round. Wings hyaline, iridescent; veins brown, the cubitus without a stump of a vein at the middle; the submedian cell longer than the median.

HABITAT.—Texas.

Described from one specimen.

**Hemiteles virginiensis** sp. nov.

*Female*.—Length, 4<sup>mm</sup>; ovipositor, 1.6<sup>mm</sup>. Black, opaque, shagreened; legs and abdomen, except petiole and apex, ferruginous. Antennæ broken at tips, the basal portion honey-yellow, becoming dusky toward tips. Thorax without grooves; pleuræ and metathorax shagreened,

the metathorax areolated but the ridges delicate. Wings hyaline, iridescent; stigma and veins brown, the median and submedian cells of an equal length, the cubitus being without a stump of a vein.

HABITAT.—Virginia.

Described from one specimen.

*Hemiteles rubricornis* sp. nov.

*Female*.—Length, 3<sup>mm</sup>; ovipositor, 1<sup>mm</sup>. Black, smooth, polished; antennæ, legs, and abdomen reddish-yellow, the petiole black, longitudinally aciculated. Thorax without grooves; metathorax distinctly areolated. Wings hyaline; stigma and veins yellowish, the submedian cell slightly longer than the median.

HABITAT.—Virginia.

Described from one specimen.

*Hemiteles Townsendi*, sp. nov.

*Male*.—Length 5.4<sup>mm</sup>. Head and thorax black, polished, pubescent, sparsely punctate; antennæ 23-jointed, brown-black, two basal joints, palpi and mandibles ferruginous. Thorax without grooves; collar with raised lines at sides; mesopleuræ smooth, polished, excepting some raised lines and punctures along the sutures; tegulæ pale yellow; metathorax areolated, the surface of areas with short raised lines and wrinkles. Legs and the abdomen, except the black petiole, ferruginous; the posterior legs are rather long, the tips of tibiæ and the tarsi slightly obfuscated. Wings hyaline, iridescent; the stigma and veins brown.

HABITAT.—Michigan.

Described from one specimen received from Mr. Tyler Townsend.

*Hemiteles syrphicola*, sp. nov.

*Male*.—Length 4<sup>mm</sup>. Head and thorax black, opaque, minutely shagreened and with some punctures scattered on the surface. Antennæ 24-jointed, yellow-ferruginous, gradually becoming dusky beyond the middle. Thorax with parapsidal grooves indicated anteriorly, pleuræ aciculated, metathorax strongly areolated, the surface of areas minutely rugose; tegulæ yellowish-white; legs reddish-yellow, posterior femora at apex, tibiæ and tarsi dusky. Abdomen ferruginous, the petiole and basal two-thirds of second segment longitudinally aciculated, the rest of the abdomen smooth, polished. Wings hyaline; stigma and veins brown, the cubitus not broken at the middle by a stump of a vein, and the median and submedian cells of an equal length.

HABITAT.—Washington, D. C.

Described from one specimen; reared August 3, 1884, from a Syrphid puparium, *Mesograpta obliqua* Say, found on wheat, the larva of which preys on *Siphonophora avenæ*.

*Hemiteles pallidus*, sp. nov.

**MALE.**—Length 3<sup>mm</sup>. Slender, pale yellow, ferruginous, smooth, shining; head quadrate; antennæ slender (broken); metathorax longer than high, shagreened, delicately areolated, the upper basal areas almost obliterated. Wings hyaline, iridescent; stigma and veins pale brown, the former with a pale spot at base, the third discoidal cell is longer than usual, the cubitus nearly straight, median and submedian cell of an equal length.

**HABITAT.**—Texas.

Described from one specimen in Belfrage Collection. This little species at first sight looks much like an *Hecabolus* in the family *Braconidae*, on account of its quadrate head.

**MESOSTENUS** Grav.*Mesostenus erythrogastrer*, sp. nov.

**Male.**—Length, 10<sup>mm</sup>. Black; mesopleuræ, metathorax, legs and abdomen ferruginous; face, anterior orbits to summit of eyes, lower part of cheeks, clypeus, mandibles, palpi, spot on scape beneath, joints 11 to 17 of antennæ, line on forepart of collar and a line above extending from tegulæ but interrupted medially, tegulæ, a line beneath, pectus, anterior and middle coxæ and trochanters, and all tarsi except base of first joint of hind tarsi, dirty white. The thorax is moderately coarsely punctate, some of the punctures being confluent, the parapsidal grooves distinct, the middle lobe prominent with a yellowish spot behind the middle; metathorax rugose without prominent lateral projections, with two transverse carinæ, the second one being deeply inwardly sinuated medially, spiracles large long-oval. The posterior tibiæ have a spot at base and the apical half black. Wings dusky hyaline; stigma and veins dark brown, the areolet closed, quadrate, the second recurrent nervure interstitial with the outer nervure of the areolet.

**HABITAT.**—Wisconsin.

*Mesostenus leucopus*, sp. nov.

**Male.**—Length, 10<sup>mm</sup>. Black, shining, the thorax rather coarsely punctate; antennæ 36-jointed, black; the anterior and posterior orbits, interrupted behind the summit of eye, face, clypeus, mandibles, except teeth, palpi, a line on collar at sides anteriorly and a line above, interrupted medially, a spot on disk of mesonotum, scutellum, tegulæ, a line beneath, a long band across middle of mesopleura, band at base of posterior wings, a line on metapleuræ, a line on each side of the metathoracic truncature, and the posterior tarsi, except basal joint at base and the apical joint, which are black, all white.

Legs ferruginous, anterior and middle tarsi paler, the posterior femora and tibiæ fuscous, the first joint of trochanter black, abdomen long, linear, black, the petiole elongate, slender, reddish, blotched with black above at the bend, all the other segments apically are broadly

margined with red. Wings hyaline; stigma and veins brown, the areolet quadrate, the second recurrent nervure entering it a little beyond the middle.

HABITAT.—Normal, Illinois.

Described from a single specimen, reared by Mr. F. M. Webster, June 17, 1886, from a sawfly found on wheat.

*Mesostenus leucocoxa*, sp. nov.

*Male*.—Length 9<sup>mm</sup>. Black, opaque, including the abdomen rather coarsely punctate; face, clypeus, anterior orbits, lower part of cheeks, scape beneath, triangular spot at base of mandibles, palpi, anterior margin of collar and the upper hinder margin interrupted medially, a round spot on disk of mesonotum, scutellum, post scutellum, tegulæ and a line beneath, spot on mesopleura, hinder lateral posterior angles of metathorax, including the prominent spines, and anterior and middle coxæ and trochanters and the posterior coxæ and trochanters, black; the posterior coxæ have an oval white spot above; anterior and middle legs reddish-yellow, the terminal joint of middle tarsi black; posterior legs black, the femora rufous basally, the tibiæ with a white ring at base and the tarsi white, except apical joint and basal half of the basal joint, which are black, the basal portion, however, with a narrow white ring. Wings hyaline; stigma and veins black, the areolet large, quadrate, the second recurrent nervure entering it between the middle and apex, *the submedian cell shorter than the median*.

HABITAT.—Cadet, Missouri.

Described from one specimen received from Mr. J. G. Barlow.

CRYPTUS Grav.

*Table of new species.*

Wings hyaline, or fusco-hyaline .....	2
Wings black, or black with strong violaceous reflections.	
Wings black.	
Metathorax unarmed.	
Head, thorax and legs, black; abdomen rufous.....	<i>C. coloradensis</i> , sp. nov.
Head, thorax, legs and abdomen ferruginous.....	<i>C. californicus</i> , sp. nov.
Head, thorax and abdomen mahogany brown .....	<i>C. nigripennis</i> , sp. nov.
Metathorax armed.	
Head and thorax black; legs and abdomen rufous; antennæ ringed with white.....	<i>C. armatus</i> , sp. nov.
Wings black with strong violaceous reflections.	
Head, thorax and legs black; abdomen rufous .....	<i>C. violaceipennis</i> sp. nov.
2. Wings hyaline .....	3
Wings fusco-hyaline.	
Head and thorax black; abdomen rufous.	
Superior margin of collar white; legs rufous.....	<i>C. alamedaensis</i> sp. nov.
Superior margin of collar black; hind legs black.....	<i>C. monticola</i> sp. nov.
Head, thorax and abdomen black; legs (except black trochanters, hind coxæ, tibiæ and tarsi), red.....	<i>C. hirtifrons</i> , sp. nov.
Head, thorax, abdomen and legs, ferruginous.....	<i>C. ferrugineus</i> sp. nov.

3. Head and thorax not black ..... 4  
 Head and thorax black.  
 Metathorax unarmed; abdomen and legs rufous, the apex of abdomen sometimes black and white.  
 Scutellum, superior margin of collar and line beneath tegulæ, white; antennæ ringed with white, apex of abdomen black and white.. *C. texensis*, sp. nov.  
 Scutellum and collar entirely black; antennæ black; legs, except the four terminal joints of hind tarsi which are white, black..... *C. leucopus*, sp. nov.  
 Metathorax armed; abdomen rufous, black and white.  
 Clypeus, orbits, mandibles, line on collar before and behind, scutellum, spots on pleura, metathorax, and ring on antennæ, white.. *C. nebraskensis*, sp. nov.
4. Wholly pale ferrugineous; antennal joints 8 to 12 white.... *C. brevicauda*, sp. nov.

*Cryptus violaceipennis* sp. nov. .

*Male and Female*.—Length 13 to 14<sup>mm</sup>; ovipositor 6<sup>mm</sup>, stature of *C. robustus* Cr. Entirely black, except the four terminal joints of posterior tarsi and the abdomen, which are rufous, the petiole being black. There is a pale dot on orbits opposite the base of the antennæ, another at summit of eye and a narrow pale post-orbital line. The head and thorax are punctate, the parapsidal grooves complete, deeply defined; the scutellum is profoundly foveated at base with lateral keels anteriorly extending as a ridge in front of the tegulæ; pleuræ and metathorax rugose, opaque, the latter with a central area, the superior edge of the oblique truncature being keeled. Tarsi strongly spinous, the second, third and fourth joints of anterior pair short and strongly lobed; the base of the claws with two teeth, the hinder tooth being small and difficult to make out. The abdomen shows a delicate alutaceous sculpture, the petiole being smooth. Wings black or violaceous black; stigma and veins black, the cubitus with a stump of a vein a little before the middle, the areolet large, pentagonal.

HABITAT.—Colorado.

Described from four specimens.

*Cryptus coloradensis* sp. nov.

*Female*.—Length 7.4<sup>mm</sup>; ovipositor, 4<sup>mm</sup>. Head, thorax, and legs black; abdomen rufous, alutaceous. The antennæ are long, slender, and black, the first joint of the flagellum being a little shorter than the second and third joints combined. Head above antennæ concave and roughened with irregular lines; the vertex minutely confluent punctate; palpi piceous; thorax with deep, complete parapsidal grooves, punctate; pleura and metathorax finely rugose, the latter with two transverse keels. Wings black, slightly violaceous at base; stigma and veins black; the areolet pentagonal, the upper side the shortest, the upper outer side and the upper inner side of an equal length, the lower outer side being slightly shorter than the inner side; the cubitus with a stump of a vein at the middle.

HABITAT.—Powder River, Colorado.

Described from one specimen.

Allied to *C. americanus* Cr., but at once distinguished from it and the closely allied forms by the black wings.

*Cryptus leucopus* sp. nov.

*Male*.—Length 14<sup>mm</sup>. Entirely black: the anterior legs beneath and anterior and middle knees rufous; a line on anterior trochanters beneath, and extreme base of all the femora, and the apex of second joint of all trochanters, yellowish; the four terminal joints of posterior tarsi, white. Head, transverse, punctate, the forehead concave, rugulose; the anterior orbits from base of antennæ to base of mandibles, the clypeus, mandibles, except at base and the teeth, the second joint of labial palpi outwardly, and a line on the third joint, yellowish-white. Thorax punctate, with deep, distinct parapsidal grooves; the pleura and metathorax rugose, the latter without any distinct keels. Abdomen, except petiole, dark rufous, alutaceous. Wings hyaline or slightly discolored; stigma and veins black, some of the veins being dark piceous; the areolet is large, pentagonal, the cubitus with a stump of a vein at the middle.

HABITAT.—Colorado.

Described from one specimen.

This species, in stature, resembles *C. robustus* Cr., but the color of the legs and abdomen readily distinguish it.

*Cryptus alamedensis* sp. nov.

*Female*.—Length 10<sup>mm</sup>; ovipositor, 4<sup>mm</sup>. Stature and general appearance of *C. limatus* Cress. Head, thorax, antennæ, ovipositor, all coxæ, the first joint of all trochanters, and the terminal joint of all tarsi, black; legs and abdomen rufous; the anterior tibiæ are very short and abnormally thickened, constricted at base, the posterior tibiæ behind and the basal joint of tarsi fuscous. Head transverse, punctate, below the ocelli more coarsely confluent punctate; posterior orbits, anterior orbits, interrupted opposite the antennæ, and the clypeus, yellowish; palpi mostly black. Thorax punctate, the parapsidal grooves not sharply defined; the upper margin of collar lined with white but widely interrupted in the middle; tegulæ, except a white spot at base, black; a dot beneath the tegulæ and the post-scutellum, white; pleura and metathorax rugose, covered along the sides with a white, glittering pubescence, the metathorax is rounded off behind and has but one poorly defined transverse keel. Wings hyaline; stigma and veins piceous black; the areolet pentagonal, the cubitus without a stump of a vein, and the submedian cell shorter than the median.

HABITAT.—Alameda, Cal.

Described from one specimen received from Mr. Albert Kæbele, reared during April, 1887, from an unknown lepidopterous cocoon.

Although this species could easily be mistaken for *C. limatus* Cress., the short submedian cell, absence of a stump of a vein on the cubitus and other characters will at once separate it.

*Cryptus monticola* sp. nov.

*Female*.—Length 8<sup>mm</sup>; ovipositor 2<sup>mm</sup>. Stature of *C. similis* Cress. Head and thorax anteriorly, black, punctate; the head more confluent punctate; the parapsides indicated only anteriorly. The abdomen is piceo-rufous and much darker than any of the closely allied forms. All the coxæ, trochanters, and hind legs are black, the anterior and middle legs being rufous, the femora more or less dusky basally. The pleura and metathorax are rugoso-punctate, pubescent; the metathorax has two transverse keels, the narrow space between the first and the post-scutellum being smooth and polished; the other keel is situated along the superior margin of the truncature, it is nearly obliterated medially but becomes sharply defined and prominent at the lateral angles. Wings fusco-hyaline; stigma and veins black; the areolet is large, pentagonal, the two outer sides being equal while the other three sides are longer and of an equal length; the cubitus has no distinct stump of a vein, but where it usually exists is a thickened dot; the submedian cell is slightly longer than the median, and the third discoidal cell is much narrowed at base.

HABITAT.—Veta Pass, Colorado.

Described from a single specimen. The color of the abdomen and wings and the venation sufficiently distinguish this species. It might be placed in Walsh's genus *Joppidium*.

*Cryptus texensis* sp. nov.

*Male*.—Length 10<sup>mm</sup>. Similar to *C. lophyri* Norton, but larger and more robust. Head and thorax black, closely punctate; orbits interrupted above, joints 8 to 12 of antennæ, upper margin of collar, interrupted medially, line beneath tegulæ and most of the scutellum, white. Legs, except coxæ, trochanters and hind tibiæ and tarsi which are black, rufous, the anterior and middle pairs being paler. Apical margin of scutellum black, striate, rest of the scutellum punctate and covered with a long, very fine pubescence. Metathorax coarsely areolated, the surface of most of the areas rugose, transversely wrinkled or transversely lined, the posterior face being coarsely, transversely lined. Abdomen broadly ovate, rufous, segments four and five, black, margined at apex with white, the following segments very short, white. Wings hyaline; costal vein to stigma black, stigma and the other veins brown, the areolet pentagonal, the cubitus kneed at the middle.

HABITAT.—Texas.

Described from a single specimen in Belfrage collection; the species looks very much like an *Ichneumon*.



*Cryptus armatus* sp. nov.

*Female*.—Length 12<sup>mm</sup>; ovipositor 3<sup>mm</sup>. Head and thorax black, minutely confluent punctulate; legs and abdomen rufous; antennæ black, tip of joint sixth and joints seven to eleven, white, the three basal joints of flagellum very long and gradually subequal, the fourth hardly half the length of the third, the joints beyond being very short and only a little longer than thick.

Thorax with the parapsidal grooves obliterated posteriorly; the metathorax is armed at the posterior lateral corners with a prominent, compressed, acute yellow spine, the posterior face being coarsely rugose with irregular raised lines and ridges, while at the base on the sides it is densely confluent punctate; there is but one transverse carina which is near the base which curves laterally outwardly and then inwardly including inside the curve the oval spiracles. Wings fuliginous; stigma and veins piceo-black; areolet pentagonal, *but the outer nervure is wanting*; the cubitus is without a stump of a vein.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

This species may not belong to the genus *Cryptus*, on account of the open areolet, but as I know of no other genus into which it could be placed it may remain here for the present.

*Cryptus nigripennis* sp. nov.

*Female*.—Length 17<sup>mm</sup>; ovipositor 4<sup>mm</sup>. A large, robust, mahogany brown species. It is confluent punctate; the sixth to eleventh antennal joints are yellow; the parapsidal grooves only slightly indicated anteriorly; metathorax somewhat transversely rugose, with two transverse carinæ; all the tarsi are more or less fulvous. Wings black; areolet large, pentagonal, the cubitus without a stump of a vein.

HABITAT.—New Jersey.

Described from a single specimen.

*Cryptus hirtifrons* sp. nov.

*Male*.—Length 5.4<sup>mm</sup>. Black; head and abdomen smooth, shining, the extreme apical edge of second abdominal segment red; thorax punctate, face and cheeks covered with rather dense white pubescence; palpi yellowish; parapsidal grooves distinct; metathorax longer than high, sloping, areolated and pubescent; anterior and middle coxæ and all femora red, the posterior femora black at apex, rest of the legs black. Wings fusco-hyaline; stigma and veins piceous; areolet pentagonal, the cubitus without a stump of a vein.

HABITAT.—Texas.

Described from one specimen.

*Cryptus californicus* sp. nov.

*Female*.—Length 12<sup>mm</sup>; ovipositor 4<sup>mm</sup>. Ferruginous; eyes, antennæ and wings, black; scape beneath red. Face rather long with two paral-

lel grooves extending from the base of each antenna to clypeus; the clypeus separated. The thorax is sparsely punctate, shining, the parapsidal grooves distinct; pleura and metathorax rugulose; abdomen alutaceous; legs structurally as in *C. violaceipennis*. The wing areolet is large, pentagonal, the cubitus with a long stump of a vein.

HABITAT.—Placer County, Cal.

Described from a single specimen received from Mr. Albert Kæbele.

*Cryptus ferrugineus* sp. nov.

*Female*.—Length 5.4<sup>mm</sup>; ovipositor 1.6<sup>mm</sup>. Ferruginous; eyes and teeth of mandibles alone black. Wings dusky hyaline. The antennæ are rather stout and the joints close set, the scape being large oval, the third joint being a little longer than the fourth. The surface of the head and thorax, although smooth and shining, exhibits a few small, scattered punctures; parapsidal grooves indicated only anteriorly; tegulæ yellowish-white; pleura smooth; metathorax rugoso-punctate, areolated; abdomen alutaceous. Areolet pentagonal, the cubitus without a stump of a vein, the stigma and veins dark brown.

HABITAT.—Placer County, Cal.

Described from a single specimen received from Mr. Albert Kæbele.

*Cryptus brevicauda* sp. nov.

*Female*.—Length 7.4<sup>mm</sup>; ovipositor 1.4<sup>mm</sup>. Yellow ferruginous, smooth, and shining; eyes and antennæ black. Antennæ involuted, subelavate, two basal joints, yellow, joints 8 to 12, white. Thorax slightly stained with brown, without grooves; metathorax areolated, the middle area small, elongated, contracted at base. Abdomen smooth, except the second segment, which is roughened basally. The legs are rather short and stout. Wings hyaline, with a slight yellowish tinge; stigma yellow, veins pale brown; the areolet is pentagonal, closed; the outer nervure, however, is pale.

HABITAT.—St. Louis, (?) Mo.

Described from one specimen in Riley collection.

*Cryptus nebraskensis* sp. nov.

*Female*.—Length 7<sup>mm</sup>; ovipositor, 2.4<sup>mm</sup>. Black, confluent punctate; spot on scape beneath, tip of joint 8 and joints 9 to 11 and base of joint 12 of antennæ above, orbits, two dots on face, clypeus, mandibles, palpi, two lines on collar, two short lines on disk of mesonotum, the scutellum, tegulæ, and a line beneath, a large spot on mesopleura, spot at base of posterior wings, line on metathorax, including the spine, anterior and middle coxæ and trochanters, and posterior tarsi, except basal portion of the first joint, all white. The mesosternum and sides of metathorax are brown; legs red; there is a black dot on anterior and middle coxæ and trochanters; the abdomen is rufous at base and black beyond the middle of second segment, the apex of the segments all

margined with white. Wings hyaline; stigma and veins black; areolet pentagonal.

HABITAT.—West Point, Nebr.

Described from one specimen received from Mr. Lawrence Bruner.

#### BRACHYCENTRUS Tasch.

*Brachycentrus fasciatus* sp. nov.

*Female*.—Length 7<sup>mm</sup>, ovipositor 4<sup>mm</sup>. Ferruginous; a large quadrate spot extending from ocelli to base of antennæ, antennæ (except joints 8 to 11), prosternum, anterior coxæ and first joint of trochanters, sutures of thorax and apical tip of abdomen, black. Head and thorax punctate, abdomen, alutaceous. The head is large, quadrate, cheeks full. Antennæ slender, the joints very long, apex of joint 8 and joints 9 to 11, white. Parapsidal grooves distinct, complete, the surface anteriorly transversely striate, metathorax rounded off posteriorly with two transverse keels, the last being indistinctly defined medially, although laterally it is quite distinct. Wings hyaline, iridescent, with a transverse dusky band extending from stigma across the wing; stigma and veins black; the submedian cell is a little shorter than the median.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

#### CRYPTURUS Grav.

*Crypturus texanus* sp. nov.

*Male*.—Length 10<sup>mm</sup>. Robust, black; orbits, lower cheeks, face, clypeus, the anterior margin and posterior angles of collar, two lines on mesonotum, disk of scutellum, a spot on the lateral ridge extending from side of the scutellum, another one in front, tegulæ, a spot beneath, a large oblong spot on mesopleura, post-scutellum, blotch at base of hind wings, two dots at base of metathorax, the subprominent posterior lateral angles, and a large spot on metapleura, all yellow.

The surface of head and thorax is somewhat coarsely confluent punctate; the parapsides are not indicated; metathorax reticulate with coarse foveæ. Antennæ black (broken); palpi white; legs, including coxæ, reddish-yellow; the posterior legs are abnormally lengthened, the tibiæ at apical two-thirds and the tarsi, black.

Abdomen oblong oval; all the segments broadly margined at apex with yellow; the petiole rather long, slender, a little widened at apex, yellow with a black subapical blotch. Wings hyaline; stigma and veins piceous, the areolet quadrate, the outer nervure wanting.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

This curious insect, the first of the genus to be detected in the United States, has the general appearance of an *Arotes* and might readily be confused with that genus but for the venation.

*Crypturus albomaculatus* sp. nov.

*Male*.—Length 9<sup>mm</sup>. This species bears a superficial resemblance to that just described, but it is slightly smaller and the markings, although arranged similarly, are white, the legs being decidedly different. The anterior and middle coxæ and trochanters are white, immaculate; the posterior coxæ being white with a large black spot on the inner and outer side near base and another above the openings for the trochanters; the anterior and middle legs are yellowish, the posterior femora rufous with a black spot at apex, apical half of tibiæ black, tarsi, except terminal joint, white. Wings slightly dusky; venation as in previous species.

HABITAT.—Michigan.

Described from two specimens received from Mr. Tyler Townsend. This genus is parasitic on *Polistes*. Kirchner in his *Catalogus Hymenopterorum Europæ* records having reared the European species *Crypturus argiolus* from the pupæ of *Polistes gallica* Linn. The only Cryptid reared in this country from *Polistes* is *Mesostenus arvalis* Cr. and and both of these genera are closely allied structurally.

## NEMATOPODIUS Grav.

*Nematopodius texanus* sp. nov.

*Male*.—Length 6<sup>mm</sup>. Black, opaque, shagreened, sparsely covered with glittering white hairs, especially on the face and along the sides of the body. Antennæ black, filiform, the third joint the longest; mandibles and palpi pale; inner margin of eye slightly sinuate. Thorax not grooved; metathorax a little longer than high and not areolated; there are two delicate abbreviated keels at base just back of post-scutellum and a faint one just over the spiracles, the latter evidently the remnants of the first transverse keel. Legs rather slender, brown, the posterior pair dark, the anterior pair more yellowish; the anterior and middle coxæ (except anterior pair basally and a lateral spot on the middle pair), and second joint of all trochanters, yellow; the apical tibial spurs on middle and posterior legs are unusually long and divergent. Abdomen long, linear, the apical margin of third and fourth segments testaceous; the petiole is only slightly wider at apex than at base, the spiracles being situated between the middle and the apex. Wings hyaline; stigma and veins brown; areolet pentagonal, closed, the submedian cell slightly longer than the median.

HABITAT.—Texas.

Described from one specimen. This insect closely resembles certain males in the Ophionid genus *Limneria* with the exception of the pentagonal areolet, and which is the principal reason for my excluding it from that genus.

It is placed doubtfully in the genus *Nematopodius*, as it does not agree in all the characters of this genus defined in Mr. Cresson's

Synopsis, as Mr. Cresson says the areolet is rectangular. On referring to Gravenhorst, however, I find he says "areolet rectangular, rarely pentagonal," and under these circumstances it can be placed here for the present.

### ORTHOPELMA Tasch.

#### Table of species.

- Head and thorax black; abdomen not wholly black..... 2  
 Head, thorax, and abdomen black.  
*Male*.—Antennæ 23-jointed; abdomen linear; legs yellow-testaceous. *O. bedellie* sp. nov.
- Male*.—Antennæ 17-jointed; abdomen oblong oval; legs reddish-testaceous. *O. erythrope* sp. nov.
2. Abdomen not entirely ferruginous ..... 3  
 Abdomen and legs ferruginous; petiole and hind coxæ only black. Female.  
*O. minutum* sp. nov.
3. All coxæ black..... 4  
 All coxæ and legs ferruginous; abdomen testaceous, brownish towards apex, the petiole black; antennæ, female 22-jointed, male 25-jointed.  
*O. diastrophie* sp. nov.
- Anterior and middle coxæ more or less red or yellow; hind coxæ and petiole black.  
 All legs yellow-testaceous; abdomen piceo-black, most of the disk of second segment and a spot at base of third gamboge yellow; antennæ 18-jointed.  
*O. bimaculatum* sp. nov.
- Hind legs brown; abdomen brownish-red, gradually becoming black towards apex, sometimes at and surrounding the sutures more or less testaceous.  
 Antennæ, male, 19-jointed; female, 16-jointed..... *O. rosacola* sp. nov.  
 Antennæ, male, 27-jointed; female, 22-jointed..... *O. occidentale* sp. nov.
4. Abdomen piceo-black; hind legs dark-brown or black.  
 Apex of abdominal segments and base of second flavo-testaceous; antennæ broken.  
*O. coloradense* sp. nov.
- Apex of abdominal segments not margined, the base of second and third flavo-testaceous; antennæ, male and female, 19-jointed.... *O. californicum* sp. nov.

#### *Orthopelma bedellie* sp. nov.

*Male*.—Length 2.8<sup>mm</sup>. Black; antennæ brown, 23-jointed, two basal joints and base of third, yellowish; legs ferruginous, hind coxæ black, apex of posterior femora and the tarsi dark-brown. The head and thorax are minutely sculptured; mandibles, palpi, and tegulæ, white; the parapsidal grooves are indicated anteriorly half the length of the mesonotum; metathorax areolated. Abdomen linear, longer than the head and thorax together, the petiole, second segment, and basal part of third, minutely sculptured, or somewhat aciculated, the other segments smooth; the petiole is not quite three times as long as thick, and of the same thickness throughout. Wings hyaline, iridescent; stigma and veins pale brown, the submedian cell is slightly longer than the median, while the areolet is wanting.

HABITAT.—St. Louis, (?) Missouri.

Described from one specimen, reared March 24, 1874, from a Tineid, *Bedellia somnulentella* Zell, in Riley Collection.

This insect is certainly not a true *Orthopelma*, the abdomen and antennal characters being different, but it is so closely related to it that temporarily it may remain here, or until the female is discovered and its true position ascertained.

*Orthopelma erythropha* sp. nov.

*Male*.—Length 3<sup>mm</sup>. Black; antennæ black, 17-jointed, the four basal joints yellowish, the terminal joint fusiform, more than twice the length of the penultimate; legs, including all coxæ, ferruginous; the apical portion of posterior tibiæ and tarsi dusky. The head and thorax are alutaceous, the humeri smoother; tegulæ yellowish-brown; the parapsidal grooves are not defined, although there are slight depressions in the surface of the mesonotum, where they should be; the maxillary palpi are long, pale brown, metathorax short, areolated. Abdomen oblong-oval, with the petiole as long as the head and thorax together; the petiole is nearly four times as long as thick, the same thickness throughout, minutely sculptured, the spiracles before the middle, the rest of the abdomen smooth, shining. Wings hyaline, iridescent; stigma and veins pale brown, the submedian cell not longer than the median, the first branch of the radius as long as the first branch of the postmarginal, or the outer margin of the marginal cell.

HABITAT.—Virginia.

Described from a single specimen.

*Orthopelma minutum* sp. nov.

*Female*.—Length 2.4<sup>mm</sup>; ovipositor, 0.6<sup>mm</sup>. Black, the abdomen and legs ferruginous, hind coxæ and petiole black. Antennæ 16-jointed, dark-brown. The head is smooth, polished, sparsely pubescent; thorax polished but sparsely punctate, without grooves; metathorax areolated. Abdomen long-oval, smooth, ferruginous, brownish towards apex, the petiole linear, more than four times longer than thick, the spiracles placed much before the middle. Wings hyaline, iridescent; stigma and veins brown, the first branch of radius less than half the length of the first branch of the postmarginal.

HABITAT.—Jamaica Plains, New York.

Described from one specimen, reared May 21, 1884, from a Rose-gall, *Rhodites* sp., received from Miss Cora Clarke.

*Orthopelma bimaculatum* sp. nov.

*Male*.—Length 3<sup>mm</sup>. Black; antennæ 18-jointed, dark brown, scape black, the terminal joint fusiform, one-third longer than the penultimate. Thorax very minutely sculptured, without grooves; tegulæ yellowish-white; metathorax aciculated. Legs yellow-testaceous, the hind coxæ black. Abdomen piceo-black, most of the disk of the second segment and a large spot at base of the third gamboge yellow, the petiole

long, linear, black, aciculated, about eight times as long as thick, the spiracles situated at about the middle. Wings hyaline, iridescent; stigma and veins brown; first branch of the radius not quite as long as first branch of the postmarginal.

HABITAT.—La Fayette, Indiana.

Described from a single specimen, received from Mr. F. M. Webster.

*Orthopelma occidentale* sp. nov.

*Male*.—Length 4<sup>mm</sup>. Black; antennæ 27-jointed, black, the scape and pedicel beneath red; legs ferruginous, the posterior pair darker, all coxæ black. The head and thorax are smooth, polished; parapsidal grooves slightly indicated anteriorly; anterior edge of clypeus, mandibles, and palpi red; metathorax areolated. Abdomen oblong-oval, brownish-red, obfuscated or blackish towards apex; petiole black, slightly more than four times longer than thick and linear, the spiracles placed much before the middle. Wings hyaline, iridescent; stigma and veins brown; the first branch of the radius a little longer than half the length of the first branch of the postmarginal nervure.

HABITAT.—Hams Fork, Green River, Wyoming Territory.

Described from one specimen, reared November 28, 1883, from a Rose-gall, *Rhodites similis* Ashm, received from Mr. L. Bruner.

*Orthopelma rosæcola*, sp. nov.

*Male and female*.—Length 3.5 to 4<sup>mm</sup>; ovipositor, 0.6<sup>mm</sup>. Black; antennæ, female 16-jointed, male 19-jointed, black, apical edges of the scape and pedicel yellow; legs yellow-ferruginous, the posterior pair dark-brown, the femora sometimes black, all coxæ black. The head and thorax are shining, but distinctly minutely punctured, the parapsidal grooves not at all indicated; clypeus piceous; mandibles black; palpi yellow; metathorax areolated. Abdomen oblong-oval, longer in the male, varying in color from a brownish-red to piceous, the male being the darker, and the apex is always dusky, the sutures and more or less of the basal part of the segments are testaceous; the petiole is linear, black, nearly five times as long as thick, the spiracles placed before the middle. Wings hyaline, iridescent; stigma and veins brown, the first branch of the radius is about half the length of the first branch of the post marginal nervure.

HABITAT.—(?) Colorado.

Described from thirteen individuals, reared April 25th to 28th and June 13, 1882, from the Rose-gall *Rhodites ignota* O. S.

*Orthopelma californicum* sp. nov.

*Male and female*.—Length 2.6 to 3<sup>mm</sup>; ovipositor 1.4<sup>mm</sup>. Black; antennæ 19 jointed in both sexes, in the male the longer; legs yellow-ferruginous to ferruginous, the posterior pair being dark-brown, the

thighs sometimes black, all coxæ black. The head and thorax are smooth, polished, the parapsidal grooves slightly indicated anteriorly; clypeus, mandibles, and palpi yellow-ferruginous; tegulæ whitish. Abdomen piceo-black, the petiole and apex black, the base of the second and third segments yellow testaceous; the petiole is linear, about four times as long as thick, the spiracles placed anteriorly about one-third its length. Wings hyaline, iridescent; stigma and veins brown, the first branch of the radius not half the length of the first branch of the postmarginal vein.

HABITAT.—Alameda, California.

Described from three females, one male specimen, reared in May, 1887, from a Rose gall; received from Mr. Albert Kæbele.

*Orthopelma coloradense* sp. nov.

*Female*.—Length 4<sup>mm</sup>; ovipositor 1.4<sup>mm</sup>; black, polished; thorax punctate, the parapsidal grooves slightly indicated anteriorly and between them a short median line. Legs ferruginous, the posterior pair dark-brown or black, the femora black; tegulæ and costæ yellow; abdomen black or piceo-black; the base of second segment and apex of all the segments narrowly flavo-testaceous; wings hyaline, iridescent; stigma and veins brown; the first branch of the radius is more than half the length of the first branch of the postmarginal.

HABITAT.—West Cliff, Custer County, Colorado.

Described from one specimen, received from Mr. T. D. A. Cockerell.

*Orthopelma diastrophi* sp. nov.

*Male and Female*.—Length 4<sup>mm</sup>; ovipositor 1.6<sup>mm</sup>. Head and thorax black, shining, punctate; legs, including all coxæ, and abdomen, ferruginous; base of second segment and all the sutures testaceous, the apex more or less dusky, the petiole black.

Antennæ female 22-jointed, dark-brown, the three basal joints paler; clypeus, mandibles and palpi ferruginous; metathorax minutely rugose, areolated; petiole linear, nearly five times as long as thick, spiracles placed before the middle; wings hyaline, iridescent; stigma and veins brown, first branch of the radius about two-thirds the length of first branch of the postmarginal. The male has very long, 25-jointed antennæ, the two basal joints ferruginous.

HABITAT.—Probably Missouri, and Waterbury, Connecticut.

Described from four specimens in Riley collection, also from several specimens in my collection reared by Mr. H. F. Bassett, from galls, *Dias-trophus radicum* Bass., at Waterbury, Conn.

**ISCHNOCERUS** Gravenhorst.

*Ischnocerus montanus* sp. nov.

*Female*.—Length 7<sup>mm</sup>; ovipositor 1.8<sup>mm</sup>; black, sparsely covered with a short, white, glittering pubescence; head and thorax opaque, minutely sculptured



Antennæ black (broken); palpi and tips of mandibles yellowish; mesopleura impressed at the middle, the metathorax areolated, the spiracles round; legs yellow-ferruginous, all the coxæ and the first joint of posterior trochanters black, the claws pectinate; abdomen shining, alutaceous; the petiole expanded and curved at apex, the spiracles small, round, placed behind the middle and on about the middle of the expanded part; wings hyaline, iridescent; stigma pale brown, the veins piceous black, the areolet entirely wanting.

HABITAT.—West Cliff, Custer County, Colorado.

Described from one specimen, received from Mr. T. D. A. Cockerell.

The position assigned this insect is uncertain; it may belong to the *Tryphoninae* on account of the pectinated claws. My reason for placing it here is, that it has a distinct ovipositor and the spiracles of the abdominal petiole are behind the middle and nearer to each other than to the apex, and, except in the pectinate claws, it agrees with the definition of this genus. The pectinate claws seem to ally it to the Tryphonid genus *Ctenopelma*.

#### CATALYTUS Förster.

##### *Catalytus pallipes* sp. nov.

*Male and Female*.—Length, 3<sup>mm</sup>; ovipositor very slightly exerted. Black, polished, sparsely pubescent. The antennæ are filiform, 16-jointed in the female, 14-jointed in the male, brown, the two basal joints pale, especially beneath, the third joint is the longest. Palpi, clypeus, face, and orbits to middle of forehead, testaceous. Thorax with indications of parapsidal grooves anteriorly; pleuræ smooth; metathorax very short, polished, without any keels, excepting a slight one separating the metapleura, the spiracles round.

Legs, including coxæ, pale-yellow testaceous; the posterior tibiæ are thickened and contrast with the slender anterior and middle pairs, the tibial spurs minute, the tarsi not longer than the tibiæ.

Abdomen oval, black, polished, the venter and the extreme apex testaceous, the petiole from the base is gradually broadly dilated to apex, with a depression on each side, the spiracles are small, placed a little behind the middle, but on account of the width of the petiole are wider apart than they are to the apex. Wings hyaline, iridescent, tegulæ yellow; stigma and veins brown; the areolet is pentagonal in position but open along the outer side; the submedian cell is longer than the median, the cubitus being slightly bent in the middle.

HABITAT.—Georgetown, D. C.

Described from 6 specimens—1 male, 5 females, of which the following is recorded in the note-book of the Department by Mr. Pergande:

Found near the Aqueduct Bridge, Georgetown, D. C., on May 19, 1881, two saw-fly larvæ which were infested with parasitic larvæ; they fed on the saw-fly larvæ externally in the same manner as *Euplectrus* larvæ, but were not clustered in a group like the latter.

They were of a dirty brownish gray color, very much resembling slugs, *i. e.*, the segments were not well separated, the dividing sutures only being visible under a strong lens. They, together with the saw-fly larvæ, were placed in a small vial. On the second day they left the saw-fly larvæ, which had become mere skins, and wandered about in the vial: the third day they spun cocoons on the surface of the soil and attached to the side of the vial. About ten days later imago emerged; no larvæ were preserved.

**CREMNODES** Förster.

*Cremnodes californicus* sp. nov.

*Female*.—Length 2<sup>mm</sup>; ovipositor only slightly exerted. Dark ferruginous, densely microscopically punctate, and covered with a short fine sericeous pubescence. Head subquadrate, slightly darker colored than the thorax; the face a little prominent medially and roughened; clypeus separated from the surrounding surface by a groove at the sides; a groove extends from base of eye to the base of mandibles; teeth or tips of mandibles black; palpi short, piceous; antennæ 15-jointed, a little longer than the head and thorax together, slightly subelavate, the three basal joints pale, the flagellum brown. Thorax slender, about thrice as long as wide, the mesonotum separated from the metanotum by a deep transverse groove; no scutellum; metanotum smooth. Viewed from the side the thorax is trilobed, a pair of legs being attached to each lobe. The abdomen is ovate, the petiole the length of posterior coxæ and trochanters united, and but slightly widened at apex; ovipositor one-third the length of petiole, black.

*HABITAT*.—Los Angeles, California.

Described from one specimen received from Mr. Albert Kæbele.

**PEZOLOCHUS** Förster.

*Pezolochus bucculatricis* sp. nov.

*Male and Female*.—Length 1.6<sup>mm</sup>; ovipositor the length of petiole. Black to brown-black, densely microscopically punctate; the face, collar above and at sides, disk of mesonotum, blotch on metanotum, legs and a streak at base of the petiole, pale yellow ferruginous, the posterior coxæ and femora, darker; in the male all the legs are darker than in the female, and in one specimen the thorax is wholly dark-brown, without the pale ferruginous spots; the apex of the petiole, in both sexes, is yellow.

The head is subquadrate, the face greatly shortened; palpi long, yellowish; antennæ in female slightly subelavate, 19-jointed, pale-brown, yellowish basally, and reaching to base of the second abdominal segment; in the male, much longer, filiform, 20-jointed, reaching to the middle of the abdomen.

The mesonotum is separated from the metanotum by a deep constriction, each part being about of an equal length, but the hinder part or the metanotum, is more elevated, and with a delicate transverse keel on the superior edge of the oblique posterior face, quite distinct at the middle in the male but subobsolete in the female. Abdomen ovate,

black, except the petiole, which is pale basally and margined at apex with yellow; the hypopygium in the male is pale yellow.

HABITAT.—Washington, D. C.

Described from three specimens, reared April 18, 1885, from a *Buculatrix* found on the trunk of a beech tree.

**PEZOMACHUS** Gravenhorst.

*Pezomachus flavocinctus* sp. nov.

*Female*.—Length 4<sup>mm</sup>; ovipositor 1<sup>mm</sup>. Head, thorax, antennæ, abdominal petiole, and legs ferruginous; abdomen piceo-black, the petiole and second segment margined at apex with yellow. The whole insect is densely minutely punctulate; head transverse, narrowed behind; clypeus transverse, separated; mandibles terminating in two black teeth; antennæ more than 23-jointed (tips broken off), nearly as long as the whole insect. Anterior lobe of thorax longer than the posterior lobe; metanotum smooth without any keels; body of abdomen long oval, densely covered with a short sericeous pubescence.

HABITAT.—Texas.

Described from one specimen in Belfrage collection. This species approaches nearest to *P. meabilis* Cress., but it is much larger.

*Pezomachus californicus* sp. nov.

*Female*.—Length 2.4<sup>mm</sup>; ovipositor 0.6<sup>mm</sup>. Head and abdomen, except the petiole, black; thorax, petiole, legs and antennæ dark-brown. The insect is densely minutely punctured, the head and abdomen shining. The antennæ are short (broken at tips), and evidently slightly subclavate; mandibles, except the black teeth and the palpi, are pale. The two lobes of thorax are about equal, the metanotum showing slight traces of a keel at the sides of the posterior face. The sutures of the trochanters and the suture between the petiole and the second abdominal segment are pale-yellowish.

HABITAT.—Los Angeles, California.

Described from a single specimen received from Mr. Albert Kœbele.

*Pezomachus alaskensis* sp. nov.

*Female*.—Length 2.6<sup>mm</sup>; ovipositor the length of the petiole. Brown black, the head black, and the extreme apical edges of the abdominal segments piceous. Densely minutely punctured, shining; antennæ broken, pale brown, palpi and legs yellow ferruginous. The hind lobe of the thorax is a little longer than the front lobe, the oblique face having a delicate carina along the superior edge. Abdomen ovate, covered with a fine, short, sericeous pubescence.

HABITAT.—Nushagak River, Alaska.

Described from one specimen collected by McKay.

## Subfamily OPHIONINÆ.

## THYREODON Brullé.

*Thyreodon texanus* sp. nov.

*Male*.—Length 25<sup>mm</sup>. Brownish-yellow; the face, palpi, antennæ and legs more yellowish. Wings fuliginous; the stigma as in *Ophion*, yellow; the third discoidal cell one-third longer than in *T. morio*. Head impunctured; clypeus separated at the sides by deep foveæ at base, the anterior margin arcuate; mandibles terminate in two black teeth. Thorax moderately densely punctulate; scutellum with lateral keels; metathorax gradually sloping off behind, rugose, the disk posteriorly a little concave and the rugosities more transverse; there is a transverse keel at the base and the spiracles are large, linear, and surrounded by a groove.

HABITAT.—Texas.

Described from one specimen, easily recognized by its peculiar color and the fuliginous wings. It comes nearest to *Thyreodon ornatipennis* Cr., described from Orizaba, Mexico. The large stigma might exclude it from the genus *Thyreodon*.

## NOTOTRACHYS Marshall.

(?) *Nototrachys annulicornis* sp. nov.

*Female*.—Length 12 to 14<sup>mm</sup>; ovipositor 2<sup>mm</sup>. *Male* 17<sup>mm</sup>. Ferruginous, coarsely rugosely punctate, the face and sides of body covered with a white pubescence; the face, cheeks, and anterior and middle legs yellowish, the middle tibiæ at apex armed with two spines and an abbreviated or short one; the second joint of hind tarsi white. The antennæ are porrect, slender, filiform, the length of the insect, the apical two thirds black; in the female joints 24 to 31 are white or yellow; in the male usually only joints 28 to 31 are so marked, although one of the males has joints 25 to 31 yellow. The apex of metathorax is produced into a neck two-thirds the length of the hind coxæ, at the base are two semicircular areolets, the rest of the surface is rugose. The abdomen is thrice the length of the head and thorax together, strongly compressed and very slender in both sexes, the petiole and second segment are slender, linear, the second segment a little longer than the petiole. Wings hyaline; stigma and veins dark-brown, the venation as in *Ophion*.

HABITAT.—Texas.

Described from four specimens, two male, two female, in Belfrage Collection. On account of the two apical spurs on middle tibiæ, this species does not properly belong to the genus *Nototrachys*, and it is placed here only temporarily.

## ANOMALON Gravenhorst.

*Anomalon xanthopsis* sp. nov.

*Male*.—Length 16<sup>mm</sup>. Ferruginous; vertex, sides of collar, mesopectus, mesopleuræ, except a broad band across the middle and the piece at base of hind wings, black; face, orbits, interrupted above, three basal joints of antennæ beneath, mandibles, palpi, anterior and middle legs, and posterior tarsi, yellow. Antennæ fulvous, the three basal joints above black; the third joint two and a half times as long as the fourth. Head and thorax punctate; metathorax rugoso-punctate, reticulate, with three or four longitudinal keels in the middle. Abdomen as in *A. apicale* Say. Wings hyaline; stigma and veins brown; the submedian cell is considerably longer than the median, the discoidal cell long, rectangular, not contracted at base.

HABITAT.—Placer County, California.

Described from one specimen.

This species approaches nearest to *A. californicum* Cress.

(?) *Anomalon eureka* sp. nov.

*Female*.—Length 14<sup>mm</sup>. Brown ferruginous; a blotch on vertex of head inclosing the ocelli, prosternum, collar, and apex of the posterior tibiæ black; the upper margin of mesopleuræ dusky. Antennæ are about half the length of the body, the third joint about thrice as long as the fourth, the following joints a little longer than wide. Head and thorax punctate; the cheeks the width of the eye; the scutellum yellow-ferruginous; metathorax rugoso-reticulate. Tarsi fulvous; the first joint of hind tarsi about the length of the second joint. Abdomen strongly compressed, slender, and of a uniform color, the second segment being longer than the petiole; the spiracles of the petiole are large and situated far from the apex.

Wings fuscous; stigma pale brown, the veins darker; the submedian cell is distinctly longer than the median, the discoidal cell not contracted, rectangular, the upper apical angle of the first discoidal cell obtuse.

HABITAT.—Placer County, California.

Described from one specimen received from Mr. Albert Kœbele.

*Anomalon simile* sp. nov.

*Female*.—Length 13<sup>mm</sup>. Brown ferruginous, exactly similar to *A. eureka* but may be separated from it by the following differences:

The third antennal joint is only about twice as long as the second, the following joints being wider than long; the first joint of hind tarsi a little more than twice as long as the second; the tips of hind femora, as well as the apical tips of the tibiæ, are slightly dusky; the abdomen, when viewed from the side, is broader than in *A. eureka*, the second segment having a black streak above, the apical segments along the

sides being more or less fuscous; the spiracles of the petiole are large and oval, and situated close to the apex. Wings fuscous, but the costæ and stigma are yellowish; the submedian cell is but slightly longer than the median, the discoidal cell not contracted, rectangular, the upper apical angle of the first discoidal cell being rectangular.

HABITAT.—Los Angeles, California.

Described from one specimen received from Mr. D. W. Coquillett.

**AGRYPON** Förster.

*Agrypon puparum* sp. nov.

*Female*.—Length 8<sup>mm</sup>. Black, punctate; face, clypeus, lower portion of cheeks, a dot at summit of eyes, scape, palpi, and hind tarsi yellow; sides of mesonotum, scutellum, and metapleuræ rufous, the parapsidal grooves wanting. Anterior and middle legs yellowish-red; posterior legs rufous, coxæ, first joint of trochanters and the second joint at base above, a streak along the upper edge of femora, and the apical third of the tibiæ black; the basal joint of the tarsi is about thrice as long as the second joint. Metathorax finely rugose, without areolets basally. Abdomen pale ferruginous, the second segment about as long as the petiole, the petiole above at apex and the second and following segments above all black, the black color on the apical segments being extended somewhat along the sides. Wings hyaline; stigma yellowish; the veins piceous; the submedian cell is longer than the median, the upper angle of first discoidal cell obtuse, the third discoidal cell long, rectangular, not contracted at base.

HABITAT.—Alameda, California.

Described from one specimen received from Mr. Albert Koebele, reared from an unknown Noctuid pupa.

*Agrypon boreale* sp. nov.

*Female*.—Length 10<sup>mm</sup>. Black, punctate; face, clypeus, mandibles, lower portion of cheeks, a dot at summit of eye, scape beneath, palpi, tegulæ, dot on apex of posterior angles of collar, anterior and middle legs, and posterior tarsi, yellow; posterior legs rufous, coxæ, first joint of trochanters and second joint above, base of femora, and apex of tibiæ black, the basal joint of tarsi two and a half times as long as the second. Parapsidal grooves present; scutellum quadrate, transversely rugose as well as the surface of the mesonotum just in front of it and not separated from the mesonotum by a groove, the sides delicately keeled. The collar has grooved lines at the sides and the mesopleuræ, and the metathorax are rugoso-reticulate, the latter with two large areolets at the base.

Abdomen pale yellow-ferruginous, the upper surface of the second, third, fourth, and obliquely shading off on the fifth segment, black, the apex black. Wings pale fuscous; veins brown, stigma paler; the sub-

median cell is a little longer than the median, the upper apical angle of the first discoidal cell obtuse, the first recurrent nervure being very short, the third discoidal cell very long and contracted at base.

HABITAT.—Fort McLeod, British Columbia.

Described from one specimen.

To this Försterian genus also belongs *Anomalon melleum* Cr.

**PANISCUS** Gravenhorst.

*Paniscus texanus* sp. nov.

*Female*.—Length 9<sup>mm</sup>. This species has probably been confused in our collections with *P. geminatus* Say; but besides its much smaller size it can be readily separated by the following differences:

The third joint of the antennæ is only slightly longer than the fourth; the mesonotum is smooth without parapsidal grooves; the lateral keels of the scutellum become delicate posteriorly; the spiracles of the petiole are placed just anterior to the middle; the second abdominal segment viewed from above is trapezoidal but slightly longer than wide and only half the length of the petiole; the basal joint of hind tarsi only twice the length of the second; the submedian cell is as long or slightly longer than the median cell, the length of the transverse median nervure; while whereas, in *P. geminatus* there is always a distinct stump of a vein at the middle of the cubitus, in *P. texanus* it is entirely wanting or only the base remains.

HABITAT.—Texas.

Described from one specimen in Belfrage Collection.

*Paniscus nigripectus* sp. nov.

*Female*.—Length 16<sup>mm</sup>. This species is much more closely allied to *P. geminatus* than is *P. texanus*, and structurally it is almost identical, but the mesonotum, mesopectus, stigma, and veins are black; the lateral ocelli touch the eye; the stump of the vein at the middle of the cubitus is wanting, and the submedian cell is only one-third the length of the transverse median nervure longer than the median cell; the second abdominal segment is two-thirds the length of the petiole, the spiracles situated at about one-third its length.

HABITAT.—Texas.

Described from one specimen in Belfrage Collection.

**CHAROPS** Holmgren.

*Charops annulipes* sp. nov.

*Male*.—Length 7<sup>mm</sup>. Head and thorax black, opaque, minutely densely punctate, covered with white pubescence. Antennæ black, the scape pale beneath. Eyes emarginate within. Anterior and middle legs, including coxæ, pale-yellow, tibiæ and tarsi white; hind legs black, the sutures between trochanters and an annulus at base of tibiæ

and the spurs white. Metathorax sloping, prolonged at apex beyond the insertion of the hind coxæ. Abdomen long, slender, about twice the length of head and thorax together, the petiole slender, knobbed at apex, as long as the posterior trochanters and femora combined, pale in the middle, black at base and apex, the second segment is not quite as long as the petiole; black above, the third, fourth, and fifth segments ferruginous, dusky above, the following segments black: Wings hyaline, iridescent; stigma and veins piceous.

HABITAT.—Missouri.

Described from one specimen in the Riley Collection.

#### EXOCHILUM Wesmæl.

##### *Exochilum texanum* sp. nov.

*Male*.—Length 19<sup>mm</sup>. Head and thorax brown, punctate, covered with a fine black pubescence; face, clypeus, and palpi yellowish; antennæ orange-yellow, the first three joints black above; parapsidal grooves distinct, converging and meeting before attaining the scutellum; anterior and middle legs reddish-yellow; posterior legs black, the coxæ brown at base, basal two-thirds of tibiæ and the tarsi yellowish, the basal joint of the tarsi about thrice as long as the second. Abdomen black, the petiole and a small spot at base of the second segment brown.

Wings glossy black; the discoidal cells equal, rectangular.

HABITAT.—Texas.

Described from one specimen.

#### SCHIZOLOMA Wesmæl.

##### *Schizoloma confusa* sp. nov.

*Female*.—Length 27<sup>mm</sup>. Black; the petiole, most of the second abdominal segment, and the basal half of the third above red; anterior orbits beyond insertion of antennæ, a dot at summit of eyes, posterior orbits, face medially, clypeus, except the anterior margin, the prominent protruding labrum, a line on inner side of mandibles and the palpi yellow.

The head and thorax are punctate, vertex rugoso-punctate, covered with black hairs; parapsidal grooves wanting; scutellum profoundly foveated at base, the posterior portion being very high, cushion-shaped; metathorax coarsely rugoso-reticulate and somewhat hollowed medially.

The anterior and middle legs, excepting coxæ and the posterior tarsi, are orange-yellow, all coxæ, the hind femora toward the apex and tibiæ black; the basal joint of hind tarsi is less than four times as long as the second.

Wings black; tegulæ and a slight streak along basal part of costæ orange-yellow; the submedian cell is longer than the median; the first



discoidal cell narrower at base than at apex; the third discoidal cell rectangular, not narrowed at base.

HABITAT.—South Carolina.

This large and beautiful species bears a superficial resemblance to *Erochilum mundum* Say, *Heteropelma flavicorne* Brullé, and *Anomalon flavicorne* Say, but its much larger size, the difference in the color of the legs, length of the basal joint of hind tarsi, prominent exerted labrum, absence of parapsidal grooves, and the venation of the anterior wings will at once distinguish it.

**CAMPOPLEX** Gravenhorst.

*Campoplex texanus* sp. nov.

*Female*.—Length 13<sup>mm</sup>. Black, covered with white pile; abdomen and hind legs rufous; tibiæ and tarsi black; anterior and middle legs honey-yellow, their tibiæ and tarsi white; middle and hind coxæ black. Head and thorax confluent punctate, the head thin antero-posteriorly, the cheeks flat, antennæ black; the gastrocæli deep, oblong, placed a little before the middle of the second abdominal segment. Wings hyaline, the apex dusky; areolet petiolate, triangular.

HABITAT.—Texas.

Described from one specimen in the Belfrage Collection.

**CASINARIA** Holmgren.

*Casinaria texana* sp. nov.

*Female*.—Length 7<sup>mm</sup>. Black, densely punctate, covered with a white, glittering pubescence; antennæ black, ferruginous toward apex, the scape pale at base beneath; mandibles, palpi, tegulæ, and anterior and middle legs, including coxæ, pale yellowish-white; posterior, legs, and abdomen rufous. Eyes emarginate within; metathorax sloping behind and prolonged at apex beyond insertion of posterior coxæ; the disk has a longitudinal depression medially, finely transversely rugose; there is a transverse keel near the base and the sides are areolated, but the middle and apex are not areolated. Ovipositor short, the sheaths black. Wings hyaline, iridescent; the lanceolate stigma and the veins brown; the submedian cell is a little longer than the median; the discoidal cell long, slightly contracted at base; the areolet petiolate, triangular.

HABITAT.—Texas.

Described from one specimen in Belfrage Collection.

## LIMNERIA Holmgren.

## Table of species.

Species without an areolet .....	9
Species with an areolet.	
Hind legs banded with white and black .....	5
Hind legs not banded with white.	
Head and thorax black; abdomen not entirely black .....	3
Head, thorax, and abdomen, except venter, black.	
Hind coxæ only black .....	2
All coxæ black, or at least black basally.	
Areolet large, sessile; wings subhyaline; size large.	
Hind tibiæ black, except at base .....	<i>L. melanocora</i> sp. nov.
Arolet triangular, petiolate; size small or moderate.	
Hind femora and tibiæ ringed with black; wings hyaline; size small.	<i>L. nigricincta</i> sp. nov.
Hind legs rufous; wings dusky hyaline; size moderate..	<i>L. nolæ</i> sp. nov.
2. Legs rufous; anterior and middle coxæ and trochanters pale; scape pale beneath.	<i>L. erythropus</i> sp. nov.
3. Abdomen entirely rufous, except sometimes the petiole basally .....	4
Abdomen more or less black.	
All coxæ rufous or pale.	
Cheeks swollen.	
Hind legs rufous; anterior and middle pairs pale ferruginous; petiole and second abdominal segment at base, black; rest of abdomen rufous.	<i>L. brachyura</i> sp. nov.
Cheeks not swollen.	
Abdomen black, except a red spot on third segment.	<i>L. ferrugineipes</i> sp. nov.
Abdomen black, except blotches of red on second and third segments.	<i>L. ruficora</i> Prov. (?)
Abdomen black, except blotch on sides towards apex of second segment and the extreme apical edges of the third and fourth segments.	<i>L. occidentalis</i> sp. nov.
Abdomen black, except apical third of second segment, apical two-thirds of third, the sides of fourth, connected by a line on disk, and the sides of fifth near the venter, which are red. ....	<i>L. oxylus</i> Cress.
Hind coxæ only black.	
Apex of second segment only red; middle and anterior legs honey-yellow; hind legs rufous.	
Base and apex of posterior tibiæ dusky; scape black; ovip. short.	<i>L. hyalina</i> Prov.
Base of posterior tibiæ ringed with honey-yellow, the apex dusky; scape and second antennal joint pale beneath; ovip. long. ....	<i>L. gelechiæ</i> sp. nov.
Apex of second and the following segments broadly margined with red.	
Face covered with a dense silvery pubescence; posterior tibiæ rufous, the tarsi dusky .....	<i>L. argentifrons</i> Cr.
Face not so covered; posterior tibiæ black, with a reddish streak in the middle along the upper surface .....	<i>L. dubitata</i> Cr.
Apex of second and third abdominal segments and oblique blotches on sides of fourth and fifth segments rufous; anterior and middle legs white.	<i>L. solenobiæ</i> sp. nov.
Apex of the second and third abdominal segments and the following wholly rufous.	<i>L. subrubidus</i> Cr.
Apex of second and most of third, except a blotch at base and the following segments rufous, the ♂ having black blotches at base of all the segments.	<i>L. euura</i> sp. nov.

Middle and hind coxæ black, the middle pair sometimes pale at apex.

Abdomen of ♀ dilated below at fifth segment, the ovipositor springing from its base and directed obliquely forward.

Abdomen, except obscure rufous blotches on sides of the third and fourth segments, black; scape pale beneath..... *L. obscura* Cr. (?)

Abdomen of ♂ rufous, base of petiole and second and third segments obscurely black, gastrocæli large, deep, placed just before middle of segment.

*L. corrupta* Cr.

Abdomen of ♂ rufous, petiole, second segment and a blotch at base of the third, black; gastrocæli almost obliterated; areolet triangular petiolate.

*L. obscura* Cr.

Abdomen of ♀ mostly rufous, the base of petiole, second segment, except apex, and a spot at base of third, black; gastrocæli large, shallow; areolet triangular, sessile..... *L. sessilis* sp. nov. (?)

Abdomen of ♀ mostly rufous; base of petiole, a long blotch on disk of second segment, and the extreme apical edge and a blotch at base of third segment, black; gastrocæli long; areolet triangular, petiolate.

(?) *L. erythrogaster* sp. nov.

Abdomen of ♂ black, a small spot on the second and the sides of the following segments rufous; gastrocæli poorly defined, close to base of segment; areolet, triangular, petiolate..... *L. Pattoni* sp. nov.

Abdomen of ♀ dilated below at eighth segment, the ovipositor springing from its base and directed obliquely backwards over the back.

Apex of third and the sides, as well as the sides of the following segments, rufous..... *L. eurycerontis* sp. nov.

Abdomen of ♀ dilated below at seventh segment, the ovipositor springing from its base and usually slightly curved upwards.

Apex of the second, third, and fourth segments broadly margined with rufous, the extreme edges of the following segments tinged with red; first joint of all trochanters black; scape black..... *L. consimilis* sp. nov.

Petiole and base of second segment black, rest of abdomen rufous; first joint of hind trochanters only black; scape pale beneath.. *L. peraffinis* sp. nov.

All coxæ ferruginous.

Petiole and second abdominal segment basally black; the following segments more or less dusky above; scape pale beneath; areolet subsessile.

*L. oligiæ* sp. nov.

4. Hind coxæ black.

Abdomen wholly ferruginous, size large..... *L. Belfragei* sp. nov.

All coxæ rufous.

Petiole black basally, ovip. slightly exerted; areolet petiolate; scape pale beneath..... *L. rivalis* Cr.

Petiole concolorous with the abdomen; ovip. not exerted..... *L. lophyri* Riley.

5. All coxæ pale..... 8

Hind coxæ only black..... 6

All coxæ black, sometimes anterior and middle pairs pale at apex.

Abdomen entirely black.

Large; metathorax medially sulcate; wings dusky.. *L. valida* Cr.

Small; metathorax not medially sulcate; wings hyaline..... *L. tibiator* Cr.

Abdomen not entirely black.

Extreme apical margins of abdominal segments, except petiole, obscurely tinged with red, lateral blotches on second and third segments, and frequently on the following, red; metathorax not sulcate.

var. *L. tibiator* Cr.

Apical one-third of petiole, all of second and basal two thirds of third abdominal segments rufous; metathorax sulcate medially.. *L. dimidiata* Cr.

6. Abdomen not entirely black..... 7  
 Abdomen entirely black.  
 Anterior and middle coxæ and trochanters, white.  
 Middle area of metathorax narrow; ovip. short.....*L. annulipes* Cr.  
 Middle area of metathorax wide; ovip. long, half the length of abd.  
*L. pterophora* n. sp.
7. Abdomen more or less rufous.  
 Anterior and middle coxæ and trochanters, white.  
 Apex of petiole and second and third abdominal segments and the greater portion of the following rufous; scape pale beneath; ovip. as long as petiole.....*L. fura* Cr.  
 Apex of all abdominal segments, except petiole, and oblique dilated blotches at sides of the segments after the second, orange yellow; scape black; areolet sessile.....*L. flavicincta* sp. nov.  
 Anterior and middle coxæ and trochanters, rufous.  
 Apex of petiole and second abdominal segment and the greater portion of the following segments, except black blotches at base, rufous; scape rufous beneath.....*L. vicina* Cr.
8. Abdomen entirely black; ovip. hardly exerted.  
 The small area behind the postscutellum triangular.....*L. fugitiva* Say.  
 The small area behind the postscutellum quadrate.....*L. ademasiae* sp. nov.
9. Abdomen not wholly black ..... 10  
 Abdomen wholly black; hind coxæ black.  
 Scape black; hind tibiæ with dusky blotch at base and apex; tarsi dusky but the joints pale at base.....*L. rufipes* Prov.  
 Scape pale beneath.  
 Hind femora with a blotch beneath at base; base and tips of tibiæ and the tarsi, except first joint basally, black.....*L. eureka* sp. nov.  
 Hind femora without a blotch at base beneath; the tip of tibiæ and tarsal joints dusky.....*L. salicicola* sp. nov.
10. Apex of second abdominal segment and blotches on sides of fourth, fifth, and sometimes the following segments, red; scape pale beneath.  
 Hind coxæ black; posterior legs dark brown; the second joint of trochanters and a blotch on middle of tibiæ, pale; abdomen mostly black; ovipositor long.....*L. cupressi* sp. nov.  
 Hind coxæ black; posterior legs ferruginous; a dusky blotch at base and apex of tibiæ; anterior and middle coxæ and trochanters white; abdomen with the apex of second and sides of all the segments, red; ovip. long.....*L. obliterateda* Cr.  
 Hind coxæ and legs ferruginous; the tibiæ with a dusky blotch at base and apex; tarsi dusky; anterior and middle legs pale, their coxæ and trochanters white; sides and apices of abdominal segments red.  
*L. noctuæ* sp. nov.

*Limneria melanocoxa* sp. nov.

*Female*.—Length, 9<sup>mm</sup>; ovipositor, 2<sup>mm</sup>. Black, punctate; mandibles, except the black teeth, palpi and legs, ferruginous; the posterior tibiæ and tarsi dusky; tibial spurs and base of first tarsal joint, yellowish; all coxæ and first joint of trochanters, black. Metathorax finely rugose with a median sulcus. Wings subhyaline; tegulæ yellowish; costæ and stigma, black; veins brown; the areolet is large, triangular, sessile.

HABITAT.—Texas.

Described from a single specimen in the Belfrage collection.

*Limneria nigricincta* sp. nov.

*Female*.—Length, 3.8<sup>mm</sup>; ovipositor, 1.4<sup>mm</sup>. Black; head and thorax densely confluent punctate; mandibles and palpi, pale; antennæ black; the antennal tubercles and the suture between the second and third joints, pale; tegulæ white; legs ferruginous; all coxæ and the first joint of hind trochanters, black; the posterior femora with a dusky spot at base and their tibiæ with a black ring at base and apex. Metathorax sloping posteriorly and distinctly areolated. Abdomen black, alutaceous, pubescent; the ovipositor long, a little more than half the length of the abdomen. Wings hyaline; stigma and veins pale brown; the areolet triangular, petiolated.

The male differs from the female only in having the scape pale beneath.

HABITAT.—Washington, D. C., and North Carolina.

Described from six specimens, one labeled North Carolina, two reared from a small Tineid on black birch, April 14, 1884, and the others reared March 15, 1884, from saw-fly larvæ on black birch.

*Limneria nolæ*, sp. nov.

*Male and female*.—Length, 6 to 6.5<sup>mm</sup>; ovipositor, 2<sup>mm</sup>. Agrees with *L. nigricincta*, except it is much larger and the posterior legs are entirely rufous, the scape in the male entirely black.

HABITAT.—Los Angeles, Cal.

Described from two specimens, one male and one female, received from Mr. Albert Koebele, reared during the summer of 1886 from a *Nola* found on willow.

*Limneria erythropus* sp. nov.

*Male*.—Length, 8<sup>mm</sup>. Black; mandibles, except teeth, and scape and second antennal joint beneath, ferruginous; palpi, tegulæ, and anterior and middle coxæ and trochanters, yellowish-white; legs rufous, posterior pair dark red, their coxæ black. Head and thorax opaque, punctulate, the face sparsely covered with silvery pile. Metathorax distinctly areolated, sloping behind and somewhat produced at apex. Abdomen compressed toward apex, black; the first three segments densely, finely, opaquely sculptured; the following smoother and shining with a sparse pubescence. Wings hyaline, iridescent; stigma and veins brown; the outer edge of costæ and stigma black; areolet triangular, petiolated.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

*Limneria brachyura*, sp. nov.

*Female*.—Length, 5<sup>mm</sup>. Black; head and thorax closely, confluent punctate; mandibles, except teeth and the scape beneath, ferruginous; antennæ brown, blackish at base; palpi and tegulæ, white; cheeks

swollen or buccate; legs, including coxæ, rufous, anterior and middle pairs paler or ferruginous, the apices of joints of posterior tarsi, black. Abdomen subcompressed, rufous; the petiole and second segment at base, black; the ovipositor hardly exerted. Wings dusky hyaline; the veins dark brown; costæ, except at base, and stigma black, costæ at base pale; areolet oblique, petiolate.

HABITAT.—Michigan.

Described from one specimen received from Mr. Tyler Townsend.

*Limneria ferrugineipes* sp. nov.

*Male*.—Length, 5<sup>mm</sup>. Black; head and thorax subopaque, very finely, confluent punctate; face and thorax covered with sparse white pubescence; mandibles, palpi, and tegulæ, white; legs yellow-ferruginous; the trochanters and tarsi pale yellowish; the first joint of posterior trochanters, dusky; apex of posterior tibiæ and the apices of the tarsal joints, dusky. Metathorax not longer than high, rounded behind and areolated. Abdomen black; the gastrocæli and a blotch on side of third segment rufous. Wings hyaline; stigma and veins brown, the former with a pale spot at base; areolet rather large, oblique, and petiolate.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

*Limneria occidentalis* sp. nov.

*Female*.—Length, 5<sup>mm</sup>; ovipositor, 1.5<sup>mm</sup>. Black; head and thorax densely, finely, confluent punctate; mandibles, palpi, and tegulæ, white; antennæ, black; legs, including coxæ, rufous; posterior tarsi, except base of first joint, dusky. Metathorax areolated, the small area just back of the postscutellum quadrate, the central median area large, hexagonal. Abdomen, except a red blotch on the second segment towards apex and the extreme apical edges of third and fourth segments, black. Wings hyaline; stigma and veins pale brown; areolet large, triangular, petiolated.

HABITAT.—Central Missouri.

Described from one specimen in Riley collection.

*Limneria gelechiæ* sp. nov.

*Female*.—Length, 6<sup>mm</sup>; ovipositor, 2.4<sup>mm</sup>; male, 5<sup>mm</sup>. Black, subopaque, punctate, sparsely covered with a white pubescence; scape and second antennal joint beneath, mandibles, palpi, tegulæ, trochanters, and tarsi, yellowish-white; the last joint of all tarsi and pulvilli and claws black; anterior and middle legs, reddish-yellow; posterior legs rufous, their tibiæ with a yellowish annulus at base; anterior and middle coxæ pale; the middle pair blackish basally; posterior coxæ black. Metathorax sloping behind, a little produced at apex, dis-

tinctly areolated, the central median area open behind. Abdomen, except the red apical margin of second segment, black. Wings hyaline, iridescent; stigma and veins brown; areolet petiolate. In the male the middle and posterior coxæ are black.

HABITAT.—Kirkwood, Mo.

Described from two specimens, one male, one female, received from Miss Mary Murtfeldt, reared from *Gelechia celtisella*, August 19, 1884.

*Limneria solenobiæ* sp. nov.

*Male*.—Length, 4.4<sup>mm</sup>. Black, subopaque, densely, finely, confluent punctate; antennæ broken off at base; palpi, mandibles, tegulæ, anterior and middle legs, including coxæ, yellowish-white; hind legs, yellow-ferruginous, the coxæ black. Metathorax sloping off behind, areolated, the small area just back of the postscutellum triangular, the central middle area wanting. Abdomen black; the apical margin of the second and the third segments and oblique spots on sides of the fourth and the fifth, red. Wings hyaline, iridescent, almost devoid of pubescence; stigma brown; veins pale yellowish; areolet oblique, petiolated.

HABITAT.—Kirkwood, Mo.

Described from one specimen, received from Miss Mary Murtfeldt reared from *Solenobia walshella*, July 27, 1887.

*Limneria euræ* sp. nov.

*Male and female*.—Length, 4<sup>mm</sup>. Black, subopaque, closely, finely punctate; scape and second antennal joint beneath, clypeus, mandibles, palpi, tegulæ, and legs, yellow-ferruginous; hind coxæ black; the tips of hind tarsal joints black. Metathorax areolated, the areas not as distinct as usual. Abdomen rufous, the petiole basal, two-thirds of second segment and a blotch at base of third, black; ovipositor moderately long, curving upwards. Wings hyaline; stigma and veins piceous; areolet oblique, petiolate. The male has black blotches at the base of all the abdominal segments.

HABITAT.—Pareah, Utah.

Described from four specimens, reared April 16, 1881, from a saw-fly, *Euura* sp., found on willow.

(?) *Limneria sessilis* sp. nov.

*Female*.—Length, 8<sup>mm</sup>. Black; head and thorax rather coarsely, confluent punctate; two basal joints of antennæ beneath, mandibles, palpi, tegulæ, and anterior and middle legs, yellowish; the anterior and middle coxæ black at base; the posterior pair wholly black; posterior legs rufous; the trochanters, a ring at base of tibiæ, and the tibial spurs yellowish; the tibiæ and tarsi more or less obfuscated. Metathorax sloping behind, produced slightly at apex, covered with white pubescence but not areolated, and with oval spiracles. Abdomen rufous;

the base of the petiole, basal two thirds of second segment, except the gastrocœli, and a spot at base of third segment, black; ovipositor very short. Wings dusky hyaline; stigma and costæ black; veins brown; the areolet large, triangular, sessile.

HABITAT.—Washington, D. C.

Described from a single specimen captured October 17, 1882. The species seems more closely allied to the genus *Campoplex*, and is placed here doubtfully.

(?) *Limneria erythrogaster* sp. nov.

*Female*.—Length, 7<sup>mm</sup>. This species is an exact counterpart of *L. sessilis*, but may be at once separated by its triangular, petiolated areolet and the paler posterior tibiæ and tarsi.

HABITAT.—Selma, Ala.

Described from one specimen received from Mr. W. H. Patton. It is doubtful whether the difference in the areolet will hold to separate this species from *sessilis*, but until more specimens are taken and the value of this character definitely determined it is probably advisable to consider them distinct.

*Limneria Pattoni* sp. nov.

*Male*.—Length, 6<sup>mm</sup>. Black; head and thorax finely, confluent punctate; the disk of the thorax rugose; scape beneath and mandibles ferruginous; palpi, tegulæ, anterior coxæ and all trochanters, except the first joint of the posterior pair which is black, white; middle and posterior coxæ black; legs rufous, the anterior pair slightly paler, the posterior tibiæ with a black spot at base and apex and their tarsi dusky. Metathorax sloping behind, areolated, the spiracles very small, round. Abdomen black, a small spot at side of the second segment near apex and the sides of the following segments, rufous; the gastrocœli poorly defined and situated close to the base of the second segment. Wings hyaline; stigma and veins brown; the areolet triangular, petiolated.

HABITAT.—Selma, Ala.

Described from one specimen, received from Mr. W. H. Patton.

*Limneria eurycreontis* sp. nov.

*Female*.—Length, 6<sup>mm</sup>. Black, subopaque, finely, confluent punctate; the disk of thorax somewhat rugose; scape beneath, towards apex, and the mandibles, ferruginous; palpi, tegulæ, anterior coxæ and trochanters, yellowish-white; legs, yellowish-red; middle and posterior coxæ, and sometimes the first joint of hind trochanters, black; posterior tibiæ at base and apex, and their tarsi, dusky. Metathorax sloping behind, areolated, the middle central area absent. Abdomen compressed, dilated below at eighth segment, and from which issues the ovipositor that in its natural position is obliquely directed backwards over the back, black; the apex of the third segment and the



sides of the following segments, red. Wings hyaline; stigma and veins, brown; areolet, triangular, petiolated.

HABITAT.—Kellogg, Cowley County, Kans.

Described from several specimens, reared from pupa of *Eurycreon rantalis*, found on corn and sent to the Department by Mr. Jacob Nixon.

*Limneria consimilis* sp. nov.

*Female*.—Length, 6<sup>mm</sup>. Black, subopaque, very finely, confluent punctate; antennæ, black; mandibles, palpi, and tegulæ, yellowish-white; legs, rufous or ferruginous; anterior coxæ pale, middle and posterior pairs, black; first joint of all trochanters, black. Metathorax not longer than high, distinctly areolated, the central middle area hexagonal. Abdomen black; the apex of second, third, and fourth segments broadly margined with rufous; the extreme margins of the following segments tinged with red. Wings slightly dusky; stigma and veins, brown; areolet, large, triangular, petiolated.

HABITAT.—Texas.

Described from one specimen in the Belfrage collection.

*Limneria peraffinis* sp. nov.

*Female*.—Length, 6<sup>mm</sup>. Differs from *consimilis* in having the scape beneath and the first joint of anterior and middle trochanters pale, and the abdomen, except the petiole and basal half of second segment, wholly rufous, while the areolet is large, oblique, and petiolated.

HABITAT.—Texas.

Described from one specimen in the Belfrage collection.

*Limneria Belfragei* sp. nov.

*Male*.—Length, 9<sup>mm</sup>. Closely allied to *L. erythrogaster*, but larger and the abdomen proportionally longer. Black, densely, moderately, coarsely punctate, and covered with a white pubescence; the mandibles, except teeth, palpi, tegulæ, and anterior and middle legs, yellowish-white; the middle coxæ black at base; posterior legs and abdomen, rufous; hind coxæ, black. Wings, hyaline; stigma and veins, brown; the costæ outwardly black; areolet large, subtriangular, petiolated.

HABITAT.—Texas.

Described from one specimen in the Belfrage collection.

*Limneria pterophoræ* sp. nov.

*Female*.—Length, 4<sup>mm</sup>; ovipositor, 0.8<sup>mm</sup>. Black, subopaque, minutely, densely, confluent punctate; antennæ black; mandibles, palpi, tegulæ, anterior and middle trochanters and tarsi, yellowish-white, rest of legs yellowish-red; hind coxæ, first joint of trochanters and base and apex of the tibiæ, black; the middle of the tibiæ and

spurs, white; tarsi, except basal portion of the first joint, dusky. Metathorax indistinctly areolated, the middle area greatly widened behind. Abdomen black, pubescent; ovipositor about half as long as the abdomen, slightly curved. Wings hyaline, iridescent; stigma and veins brown; the areolet oblique, petiolated.

HABITAT.—Alameda, Cal.

Described from one specimen, received from Mr. Albert Kæbele; reared in August from a *Pterophora* on apple.

*Limneria flavicincta* sp. nov.

*Male*.—Length, 4<sup>mm</sup>. Black, opaque, densely, finely punctate; face covered with dense white hairs; antennæ black; mandibles, palpi, tegulæ, anterior and middle coxæ and trochanters, and the second joint of posterior trochanters, yellowish-white; legs reddish-yellow; posterior femora ringed at base with black; posterior tibiæ with a small white annulus at base and a broader one at the middle, and a subbasal annulus and the apex, black; their tarsi black; the extreme base of first joint, and the tibial spurs, white. Abdomen cylindrical, hardly compressed, the apex of all segments, except petiole, and oblique dilated blotches at sides of segments after the second, orange-yellow; venter yellowish-white, with black spots on third, fourth, fifth, and sixth segments. Wings hyaline, strongly iridescent; stigma and veins brown; areolet petiolated.

HABITAT.—Lafayette, Ind.

Described from two specimens received from Mr. F. M. Webster.

*Limneria œdemasiæ* sp. nov.

*Male and female*.—Length, 7<sup>mm</sup>. Stature and general appearance of *L. fugitiva* Say, and in color and markings the same, but at once separated from it by the areas of metathorax and the difference in the areolet of anterior wings. In *fugitiva* the small area just back of postscutellum is triangular, and the areolet is oblique, petiolate, stigma and veins brown; in *œdemasiæ* this area is quadrate, the areolet oblique, sessile, stigma and veins black or piceous-black, and the extreme base of the first joint of hind tarsi only white, while the tarsi are a little longer and more slender.

HABITAT.—Washington, D. C.

Described from several specimens, reared August 5, 1889, from *œdemasia concinna*. Both of these species probably belong to the genus *Meloboris* Holmgren.

*Limneria eureka* sp. nov.

*Male*.—Length, 4.6<sup>mm</sup>. Black, subopaque, finely, confluent punctate; scape and second antennal joint beneath, mandibles, palpi, tegulæ, anterior and middle coxæ, and trochanters, yellowish-white; legs ferruginous, the hind pair darker; the coxæ and first joint of tro-

chanters, black; there is a large, dusky blotch at base of posterior femora beneath, and the base and tips of tibiæ and the tarsi, except first joint basally, are black. Abdomen black, pubescent; the venter yellowish. Wings hyaline, iridescent; stigma and veins brown; the areolet entirely wanting.

HABITAT.—Los Angeles, Cal.

Described from one specimen taken by Mr. Albert Kæbele in May, 1886.

*Limneria salicicola* sp. nov.

*Female*.—Length, 4<sup>mm</sup>; ovipositor, 0.6<sup>mm</sup>. Black, opaque, finely, confluent punctate; the abdomen shining black. It agrees well with the description of *L. eureka*, except that there is no blotch on hind femora beneath, and the tibiæ are only faintly dusky at base and tip, the tarsal joints being dusky at tips.

HABITAT.—London, Ontario.

Described from a single specimen reared March 14, 1872, from a *Gelechia* found on willow.

*Limneria cupressi* sp. nov.

*Female*.—Length, 3.6<sup>mm</sup>; ovipositor, about 1<sup>mm</sup>. Black, densely finely punctate; scape and second antennal joint beneath, mandibles, palpi, and anterior and middle trochanters, yellowish-white; anterior and middle legs, reddish-yellow; the tarsi from apex of first joint, dusky; middle coxæ black basally, the apex of middle tibiæ dusky; hind coxæ and first joint of trochanters, black; legs dark brown; tibiæ pale at the middle, the spurs white. Metathorax areolated. Abdomen black, the lateral ventral edges of second segment and the whole venter yellowish; ovipositor a little longer than the petiole, slightly curved upwards. Wings hyaline, strongly iridescent; stigma and veins pale-brown, the areolet absent.

HABITAT.—Marin County, Cal.

Described from one specimen received from Mr. Albert Kæbele, reared December 6, 1885, from a dipterous gall found on *Cupressus macrocarpus*.

*Limneria noctuæ* sp. nov.

*Male*.—Length, 5<sup>mm</sup>. Black, opaque, punctate; face covered with a dense white pile; scape and the second antennal joint, except a dusky spot above, clypeus, mandibles, palpi, tegulae, and anterior and middle coxæ and trochanters, yellowish-white; hind coxæ and legs ferruginous, the anterior and middle pairs being slightly paler; posterior tibiæ at base and apex, and their tarsi, except the base of first joint, dusky; base of first joint and tibial spurs white. Metathorax areolated. Abdomen black, the sides and apices of the segments, red. Wings hyaline, iridescent; stigma and veins brown; areolet absent.

HABITAT.—Washington, D. C.

Described from a single specimen reared July 12, 1884, from an unknown noctuid pupa found on black birch.

## Subfamily TRYPHONINÆ.

**METOPIUS** Panzer.***Metopius xanthostigma* sp. nov.**

*Male*.—Length, 14<sup>mm</sup>. Black; coarsely punctured and sparsely covered with fuscous pubescence. Antennæ brown-black, not reaching to the middle of the abdomen. Face yellow, with a central, long-oval black spot; the face is separated from base of antennæ and surrounded by a sharply defined keel. Palpi dusky; the second joint of labial palpi yellow. A line on upper margin of collar, interrupted medially, the posterior half of the quadrate scutellum, a dot at base of the lateral keels of same, spot below tegulæ and a dot below this, a dot on lower posterior angles of mesopleuræ, large spot on metapleuræ, the sutures between joints of trochanters, extreme apex of femora and anterior and middle tibiæ and tarsi and posterior tibiæ at base, the apical lateral corners of the first abdominal segment, and the apical margins of second, third, fourth, and fifth segments, bright yellow. The middle tibiæ beneath and posterior tibiæ and tarsi, rufous, rest of the legs, black. Abdomen very coarsely, irregularly pitted, the first segment short, bicarinated. Wings fuscous, the stigma and inner margin of costæ yellow, the outer margin and veins black.

HABITAT.—North Carolina.

Described from one specimen. This species approaches nearest to *M. pollinctorius* Say, but it is somewhat differently colored and at once distinguished from that species by the absence of medial carinæ on the second, third, and fourth abdominal segments and by the yellow stigma.

***Metopius terminalis* sp. nov.**

*Male*.—Length, 8<sup>mm</sup>. Black, polished and but sparsely punctured. Antennæ brown, the two basal joints black, pale beneath. Face pubescent, not surrounded by a keel. Clypeus, mandibles, and middle and anterior legs, ferruginous; the clypeus is transversely prominent or ridge-like; the fore and middle coxæ black at base; hind legs rufous, the coxæ entirely black, the tibiæ and tarsi obfuscated. Scutellum quadrate keeled at sides and with a slight carina on the middle posteriorly. Metathorax distinctly, coarsely areolated. Abdomen rufous, the first and three terminal segments, except the extreme margins, black. Wings dusky hyaline; the stigma and veins brown.

HABITAT.—Missouri.

Described from one specimen in Riley collection. The non-keeled face of this species is entirely different from all other *Metopii* known to me.

**BASSUS** Fallen.**Bassus syrphicola** sp. nov.

*Female*.—Length, 7<sup>mm</sup>. Black, shining; head and metathorax densely punctured. A spot on face, clypeus, mandibles, except teeth, palpi, most of the mesopleuræ, except the portion just beneath anterior wings, mesosternum, the suture dividing the mesopleuræ from the metathorax, metapleuræ and legs, ferruginous; the apex of posterior tibiæ and their tarsi, black; lateral margin of mesothorax, tegulæ, a spot in front and beneath it, a central line on scutellum and a transverse line on postscutellum, white. Metathorax without keels. Abdomen slightly compressed at apex, the three basal segments sculptured, the following segments almost smooth, shining, but showing a fine reticulate punctation; all the segments are narrowly edged at apex with white and from the third the white color is obliquely dilated at the sides. Wings hyaline, iridescent; stigma and veins brown-black, the stigma with a pale spot at base; areolet wanting.

*Male*.—Length, 6<sup>mm</sup>. Agrees with the female except the face wholly and the anterior orbits to summit, the antennæ beneath, clypeus, mandibles, palpi and the whole under surface of the thorax, except a black spot beneath wings, and lateral hook-shaped marks on mesonotum, are wholly white or yellowish-white.

**HABITAT**.—San Francisco, Cal.

Described from one male and two females received from Mrs. L. A. Burkholder, reared April 29, 1881, from a puparium of a *Syrphus*-fly found on rose.

**Bassus orbitalis** sp. nov.

*Female*.—Length, 5.4<sup>mm</sup>. Black, shining, punctate. Anterior orbits, lower part of cheeks, clypeus, mandibles, palpi, prosternum, a hook-shaped mark on mesosternum, anterior and middle coxæ and trochanters, a broad band on posterior tibiæ, lateral margin on mesothorax, tegulæ, a spot in front and beneath it, a spot at insertion of posterior wings and extending along the ridge separating the mesothorax from the metathorax, two short lines on disk of mesonotum, a broad medial line on scutellum, and the postscutellum, white. Metathorax with a transverse keel on the upper margin of posterior face and with triangular areas laterally. Legs ferruginous; the posterior tibiæ, except the broad white band at the middle, and their tarsi, black. Abdomen compressed at tips, rugulose, the apices of middle segments and the two or three terminal segments, smooth; the first segment is bicarinated at basal half, and the apex in the middle exhibits a small white stain or line. Wings hyaline; stigma and veins brown; the stigma at base and the costæ basally are pale.

**HABITAT**.—Alameda, Cal.

Described from one specimen, received from Mr. Albert Kæbele, labeled "Taken ovipositing in a *Syrphus* larva feeding on cabbage aphis."

*Bassus xanthopsis* sp. nov.

*Male*.—Length, 5<sup>mm</sup>. Black, shining, sparsely punctate. Face, anterior orbits, scape beneath, clypeus, mandibles, palpi, lateral margins of mesothorax, prosternum, posterior lateral angles of collar, anterior margin of mesosternum, a large spot on mesopleuræ below, and anterior and middle legs, including coxæ, lemon-yellow. Hind legs rufous, the coxæ black, their apices and trochanters yellow. Metathorax closely punctate, without keels. Abdomen black, the apex of the second segment, the third wholly, and the apical margins of fourth and fifth, yellow-ferruginous; the first segment is longer than wide, with very prominent lateral tubercles near the base, it, as well as the second segment, sculptured, opaque. Wings hyaline; stigma and veins brown; the costæ to near the stigma and a spot at base and apex of stigma, yellow.

HABITAT.—Alameda, Cal.

Described from one specimen, received from Mr. Albert Kæbele, reared from a *Syrphus* feeding on *Aphis brassicae*.

This species may be the male of *orbitalis*, but its different color, absence of keels on metathorax, and the difference in the sculpture of the abdomen, make it quite improbable and justify me in considering it a different species.

*Bassus euuræ* sp. nov.

*Male*.—Length, 5.4<sup>mm</sup>. Stature similar to *B. agilis* Cr. Black, shining. A V-shaped mark on face, clypeus, mandibles, except teeth, palpi, tegulæ, a spot in front and beneath, hook-shaped marks at sides of mesonotum, scutellum and postsutellum, white. Legs, including coxæ, the sternum and pleuræ below, ferruginous; the posterior tibiæ, except toward base, and the tarsi, black. The parapsidal grooves of mesonotum are slightly indicated anteriorly; metathorax keeled. Abdomen entirely black, the three basal segments rugulose, subopaque, the first being bicarinated on disk at base, the terminal segments smoother and polished. Wings hyaline, the stigma and veins dark brown; between the stigma and parastigma is a pale spot; areolet absent.

HABITAT.—Placer County, Cal.

Described from one specimen, received from Mr. Albert Kæbele, and reared from a saw-fly on willow.

*Bassus virginienensis* sp. nov.

*Female*.—5.6<sup>mm</sup>. Stature similar to *B. euuræ*, black, shining. Face, lower part of cheeks, mandibles, palpi, pro- and mesosternum, lower part of mesopleuræ, coxæ, trochanters, posterior lateral angles of collar,

tegulae, a spot beneath it, and a spot on the disk of scutellum, yellowish-white. Anterior and middle legs, yellow-ferruginous; the middle tarsal joints tipped with black; posterior legs rufous, their coxae with a large black spot at base above, their tibiae towards apex and the tarsi, black. The parapsidal grooves are slightly indicated anteriorly; metathorax keeled, the two middle keels close together and converging toward each other at base forming a triangular area. Abdomen black, delicately sculptured, the extreme apical edges of the segments showing a little white; the disk of the first segment being bicarinated for two-thirds its length. Wings hyaline; stigma and veins brown, the inner margin of costae and basal nervures, yellowish; areolet absent.

HABITAT.—Virginia.

Described from a single specimen. This species comes nearest to *B. euura*, but is readily separated from it and other species by colorational details.

#### PRIONOPODA Holmgren.

##### *Prionopoda scutellata* sp. nov.

*Female*.—Length, 6<sup>mm</sup>. Robust, yellow-ferruginous; stemmaticum and anteriorly to base of antennae, disk of mesothorax, except pale parapsidal lines two-thirds the length of mesonotum, disk of metathorax, disk of first abdominal segment, and the apex of posterior tibiae and their tarsi, black. Antennae longer than the whole insect, gradually acuminate towards apex, black, the scape and flagellum beneath, ferruginous. Scutellum ferruginous. Head and thorax densely, finely punctured. Metathorax strongly areolated. The head is large, subquadrate, the cheeks as wide as the eye; palpi and anterior and middle coxae and trochanters, yellowish-white; claws pectinated. Abdomen, except the petiole, which is punctate and broadly widened posteriorly, smooth, polished. Wings hyaline; stigma black, veins brown-black; areolet triangular.

HABITAT.—Washington, D. C.

Described from one specimen taken at large in August.

#### TREMATOPYGUS Holmgren.

##### (?) *Trematopygus cultriformis* sp. nov.

*Female*.—Length, 5<sup>mm</sup>. Black, shining. Scape beneath, a prominence on middle of face, and legs, including coxae, ferruginous. Tegulae, a line beneath and an abbreviated line at sides of mesonotum, yellow; flagellum brown; mesopectus obscurely rufous. Metathorax rugose, areolated. Abdomen sessile, beyond the second segment strongly compressed, cultriform, the first segment more than twice as long as wide, rugulose, the sides keeled above; second segment about as long as its width at base, when viewed from above of a triangular shape, the sides being compressed towards apex; the ovipositor is slightly exerted,

a little recurved. Wings hyaline, iridescent; stigma and veins pale brown, the costæ to stigma yellowish; areolet absent.

HABITAT.—Nebraska.

Described from one specimen received from Mr. L. Bruner. The peculiar shape of the abdomen of this species is remarkable, approaching closely to the Cynipid genus *Ibalia*, and it is probably the type of a new genus, although some of the characters seem to agree with the genus *Trematopygus*, in which it is placed temporarily.

**ADELOGNATHUS** Holmgren.

*Adelognathus texanus* sp. nov.

*Female*.—Length, 6.4<sup>mm</sup>. Robust, black, punctate. The scape towards apex beneath, second antennal joint beneath, mandibles, palpi, apical tips of femora, bases of tibiæ, tegulæ and a line beneath, a large, broad, irregular spot at sides of mesonotum anteriorly, spot at apex of scutellum, postscutellum, and apical margin of all abdominal segments, yellow. The head is transverse; cheeks as wide as the eye; clypeus rounded before and projecting over the mandibles; antennæ 31-jointed, as long as the head and thorax together, black, the first joint of flagellum about three and a half times as long as wide, the following joints gradually becoming shorter and shorter until they are wider than longer. Mesopleuræ rugose; metathorax areolated. Legs rufous; coxæ, except tips and posterior femora, black; tips of coxæ, tips of femora, bases of tibiæ, and base of first joint of posterior tarsi, yellow. Abdomen sessile, coarsely punctate, the first segment bicarinated on disk for two-thirds its length, apical margin of all segments, lemon-yellow; venter yellow; the three terminal ventral segments, black, their apical edges narrowly edged with yellow; ovipositor very short. Wings hyaline; stigma and veins brown, the costæ towards base yellow; the submedian cell is much longer than the median, the cubital nervure abruptly bent before the middle; areolet subpentagonal.

HABITAT.—Texas.

Described from two specimens in Belfrage collection.

**ORTHOCENTRUS** Gravenhorst.

*Orthocentrus californicus* sp. nov.

*Female*.—Length, 3.4<sup>mm</sup>. Polished black. The swollen face transversely aciculated; a triangular white spot on anterior orbits, just above base of antennæ. Antennæ brown, the scape very long, black. Metathorax areolated, the disk punctate. Legs red, the trochanters yellowish. Abdomen from the middle towards apex compressed, black, polished, the suture between second and third segments and the venter, yellowish, first segment subopaque, minutely rugulose, with two



longitudinal keels on disk. Wings hyaline, stigma and veins pale brown, the areolet subpentagonal, the second recurrent nervure interstitial with the inner vein of the areolet.

HABITAT.—Placer County, Cal.

Described from a single specimen, taken by Mr. Albert Kæbele in August.

**ISCHYROCNEMIS** Holmgren.

*Ischyrocnemis carolina* sp. nov.

*Male*.—Length, 7.6<sup>mm</sup>. Black, shining, sparsely pubescent. Two basal joints of antennæ, legs, tegulæ, upper margin of collar, petiole of abdomen, except a black spot between the spiracles, apical half of second and third segments, apical one-third of fourth and the sixth and seventh entirely, yellow. The flagellum, scutellum, postscutellum and sutures, metathorax, except a black spot at base and the metapleuræ, and the prosternum, ferruginous. The face is only slightly swollen, subopaque, punctate; eyes emarginate opposite base of antennæ; metathorax smooth, polished. All femora swollen, the posterior pair the stoutest, as in genus *Exochus*; claws strongly bent; the coxæ of posterior legs have a large black spot beneath, the femora are mostly black, the tibiæ with a dusky spot at apex, the spurs stout. Wings yellowish-hyaline; stigma and veins brown; the submedian cell is slightly longer than the median; the areolet triangular, petiolated.

HABITAT.—North Carolina.

Described from a single specimen. This is the first species in the genus to be detected in our fauna.

**EXOCHUS** Gravenhorst.

*Exochus rufigaster* sp. nov.

*Female*.—Length, 8<sup>mm</sup>. Black, polished, sparsely punctured. The face is but slightly prominent, closely punctured, with a small red spot between base of antennæ. Antennæ reach to apex of first abdominal segment, black; beneath, towards apex, brown. Metathorax longer than wide, areolated, the spiracles large, linear. Legs, including coxæ, rufous. Abdomen one-third longer than head and thorax together, dark rufous, except the first segment basally and the three apical segments, which are black; the first segment is bicarinated for half its length. Wings hyaline, the stigma and veins brown.

HABITAT.—Texas.

Described from one specimen in Belgrave collection.

This species approaches nearest to *E. semirufus* Cr., but in that species the abdomen is entirely rufous.

**CHORINAEUS** Holmgren.**Chorinaeus flavifrons** sp. nov.

*Female*.—Length, 7<sup>mm</sup>. Black, polished, sparsely punctate, the abdomen more densely punctured, the punctures coarser, and covered with a whitish pubescence. Face and mandibles yellow-ferruginous; palpi yellowish-white; scutellum with lateral keels, the postscutellum bifurcated; metathorax with six longitudinal carinæ, spiracles long-oval. Legs, including coxæ, yellowish-red. Abdomen a little longer than head and thorax together, rather coarsely punctured; the first segment with four longitudinal keels its entire length, and between the two middle keels are two slight channels; the second segment has three keels its entire length; the third with a slight middle keel near its base. Wings hyaline; stigma and veins brown, the second recurrent nervure bent at the middle.

HABITAT.—Wisconsin.

Described from one specimen.

This species is nearest to *C. cariniger* Walsh, but is readily separated from it by the number of keels on metathorax and abdomen.

## Subfamily PIMPLINÆ.

**COLEOCENTRUS** Gravenhorst.**Coleocentrus texanus** sp. nov.

*Female*.—Length, 11<sup>mm</sup>; ovipositor, 21<sup>mm</sup>. This species varies from a yellow-ferruginous to rufo-ferruginous; it is polished, the head and thorax with a few scattered punctures. The flagellum is black or brown-black, sometimes pale beneath, joints 8 to 10, inclusive, white, the three basal joints very long; scape and pedicel always ferruginous. Tips of mandibles black. Parapsidal grooves strongly, deeply impressed. Metathorax a little longer than high, sloping off posteriorly, rugulose and areolated; just behind the postscutellum is a small quadrate area and on each side of it a large semicircular area inclosing the spiracles; the central middle area poorly defined. Legs slender, the hind pair very much longer than the anterior pair; the anterior tarsi are twice as long as the tibiæ, the first joint alone being as long as the tibiæ; terminal tarsal joints, claws and tips of joints 2 and 3 of posterior tarsi, black. Wings fusco-hyaline; stigma and veins brown, a yellow spot between the stigma and parastigma; the submedian cell is shorter than the median; the areolet narrowed, the second recurrent nervure joining it towards the apex.

HABITAT.—Texas and Columbia, S. C.

Described from two specimens. One specimen is in the Belfrage collection and is the paler one; the other was received from Prof. G. F. Atkinson from South Carolina, and although much darker in color is structurally identical.

## PIMPLA Fabr.

*Pimpla yukonensis* sp. nov.

*Female*.—Length, 9<sup>mm</sup>. Robust, subopaque, black; head and thorax finely alutaceous with an exceedingly fine punctuation; abdomen finely transversely aciculated, the apical segments smoother. Antennæ black, joints 8 and 9 yellowish. Palpi brown. Tegulæ yellowish-white. Metathorax quadrate, roundedly truncate behind, with a transverse keel. Legs rufous, tips of femora dusky, middle tibiæ and tarsi obfuscated; posterior tibiæ and tarsi black; the anterior tibiæ are short, the basal third strongly constricted. Abdomen shaped as in *P. pedalis*, the apical edges of segments narrowly white, the ovipositor being about as long as the posterior tibiæ. Wings hyaline; stigma and veins black or brown black, the areolet quadrate, the second recurrent nervure joining it at the middle.

HABITAT.—Fort Yukon, Alaska.

Described from one specimen taken by Mr. L. M. Turner in 1877.

*Pimpla pterophori* sp. nov.

*Female*.—Length, 9.4<sup>mm</sup>; ovipositor, 4<sup>mm</sup>. Black, smooth, shining; the abdomen with coarse punctures, the apical margins of segments smooth. Antennæ black, becoming pale towards apex. Palpi yellowish, the two basal joints of labial palpi, black. Tegulæ and costæ of wings, yellow. Legs, including coxæ, uniformly reddish-yellow, the pulvilli and claws, black. Metathorax slightly rugulose at sides, smoother above, the disk bicarinated. Abdomen as in *P. annulipes* Br., the punctures on first segment reticulated, on the disk of the second segment is a rather large, irregular, opaque depression, the surface of which is wrinkled, the surface of the segment surrounding this depression punctured, as are the following segments. Wings hyaline; stigma and veins brown-black, a spot between the parastigma and stigma and the extreme apex of the stigma and the postmarginal vein, yellowish; areolet oblique, quadrate.

HABITAT.—Los Angeles, Cal.

Described from a single specimen, reared by Mr. Albert Kæbele, in March, from a *Pterophorus* living in stems of *Baccharis pilularis*. This species approaches nearest to *P. tenuicornis* Cr., but its slightly smaller size, smoother bicarinated metathorax, differently sculptured abdomen and the clear wings, readily distinguish it.

*Pimpla gossypii* sp. nov.

*Female*.—Length, 5<sup>mm</sup>; ovipositor, 3<sup>mm</sup>. Black, shining; the head and thorax with a few scattered punctures; abdomen with distinct, coarse punctures. Palpi, trochanters, tibiæ and tarsi, white; the middle and posterior tarsal joints tipped with black; the posterior tibiæ

with the apex, and a subbasal annulus, black; rest of the legs reddish-yellow; the apex of posterior femora dusky. Antennæ black, flagellum beneath ferruginous. The parapsidal grooves are indicated anteriorly. Metathorax smooth, the sides slightly punctured, the disk with a small, shallow fovea in the middle. Abdomen black, the disks of the segments obscurely rufous, the first segment a little longer than wide, keeled. Wings hyaline, iridescent; stigma and veins brown, the costæ and a spot between the parastigma and stigma, white; areolet oblique, narrowed at apex.

HABITAT.—Selma, Ala.

Described from one specimen, reared March 7, 1879, from a Tortricid, which feeds in cotton-bolls.

*Pimpla xanthothorax* sp. nov.

*Female*.—Length, 8.4<sup>mm</sup>; ovipositor, 8<sup>mm</sup>. Head and abdomen black; thorax, except metathorax which is black, orange-yellow. Palpi and legs, yellowish-white. All femora and middle and posterior coxæ and trochanters with a black stripe beneath, the posterior knees and joints of the tarsi tipped with black. Antennæ long, black, the apex of the scape and the pedicel, yellowish. Metathorax smooth, with some sparse punctures. Abdomen coarsely punctured, the segments slightly contracted behind the middle, the first segment a little longer than wide, without keels. Wings hyaline; stigma and veins brown; spot at base of stigma and postmarginal vein, yellow. The male is but 6<sup>mm</sup>. long, and agrees with the female, except the scape and pedicel are white, the black stripe is wanting on anterior femora and on the middle coxæ, trochanters and femora, and the apical tips of posterior tibiæ and the middle and posterior tarsal joints are tipped with black.

HABITAT.—Kirkwood, Mo.

Described from one female and one male, received from Miss Mary Murtfeldt, reared February 24, 1872, from *Euura S.-nodus* Walsh, found on willow.

*Pimpla aplopappi* sp. nov.

*Male*.—Length, 7<sup>mm</sup>. Black, shining; head and thorax with some sparse, fine punctures; abdomen coarsely, closely punctured; face covered with a white pubescence. Palpi and anterior legs, except femora, white. Anterior femora and the other legs, reddish-yellow; the posterior tibiæ with a long white stripe in the middle of the outer face, a subbasal spot and the apex, black; the posterior tarsal joints tipped with black. Metathorax smooth, with two indistinct longitudinal carinæ on the disk basally. First abdominal segment one and a third times as long as wide, carinated. Wings hyaline, stigma and veins brown, a pale spot at base of stigma.

HABITAT.—Los Angeles, Cal.

Described from a single specimen received from Mr. D. W. Coquillett, reared from a lepidopterous gall on *Aplopappus squamosa*.

*Pimpla euræ* sp. nov.

*Female*.—Length, 6<sup>mm</sup>; ovipositor, 4<sup>mm</sup>. Head and thorax black, polished; metathorax and abdomen rufous, the mesopleuræ obscurely rufous. In one specimen the thorax is almost entirely rufous. Antennæ 21-jointed, slender, cylindrical, brown. Palpi and tegulæ white. Parapsidal grooves indicated anteriorly. Metathorax with two longitudinal parallel carinæ on disk. Legs honey-yellow, the posterior tibiæ whitish along the upper face. Abdomen rather coarsely punctured, rufous, the apical edges of segments obscured or blackish, first segment broader than long, keeled, sheaths of ovipositor black, very hairy. Wings hyaline, iridescent, the stigma and veins pale-brownish, the areolet oblique, a parallelogram. The male is but 4<sup>mm</sup> long, the thorax wholly black, the abdomen smoother than in the female, the punctures smaller and less deeply impressed, the abdominal segments much longer, the first is one and one-half times as long as wide. The antennæ in this sex are 20-jointed, otherwise it agrees with the female.

HABITAT.—California.

Described from two females and six males, reared September 9th, 1885, from *Euura* on *Salix californica*.

*Pimpla lithocolletidis* sp. nov.

*Male*.—Length, 3<sup>mm</sup>. Black, smooth, shining; the metathorax and abdomen sparsely punctured. Antennæ 18-jointed, brown, the two basal joints black above. Metathorax longer than high, gradually sloping off posteriorly, punctate, the disk with two indistinct longitudinal keels. Legs brown, the coxæ and posterior femora black, the base and tips of posterior tibiæ and terminal joints of tarsi, dusky. Wings hyaline, iridescent; stigma and veins brown, areolet oblique, narrowed at apex, the second recurrent nervure interstitial with the outer nervure of the areolet.

HABITAT.—Alameda, Cal.

Described from a single specimen received from Mr. Albert Kœbele, and reared from a Tineid, *Lithocolletis* sp., found on *Grindelia robusta*. This species is the smallest species known.

## POLYSPHINCTA Grav.

*Polysphincta rufigaster*, sp. nov.

*Female*.—Length, 7<sup>mm</sup>; ovipositor, 2.5<sup>mm</sup>. Black, shining; lower portion of mesopleuræ, mesopectus, metathorax, except the basal two-thirds of the disk, and abdomen, except the two terminal segments, rufous. Antennæ brown above, yellow beneath. Palpi and tegulæ, yellowish-white. Parapsidal grooves indicated anteriorly. Metathorax quadrate, the apex emarginately grooved near the posterior lateral angles, leaving the angles obtusely prominent. Legs reddish-yellow, the

middle and posterior tibiæ banded with white in the middle, the apex and a subbasal annulus on the posterior tibiæ, black, posterior tarsi pale, the joints tipped with black. Abdomen similar to *P. texana* Cr., only a little wider at the middle, the basal five segments rufous, the punctuation finer and more confluent, the segments transverse with subnodose prominences. Wings fusco-hyaline; stigma and veins brown, the areolet entirely wanting.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

#### CLISTOPYGA Grav.

##### *Clistopyga pulchripicta* sp. nov.

*Female*.—Length, 7<sup>mm</sup>; ovipositor, 1.4<sup>mm</sup>. Black; face, except a line down the middle, anterior orbits to beyond the summits of the eyes, clypeus, mandibles, except tips, base of cheeks, palpi, two basal joints of antennæ beneath, tegulæ, a broad line in front and a short line below, a line on collar above, tip of scutellum, postscutellum, anterior legs and middle coxæ and trochanters, and extreme apical edges of the abdominal segments, white. Antennæ 30-jointed, brown, blackish basally. Thorax: mesonotum trilobed, the lobes, mesopleuræ, except a spot at insertion of wings, metapleuræ, and oblong spots on metathorax above, rufous; metathorax finely, transversely aciculated. Legs, with the above-mentioned exceptions, reddish-yellow. The abdomen is much longer than the head and thorax together, sparsely, finely punctured, and finely pubescent, the first segment longer than wide, the three following segments with oblique grooves laterally as in *Glypta*, and connected with a transverse groove or depression towards the apex, forming disk-like prominences on these segments. Wings hyaline, the stigma and veins brown; no areolet.

HABITAT.—Texas.

Described from one specimen in Belfrage collection.

##### *Clistopyga pleuralis* sp. nov.

*Male*.—Length, 7<sup>mm</sup>. Head, except disk of vertex inclosing the ocelli, and the occiput, sides of mesonotum, collar, except a line above, scutellum, all pleuræ, sternum, legs, and extreme apical edges of the abdominal segments, white. There is a large red blotch on the disk of the white sides of the mesonotum, another at the base of the mesopleuræ, and a triangular red spot on the scutellum. Middle of mesonotum, metathorax and abdomen black. There is a black dot on the middle coxæ and a black stripe on hind coxæ; base and apex of hind trochanters, tips of hind tibiæ and subbasal annulus, black; the hind tarsi, except the joints basally, dusky. The head and thorax are smooth, polished; metathorax minutely transversely rugulose and then punctured, much longer than high and gradually sloping off behind.

Abdomen linear, finely, transversely aciculated, the first segment about thrice as long as wide and a little wider at the apex than at base, the following segments gradually subequal; the seventh, quadrate. Wings hyaline, iridescent; the stigma and veins brown; the stigma is lanceolate; areolet absent.

HABITAT.—Kirkwood, Mo.

Described from two specimens received from Miss Mary Murtfeldt, reared April 5th, 1873, from the locust leaf-roller (*Gelechia robiniaefoliella*?). A very beautiful and distinct species, not at all related to any of the other described species in our fauna.

#### GLYPTA Grav.

##### *Glypta leucozonata* sp. nov.

*Male*.—Length, 8<sup>mm</sup>. Yellowish-white; vertex of head and the occiput, mesonotum, band on middle of collar, spot on mesonotum, two longitudinal bands on metathorax, band across middle of first abdominal segment and bands at base of the following segments, black. The first 9 joints of the flagellum are ferruginous, joints 10 to 14, black, joints 15 to 25, white, the following joints black. Head smooth; thorax moderately closely punctured, the parapsidal grooves indicated anteriorly; metathorax delicately rugulose and faintly areolated. Legs yellow-ferruginous; the anterior and middle coxæ white; all the tarsi white, the first joint of posterior tarsi at base and the tibial spurs, dusky. The abdomen is punctured, the oblique lines on the segments, so characteristic of the genus, become obsolete after the fifth segment. Wings hyaline, iridescent; stigma pale, veins dark brown.

HABITAT.—Kirkwood, Mo.

Described from a single specimen, received from Miss Mary Murtfeldt, reared from *Grapholitha interstinctana* July 12th, 1887.

##### *Glypta xanthozonata* sp. nov.

*Male*.—Length, 6<sup>mm</sup>. Yellow; antennæ above, stemmaticum, blotch on occiput, three longitudinal bands on mesonotum confluent at base, a spot on propleuræ, two spots on mesopleuræ, base of metathorax dilated towards lateral corners, large spot on posterior coxæ, apex of posterior tibiæ, transverse band across the middle of the first segment of the abdomen, and bands at the base of all the following segments, black. The antennæ are 28-jointed. On the mesonotum and metathorax are some scattered punctures. The scutellum high, convex. The abdomen is sparsely punctured; the apices of segments smooth, impunctured; all the segments but the last two, in addition to the oblique grooves laterally, have a transverse groove towards the apex, forming, with another transverse groove or depression towards base, small shield-like convex prominences on the disk of these segments. Wings hyaline, stigma and veins brown, the areolet absent.

HABITAT.—Kirkwood, Mo.

Described from a single specimen, received from Miss Mary Murtfeldt, reared from an undetermined Tortricid on oak.

**LAMPRONOTA** Curtis.

*Lampronota puritana* sp. nov.

*Female*.—Length, 12<sup>mm</sup>; ovipositor, 14<sup>mm</sup>. Stature similar to *L. americana* Cr. Entirely black, subopaque, punctate and finely aciculated; the metathorax more closely punctate and laterally the punctures are confluent, the surface slightly rugose; the abdomen is transversely aciculated and with only a few scattered punctures on the first and second segments, some of the segments showing obscure rufous stains. The anterior and middle tibiæ and tarsi and posterior tarsi dusky-ferruginous, the rest of the legs black. Wings fuscous; venation similar to *L. americana*, only the areolet is subpetiolated and the cubitus is not so strongly curved as in that species.

HABITAT.—Boscowen, N. H.

This species is close to *L. americana* Cr., but readily separated by the color of the legs and abdomen and the subpetiolated areolet.

**XYLONOMUS** Grav.

*Xylonomus Rileyi* sp. nov.

*Female*.—Length, 15<sup>mm</sup>; ovipositor about 12<sup>mm</sup> (broken). Black, subopaque; head smooth, shining, with only a few, fine, scattered punctures; the face rugoso-punctate. Antennæ as long as the anterior wing, black, joints 13 to 16 white. Thorax trilobed, somewhat coarsely punctured, the middle lobe posteriorly transversely rugulose; the prothorax above with prominent lateral corners, but not so prominent as in *X. humeralis* Say; pleuræ smooth, polished; metathorax punctato-rugulose, areolated, the posterior lateral corners subacute. Legs, except a white annulus at base of all tibiæ, entirely black. Abdomen but slightly longer than the head and thorax together, transversely aciculated, the first and second segments finely rugulose, fourth, fifth, and sixth segments very short, the fourth emarginated at the middle above, the seventh with a longitudinal groove down the middle. Wings hyaline; venation as in *X. stigmapterus* Say.

HABITAT.—Missouri.

Described from one specimen in Riley collection.

*Xylonomus pulcher* sp. nov.

*Female*.—Length, 9<sup>mm</sup>; ovipositor, 5<sup>mm</sup>. Head and thorax black; all pleuræ, metathorax, legs, and abdomen, rufous. Anterior orbits, not reaching to summit of eyes and interrupted opposite the base of antennæ, posterior orbits dilated on cheeks, large oval spot on face,



palpi, apical half of antennal joint 10 and the following joints to 14 inclusive, sutures of coxæ and trochanters, knees, annulus at base of all tibiæ and under surface of anterior tibiæ, tegulæ, line beneath and the apex of scutellum, white. Tarsi yellowish; two terminal joints of posterior tarsi and the terminal joints of anterior and middle tarsi, black. The head is smooth, polished, finely punctured; thorax densely punctured, longitudinally striated just in front of the scutellum; scutellum and pleuræ finely rugulose; metathorax distinctly areolated. The apex of abdomen beyond the fifth segment blackish; basal segments minutely rugulose; the segments beyond fourth transversely aciculated. Wings hyaline; a small, faint, dusky cloud below the stigma; the stigma, except basal half which is white, and the veins, dark-brown.

HABITAT.—Cadet, Mo.

Described from one specimen, received from Mr. J. G. Barlow.

*Xylonomus floridanus* sp. nov.

*Female*.—Length, 18<sup>mm</sup>; ovipositor, 16<sup>mm</sup>. Obscure rufous; antennæ, mandibles, anterior legs except tibiæ and tarsi, middle legs except tarsi, and posterior legs except coxæ above basally, and the tarsi, black. All the tibiæ at base are annulated with white; anterior tarsi yellowish, the apical half of the first joint and the last, dusky; middle tarsi black, except the basal half of first joint and joints 3 and 4, which are white; posterior coxæ above basally rufous; the tarsi, except first joint basally and the third and fourth joints which are yellowish, dusky or black. The sculpture of this species is almost exactly as in *X. stigmapterus* Say, and like that species the posterior lateral angles of the metathorax is prolonged into a projecting prominence or tooth. Wings fusco-hyaline; stigma and veins brown, the stigma with a white spot at base.

HABITAT.—Archer, Fla.

Described from one specimen.