

**SERPHOIDEA.
PROCTOTRYPOIDEA.**

By CHARLES THOMAS BRUES.

These are slender insects, mostly of small size, and nearly all are parasitic.

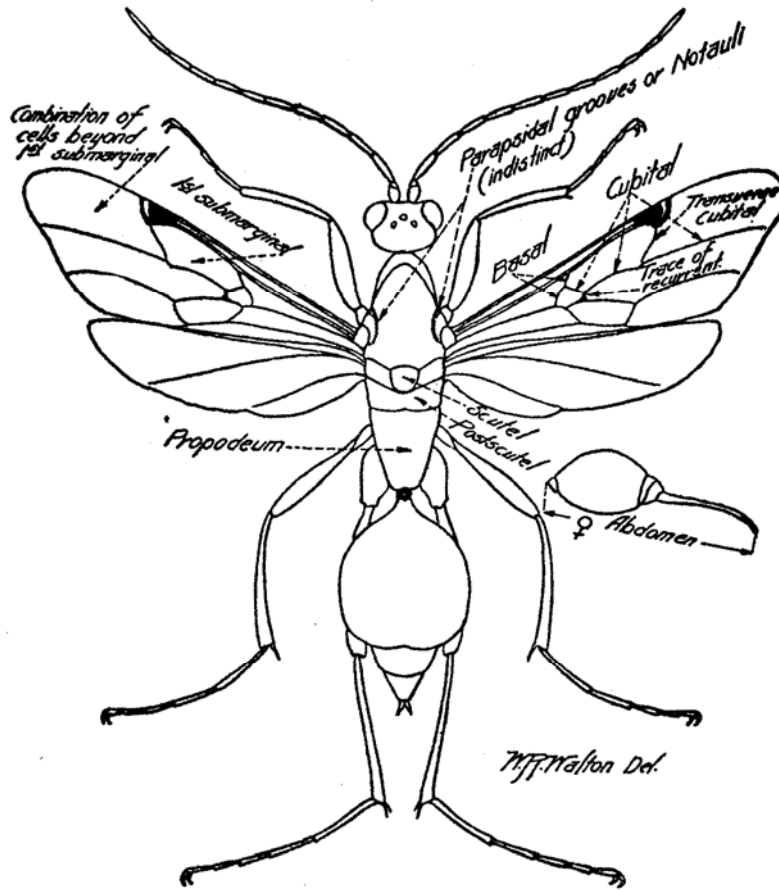


FIG. 13. *Serphus caudatus*.

NOMENCLATURE OF WING PARTS IN THE DRAWING OF
SERPBUS CAUDATUS.

OLD SYSTEM		COMSTOCK-NEEDHAM SYSTEM	
<i>Veins</i>		<i>Veins</i>	
Basal		M and m-cu	
Cubital		Media and at wing margin R_{4+5}	
		+ M_1	
Transverse Cubital		R_2 and r-m	
Recurrent		M_{3+4}	
<i>Cells</i>		<i>Cells</i>	
First submarginal		1st $R_1 + R$	
Fused cells beyond 1st sub-			
marginal		R_{3+4+5}	
Marginal (reduced to a minute			
area beyond the stigma)		2d $R_1 + R_2$	

Key to Families.

1. Trochanters with one joint; antennæ with fourteen joints; mandibles without teeth; stigma very narrow, long
PELECINIDÆ p. 576
- Trochanters with two joints, or stigma very short and broad 2
2. Antennæ inserted into middle of face 3
Antennæ inserted below middle of face at junction of clypeus with face 5
3. Wings present 4
Wings wanting 10
4. Front wings with a more or less distinct stigma 12
Front wings never with a more or less distinct stigma 11
5. Wings present 8
Wings wanting 6
6. Abdomen with sides acute or margined 7
Abdomen with sides rounded CERAPHRONIDÆ p. 557
7. Labial palpi with one joint PLATYGASTRIDÆ p. 531
Labial palpi with two or more joints SCELIONIDÆ p. 541
8. Abdomen with sides acute or margined 9
Abdomen with sides rounded; antennæ in female with ten or eleven joints, in male with eleven joints
CERAPHRONIDÆ p. 557
9. Antennæ with ten, eight, or nine joints; no marginal or stigmal vein PLATYGASTRIDÆ p. 531
Antennæ with twelve, eleven, or seven joints (rarely with ten joints, in which case either the wings bear a large stigma and the entire abdomen is longitudinally striated, or the marginal and stigmal veins are present)
SCELIONIDÆ p. 541
10. Labial palpi with two joints DIAPRIIDÆ p. 561

- Labial palpi with three jointsBELYTIDÆ p. 568
11. Labial palpi with two joints, hind wings with no basal cell
DIAPRIIDÆ p. 561
- Labial palpi with three joints, hind wings always with a
basal cellBELYTIDÆ p. 568
12. Mandibles without teeth, antennæ with thirteen joints
SERPHIDÆ p. 573
- Mandibles with teeth, antennæ with fourteen or fifteen joints
HELORIDÆ p. 576

PLATYGASTRIDÆ.

The species of this family are parasites of the larvæ of gall-gnats or midges and crane-flies, etc.

Key to Genera.

1. Submarginal vein in front wings ending in a stigma or knob;
tarsi 5-jointed, antennæ 10-jointed, front wings without a
basal nervure 2
Submarginal vein entirely absent or indicated only at base,
never knobbed 3
2. Lateral ocelli nearer to eye margin than to front ocellus,
basal segment of abdomen with a horn above
Inostemma p. 532
Lateral ocelli nearer to front ocellus than to eye margin
Isostasius p. 532
3. Scutellum lengthened, not semicircular; if shortened, com-
pressed at sides and furnished with a spine 4
Scutellum not lengthened, semicircular, always unarmed.... 5
4. Abdomen much lengthened; club of female antennæ 5-jointed
Polymecus p. 534
Abdomen not especially lengthened; club of female antennæ
4-jointed; scutellum with a thorn, or sometimes only a
tubercle; lateral ocelli nearer to eye margin than to front
ocellus; mesonotal furrows sometimes present
Amblyaspis (includes *Leptacis* and *Synopeas*)*p. 532
5. Scutellum flat or subconvex 6
Scutellum convex or cushion-shaped 7
6. Mesonotum without furrows; antennæ 10-jointed, with a
jointed club in femaleAnopedius p. 533
Mesonotum with more or less distinct furrows; antennæ
8-jointed in female, with an unjointed clubAmitus p. 534
7. Scutellum bare 8
Scutellum with a tuft of hairs at tip; lateral ocelli not close
to eye margin; club of antennæ 5-jointedTrichasis p. 534
8. Abdomen of usual length 9
Abdomen much lengthenedPolymecus p. 534

* These genera are all included together, as they do not appear to be separable by any trustworthy characters.

9. Thorax short, scutellum separated from mesonotum by a deep furrow 10
 Thorax more elongate, scutellum not separated by a deep furrow 11
10. Face with a distinct keel between antennæ
Eritrissomerus p. 534
 Face not keeled *Polygnotus* p. 535
11. Lateral ocelli nearer to eye margin than to anterior ocellus
Platygaster p. 540
 Lateral ocelli nearer to front ocellus than to eye margin
Isocybus p. 541

Isostasius Foerster.

°*I. musculus* Ashmead.

Black, shining. Antennæ piceous or dark brown. Legs brown, coxæ black, trochanters, base and apex of femora, tibiæ, and all tarsi honey-yellow. Thorax with hardly a trace of furrows. Length 1.2 mm.

Inostemma Haliday.

°*I. horni* Ashmead.

Black, subopaque, closely finely punctulate; mesonotum shining. Antennæ black, the pedicel and first two funicular joints a little pale at tip. Parapsidal furrows complete. Legs black or piceous, tarsi yellowish, and tibiæ paler basally. Abdomen in female at base with a horn extending over the thorax to the vertex of the head. Male without horn. Length 1-1.4 mm.

A parasite of a Cecidomyid forming galls on the iron-weed (*Vernonia noveboracensis*).

*Amblyaspis** Foerster.

Key to Species.

1. Scutellum produced into an acute spine *minutus*
 Scutellum triangular or with a tubercle at apex 2
2. Abdominal petiole, legs, and base of antennæ pale yellow
petiolatus
 Antennæ dark brown 3
 Antennæ, except club of female, bright yellow *flavicornis*
3. Abdomen broadly oval, shorter than thorax *breviventris*
 Abdomen long-oval, longer than head and thorax together
antennariæ

°*A. minutus* Ashmead.

Polished black, impunctate. Antennæ and legs yellow or reddish yellow. Scutellum acutely spined, yellow at tip, foveated

* See note on p. 531.

on each side at base. Legs of male paler than those of female. Length 0.6-0.8 mm.

Parasitic on a Cecidomyid infesting squashes.

°*A. petiolatus* Ashmead.

Shining black, impunctate. Antennæ except club, legs, and petiole, bright yellow. Flagellum of male brown. Thorax convex, without furrows. Scutellum triangular at apex, more or less pubescent, with a fovea on each side at base. Length 0.8 mm.

°*A. breviventris* Ashmead.

Shining black, impunctate. Antennæ and legs brown; the trochanters, bases of tibiæ, and tarsi yellowish. Thorax without furrows, scutellum foveated at base, pubescent at sides, and terminating in a tubercle or very short spine which is only twice as long as thick. Length 0.6-0.8 mm.

°*A. flavicornis* Ashmead.

Polished black; antennæ, except the club in the female, and legs bright yellow. Thorax without furrows, scutellum foveated at the base and ending in a minute tubercle. Abdomen oval, shorter than the thorax. Length 0.8-1.1 mm.

°*A. antennariæ* Ashmead.

Polished black, impunctate. Antennæ dark brown in female, pale brown in male. Legs reddish yellow, darker on femora and coxæ in female. Scutellum smooth, subconvex, not pubescent, the spine of tubercle wanting. Length 0.8-1.1 mm.

Anopedius Foerster.

A. error Fitch.

Polished black, impunctate. Antennæ black, the pedicel pale at tip. Thorax long-ovate, polished, the furrows very faint. Scutellum flattened or subconvex, separated from the mesonotum by a fine line. Legs brown-black; the trochanters, tip of anterior tibiæ, and all the tarsi paler. Abdomen oblong-ovate, slightly longer than the thorax in the female and a little shorter in the male. Length 1-1.2 mm.

Parasitic on the Cecidomyid *Contarinia tritici* and on the injurious clover-flower midge (*Dasyneura leguminicola*).

West Haven, 27 June, 1905 (H. L. V.).

Amitus Haldeman.°**A. aleurodinis** Haldeman.

Polished black; legs most frequently brownish or pale rufous, the coxæ and femora sometimes dusky or blackish. Antennæ in female 8-jointed, brownish yellow, with an unjointed brown club; in male 10-jointed, with verticillate hairs. Length 0.75-1 mm.

A parasite of various species of *Aleyrodes*.

Trichasis Foerster.°**T. rubicola** Ashmead.

Polished black, impunctate. Antennæ pale brown, the scape yellow. Thorax ovate, with distinct furrows. Legs yellowish; the coxæ black; the posterior femora and tibiæ dusky toward the tips. Abdomen longer than the head and thorax together, pointed at tip. Length 1.4-1.6 mm.

Parasitic on Cecidomyids making galls on *Vernonia noveboracensis* and on blackberry.

°**T. rufipes** Ashmead.

Black, shining, the thorax with a fine sparse pubescence. Antennæ brown-black, the scape rufous. Thorax elongate-ovate, with distinct furrows. Legs yellowish red, the coxæ black. Length 2-2.5 mm.

Bred from acorns which probably contained Cecidomyid larvæ.

Eritrissomerus Ashmead.°**E. cecidomyiæ** Ashmead.

Black, subopaque, finely sculptured. Antennæ brown-black, except base and apex of scape. Thorax with two distinct furrows. Scutellum convex and margined at the sides, closely punctate. Legs blackish, lighter in the male, as are also the antennæ. Length 2.1 mm.

Parasitic in a Cecidomyid gall on hickory.

Polymecus Foerster.*Key to Species.*

- | | |
|--|-----------------|
| 1. Thorax smooth, impunctate | 2 |
| Thorax finely microscopically punctate or shagreened | 3 |
| 2. Coxæ and legs yellow | auripes |
| Coxæ black, legs varied with dark | alnicola |

3. First flagellar joint longer than thick, legs piceous, varied with lighter **picipes**
 First flagellar joint not longer than thick, legs brownish yellow **pallipes**

°**P. pallipes** Ashmead.

Black; finely granulately sculptured; subopaque. Female antennæ piceous; scape, pedicel, and three or four following joints yellow; in male entirely pale brown. Abdomen a little longer than the head and thorax together. Length 2-2.6 mm.

°**P. picipes** Ashmead.

Black, shining. Legs rufo-piceous or almost black, with the trochanters, tips of femora, and the tarsi paler. Antennæ brown-black. Scutellum very convex, subopaque, without any tubercle at tip. Length 1.8-2 mm.

°**P. auripes** Ashmead.

Black, shining, the head opaque, and closely microscopically punctulate. Antennæ and legs bright golden yellow. Thorax without furrows or with only traces posteriorly. Scutellum terminated by an awl-shaped spine. Length 1 mm.

°**P. alnicola** Ashmead.

Black, shining, the head and dorsum of the thorax microscopically punctate. Antennæ black, the tip of the pedicel honey-yellow. Mesonotal furrows complete. Scutellum highly convex, subopaque, the tubercle at tip subobsolete. Length 1.4-1.8 mm.

A parasite of *Cecidomyia serrulata* occurring on alder (*Alnus serrulata*).

Polygnotus Foerster.

Key to Species.

Females.

- | | |
|--|--------------------|
| 1. Mesonotal furrows distinctly indicated posteriorly | 2 |
| Mesonotal furrows entirely absent, or present only as the
slightest trace posteriorly | 12 |
| 2. Occiput strongly transversely striated or aciculated..... | 3 |
| Occiput smooth or nearly so | 7 |
| 3. Vertex simple, not impressed at middle | 4 |
| Vertex impressed at middle, subangulated just over eyes | |
| | striaticeps |
| 4. Coxæ black | 5 |
| Coxæ rufo-piceous or pale | viticola |
| 5. Head very wide, three and one-half or four times as wide as
long | 6 |

- Head not so wide, two and one-half times as wide as long
- hiemalis**
6. Tegulæ black, second flagellar joint longer than third **alnicola**
 Tegulæ rufo-piceous, second and third flagellar joints nearly
 equal **tumidus**
7. Coxæ black 8
 Coxæ rufo-piceous or pale 10
8. Metapleuræ bare, aciculated **cynipicola**
 Metapleuræ covered with a sericeous pubescence 9
9. Tegulæ rufo-piceous **rubi**
 Tegulæ black **asynaptæ**
10. Tegulæ rufo-piceous **II**
 Tegulæ black, second flagellar joint longer than the third
astericola
11. No tuft of hair at the base of parapsides, second flagellar
 joint larger than third **actinomeridis**
 Tuft of hair at base of parapsides, second and third flagellar
 joints about equal **vernoniæ**
12. Vertex transversely aciculate 13
 Vertex smooth, not aciculate **pinicola**
13. Coxæ black, legs black or brown-black 14
 Coxæ dark rufous or piceous, legs in part pale 15
14. Pedicel as long as two following joints united **salicicola**
 Pedicel much longer than two following joints united. **diplosidis**
15. Pedicel as long as first and second flagellar joints united ...
baccharicola
 Pedicel longer than first and second flagellar joints united
solidaginis
- Males.*
1. Mesonotal furrows distinctly indicated posteriorly 2
 Mesonotal furrows entirely absent, or present only as the
 slightest trace posteriorly 8
2. Coxæ brown or rufo-piceous 7
 Coxæ black 3
3. Legs in part black 4
 Legs rufo-piceous, anterior tibiæ and the tarsi honey-yellow 6
4. Legs black, only tarsi pale 5
 Trochanters, anterior knees and tibiæ at tips, all tarsi, and
 base of mid and posterior tibiæ honey-yellow **hiemalis**
5. Pedicel as long as first and second flagellar joints together
striaticeps
 Pedicel as long as second flagellar joint **viticola**
6. Pedicel as long as first and second flagellar joints united
cynipicola
 Pedicel shorter than first and second flagellar joints united
alnicola

7. Pedicel longer than second flagellar joint, last antennal joint twice as long as preceding*astericola*
 Pedicel as long as first and second flagellar joints united, last joint less than twice length of preceding*vernoniæ*
 Pedicel as long as second flagellar joint, last joint one-third longer than preceding*euuræ*
8. Vertex transversely aciculated or striated posteriorly 9
 Vertex smooth, or nearly so 13
9. Coxæ rufo-piceous 10
 Coxæ black, legs black or brown-black*salicicola*
10. Pedicel about as long as second flagellar joint*baccharicola*
 Pedicel longer than second flagellar joint 11
11. Legs dark rufo-piceous, tarsi honey-yellow, femora and tibiæ dusky at middle 12
 Legs rufous, tarsi pale, pedicel about as long as first two flagellar joints united*pinicola*
12. Second flagellar joint longer than third*solidaginis*
 Third flagellar joint slightly longer than second*diplosidis*
13. Coxæ black, pedicel as long as second flagellar joint. *asynaptæ*
 Coxæ pale or brown, pedicel as long as first two flagellar joints united*actinomeridis*

P. striaticeps Ashmead.

Black, shining. Head a little more than twice as wide as long. Face smooth, vertex and occiput strongly striate. Antennæ and legs black; anterior and mid tarsi pale. Tegulæ black. Length 0.6-1.2 mm.

West Haven, 27 June, 1905 (H. L. V.).

°**P. viticola** Ashmead.

Shining black. Head a little over three times as wide as long. Antennæ black; tegulæ rufo-piceous. Legs rufo-piceous or brownish; tarsi paler. Abdominal petiole striated, second segment with two long striolated foveolæ at base. Apical segments with rows of punctures at base. Length 1.2-1.4 mm.

Has been reared from Cecidomyid galls on grapevines.

°**P. hiemalis** Forbes.

Polished black. Head two and one-half times as wide as long. Vertex only faintly aciculated, face smooth. Antennæ brown-black. Tegulæ rufo-piceous. Legs dark brown or piceous; trochanters, tips of anterior femora and tibiæ, bases of mid and posterior tibiæ, and all tarsi lighter. Length 0.8-1.4 mm.

Parasitic on the Hessian fly (*Mayetiola destructor*).

°*P. alnicola* Ashmead.

Shining black. Head three and one-half times as wide as long. Antennæ dark brown, pedicel paler. Legs brown; the trochanters, tips of tibiæ, and all tarsi pale. Second abdominal segment striated at base. Length 1.2 mm.

Has been reared from Cecidomyid galls in the flower buds of the alder.

°*P. tumidus* Ashmead.

Polished black. Head four times as wide as long. Antennæ brown black. Legs brownish piceous; trochanters, tips of anterior tibiæ, and all tarsi paler. Second abdominal segment with striæ that extend to the middle. Length 1 mm.

A parasite of *Cecidomyia symmetrica*, an oak gall.

°*P. cynipicola* Ashmead.

Polished black. Head three and one-half times as wide as long, the vertex very faintly aciculated. Antennæ brown-black, the pedicel as long as the second flagellar joint. Tegulæ black; legs black or brown-black. The foveolæ at base of second abdominal segment striated. Length 0.6-0.8 mm.

°*P. rubi* Ashmead.

Black, polished. Head three times as wide as long, vertex not at all aciculated. Antennæ brown, scape and pedicel yellowish. Abdomen polished, the base of the second segment striate. Length 1 mm.

A parasite of *Cecidomyia farinosa*, occurring on blackberry.

°*P. asynaptæ* Ashmead.

Polished black. Head in female three and one-half times as wide as long, in male only three times. Vertex not or very faintly aciculated. Antennæ black. Legs black or piceous; tips of anterior tibiæ and anterior and mid tarsi brownish. Length 0.8-1.2 mm.

Has been bred from galls of *Asynapta* sp. occurring on willows.

°*P. astericola* Ashmead.

Polished black. Head three times as wide as long, vertex not or very faintly aciculated. Antennæ dark brown. Legs, including coxæ, rufo-piceous; trochanters, knees, tips of tibiæ, and all

tarsi honey-yellow. Petiole, and foveolæ on second abdominal segment, striolated. Length 0.8-1 mm.

Has been reared from Cecidomyid galls on asters.

°*P. actinomeridis* Ashmead.

Polished black. Head two and one-half times as wide as long. Vertex very faintly aciculated. Antennæ dark brown, scape paler toward base. Legs dark rufous, the anterior tibiæ and all tarsi honey-yellow. Length 0.6-1.2 mm.

Has been reared from Cecidomyid galls on *Actinomeris squarrosa*.

°*P. vernoniæ* Ashmead.

Black, polished. Head nearly three times as wide as thick, the vertex not aciculated. Antennæ brown, or dark brown, pedicel in the female longer than the first two flagellar joints united. Legs brownish piceous; tips of mid and posterior tibiæ and all tarsi honey-yellow. Length 0.6-0.8 mm.

Has been reared from galls on *Vernonia noveboracensis*.

°*P. pinicola* Ashmead.

Shining black. Head two and one-half times as wide as long. Vertex not aciculated. Antennæ brown. Tegulæ piceous; legs, including coxæ, dark rufous; the tarsi and sometimes the tip of the anterior tibiæ honey-yellow or whitish. Length 0.8-1 mm.

A parasite of *Cecidomyia resinicola*.

°*P. baccharicola* Ashmead.

Shining black. Vertex posteriorly transversely aciculated. Face with some aciculations just above the antennæ. Antennæ piceous, the scape sometimes pale at base and apex, as is also the flagellum at base. Tegulæ piceous; legs, including coxæ, rufo-piceous; trochanters, base and tips of tibiæ, and the tarsi honey-yellow. Length 1-1.2 mm

Has been bred from a Cecidomyid gall of *Baccharis halimifolia*.

°*P. salicicola* Ashmead.

Polished black. Head three times as wide as long, vertex and occiput strongly transversely aciculated, face smooth. Antennæ black, pedicel pale at tip. Tegulæ black. Legs black, the tibiæ and tarsi piceous. Foveolæ at base of second segment faintly striolated. Length 0.8-1.4 mm.

Originally bred from a Cecidomyid gall on willow at Los Angeles, Cal., but occurs abundantly in the New England states.

°*P. diplosidis* Ashmead.

Polished black. Vertex less strongly aciculated than in the preceding. Antennæ brown-black. Tegulæ black; legs brown-black, the base of the tibiæ and tarsi paler.

Has been bred from a Cecidomyid living on pine.

°*P. solidaginis* Ashmead.

Polished black. Vertex strongly striated. Antennæ brown, the scape often black. Tegulæ piceous or black. Legs, including coxæ, variable, from pale rufous to rufo-piceous. Striæ on second abdominal segment extending to the middle. Length 1-1.6 mm.

Has been reared from galls on goldenrod.

°*P. euuræ* Ashmead.

Polished black. Head two and one-half times as wide as long. Antennæ brownish black. Tegulæ rufous. Legs, including coxæ, dark rufous. Pedicel as long as the second flagellar joint. Length 1.6 mm.

Has been reared from Cecidomyid inquillines in the gall of the sawfly *Euura nodus*.

Platygaster Latreille.

Key to Species.

1. Legs, except coxæ, yellow or golden yellow*caryæ*
Legs piceous or rufo-piceous 2
2. Head punctate, face more finely so*herrickii*
Face highly polished, with transverse striæ above antennæ *aphidis*

°*P. caryæ* Ashmead.

Shining black. Vertex rugose, the face finely, closely punctate. Antennæ yellow with fuscous club in female, light brown in male. Tegulæ piceous. Length 1.5-2 mm.

A parasite of a Cecidomyid forming galls on hickory trees.

°*P. herrickii* Packard.

Black, shining, finely punctate or microscopically shagreened. Antennæ black. Legs black or rufo-piceous; sometimes the bases of tibiæ and of tarsi yellowish.

An important parasite of the Hessian fly (*Mayetiola destructor*).

°*P. aphidis* Ashmead.

Shining black. Head posteriorly almost smooth, face polished. Antennæ and tegulæ black. Legs brown-black, the tarsi paler. Abdomen nearly twice as wide as the thorax. Length 1.6 mm.

Isocybus Foerster.

I. pallipes Say.

Black, very finely and closely punctulate. Legs honey-yellow with black coxæ. Pleural piece beneath the anterior wing not striated. Tegulæ rufo-piceous. Abdomen as long as the head and the thorax, widest toward the apex. Length 3.5 mm.

Milldale, 21 May, 1906 (B. H. W.).

°*I. canadensis* Provancher.

Black, finely rugosely punctulate. Differs from the preceding in having the pleural piece below the anterior wing striated. First flagellar joint twice as wide as long. Length 3-3.2 mm.

SCELIONIDÆ.

The members of this very extensive family are exclusively egg-parasites, attacking practically all orders of insects, and also spiders.

They may be recognized by the generally carinated abdomen, and the antennæ inserted near the base of the clypeus. The wings nearly always have a distinct venation. The antennæ of the females always have ten, eleven or twelve joints, except where the joints of the club are fused together.

Key to Genera.

- | | |
|--|----|
| 1. Abdomen oval, acute on sides, but without distinct lateral carinæ | 4 |
| Abdomen distinctly carinated on sides | 2 |
| 2. Abdomen long, fusiform or linear, segments nearly equal, postmarginal vein almost always present | 19 |
| Abdomen oval or elongate-oval, third segment much longer than any of the others | 3 |
| 3. Marginal vein very short, not longer than stigmal vein; females usually apterous, with 7-jointed antennæ having an unjointed club | 9 |
| Marginal vein very long, usually five or six times the length | |

	of the stigmal vein; females usually winged and with 12-jointed antennæ	16
4.	Mesonotum without parapsidal furrows	5
	Mesonotum with furrows, sometimes abbreviated in front..	7
5.	Lateral ocelli very close to or touching eye margin	6
	Lateral ocelli far from eye margin, wings banded	
	Aradophagus p. 550	
6.	Head transverse, considerably wider than long	
	Telenomus p. 544	
	Head quadrate, abdomen more or less pointed Phanurus p. 544	
7.	Postscutellum armed with a spine	Protrimorus p. 544
	Postscutellum not armed	8
8.	Mesonotum with three furrows, abbreviated anteriorly	
	Trissolcus p. 549	
	Mesonotum with two furrows, abbreviated anteriorly	
	Dissolcus	
9.	Females	10
	Males	13
10.	Scutellum present	11
	Scutellum wanting	Bæus p. 551
11.	First abdominal segment bearing a horn above	
	Ceratobæus	
	First abdominal segment not horned	12
12.	Mandibles bidentate	Acolus p. 551
	Mandibles tridentate	Acoloides p. 551
13.	Basal abdominal segment with a horn above	Ceratobæus
	Basal segment of abdomen not armed	14
14.	Basal nervure present	15
	Basal nervure wanting	Acoloides p. 551
15.	Head subquadrate	Bæus p. 551
	Head transverse	Acolus p. 551
16.	Abdomen with first segment petioliform, longer than wide..	17
	Abdomen with first segment as wide as or wider than long..	18
17.	Posterior femora slender, tibial spurs weak ..	Prosacantha p. 551
	Posterior femora swollen, tibial spurs stout	Teleas p. 553
18.	Postscutellum with a small spine or tubercle..	Hoplogryon p. 553
	Postscutellum simple	Paragryon p. 553
19.	Postmarginal vein greatly lengthened, submarginal vein complete, not ending in a stigma	20
	Postmarginal vein wanting or poorly developed, submarginal often abbreviated and stigmated	41
20.	Basal nervure present, distinct	21
	Basal nervure wanting	31
21.	Females	22
	Males	25
22.	First abdominal segment with a horn or protuberance above	23
	Basal segment unarmed	24

23. Marginal vein short, first abdominal segment narrow, petioliform **Caloteleia** p. 554
 Marginal vein long, first segment of abdomen quadrate or nearly so **Baryconus** p. 554
24. Abdomen very long, second, third, and fourth segments nearly equal **Macroteleia** p. 554
 Abdomen not so long, oblong-oval or fusiform.. **Cacellus** p. 555
25. Mesonotum with parapsidal furrows 26
 Mesonotum without furrows 29
26. Postscutellum spined **Opisthacantha** p. 555
 Postscutellum not spined 27
27. Marginal vein longer than stigmal vein 28
 Marginal vein less than half length of stigmal vein **Caloteleia** p. 554
28. First joint of flagellum scarcely longer than third **Macroteleia** p. 554
 First flagellar joint much longer than third... **Baryconus** p. 554
29. Marginal vein longer than stigmal vein **Baryconus** p. 554
 Marginal vein shorter than stigmal vein 30
30. First joint of flagellum very long **Caloteleia** p. 554
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 Metathorax with two teeth **Cacellus** p. 555
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36. Postscutellum simple 37
 Postscutellum armed with a spine **Opisthacantha** p. 555
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 Abdomen with a horn at base above 38
38. Marginal vein short **Caloteleia** p. 554
 Marginal vein long **Baryconus** p. 554
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 Abdomen long, fusiform, club of antennæ 6-jointed **Cacellus** p. 555
40. Submarginal vein ending in a stigma 41
 Submarginal vein not ending in a stigma **Idris** p. 555
41. Head normal, without a frontal lamina or ledge 43
 Head with a projecting frontal lamina or ledge 42
42. Scutellum quadrate, its posterior angles acute, postscutellum with a large erect spine **Acanthoscelio**

- Second abdominal segment one and one-half times as long as wide at apex, head very wide; antennæ 11-jointed..... 13
2. Pedicel large, distinctly longer and thicker than first flagellar joint 3
Pedicel not longer than first flagellar joint *nigriscapus*
3. Antennal scape in part pale 10
Antennal scape entirely black 4
4. Second and third joints of flagellum longer than thick *persimilis*
Second and third flagellar joints rounded, not longer than thick 5
5. First abdominal segment striate 6
First abdominal segment not striate 8
6. Legs piceous or brown-black, trochanters, knees, tips of tibiæ, and tarsi pale or yellowish 7
Legs dark brown, tarsi whitish *helioidis*
7. Marginal vein one-third length of stigmal *graptæ*
Marginal vein nearly one-half length of stigmal .. *spilosomatis*
8. Legs piceous or brown-black, trochanters, knees, tips of tibiæ, and tarsi pale or yellowish 9
Legs yellow or brownish yellow *bifidus*
9. Eyes distinctly pubescent *orgyia*
Eyes bare, or only faintly pubescent *ichthyuræ*
10. Scape in part piceous or black 11
Scape wholly pale 12
11. Coxæ black or piceous *rileyi*
Coxæ pale *geometra*
12. Second abdominal segment smooth *arzamæ*
Second segment striate at the base *podisi*
13. Head two and one-half times as wide as thick *dimmocki*
Head three times as wide as thick *sphingis*

Males.

1. First and second flagellar joints equal or nearly so 2
Second and third joints equal, longer than first 5
Second and third joints equal, shorter than first 10
2. Coxæ black, legs partly piceous 11
Coxæ pale, or dusky only at base, legs lighter 3
3. Third flagellar joint half length of second *dimmocki*
Third flagellar joint only a little shorter than second 4
4. Legs yellow, first to third flagellar joints stout and elongate, joints beyond moniliform *podisi*
Legs brownish yellow, first to third flagellar joints not especially elongate, joints beyond transverse *bifidus*
5. Coxæ black 6
Coxæ pale 8
6. Pedicel shorter than first flagellar joint *graptæ*
Pedicel longer than first flagellar joint 7

gonia interrogationis, *P. progne*, *Euvanessa antiopa*, (*Chryso-phanus*) *Heodes hypophlæas*, *Thymelicus cernes*, *Telea polyphemus*.

°*T. spilosomatis* Ashmead.

Polished black, impunctate, the thorax with a fine microscopic pubescence. Female: antennæ black, the flagellum dark brown; legs piceous brown; the trochanters, knees, apices of tibiæ, and the tarsi pale brownish yellow. Male with the antennæ pale brown, the legs pale brownish yellow with black coxæ. Length 0.6 mm.

Parasitic in the eggs of *Diacrisia virginica*.

°*T. heliothidis* Ashmead.

Smooth black, impunctate. Female: antennæ dark brown, the flagellum twice as long as the scape, the pedicel stout, as long as the first two flagellar joints together; legs dark brown, the tarsi pale. Male antennæ with the flagellum three times the length of the scape; pedicel and first flagellar joint equal; bases of tibiæ yellowish. Length 0.6 mm.

Parasitic in the eggs of the corn ear worm (*Heliothis obsoleta*).

°*T. orgyia* Fitch.

Black, shining; the thorax microscopically punctate, with a fine sericeous down; head a little more than three times as wide as thick; face highly polished; eyes pubescent; thorax very convex; legs black or piceous brown; trochanters, knees, tips of tibiæ and tarsi pale. Length 0.8 mm.

Parasitic in the eggs of the white-marked tussock or vaporor moth (*Hemerocampa leucostigma*).

°*T. ichthyuræ* Ashmead.

Black, shining, impunctate; the thorax covered with a fine microscopic pubescence. Head wider than the thorax, the face smooth and polished, female flagellum one and one-half times the length of the scape. Female: legs piceous brown; the coxæ black; trochanters, knees, base and apex of tibiæ, and tarsi honey-yellow. Male legs, except coxæ, pale brownish yellow. Length 0.6 mm.

Parasitic in the eggs of *Melalopha inclusa*.

°*T. bifidus* Riley.

Black, shining, the thorax microscopically punctulate and covered with a fine white pubescence. Head as broad as the

thorax, highly polished. Antennal scape black, the flagellum brown-black, pedicel brownish yellow. Legs in the female, except coxæ, honey-yellow, femora darker; in the male wholly pale yellow. Male antennæ pale brownish. Length 0.6 mm.

Bred from the eggs of *Hyphantria textor*.

°*T. sphingis* Ashmead.

Black, shining, the thorax very faintly microscopically punctate, finely pubescent. Female: antennæ dark brown, scape sometimes black, usually pale beneath or at base and apex; legs pale brown or brownish yellow; coxæ black, and the femora and tibiæ more or less infuscated. Male antennæ and legs yellow, the coxæ black or dusky. Length 0.8-1 mm.

Found in the eggs of *Phlegethontius sextus*.

°*T. rileyi* Howard.

Black, shining, the thorax with fine microscopic punctation and down. Antennæ dark brown, the scape pale at extreme base. Pedicel a little longer than the first flagellar joint, second, third and fourth moniliform. Legs dark brown or piceous; trochanters, knees, and tarsi honey-yellow.

Parasitic in the eggs of *Chlorippe clyton*.

°*T. geometræ* Ashmead.

Black, shining, impunctate, head three times as wide as long, face convex, highly polished. Female: antennæ dark brown, pedicel twice as long as the first flagellar joint, which is only a little longer than thick; legs brown, posterior coxæ blackish; trochanters, knees, tips of tibiæ, and the tarsi pale. Male antennæ pale brown, the legs pale or yellowish, with darker femora and tibiæ. Length 0.45 mm.

Parasitic on the eggs of a Geometrid which infests the wild cherry.

°*T. arzamæ* Riley.

Black, shining, the head and thorax with a faint microscopic punctation and finely pubescent. Antennæ brown, flagellum darker above and beneath, pedicel scarcely longer than the first funicular joint. Legs rufous or reddish yellow; trochanters and tarsi paler; the femora and tibiæ sometimes darker. Length 0.8 mm.

Parasitic on the eggs of *Bellura gortynides*.

°*T. podisi* Ashmead.

Black, shining, the thorax very finely but distinctly punctate

and with a white pubescence. Face smooth, vertex microscopically shagreened. Female: antennæ brown, the scape and pedicel yellow or brownish yellow, the pedicel distinctly longer than the first funicular joint. Legs, including coxæ, honey-yellow. Male antennæ with the pedicel half the length of the first flagellar joint. Length 1 mm.

Parasitic on the eggs of *Podisus spinosus*.

°*T. chrysopæ* Ashmead.

Black, shining, the thorax microscopically punctate, with a fine pubescence. Antennæ brown, the pedicel nearly as long as the first flagellar joint. Legs dark fuscous or brown; the coxæ black or blackish; trochanters, knees, and tarsi pale. Length 0.6-1 mm.

A common parasite on the eggs of various species of the Neuropterous genus *Chrysopa*.

°*T. clisiocampæ* Riley.

Black, shining, the thorax microscopically punctate. Female: antennæ black, the pedicel much longer than the first flagellar joint; legs piceous; trochanters, a small spot on knees, and the tarsi pale. In the male the pedicel is not so long as the first flagellar joint, and the legs are more yellow. Length 0.6 mm.

Parasitic on the American tent-caterpillar (*Malacosoma americana*).

°*T. fiskei* Brues.

Black, shining; legs, except coxæ, honey-yellow or brownish yellow, the femora piceous or fuscous. Wings hyaline, venation pale yellowish, marginal vein half the length of the stigmal vein. Antennæ of the female 10-jointed.

Parasitic on the eggs of the white-marked tussock moth (*Hemerocampa leucostigma*).

Trissolcus Ashmead.

Key to Species.

- | | |
|--|-------------------|
| 1. Legs, except coxæ, and antennal scape pale | <i>brochymenæ</i> |
| Legs, in part, and scape blackish | 2 |
| 2. Scutellum rugoso-punctate, subopaque or punctate | 3 |
| Scutellum smooth, impunctate | 4 |
| 3. First flagellar joint shorter than pedicel | <i>murgantiæ</i> |
| First flagellar joint as long as or longer than pedicel... | <i>euschisti</i> |

4. First flagellar joint as long as or longer than pedicel *podisi*
 First flagellar joint shorter than pedicel *thyantæ*

°*T. euschisti* Ashmead.

Shining black, very finely closely punctulate, thorax with a white pubescence. Face with a median furrow. Antennæ dark brown, the scape at base and tip, the pedicel, and one or two funicular joints more or less pale brown or yellowish. Legs black; trochanters and tips pale. Length 1.5 mm.

Parasitic on the eggs of *Euschistus servus*.

°*T. podisi* Ashmead.

Black, subopaque, thorax microscopically punctate. Head smooth, with a few punctures near the orbits. Antennæ entirely black. Legs black; trochanters, knees, tips of tibiæ, and tarsi pale or yellowish. Length 1-1.2 mm.

Parasitic on the eggs of *Podisus spinosus*.

°*T. thyantæ* Ashmead.

Black, subopaque, closely microscopically punctulate. Antennæ black. Legs black; tips of all femora, as well as the tibiæ and tarsi, honey-yellow. Marginal vein about one-third the length of the stigmal vein. Length 0.8-1 mm.

Parasitic on the eggs of *Thyanta custator*.

°*T. murgantiæ* Ashmead.

Black, rugose, the abdomen smooth and polished. Female antennæ entirely black, those of the male with yellowish scape. Legs black; the trochanters, knees, and distal ends of the tibiæ dark or honey-yellow. Length 0.14-1 mm.

Parasitic on the eggs of the harlequin cabbage-bug (*Murgantia histrionica*).

°*T. brochymenæ* Ashmead.

Shining black, the thorax scarcely punctulate. Antennæ black, scape, pedicel and first flagellar joint brownish yellow. Legs honey-yellow, with black coxæ. Length 0.8-0.9 mm.

Parasitic on *Brochymena arborea*.

Aradophagus Ashmead.

°*A. fasciatus* Ashmead.

Smooth, polished, honey-yellow. Scape, pedicel, and basal half of first flagellar joint pale or whitish, rest of antennæ brown-

black. Wings fuscous, the base and a median band hyaline. Length 1.5 mm.

This species is thought to be parasitic on the eggs of certain Aradidæ.

Acoloides Howa. 1.

°**A. saitidis** Howard.

Entirely black. Legs and antennæ honey-yellow, coxæ black, scape (in female) brownish. Male antennæ uniformly honey-yellow. Body opaque, closely minutely punctulate. Wings well developed. Length 1.4 mm.

Parasitic on the eggs of the spiders, *Saitis pulex* and *Phidippus morsitans*.

°**A. emertonii** Howard.

Black, shining, but closely microscopically punctulate. Antennæ brown-black, scape pale at extreme base. Legs, including coxæ, brownish yellow. Wings well developed. Length 1.4 mm.

Acolus Foerster.

°**A. zabriskei** Ashmead.

Black, polished, finely sericeous. Mandibles reddish, scape honey-yellow, flagellum pale brown. Legs, including coxæ, reddish yellow. Length 1 mm.

Parasitic on spiders' eggs.

Bæus Haliday.

°**B. niger** Ashmead.

Black, shining, with a fine sericeous pubescence. Antennæ with the scape and flagellum pale rufous or brownish yellow, the club large and black. Length 0.7 mm.

°**B. americanus** Howard. Howard, Insect Book, p. 51, Fig. 26.

Dark honey-yellow, the antennæ and legs pale yellowish. Abdomen fuscous. Length 0.8 mm.

Bred from the eggs of an Epeirid spider.

Prosacantha Nees.

Key to Species.

1. Antennæ in part rufous or pale 2

- Antennæ entirely black, thorax smooth and shining
- pennsylvanica**
2. Mesonotum smooth and shining or finely punctulate **caraborum**
 Mesonotum rugose or coarsely sculptured 3
3. Coxæ pale 4
 Coxæ black **punctiventris**
4. Abdomen longitudinally striated throughout **striativentris**
 Abdomen striated at base but smooth or punctate apically
marylandica

°**P. caraborum** Riley.

Black, shining, the thorax finely rugulose, the scutellum almost smooth. Antennæ dark brown or black, the scape a little pale at the extreme base. Legs reddish yellow; the coxæ basally and the mid and posterior tibiæ and tarsi fuscous. First three abdominal segments striated. Length 1.6-1.8 mm.

Parasitic on the eggs of *Chlenius impunctifrons*, a Carabid beetle.

°**P. punctiventris** Ashmead.

Black, the thorax and scutellum longitudinally rugulose, sub-opaque. Antennæ black, the scape basally rufous. Wings sub-fuscous. Abdomen punctate, striate on the three basal segments. Length 2.5 mm.

P. marylandica Ashmead.

Black, thorax and scutellum rugoso-punctate. Antennæ black, the scape basally and the pedicel at apex yellowish. Legs, including coxæ, brownish yellow. Abdomen striated, the fourth and following segments punctate. Length 2 mm.

Salisbury, 30 August, 1904 (W. E. B.).

°**P. pennsylvanica** Ashmead.

Black, shining, sparsely pubescent, the punctuation of the thorax very fine and faint. Antennæ black. Legs piceous; trochanters, knees, tips of tibiæ, and base of tarsi yellowish. Length 1 mm.

°**P. striativentris** Ashmead.

Black, the head and abdomen shining, the thorax opaque, closely punctulate. Abdomen longitudinally striated for its entire length. Legs brownish yellow, the coxæ dusky basally. Length 1.5 mm. (male).

Teleas Latreille.**T. coxalis** Ashmead.

Black, shining, pubescent. Antennæ black, the scape pale at base. Thorax and scutellum coarsely rugose, vertex not striated but slightly sculptured. Three basal abdominal segments striated, the fourth and following closely punctate at base. Length 2 mm.

New Haven, 1 September, 1904 (H. L. V.).

Hoplogryon Ashmead.°**H. minutissimus** Ashmead.

Black, subopaque, closely microscopically punctulate. Legs brown or fuscous; the trochanters, knees, tips of tibiæ, and tarsi pale; coxæ black. Wings extending just beyond the tip of the abdomen, hyaline. Third abdominal segment smooth. Length 0.75 mm.

°**H. claripennis** Ashmead.

Black, shining, thorax faintly punctulate, scutellum smooth and polished. Coxæ and legs yellow. Wings hyaline, third abdominal segment smooth. Length 1.2 mm.

Paragryon Kieffer.*Key to Species.*

- | | |
|---|--------------------|
| 1. With wings | fumipennis |
| Wingless | 2 |
| 2. Coxæ black | 3 |
| Coxæ pale | flavipes |
| 3. Abdomen shining, metathoracic angles more or less obtuse | |
| | borealis |
| Abdomen subopaque, metathoracic angles acute | columbianus |

°**P. fumipennis** Ashmead.

Black, shining, minutely punctulate. Mandibles and legs yellow. Antennæ black, the scape yellowish toward the base. Metathoracic angles obtuse. Mesonotum with traces of parapsidal furrows posteriorly. Wings smoky hyaline, paler at base. Length 1.4 mm.

°**P. borealis** Ashmead.

Apterous, black, subopaque, closely microscopically punctate, and with a fine sericeous pubescence. Metathorax with the angles subacute. Antennæ black or piceous. Legs pale rufous or brownish yellow with black coxæ. Length 1 mm.

°*P. columbianus* Ashmead.

Black, opaque, closely minutely punctulate. Antennæ piceous, scape pale rufous. Legs, except coxæ, brownish yellow. Angles of metathorax acute. First and second abdominal segments with coarse striæ. Length 1.4 mm.

°*P. flavipes* Ashmead.

Black, shining, finely punctulate. Legs, including coxæ, pale yellow. Antennæ piceous, scape basally below pale. Metathoracic angles obtuse. Second abdominal segment striated only at the suture. Length 0.6 mm.

Caloteleia Westwood.°*C. parvipennis* Melander and Brues.

Honey-yellow; the head, flagellum, tegulæ, abdominal horn and tip of abdomen black. Wings reaching only to the middle of the abdomen. Wings yellowish fuscous. Length 1 mm.

C. marlattii Ashmead.

Brownish yellow, the head black or fuscous. Abdomen more or less blackened apically. Wings hyaline, reaching nearly to the tip of the abdomen. Length 2.5-3.2 mm.

West Haven, 27 June, 1905 (H. L. V.).

Baryconus Foerster.°*B. œcanthi* Riley.

Black, closely punctate, subopaque and sparsely covered with a sericeous down. Antennæ black; legs black, the bases of the tibiæ and tarsi brownish. Abdomen rugulose, tip of horn of female polished. Length 2.5-3 mm.

An egg parasite of the tree cricket (*Æcanthus niveus*).

Macroteleia Westwood.°*M. floridana* Ashmead.

Slender, very long, black, rugoso-punctate and sparsely pubescent. Antennæ dark brown, the scape pale. Legs brownish yellow, coxæ of the female black. Abdomen with lineated sculpture basally, the apical segments almost smooth. Length 3.5-4 mm.

°*M. virginensis* Ashmead.

Black, shining, with a thimble-like punctation. Antennæ

brown-black, the scape brownish yellow. Legs, including coxæ, reddish yellow. Abdomen with large punctures. Length 4 mm.

Opisthacantha Ashmead.

°**O. mellipes** Ashmead.

Black, subopaque, almost invisibly punctate. Antennæ piceous, the scape yellow. Legs pale honey-yellow. Postscutellum armed with an acute spine. First three abdominal segments striated. Length 1.4 mm.

Cacellus Ashmead.

°**C. œcanthi** Riley.

Black, subopaque, closely punctate and covered with a fine sericeous down. Female: antennæ with the base and apex of scape and two terminal joints pale. Legs pale rufous. Male antennæ brownish yellow. Length 2-2.2 mm.

Parasite on the eggs of species of tree-cricket (*Æcanthus*).

Hoploteleia Ashmead.

°**H. floridana** Ashmead.

Brown-black, closely rugoso-punctate, the middle of the mesonotum smoother. Antennæ of female black, the scape rufous; of male brown, with yellowish scape. Abdomen longitudinally rugulose. Length 3.5-4 mm.

Hadronotus Foerster.

°**H. anasæ** Ashmead.

Black, coarsely irregularly rugoso-punctate, with a sparse whitish pubescence. Abdomen more evenly and less coarsely sculptured, somewhat lined. Antennæ of female brown, scape, pedicel, and sometimes the base of the flagellum yellow. Legs brownish yellow, the coxæ sometimes dusky or even black. Length 1.2 mm.

A common parasite of the eggs of the common squash-bug (*Anasa tristis*).

Idris Foerster.

***I. nigricornis** Brues.

Polished black, legs and antennal scape basally rufous. Antennæ black, except the base of the scape, which is rufous. Legs

dark brown, rufous, or yellow. First two abdominal segments striated. Length 2.5 mm. (male).

Type locality: Colebrook, 19 August, 1901 (W. M. W.).

Bred from a mixed nest of the ants, *Myrmica* and *Leptothorax*.

Sparaison Latreille.

°**S. famelicum** Say.

Elongate, black, subopaque, punctate. Antennæ fuscous; legs honey-yellow, with black coxæ. Parapsidal furrows distinct, the scapulæ with a longitudinal grooved line. Wings hyaline. Length 4.5 mm.

***S. nigrum** Ashmead.

Black, shining, very pilose. Frontal ledge in male only a transverse carina, in the female broader and slightly oblique. Antennæ black. Legs black, tibiæ and tarsi more or less yellow. Abdomen of male opaque, rugose; of female punctate, striate and shining. Length 3-3.5 mm.

Scelio Latreille.

Key to Species.

- | | |
|--|----------------------|
| 1. Mesonotum with no indications of parapsidal furrows | 2 |
| Parapsidal furrows faint but distinct | 3 |
| 2. Coxæ pale brownish yellow, wings pure hyaline | hyalinipennis |
| Coxæ black, wings subfuscous in female, subhyaline in male | ovivorus |
| 3. Stigmal vein present, short | luggeri |
| Stigmal vein entirely absent | calopteni |

S. hyalinipennis Ashmead.

Black, coarsely rugoso-punctate. Scape, pedicel beneath in female, and legs except coxæ, brownish yellow or reddish. Wings clear hyaline, with only a trace of the submarginal vein. Length 4-4.5 mm.

West Haven, 27 June, 1905 (H. L. V.).

S. ovivorus Riley.

Black, very coarsely rugoso-punctate. Antennæ brown-black, the scape and pedicel pale rufous or brownish yellow. Legs, including coxæ, pale yellowish. Stigmal vein present. Length 3.6-4.2 mm.

Has been bred from the eggs of the Carolina locust (*Dissosteira carolina*).

Waterbury, 10 July, 1879 (W. H. P.).

S. calopteni Riley.

Black, rugose, the mesonotum with faint but distinct furrows. Antennæ brown-black, the scape and pedicel yellow. Tegulæ pale rufous. Legs, including coxæ, pale brownish yellow. Length 3-3.4 mm.

Parasitic on the eggs of (*Caloptenus*) *Melanoplus atlanis*.

S. luggeri Riley.

Black, rugose, differs from the preceding only in the presence of a short stigmal vein and the entirely brown-black antennæ.

Parasitic on the eggs of *Caloptenus* sp.

CERAPHRONIDÆ.

Key to Genera.

- | | |
|--|----------------------------|
| 1. Marginal vein stigmated, antennæ 11-jointed in both sexes | 2 |
| Marginal vein not stigmated, male antennæ with one more joint than in female | 9 |
| 2. Males | 6 |
| Females | 3 |
| 3. Metathorax not spined at base | 4 |
| Metathorax with a forked spine at base | Megaspilus p. 558 |
| 4. Thorax much narrowed; completely apterous | |
| Thorax as usual | Eumegaspilus p. 559 |
| Thorax as usual | 5 |
| 5. Mesonotum narrowed anteriorly, eyes pubescent | |
| Mesonotum not narrowed in front, eyes usually bare | Conostigmus p. 558 |
| Mesonotum not narrowed in front, eyes usually bare | Lygocerus p. 558 |
| 6. Metathorax with a forked spine at base | Megaspilus p. 558 |
| Metathorax not thus armed | 7 |
| 7. Apterous | Eumegaspilus p. 559 |
| Fully winged | 8 |
| 8. Antennæ dentate or ramose | Lygocerus p. 558 |
| Antennæ filiform, not dentate | Conostigmus p. 558 |
| 9. Males | 11 |
| Females | 10 |
| 10. Scutellum flat or subconvex, with a frenum | Ceraphron p. 559 |
| Scutellum convex, without a frenum | Aphanogmus p. 560 |
| 11. Scutellum depressed or flat, with a frenum; antennæ simple, not serrate | Ceraphron p. 559 |
| Scutellum convex, acuminate, without a frenum; antennæ serrate | Aphanogmus p. 560 |

Megaspilus Westwood.*Habropelte* Thomson.°**M. armatus** Say.

Black, more or less pilose. Wings fusco-hyaline, darker beneath the stigma. First flagellar joint of the female three times as long as the pedicel, in the male not longer than the scape. Length 3.4-4 mm.

°**M. fuscipennis** Ashmead.

Differs from the preceding by the shorter first flagellar joint of the female, which is less than three times the length of the pedicel. In the male it is not longer than the scape.

Lygocerus Foerster.°**L. stigmatus** Say.

Black, pubescent, finely punctulate, subopaque. Legs piceous-black, varied with honey-yellow. Male with the first five flagellar joints dentate, the first twice as long as thick. Length 1.4 mm.

Parasitic on aphids on poplar and raspberry.

°**L. niger** Howard.

Differs from the preceding in having the first to seventh flagellar joints of the male dentate, the first being two and one-half times as long as wide. Length 1.6 mm.

Parasitic on the wheat aphid (*Siphonophora avenæ*).

Conostigmus Dahlbom.*Megaspilus* Westwood.*Key to Species.**Females.*

- | | |
|---|------------------------|
| 1. Face smooth, polished, and impunctate | 2 |
| Face finely punctulate or shagreened | 3 |
| 2. Apex of abdomen compressed so that it gapes open | |
| | anomaliventris |
| Apex of abdomen normal | ambiguus |
| 3. Wings short, reaching to middle of abdomen | ottawensis |
| Wings fully developed | 4 |
| 4. Face finely shagreened or punctulate | 5 |
| Face rather coarsely rugose | harringtonii |
| 5. First three flagellar joints yellow | ottawensis var. |
| Flagellum entirely blackish | schwartzii |

°*C. anomaliventris* Ashmead.

Black, shining, head and thorax finely alutaceous. Antennæ brown-black. Legs reddish yellow, the posterior coxæ dark at base. Tip of abdomen in female compressed, widely gaping open so that the valves of the ovipositor project. Length 2.5 mm.

°*C. ambiguus* Ashmead.

Black, shining, finely alutaceous. Scape and legs brownish yellow, the posterior coxæ dark basally. Wings nearly hyaline, the stigmal vein less than twice the length of the stigma. Length 1.2-1.6 mm.

C. schwartzii Ashmead.

Black, finely shagreened, the scutellum smooth. Scape and legs brownish yellow, antennal scape brownish yellow, the flagellum piceous. Wings hyaline, the stigmal vein one and one-half times as long as the stigma. Length 1.6 mm.

Sachem's Head, 3 August, 1904, West Haven, 27 June, 1905, New Haven, 4 July, 1905 (H.L.V.).

°*C. harringtonii* Ashmead.

Black, the head and thorax with a fine reticulate punctation. Legs dull yellow; the posterior coxæ black and the others dusky. Scape and pedicel yellow, flagellum black. Length 2-2.5 mm.

°*C. ottawensis* Ashmead.

Smooth, shining black. Scape, pedicel, and first three flagellar joints yellow. Legs honey-yellow. Wings usually short, reaching only to the middle of the abdomen, but sometimes well developed. Length 2-2.5 mm.

Eumegaspilus Ashmead.*E. erythrothorax* Ashmead.

Head and abdomen black or fuscous. Face, scape, thorax and petiole rufous or brownish yellow. Legs pale yellow. Wingless.

In nest of *Lasius umbratus mixtus aphidicola*.

Colebrook, August, 1900 (W. M. W.).

Ceraphron Jurine.*Key to Species.*

1. Head, thorax, and abdomen black 3

- Abdomen obscure rufous or piceous, yellowish at base and beneath 2
2. Flagellum of antennæ black **pallidiventris**
Flagellum brownish yellow basally **tertius**
3. Head and thorax distinctly and closely punctate **punctatus**
Head and thorax smooth or nearly so 4
4. Tegulæ black **pedalis**
Tegulæ pale **flaviscapus**

°**C. pallidiventris** Ashmead.

Black, the abdomen brownish, the venter yellow. Scape, part of pedicel, and legs pallid yellow. Tegulæ yellowish. Wings hyaline, the marginal cell almost closed. Body shining, but distinctly punctulate. Length 1.6 mm.

°**C. tertius** Dalla Torre.

Head and thorax polished black. Abdomen rufous, yellowish at the base. Legs brownish yellow. Wings subhyaline, slightly tinged; stigmal vein long and curved. Length 0.8-1.2 mm.

°**C. punctatus** Ashmead.

Black, finely and closely punctate, subopaque. Antennæ brownish yellow, apical half blackened. Tegulæ dull rufous or piceous. Wings subfuscous, stigmal vein long, almost forming a closed marginal cell. Legs brownish yellow. Length 1.1-1.6 mm.

°**C. pedalis** Ashmead.

Polished black, with some sparse, minute punctures. Antennæ black. Legs brownish yellow. Wings subhyaline, or slightly yellowish. Length 1.5 mm.

°**C. flaviscapus** Ashmead.

Polished black, impunctate. Scape, pedicel, and legs yellow or brownish yellow. Wings hyaline. Tegulæ yellowish. Length 1 mm.

Aphanogmus Thomson.

Key to Species.

1. Mesonotum with a median furrow **marylandicus**
Mesonotum without a furrow 2
2. Wings with a fuscous band **virginiensis**
Wings not banded **pallidipes**

°**A. virginiensis** Ashmead.

Polished black. Antennæ and legs fuscous; the scape,

trochanters and tarsi whitish. Wings hyaline, with a fuscous band beneath the stigma. Length 1 mm.

°*A. marylandicus* Ashmead.

Polished black. Antennæ black. Legs dark brown, paler at the tips. Wings entirely hyaline. Length 1 mm.

°*A. pallidipes* Ashmead.

Shining black. Antennæ brownish yellow. Legs pale yellow. Wings clear hyaline, the nervures brown, the stigmal vein only a little longer than the marginal and but slightly curved. Length 0.8 mm.

DIAPRIIDÆ.

The present family is very similar in appearance to the following, but may be usually distinguished by the entire absence of a basal cell in the hind wings. The front wings are less distinctly veined, lacking the marginal cell so prominent in most Belytidæ. The antennal prominence is also usually less evident and the antennæ of the females more incrassated.

Key to Genera.

Females.

- | | |
|---|---------------------------|
| 1. Wings normally developed | 6 |
| Wings abbreviated or absent | 2 |
| 2. Antennæ 13-jointed | 3 |
| Antennæ 12-jointed | 5 |
| 3. Antennæ with an abrupt 4-jointed club | Basalys p. 568 |
| Antennæ without an abrupt club | 4 |
| 4. Abdomen more or less rounded at apex and depressed; base of second abdominal segment raised dorsally above the petiole, without impression | Spilomicrus p. 564 |
| Abdomen ending conically and compressed; base of second segment not raised above the petiole | Paramesius p. 563 |
| 5. Club of antenna abrupt, 3-jointed | Loxotropa p. 565 |
| Club of antenna 5-jointed or antennæ not distinctly clubbed | Aneurynchus p. 564 |
| 6. Wings emarginate or truncate at the tip | Entomacis p. 563 |
| Wings rounded at the tip | 7 |
| 7. Antennæ 13-jointed | 8 |
| Antennæ 12-jointed | 11 |
| 8. Subcostal vein not exceeding the basal third of the wing | Basalys p. 568 |
| Subcostal vein exceeding the basal third of the wing | 9 |

9. Marginal vein punctiform; abdomen broadly truncate at the apex of the second segment, at which point it is broadest
Hemilexis
Marginal vein large, quadrangular or linear; abdomen not truncate 10
10. Tip of abdomen rounded and depressed; base of second segment usually raised above the surface of the petiole; marginal vein once or twice as long as broad
Spilomicrus p. 564
Abdomen conically pointed and compressed at tip; base of second segment not raised; marginal vein linear, three or four times as long as broad **Paramesius** p. 563
11. Face much produced, horizontal; mandibles rostriform, extending to the prosternum **Galesus** p. 564
Face normal; mandibles not thus prolonged 12
12. Subcostal vein not attaining the border of the wing; stigmal vein separated from the costa **Aneurhynchus** p. 564
Subcostal vein attaining the costal margin of the wing 13
13. Wings with a well-marked basal vein; antennal club 3-jointed
Loxotropa p. 565
Wings without basal vein 14
14. Scutellum without depressions at the base **Phænopria** p. 567
Scutellum with one or two basal impressions 15
15. Scutellum carinate or ridged medially 16
Scutellum flat or feebly convex **Trichopria** p. 566
16. Club of antennæ abrupt, 3-5-jointed; basal margin of second abdominal segment simple **Ashmeadopria** p. 566
Club of antennæ gradual, 6-jointed; basal margin of second abdominal segment raised and angularly emarginate
Diapria p. 565
- Males.*
1. Antennæ 14-jointed 2
Antennæ 13-jointed 10
2. Third joint of antennæ angulate or emarginate, fourth joint simple; no parapsidal furrows **Ashmeadopria** p. 566
Third joint of antennæ simple; fourth joint sometimes angulate 3
3. Wings absent or abbreviated **Loxotropa** p. 565
Wings fully developed 4
4. Scutellum without any impression at the base **Phænopria** p. 567
Scutellum with one or two impressions at the base 5
5. Subcostal vein not attaining the margin of the wing
Aneurhynchus p. 564
Subcostal vein attaining the margin of the wing, or absent 6
6. Mandibles rostriform, attaining the prosternum; face produced behind **Galesus** p. 564
Mandibles normal; face not produced 7

7. Wings with a well-marked basal vein *Loxotropa* p. 565
 Wings without basal vein 8
8. Scutellum medially carinate 9
 Scutellum flat or weakly convex *Trichopria* p. 566
9. Flagellum of antennæ with long, irregularly placed hairs;
 anterior margin of second abdominal segment raised and
 emarginate *Diapria* p. 565
 Flagellum verticillate with long hairs; anterior margin of
 second abdominal segment not raised nor emarginate.
Ashmeadopria p. 566
10. Wings emarginate or truncate at tip *Entomacis* p. 563
 Wings rounded at tip 11
11. Third joint of antennæ less than half as long as the fourth
Paramesius p. 563
 Third joint of antennæ at least nearly as long as the fourth 12
12. Base of second abdominal segment raised above the petiole
 without impression *Spilomicrus* p. 564
 Base of second abdominal segment not raised *Hemilexis*

Entomacis Foerster.

°*E. subemarginata* Ashmead.

Polished black, smooth. Legs and antennæ yellow. Apex of anterior wing emarginated; stigmal vein longer than the marginal. Length 1.3-1.8 mm.

**E. ambigua* Brues.

Shining black. Legs and antennæ, except apex, rufous. Mesothorax with distinct furrows, the scutellar fovea deep and broad, longitudinally fluted. Wings obsoletely emarginate at the apex. Length 2.5 mm.

Type locality: Colebrook, living in nests of *Stenamamma fulvum piceum*.

Paramesius Westwood.

Key to Species.

1. Wings hyaline *parvulus*
 Wings fuscous or fusco-hyaline 2
2. Scutellum with two foveæ at base *spinosus*
 Scutellum with a single fovea at base *pallidipes*

°*P. parvulus* Ashmead.

Shining black, with some sparse hairs. Legs and antennæ brownish yellow; flagellum twice as long as the scape, the five or six terminal joints fuscous or black, the last enlarged, about three times as large as the penultimate. Length 1.5 mm.

°**P. spinosus** Ashmead.

Polished black, with some sparse gray hairs. Antennæ, except three terminal joints, and legs reddish yellow; last joint of antennæ a little longer and thicker than the penultimate. Length 3 mm.

°**P. pallidipes** Ashmead.

Polished black, with a few fuscous hairs. Antennæ and legs rufous, the last four antennal joints blackish, the last twice as long as the penultimate. Length 2-3 mm.

Spilomicrus Westwood.°**S. flavicornis** Ashmead.

Polished black. Antennæ and legs brownish yellow. Scutellum at base with two almost confluent foveæ. Mesonotum with delicate furrows. Wings hyaline, the veins yellowish. Length 1.4 mm.

Aneurhynchus Westwood.°**A. floridanus** Ashmead.

Black, sparsely pubescent. Antennæ, legs, mandibles, palpi, and tegulæ pale brownish yellow. Frontal ridge of male pale rufous. Abdomen smooth, impunctate above and below. Length 3 mm.

Galesus Curtis.*Key to Species.*

1. Wings with a deep emargination at apex**politus**
Wings entire at apex 2
2. Antennæ rufous at base, joints longer than wide**viereckii**
Antennæ black at base, joints not longer than wide**pilosus**

°**G. politus** Say.

Black. Legs, including coxæ, honey-yellow or pale rufous. Head nearly twice as long as wide. Wings with a deep fissure at the apex. Length 2.2-3.6 mm.

***G. viereckii** Brues.

Black, first three antennal joints brown. Legs, except coxæ, rufous-yellow. Wings entire at the apex. Length 3.5 mm.

Type locality: Colebrook, 21 June, 1905 (H. L. V.).

°*G. pilosus* Ashmead.

Black, pilose, the head only a little longer than wide. Antennal scape and the coxæ black. Legs rufous. Flagellum brown. Abdomen impunctate at apex. Length 2 mm.

Loxotropa Foerster.*Key to Species.**Females*

- | | |
|---|-------------------|
| 1. Winged | 2 |
| Subapterous | <i>nana</i> |
| 2. Upper part of front angulated in front of eyes | <i>ruficornis</i> |
| Front smooth, not angulated | 3 |
| 3. Scutellum with one large transverse fovea | <i>abrupta</i> |
| Scutellum with two small confluent foveæ at base | <i>flavipes</i> |

°*L. nana* Ashmead.

Head and abdomen black, thorax rufous. Legs and antennæ, except club, brownish yellow. Wings narrow, not reaching to the tip of the abdomen. Scutellum with a small rounded fovea at the base. Length 1 mm.

°*L. ruficornis* Ashmead.

Black. Antennæ, except club, rufous. Legs, including coxæ, reddish yellow. Scutellum with a large fovea at the base. Wings hyaline, the abdominal petiole finely sculptured. Length 1.6 mm.

°*L. abrupta* Thomson.

Black. Antennæ, except the 3-jointed club, and the legs rufous. Scutellum with a fovea across the base, connected with lateral grooved lines. Wings subhyaline, the abdominal petiole rugose. Length 1.8-2 mm.

°*L. flavipes* Ashmead.

Polished black. Antennæ, except the club, and the legs brownish yellow or reddish yellow. Wings hyaline. Scutellum with two more or less confluent foveæ at the base, the lateral grooved lines absent anteriorly. Length 1.3-1.6 mm.

Diapria Latreille.*D. conica* Fabricius.

Black, more or less woolly. Antennæ, mandibles, and legs rufous; the scape darker, and the five apical joints black. Abdo-

men longer than the head and thorax together. Length 2.5-3 mm.

This species is parasitic on the drone-fly or chrysanthemum fly (*Eristalis tenax*).

Waterbury, 28 July, 1879, 18 May, 1884 (W. H. P.).

Ashmeadopria Kieffer.

°*A. carinata* Thomson.

Black, more or less woolly. Antennæ, mandibles, coxæ, and thickened parts of femora and tibiæ piceous or brown-black; rest of legs rufous. Abdomen not longer than the head and thorax united. Length 2.5 mm.

Trichopria Ashmead.

Key to Species.

- | | |
|--|---------------------|
| 1. Antennal club 5-jointed | 2 |
| Antennal club 4-jointed | 4 |
| Antennal club 3-jointed | 7 |
| 2. Antennæ black | <i>carolinensis</i> |
| Antennæ reddish or rufous at base | 3 |
| 3. Scutellum unifoveate | <i>pentaplasta</i> |
| Scutellum bifoveate | <i>rufipes</i> |
| 4. Antennæ and legs in great part piceous or black | 5 |
| Antennæ except club, and legs, rufous or yellowish | 6 |
| 5. Abdominal petiole not or scarcely longer than thick.... | <i>popenoei</i> |
| Abdominal petiole distinctly longer than thick..... | <i>colon</i> |
| 6. Antennal club entirely black | <i>virginica</i> |
| Only the three terminal joints of the club black..... | <i>tetraplasta</i> |
| 7. Legs uniformly reddish yellow | <i>erythropus</i> |
| Legs piceous, tarsi and joints lighter | <i>agromyzæ</i> |

°*T. pentaplasta* Ashmead.

Black. Antennæ, except the club, and legs reddish yellow. Pedicel a little shorter than the first flagellar joint. Antennal club black, the first joint oblong, second, third and fourth quadrate, equal, the fifth longer but not thicker. Length 1.5 mm.

°*T. popenoei* Ashmead.

Black and shining, including antennæ; legs with trochanters, base of tibiæ, and tarsi pale rufous or piceous; antennal club of female with first joint small, rounded; second larger, cup-shaped; third quadrate. Length 1.5 mm.

°*T. carolinensis* Ashmead.

Black and shining, including antennæ; legs pale rufous, base of coxæ and clavate portion of femora and tibiæ darker; second joint of club of female antennæ round; third and fourth submoniliform, slightly wider than long. Length 2 mm.

°*T. rufipes* Ashmead.

Black and shining; antennæ except last four joints, and the legs, rufous; second joint of club of female antennæ much wider than the first; third and fourth quadrate. Length 2-2.2 mm.

°*T. erythropus* Ashmead.

Polished black. Antennæ, except club, and legs reddish yellow. Metathorax and petiole piceous. Wings hyaline, strongly fringed. Length 1.6-2 mm.

°*T. agromyzæ* Fitch.

Black, shining. Antennæ piceous-black. Legs honey-yellow; the hind coxæ and the thickened parts of the femora and tibiæ blackish. Length 1.5 mm.

Parasitic on *Agromyza tritici*, according to Fitch.

°*T. tetraplasta* Ashmead.

Black. Antennæ, except the apical three joints of the club, rufous. Legs pale rufous or reddish yellow. Wings fusco-hyaline. Length 1.6 mm.

°*T. colon* Say.

Black, smooth, and polished. Legs black, with the trochanters, knees, and tarsi piceous or brown. Wings subhyaline, strongly fringed, with a fuscous streak below the stigma. Length 1.1 mm.

°*T. virginica* Ashmead.

Polished black. Antennæ, except the club, and the legs reddish yellow. Wings clear hyaline, the stigma yellowish. Scutellum with a shallow transverse fovea at the base. Length 1.5 mm.

Phænopria Ashmead.*Key to Species.**Females.*

- | | |
|----------------------------------|-------------------|
| i. Antennal club 3-jointed | 2 |
| Antennal club 4-jointed | <i>schwartzii</i> |

2. Antennæ, except club, reddish*virginica*
 Antennæ entirely piceous or black 3
3. Legs entirely reddish yellow*hæmatobiæ*
 Legs rufous; coxæ, femora, and tibiæ fuscous*minutissima*

°*P. minutissima* Ashmead.

Polished black. Antennæ piceous, with rufous scape. Coxæ, clavate part of femora, and tibiæ piceous. Wings hyaline, the stigma piceous. Length 0.9 mm.

°*P. hæmatobiæ* Ashmead.

Shining black. Antennæ piceous, with rufous scape. Legs uniformly reddish yellow. Cheeks each with a tuft of grayish woolly pubescence. Length 0.8 mm.

Parasitic on the horn-fly (*Hæmatobia serrata*).

°*P. virginica* Ashmead.

Polished black, impunctate. Antennæ, except club, and legs reddish yellow or yellowish. Cheeks behind, collar, and petiole woolly. Metathorax pubescent. Wings hyaline, fringed; the stigma long, brownish. Head thick, globose. Length 1.1 mm.

°*P. schwartzii* Ashmead.

Polished black. Antennæ, except club, and legs reddish yellow or yellowish; club fuscous. Wings hyaline, the stigma yellowish. Length 1-1.2 mm.

Basalys Westwood.

°*B. fuscipennis* Ashmead.

Polished black. Cheeks and collar with dense gray wool. Antennæ, legs, and petiole brownish yellow. Wings fuscous, marginal vein piceous, with a cloud below its tip. Length 2.7 mm.

BELYTIDÆ.

Head transverse or subglobose, with the 14- or 15-jointed antennæ inserted on a frontal prominence. Wings with a closed costal cell, basal cell, and usually a marginal cell. Hind wings always with a basal cell. Abdomen petiolate. Wingless forms rare.

Key to Genera.

Females.

1. Antennæ 15-jointed 2
 Antennæ 14-jointed*Anectata* p. 573

2.	Abdomen with only three or four segments	3
	Abdomen with seven or eight dorsal segments	4
3.	Second abdominal segment not greatly lengthened, third long and strongly compressed from sides <i>Leptorhaptus</i> p. 570	
	Second abdominal segment very much lengthened, extending nearly to tip of abdomen, third issuing from it as a short stylus	<i>Cinetus</i> p. 570
4.	Abdomen with eight dorsal segments	5
	Abdomen with seven segments	<i>Acropiesta</i> p. 570
5.	Eyes bare	<i>Psilomma</i> p. 573
	Eyes hairy	6
6.	Middle carina of metanotum not divided	7
	Middle carina of metanotum divided or absent....	<i>Belyta</i> p. 571
7.	Postscutellum normal, unarmed	8
	Postscutellum armed with a strong spine	<i>Oxylabis</i> p. 571
8.	Third dorsal abdominal segment not or very little longer than fourth	10
	Third dorsal abdominal segment much longer than fourth ..	9
9.	Mandibles small and short	<i>Miota</i> p. 571
	Mandibles long, falcate	<i>Xenotoma</i> p. 572
10.	Marginal cell closed	11
	Marginal cell open at apex	12
11.	Stigmal vein straight from margin	<i>Zelotypa</i> p. 572
	Stigmal vein oblique	<i>Pantoclis</i> p. 572
12.	Stigmal vein perpendicular to the margin	<i>Zygota</i> p. 572
	Stigmal vein oblique	<i>Aclista</i> p. 573

Males.

1.	Petiole of abdomen nearly twice as long as metathorax	2
	Petiole of abdomen not or scarcely longer than metathorax..	4
2.	Second abdominal segment compressed laterally, petiole above smooth	3
	Second segment not compressed laterally, petiole above more or less furrowed	<i>Cinetus</i> p. 570
3.	Antennal scape as long as first funicular joint	
	Antennal scape shorter than first funicular joint	<i>Leptorhaptus</i> p. 570
	Antennal scape shorter than first funicular joint	<i>Miota</i> p. 571
4.	Middle carina of metathorax not divided	5
	Middle carina of metathorax divided or absent	<i>Belyta</i> p. 571
5.	Postscutellum simple, not spined	6
	Postscutellum armed with a strong spine	<i>Oxylabis</i> p. 571
6.	Eyes hairy	7
	Eyes bare, mesonotum with furrows	<i>Psilomma</i> p. 573
7.	Scape with apical margin on one side produced into a tooth	
	Scape normal, not toothed at apex	<i>Acropiesta</i> p. 570
	Scape normal, not toothed at apex	8
8.	Marginal cell completely closed	9
	Marginal cell open at apex	12

9. Marginal vein not, or only a little, longer than stigmal vein 10
 Marginal vein at least twice as long as stigmal
Zelotypa p. 572
10. Mandibles normal, small 11
 Mandibles large, falcate, crossing at tips Xenotoma p. 572
11. Last ventral segment straight and punctate Anectata p. 573
 Last ventral segment somewhat bent, impunctate
Pantoclis p. 572
12. Stigmal vein perpendicular Zygota p. 572
 Stigmal vein very oblique Aclista p. 573

Leptorhaptus Foerster.

Key to Species.

- Abdomen principally black conicus
 Abdomen principally rufous rufus

L. conicus Ashmead.

Shining black. Antennæ, mandibles, palpi, tegulæ, and legs brownish yellow. Female antennæ as long as the body. Length 3-4 mm.

Branford, 28 July, 1905 (H.L.V.).

°**L. rufus** Ashmead.

Male entirely rufous, with the appendages lighter. Female with the head, thorax, and petiole black; antennæ extending only to the base of the abdomen. Length 4-4.5 mm.

Cinetus Jurine.

°**C. coloradensis** Ashmead.

Polished black, pubescent. Scape very long, nearly twice as long as the first flagellar joint. Metathorax smooth, tricarinated, marginal cell as long as the marginal vein. Length 3 mm. (female).

°**C. americana** Ashmead.

Black, polished, pubescent. Antennæ and legs pale brownish yellow. Metathorax carinated, pubescent. Marginal cell shorter than the marginal vein. Length 3 mm. (male).

Acropiesta Foerster.

°**A. flavicauda** Ashmead.

Black, shining, with terminal segment of abdomen yellow; antennæ and legs rufous; wings of female feebly developed. Length 3 mm.

°A. *subaptera* Ashmead.

Head black; thorax and abdomen piceous brown; antennæ piceous, the scape and pedicel brownish yellow; legs brownish yellow; wings of female abbreviated. Length 2.2 mm.

Belyta Jurine.*Key to Species.*

Marginal cell closed*erythropus*
Marginal cell open at apex*texana*

°B. *erythropus* Ashmead.

Shining black. Antennæ and legs rufous or reddish yellow. Wings subfuscous. Abdominal petiole striate. Length 3-4.5 mm.

°B. *texana* Ashmead.

Polished black. Antennæ reddish, darker toward the tips in the male. Legs reddish yellow. Wings hyaline, petiole rugose, without any raised lines. Length 3-4 mm.

Oxylabis Foerster.*Key to Species.*

Scutellum with a single fovea at base*spinosa*
Scutellum with two foveæ at base*bifoveolata*

°O. *spinosa* Provancher.

Black. Legs and antennæ rufous. Wings subfuscous, the marginal cell almost closed. Length 2.5 mm.

°O. *bifoveolata* Brues.

Black. Legs fuscous, varied with rufous. Antennæ fuscous, black at the base. Wings hyaline, the marginal cell completely closed. Length 3 mm.

Miota Foerster.*Key to Species.*

Marginal cell twice as long as marginal vein*mellipes*
Marginal cell three times length of marginal vein*similis*

°M. *mellipes* Say.

Polished black. Female antennæ filiform, the flagellum fuscous. Legs honey-yellow. Length 2.5 mm.

°*M. similis* Ashmead.

Polished black. Base of antennæ and legs honey-yellow. Antennal scape four times as long as the first flagellar joint. Length 2.8 mm.

Xenotoma Foerster.°*X. xanthopus* Ashmead.

Polished black, except the abdomen and thorax in part. Marginal cell two and one-half times the length of the marginal vein. Length 2.4-3 mm.

°*X. mandibularis* Ashmead.

Black. Thorax and abdomen more or less rufous. Marginal cell scarcely twice the length of the marginal vein. Length 2.5 mm.

Zelotypa Foerster.°*Z. longicornis* Ashmead.

Polished black, pubescent. Antennæ fuscous yellow at base. Tegulæ and legs brownish yellow. Wings subfuscous. Abdomen rufous at base. Marginal cell two and one-half times as long as the marginal vein. Length 3.2 mm.

Pantoclis Foerster.°*P. insularis* Ashmead.

Black. Antennæ and legs brownish yellow. Antennæ subclavate. Marginal cell twice as long as the marginal vein. Metathorax smooth on the disc, with three keels. Length 2-3 mm.

°*P. analis* Ashmead.

Black. Antennæ rufous except tips. Abdomen rufo-piceous, the tip reddish yellow. Marginal cell about five times the length of the marginal vein. Legs pale rufous or brownish yellow. Length 3.2 mm.

Zygota Foerster.°*Z. californica* Ashmead.

Shining black, covered with a fuscous pubescence. Antennæ 14-jointed, brown-black. Legs brownish yellow. Wings subfuscous, marginal cell closed. Length 3.5-4 mm.

Aclista Foerster.**A. rugosopetiolata** Ashmead.

Polished black, pubescent. Scutellum with two foveæ connected by a furrow. Antennæ usually stout. Metathorax rugose, carinated. Legs brownish yellow. Length 2.6 mm.

Psilomma Foerster.°**P. columbianum** Ashmead.

Polished black. Antennæ and legs rufous. Wings subfuscous, the marginal vein punctiform; marginal cell long and open, faintly indicated. Metathorax subquadrate, rugose. Length 3.5-4 mm.

Anectata Foerster.°**A. hirtifrons** Ashmead.

Black, shining, pubescent, the face with dense whitish pubescence. Antennæ rufous. Legs rufous or brownish yellow. Wings hyaline, the marginal cell twice the length of the marginal vein. Antennæ subfiliform in the female. Length 3.4 mm.

SERPHIDÆ.

Key to Genera.

- Parapsidal furrows distinct, or at least well indicated **Disogmus** p. 573
 Mesonotum without trace of furrows **Serphus** p. 573

Disogmus Foerster.***D. obsoletus** Brues.

Shining black, more or less brownish. Antennæ brownish yellow, darker at the tips. Mesonotum with indications of furrows anteriorly. Legs brownish yellow; tips of tarsi blackish. Length 2.5 mm.

Type locality, Morris Cove, 20 May, 1904 (H. L. V.).

Serphus Schrank.

The species of this extensive genus are recognized by the 13-jointed antennæ, edentate mandibles, smooth convex mesonotum, and abdominal stylus of the female. The hypopygium of the male ends in two short spines.

Key to Species.

- | | |
|---|---------------------|
| 1. Head and thorax black | 2 |
| Head and mesonotum pale or rufous | 10 |
| 2. Abdomen black | 3 |
| Abdomen in great part reddish or yellowish | 8 |
| 3. Discoidal nervures entirely wanting | 4 |
| Discoidal nervures more or less indicated by fuscous streaks | |
| | californicus |
| 4. Marginal cell much shorter than stigma | 5 |
| Marginal cell large, as long as stigma | flavipes |
| 5. Cauda short, not, or scarcely one-third, the length of abdomen | 7 |
| Cauda as long as abdomen | clypeatus |
| 6. Metanotum above smooth, with three carinæ | 7 |
| Metanotum rugose above, with a single median keel | |
| | carolinensis |
| 7. Coxæ black or dusky above | abruptus |
| Coxæ entirely pale | obsoletus |
| 8. Metathorax with a median carina | 9 |
| Metathorax without a distinct median carina | caudatus |
| 9. Coxæ black | linellii |
| Coxæ pale | melliventris |
| 10. Metathorax coarsely rugose, with longitudinal raised lines | |
| | caudatus |
| Metathorax rugose but not longitudinally striated | pallidus |
| 11. Metathorax twice as long as high | longiceps |
| Metathorax shorter | quadriceps |

S. caudatus Say.

Reddish testaceous. Metathorax black, and upper part of mesothorax and sutures often blackened. Metathorax coarsely rugose, with longitudinal raised lines, but without a distinct central longitudinal carina. Cauda as long as the abdomen. Length 7-10 mm.

Salisbury, 27, 30 August, 1904, Kent, 31 August, 1904 (W. E. B.).

°**S. pallidus** Say.

Reddish testaceous. Metathorax more finely rugose than in *caudatus*, and with a median carina. Cauda half the length of the abdomen. Length 6-9 mm.

°**S. linellii** Ashmead.

Black. Legs, except coxæ, rufous, and abdomen rufous except the last three segments. Hind tibial spur one-third the length of the metatarsus. Length 4 mm. (male).

S. melliventris Ashmead.

Head and thorax black. Abdomen yellow, the petiole and the tip black. Legs yellow, hind tibial spur one-third the length of the metatarsus. Length 4-5 mm. (male).

New Haven, 31 October, 1903 (H. L. V.).

S. californicus Holmgren.

Black. Legs, except coxæ, and antennæ beneath reddish. Antennæ with first to fifth joints of flagellum dentate beneath. Length 4-4.5 mm. (male).

New Haven, 31 October, 1903 (H. L. V.).

°*S. flavipes* Provancher.

Black. Mandibles, tegulæ, and legs, including coxæ, pale yellow. Marginal cell as long as the stigma. Posterior tibial spur two-thirds the length of the metatarsus. Length 3.5-4.5 mm.

°*S. clypeatus* Ashmead.

Black. Clypeus and mandibles rufous. Legs, including coxæ, yellowish. Cauda longer than the abdomen, reddish basally. Tibial spur of posterior leg one-half the length of the metatarsus. Length 4.5 mm.

°*S. abruptus* Say.

Black. Legs reddish yellow, coxæ often in part black. Cauda only one-fourth the length of the abdomen. Length 2.5-3 mm.

°*S. obsoletus* Say.

Larger than *abruptus* and with the antennæ almost wholly yellow. Length 4 mm.

Parasitic on *Stelidota strigosa*.

S. carolinensis Ashmead.

Black. Antennal scape, tegulæ, and legs yellow; coxæ dusky at base. Metathorax with a single carina extending to the tip. Posterior tibial spur half the length of the metatarsus. Length 5-5.5 mm.

Putnam, 12 July, 1905 (H. L. V.).

°*S. longiceps* Ashmead.

Black. Antennæ, except tips, yellowish. Legs reddish yellow. the coxæ dusky. Metathorax weakly rugulose, with a median carina. Cauda as long as the metatarsus. Spur of posterior tibiæ one-third as long. Length 7 mm.

S. quadriceps Ashmead.

Black. Legs reddish yellow, with dusky coxæ. Antennæ rufous-yellow. Metathorax with a median carina and a large smooth area on each side. Cauda as long as the hind metatarsus. Posterior tibial spur a little less than one-half the length of the metatarsus. Length 4 mm.

New Haven, 31 October, 1903 (H. L. V.).

HELORIDÆ.

Helorus Latreille.

Tarsal claws pectinate; wings with the basal nervure abruptly broken and bent downwards, forming a triangular discoidal cell. Antennæ 15-jointed.

H. paradoxus Provancher.

Shining black. Tegulæ and legs pale rufous; the coxæ black, and the femora darker toward the base. Wings hyaline. Length 4-5 mm.

Parasitic on the cocoons of *Chrysopa*.

Stafford, 24 August, 1905 (W. E. B.).

PELECINIDÆ.

Pelecinius Latreille.

A single species occurs very commonly within the state. It is the largest of all the Serphoidea found here.

P. polyturator Drury. Pl. ix, Fig. 1.

Black. Annulus on antennæ and male tarsi whitish. Abdomen of female about five times the length of the head and thorax, composed of six slender cylindrical segments. Abdomen in male clavate, the petiole as long as the abdomen, about the length of the head and thorax. Length: female 50-60 mm., male 22 mm.

Parasitic on the grubs of May beetles of the genus *Lachnosterna*.

New Haven, 24 August, 1904, 7, 18 August, 1906, Cheshire, 18 August, 1906 (P. L. B.); Scotland, 10 August, 1905 (B. H. W.); Suffield, 26 July, 1906, New Haven, 14 August, 1906 (W. E. B.).