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II.—A SYNOPSIS OF THE SPHECOIDEA OF NEBRASKA (HYMENOPTERA)

BY CLARENCE E. MICKEL

LINCOLN, NEBRASKA

The following paper is the result of three years more or less intermittent study and collecting of the entomophilous wasps of the superfamily Sphecoidea. In 1908, Mr. H. S. Smith published a list of Nebraska Sphecoidea together with synoptic tables, descriptions of new species and notes. The University of Nebraska collection of this group has more than doubled in size since 1908, the collection of Nebraska specimens now numbering about 7,000, while the entire collection of Sphecoidea includes between 8,000 and 9,000 specimens. This wealth of material has naturally increased the number of species known to occur within the state and has furnished 91 species new to science. Mr. H. S. Smith's paper included 200 species of Nebraska Sphecoidea, while the collection now contains 349 species of this group taken within the state. It seems opportune, therefore, to now publish a complete account of our knowledge concerning the Nebraska Sphecoidea. No doubt other forms will be found from time to time, and it is hoped that the synopsis here presented will stimulate interest in the study of this group and aid the student in determining the specimens that come to hand. The writer has been materially assisted by an abundance of comparative material.

The Sphecoidea are one of the most interesting groups of the Hymenoptera, both from an economic and taxonomic standpoint. Except in one or two instances the habits of these wasps are of considerable economic value to man. The Peckhams have given an interesting account of the habits of several species. The adult wasps provision their nests with other insects, most of which are more or less destructive. These include Lepidopterous larvae, Homoptera, Hemiptera, Diptera and Coleoptera.

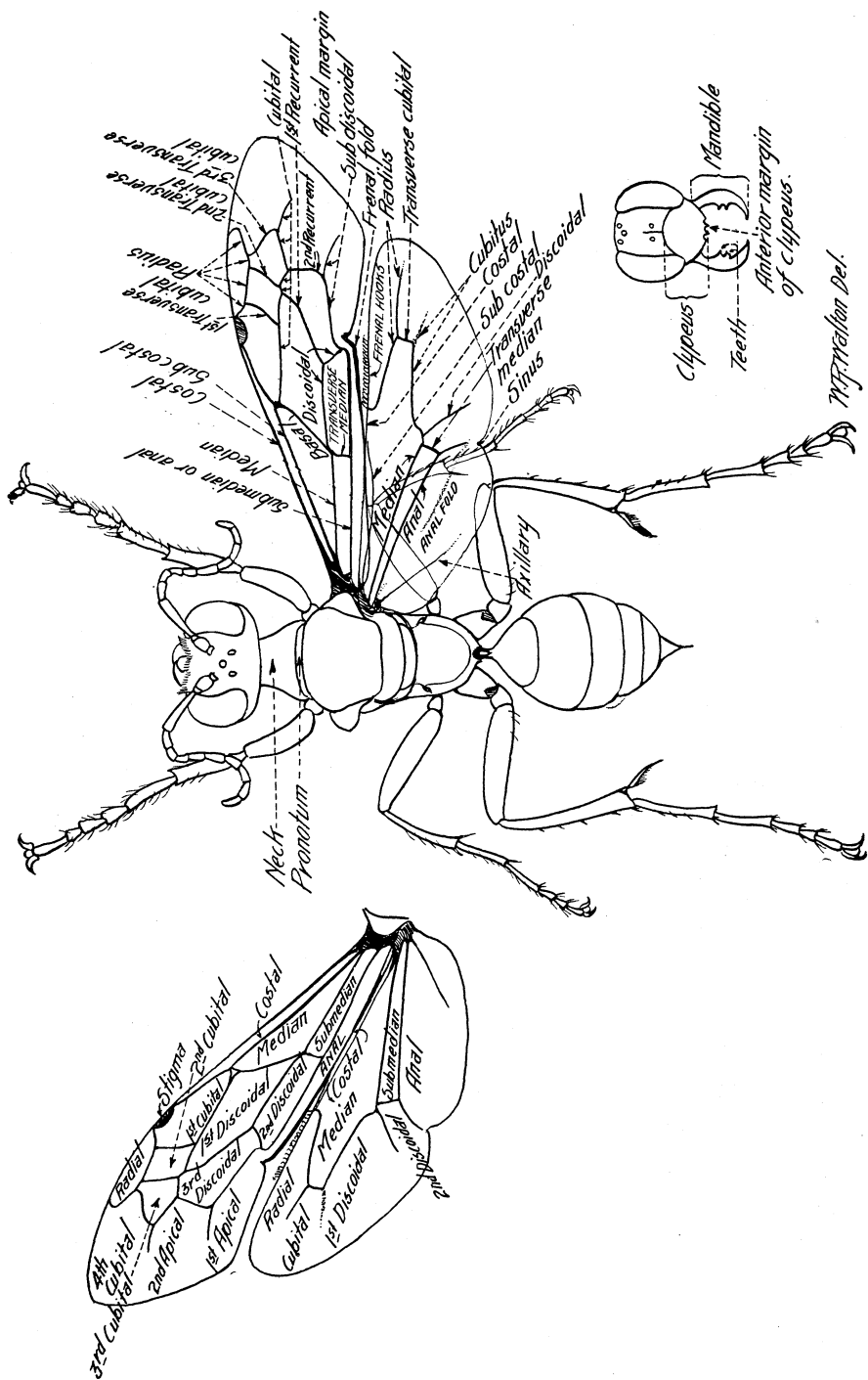


FIG. 1. *Chlorion (Anmobia) ichneumoncum*. [After Rohwer, *Hymen. of Conn.*]

The writer in the main has followed the classification proposed by Rohwer in the Hymenoptera of Connecticut. This classification seems to be the most natural yet proposed for this superfamily of Hymenoptera, since it brings together groups which are obviously closely related and yet have been widely separated in current former classifications. It also has the advantage of being more workable and less cumbersome than those formerly proposed.

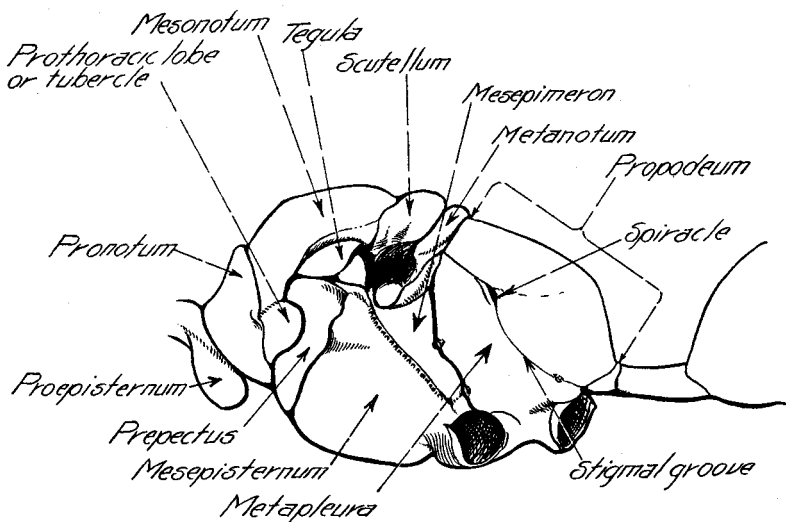


FIG. 2. Thorax of *Chlorion (Ammobia) ichneumoneum*.
[After Rohwer, *Hymen. of Conn.*]

The synonymical notes include only the reference to the original description, the latest monographic reference, if any is available, and in a few cases other important synonymy. Under each species is given the total number of male and female specimens in the collection which have been taken within the state. The various localities are also cited, together with the number of specimens from each locality. In almost every case the earliest and latest seasonal date is given, as well as the names of the flowers visited.

I am indebted to Professors Lawrence Bruner, Myron H.

Swenk and R. W. Dawson for encouragement and suggestions received during the course of the work. Acknowledgment should also be made to the writings of Mr. William J. Fox, Mr. H. T. Fernald, Dr. Nathan Banks, Mr. S. A. Rohwer and Mr. J. B. Parker, since these writings contributed largely toward the synoptic tables.

KEY TO THE FAMILIES

1. Prepectus presentSPHECIDAE
Prepectus wanting 2
2. Antennae inserted close to clypeus; cheeks narrow; first abdominal segment not narrower than second; lower posterior margin of propodeum angled due to metathoracic pleural suture being dorso-ventral; no dorsal plate to mesepisternumBEMBICIDAE
Antennae inserted much above clypeus; cheeks broad; first abdominal segment much narrower than second; lower posterior margin of propodeum rounded due to metathoracic pleural suture being curved; a dorsal plate to mesepisternumCERCERIDAE

SPHECIDAE

KEY TO THE SUBFAMILIES

1. Prepectal suture originating below lower margin of prothoracic tubercule, prepectus therefore wanting between tubercule and tegulae,
NYSSONINAE
Prepectal suture originating posterior to prothoracic tubercule, prepectus therefore present between tubercule and tegula 2
2. Prepectus defined posteriorly by a strong carina which is angulate opposite prothoracic tubercule; an oblique suture from below tegula to sternum, where it joins prepectal carina 3
Prepectus defined posteriorly by a suture; no suture from below tegula to prepectal suture 5
3. Antennae inserted near middle of face; mesepisternum with a dorsal and ventral plate; abdomen petiolate; wings with three cubital cells,
PSENINAE
Antennae inserted very close to dorsal margin of clypeus; mesepisternum without a dorsal plate; abdomen sessile, or subsessile; wings with one cubital cell 4
4. First cubital and first discoidal cells confluent; propodeum with a process at dorsal middle; metanotum with processes at sides; eyes with their inner margins subparallelOXYBELINAE
First cubital and first discoidal cells separate; propodeum and metanotum without processes; eyes with their inner margins strongly converging belowCRABRONINAE

5. Abdomen with a strong constriction between first and second ventral segments 6
 Abdomen without a constriction between first and second ventral segments 8
6. Clypeus with a lobe at dorsal middle; antennae inserted well above clypeus near middle of face; intermediate tibiae with two apical spurs *PHILANTHINAE*
 Clypeus with dorsal margin nearly straight; antennae inserted very close to dorsal margin of clypeus, much below middle of face.. 7
7. Inner margins of eyes deeply emarginate; intermediate tibiae with one apical spur *TRYPOXYLONINAE*
 Eyes at most reniform, mesal margins subparallel; intermediate tibiae with two apical spurs *MELLININAE*
8. Intermediate coxae without a transverse suture near base; propodeum long, with spiracles well removed from base; abdomen with a long petiole; intermediate tibiae with two apical spurs *SPHECINAE*
 Intermediate coxae with a transverse suture near base; propodeum shorter, and with spiracles close to metanotum; abdomen usually sessile, but, when petiolate, intermediate tibiae have only one spur.. 9
9. Metasternum with a large process which is deeply emarginate ventrally; intermediate tibiae with one apical spur; wings with three cubital cells; radial cell with an appendage *LARRINAE*
 Metasternum without a large, deeply emarginate process 10
10. Abdomen depressed, dorsal surface flattened; intermediate tibiae with two apical spurs; radial cell truncate; wings with three cubital cells, *ASTATINAE*
 Abdomen cylindrical or in a very few cases subdepressed, dorsal surface convex; intermediate tibiae with one apical spur; venation various *PEMPHREDONINAE*

NYSSONINAE

KEY TO THE TRIBES

1. Mesepisternum without a dorsal plate; lateral dorsal angles of propodeum dentate or sharply angulate; second cubital cell petiolate, *Nyssonini*
 Mesepisternum with a dorsal and ventral plate; propodeum not dentate 2
2. Second pleural suture strongly angulate, mesepimeron therefore much broader above; pronotum long, cephalo-caudal length approximating same length of scutellum; slender insects; second cubital cell petiolate *Alysonini*
 Second pleural suture straight or nearly so, mesepimeron therefore nearly parallel-sided; pronotum transverse; stout species; second cubital cell sessile 3

3. Sternauli wanting; mesepisternum with an oblique suture from below tegulae to prepectal carina *Gorytini*
 Sternauli present; mesepisternum without an oblique suture from below tegulae to prepectal carina *Hoplisini*

ALYSONINI

KEY TO THE GENERA

- Submedian cell of anterior wings a little shorter than the median on the median nervure; abdomen with a pale spot on each side of the second dorsal segment *Alyson*
 Submedian cell of anterior wings much longer than the median on the median nervure; abdomen without a pale spot on each side of the second dorsal segment *Didineis*

Alyson Jurine

KEY TO THE SPECIES

1. Median area of propodeum triangular; at least first abdominal segment, and usually part of second, in male red, in female black; clypeus yellow, legs reddish *triangulifer*
 Median area of propodeum not triangular, usually U-shaped 2
2. Thorax red; legs except hind tibiae, red *melleus*
 Thorax black 3
3. Median area of propodeum coarsely reticulated; two basal segments of abdomen red, female; abdomen black, male *oppositus*
 Median area of propodeum not at all reticulated; abdomen black in both sexes 4
4. Clypeus entirely yellow; median area of propodeum with numerous longitudinal radiating ridges *radiatus*
 Clypeus yellow, black medially, or entirely black; median area of propodeum of male with two diverging, central, longitudinal ridges. *conicus*

Alyson triangulifer Provancher.

1887. *Alyson triangulifer* Provancher, *Additions a la Faune du Canada, Hymen.*, p. 272.

1894. *Alyson triangulifer* Fox, *Ent. News*, V, p. 89.

Males 4, females 3: Omaha (1), Lincoln (1), West Point (3), Broken Bow (1) and Glen (1); June 24 to October 2.

Alyson melleus Say.

1837. *Alyson melleus* Say, *Bost. Journ. Nat. Hist.*, I, p. 380.

1859. *Alyson melleus* Say, *Leconte edition*, II, p. 762.

1894. *Alyson melleus* Fox, *Ent. News*, V, p. 87.

Females 11: Omaha (6), Lincoln (1), West Point (2), Maskell (1) and Glen (1); June 26 to August 18.

***Alyson oppositus* Say.**

1837. *Alyson oppositus* Say, *Bost. Journ. Nat. Hist.*, I, p. 380.

1894. *Alyson oppositus* Fox, *Ent. News*, V, p. 87.

Females 5: Omaha (1), Mitchell (1), Monroe Canyon (2) and Glen (1); August 6 to August 19.

***Alyson radiatus* Fox.**

1894. *Alyson radiatus* Fox, *Ent. News*, V, p. 87.

1908. *Alyson radiatus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 341.

Females 2: West Point; June.

***Alyson conicus* Provancher.**

1887. *Alyson conicus* Provancher, *Additions a la Faune du Canada, Hymen.*, p. 271.

1894. *Alyson conicus* Fox, *Ent. News*, V, p. 88.

Males 4: Monroe Canyon, August 3, 1908 (R. W. Dawson).

***Didineis* Wesmael**

***Didineis texana* (Cresson).**

1872. *Alyson texanus* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 226.

1894. *Didineis texana* Fox, *Ent. News*, V, p. 127.

Males 1, females 1: Lincoln (1), September 8, 1899; Mitchell (1), September 6, 1916.

NYSSONINI

KEY TO THE GENERA

1. Cubitus in hind wings originating before the transverse median nervure or interstitial with it; hind tibiae usually spinous, but not serrate on hind margin; scutellum normal; apex of abdomen of male terminating in two teeth *Nysson*
- Cubitus in hind wings originating beyond the transverse median nervure 2
2. Hind tibiae strongly serrated on the hind margin, and also more or less spinous; lateral margins of scutellum more or less strongly reflexed, the metanotum bilobed; apex of male abdomen terminating in four teeth *Paranysson*
- Hind tibiae with feeble spines, never serrate; lateral margins of scutellum more or less margined, the metanotum normal; apex of abdomen of male terminating in two teeth *Brachystegus*

KEY TO THE SPECIES

1908. *Nysson simplicicornis* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 340.

Males 2: Glen, August 20, 1906 (H. S. Smith).

***Nysson plagiatus* Cresson.**

1882. *Nysson plagiatus* Cresson, *Trans. Amer. Ent. Soc.*, IX, p. 276.
1896. *Nysson plagiatus* Fox, *Journ. New York Ent. Soc.*, IV, p. 13.

Males 6, females 9: Omaha (9), Louisville (2), West Point (1), Haigler (1) and Glen (2); July 14 to August 30; visits flowers of *Chamaecrista fasciculata*.

***Nysson aequalis* Patton.**

1879. *Nysson aequalis* Patton, *Can. Ent.*, XI, p. 212.
1896. *Nysson aequalis* Fox, *Journ. New York Ent. Soc.*, IV, p. 13.

Males 3, females 2: Omaha (2), South Sioux City (1) and West Point (2); July 11 to August 13; visits flowers of *Melilotus alba*.

***Nysson angularis* H. S. Smith.**

1908. *Nysson angularis* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 340.

Males 7: Omaha (5) and West Point (2); July 31 to August 28; visits flowers of *Solidago rigida* and *Chamaecrista* sp.

Originally described from the two specimens taken at West Point, the Omaha material having been collected since.

***Nysson fidelis* Cresson.**

1882. *Nysson fidelis* Cresson, *Trans. Amer. Ent. Soc.*, IX, p. 282.
1896. *Nysson fidelis* Fox, *Journ. New York Ent. Soc.*, IV, p. 15.

Males 4, females 1: Monroe Canyon (1), Sowbelly Canyon (3) and Warbonnet Canyon (1); June 23 to August 19.

Paranysson Guerin

***Paranysson texanus* (Cresson).**

1872. *Nysson texanus* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 223.
1896. *Nysson texanus* Fox, *Journ. New York Ent. Soc.*, IV, p. 12.

Males 3, females 9: Omaha (2), South Bend (1), Ogallala (1), Mitchell (1), Harrison (1), Glen (5) and Monroe Canyon (1); June 24 to August 21; visits flowers of *Chamaecrista fasciculata*.

Brachystegus Costa

KEY TO THE SPECIES

1. Abdomen entirely black 2
 Abdomen more or less red 3
2. Legs reddish, species 8-10 mm. *mellipes*
 Legs black, species 4-5 mm. *maculipes*
3. Abdomen entirely red *metathoracicus*
 Abdomen in part black 4
4. First three abdominal segments with yellow bands; legs red; pronotum
 and scutellum marked with yellow *bellus*
 Abdominal segments without bands; with a yellow lateral spot on each
 segment; legs blacker; pronotum and scutellum entirely black.
 trichrus

Brachystegus mellipes (Cresson).

1882. *Nysson mellipes* Cresson, *Trans. Amer. Ent. Soc.*, IX, p. 279.

1896. *Nysson mellipes* Fox, *Journ. New York Ent. Soc.*, IV, p. 15.

Males 3, females 2: Omaha (2), Lincoln (1) and Glen (2);
 July 14 to August 21; visits flowers of *Chamaecrista fasciculata*.

Brachystegus maculipes Mickel.

1916. *Brachystegus maculipes* Mickel, *Trans. Amer. Ent. Soc.*, XLII,
 p. 400.

Females 4: Omaha (4); June 15 and 26.

Brachystegus metathoracicus H. S. Smith.

1908. *Brachystegus metathoracicus* H. S. Smith, *UNIV. NEBR. STUDIES*,
 VIII, p. 338.

Females 2: Glen (2); August 20 and 21.

Brachystegus bellus (Cresson).

1882. *Nysson bellus* Cresson, *Trans. Amer. Ent. Soc.*, IX, p. 280.

1896. *Nysson bellus* Fox, *Journ. New York Ent. Soc.*, IV, p. 16.

Females 2: Glen, August 20, 1906 (H. S. Smith); Mitchell,
 July 28, 1917 (C. E. Mickel).

Brachystegus trichrus Mickel.

1916. *Brachystegus trichrus* Mickel, *Trans. Amer. Ent. Soc.*, XLII,
 p. 400.

Females 2: Omaha (2); July 5, 1913 (L. T. Williams), and
 August 18, 1914 (L. T. Williams).

GORYTINI

Euspongius LePeletier**Euspongius bipunctatus** (Say).

1824. *Gorytes bipunctatus* Say, *Narr. Exped. St. Peter's River* (Keating), II, Zool, p. 338.

1895. *Gorytes bipunctatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 523.

1912. *Paramellinus bipunctatus* Rohwer, *Proc. U. S. Nat. Mus.*, XLI, p. 469.

Males I, females II: Rulo (I) and Omaha (II); June 26 to July 23; visits flowers of *Chamaecrista fasciculata* and *Melilotus alba*.

HOPLISINI

KEY TO THE GENERA

1. Cubitus in hind wings originating far before the transverse median nervure; triangular area of propodeum sharply defined by grooved lines, the enclosure smooth, polished, not striate, or at most only slightly striate laterally at base *Pseudoplisus*
Cubitus in hind wings interstitial or originating only a little before the transverse median nervure 2
2. Cubitus in the hind wings interstitial; triangular area of propodeum not sharply defined, but striate or coarsely rugose *Hoplisoides*
Cubitus in hind wings most frequently originating a little before the transverse median nervure; triangular area of propodeum always well defined, the enclosure always longitudinally striate ... *Hoplisus*

Hoplisoides Gribodo

KEY TO THE SPECIES

1. Females 2
Males 6
2. Propodeum and first abdominal segments more or less reddish 3
Propodeum and first abdominal segment not reddish 4
3. Last abdominal tergite with a well developed pygidial area which is subtriangular and rugose; second discoidal cell with apical portion dark fuscous *spilopterus*
Last abdominal tergite with the pygidial area poorly developed, short and broad, strongly punctured; second discoidal cell pale fuscous except in its lower portion *tricolor*
4. Last abdominal tergite yellow; legs reddish *pygidialis*
Last abdominal tergite black 5
5. Wings hyaline, excepting the usual fuscous cloud in the vicinity of the radial cell; enclosure of propodeum with 14-16 close-set ridges, *confertus*

- Wings fuscous, the cloud in the vicinity of radial cell darker; enclosure of propodeum with 10-12 well-separated ridges, *denticulatus*
6. Last abdominal sternite bifid; first abdominal segments subpetiolate; wings entirely fuliginous; antennae rufous *lamniferus*
Last abdominal sternite not bifid; first abdominal segment sessile; wings hyaline with a dark spot 7
7. Fifth abdominal sternite armed on each side with a strong projection, *confertus*
Fifth abdominal sternite not armed with a projection 8
8. Eighth and ninth joints simple beneath 9
Eighth and ninth joints of the flagellum with a prominence beneath 10
9. Triangular area of propodeum distinctly striated; propodeum and first abdominal segment not red, last dorsal segment yellow... *pygidialis*
Triangular area of propodeum smooth; propodeum and first abdominal segment more or less red *tricolor*
10. Clypeus with a bunch of long hairs in each lateral angle; yellow abdominal bands 2 and 3 suddenly broadened laterally... *microcephalus*
Clypeus with hairs in lateral angle not long nor in a bunch 11
11. Wings fuscous, the cloud in the vicinity of the radial cell dark; propodeum with two yellow spots *denticulatus*
Wings subhyaline, except the usual cloud in the vicinity of the radial cell; propodeum not marked with yellow *barbatulus*

Hoplisoides confertus (Fox).

1895. *Gorytes confertus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 525.
1908. *Hoplisoides barbatulus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 344, ♀.

Males 6, females 3: Glen (7), Pine Ridge (1) and Sowbelly Canyon (1); June 23 to August 20.

The three female specimens have a median transverse row of dark, stiff hairs on the clypeus. Fox does not mention this character in his description. Smith described these as the unknown female of *barbatulus* but this does not seem to be justified, and as they run in Fox's table to *confertus* and agree with his description of *confertus* except in the above character, they are placed here.

Hoplisoides tricolor (Cresson).

1868. *Gorytes tricolor* Cresson, *Trans. Amer. Ent. Soc.*, I, p. 380.
1895. *Gorytes tricolor* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 526.

Males 3, females 12: Mitchell (1), McCook (1), Glen (12)

and Monroe Canyon (1); July 28 to August 20; visits flowers of *Gutierrezia sarothrae* and *Helianthus* sp.

Hoplisoides pygidialis (Fox).

1895. *Gorytes pygidialis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 528.

Females 2: Glen, August 14, 1905, and Monroe Canyon, August 20, 1908 (R. W. Dawson).

The specimen taken at Monroe Canyon was caught while supplying its nest with a leafhopper, *Ceresa* sp.

Hoplisoides microcephalus (Handlirsch).

1888. *Gorytes microcephalus* Handlirsch, *Sitzungsberichte der Akademie der Wissenschaften*, Wien, XCVIII, p. 405.

1895. *Gorytes microcephalus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 529.

Males 3: Meadow, July 3, 1915 (E. G. Anderson); Glen, August 20, 1906 (H. S. Smith), and Glen, August 21, 1906 (P. R. Jones).

Hoplisoides barbatulus (Handlirsch).

1888. *Gorytes barbatulus* Handlirsch, *Sitzungsberichte der Akademie der Wissenschaften*, Wien, XCVIII, p. 408.

1895. *Gorytes barbatulus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 530.

Males 1: Pine Ridge (1); July. Female unknown.

Hoplisoides denticulatus (Packard).

1865. *Gorytes denticulatus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 430, ♂.

1888. *Gorytes barbatulus* Handlirsch, *Sitzungsberichte der Akademie der Wissenschaften*, Wien, XCVIII, p. 410.

1895. *Gorytes denticulatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 530.

Males 1, females 1: Omaha, August 3, 1914 (L. T. Williams), on *Chamaecrista fasciculata*, and Haigler, July 11, 1911 (J. T. Zimmer), on *Helianthus petiolaris*.

Hoplisoides spilopterus (Handlirsch).

1888. *Gorytes spilopterus* Handlirsch, *Sitzungsberichte der Akademie der Wissenschaften*, Wien, XCVIII, p. 414.

1895. *Gorytes spilopterus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 530.

Females 1: Omaha, July 14, 1914 (L. T. Williams), on *Chamaecrista fasciculata*.

This specimen has the clypeus entirely yellow and the fifth

dorsal abdominal segment entirely black; otherwise it agrees with the description of *spilopterus*.

Hoplisoides lamniferus (Fox).

1895. *Gorytes lamniferus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 532.

Males 8: Rulo (3), South Bend (1), Louisville (1), West Point (2) and Halsey (1); June 25 to August 9; visits flowers of *Melilotus alba*.

Hoplisus LePeletier

KEY TO THE SPECIES

1. Posterior face of propodeum coarsely reticulate 2
 Posterior face of propodeum almost smooth 5
2. Flagellum yellow beneath, black above; sculpture of enclosure of propodeum coarsely and irregularly rugose *asperatus*
 Flagellum entirely black, or with the basal joints reddish 3
3. Supraclypeal area black; propodeum with two yellow spots; yellow of inner eye margins narrow; apical abdominal segments yellow,
 elegantulus
 Supraclypeal area yellow; propodeum without yellow spots 4
4. Tubercles yellow; wings decidedly yellowish basally *albosignatus*
 Tubercles black; wings not, or but slightly, yellowish basally... *corrugis*
5. Posterior face of propodeum very slightly rugose; propodeum with two yellow spots *simillimus*
 Posterior face of propodeum with large, sparse, shallow punctures; propodeum with two large rufous spots; sixth and seventh abdominal segments rufous *rufocaudatus*

Hoplisus asperatus (Fox).

1895. *Gorytes asperatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 534.

Females 2: Rulo, July 1, 1915 (L. Bruner), and Lincoln, June 21, 1912 (R. W. Dawson).

Hoplisus elegantulus H. S. Smith.

1908. *Hoplisus elegantulus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 346.

Males 4: Glen (1) and Monroe Canyon (3); August 6 to 19.

Hoplisus albosignatus (Fox).

1892. *Gorytes albosignatus* Fox, *Can. Ent.*, XXIV, p. 152.

1895. *Gorytes albosignatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 533.

Males 2, females 1: Warbonnet Canyon (2) and Sioux county (1); May and June.

1918. *Hoplisus corrugis* Mickel, *Univ. Nebr. Studies*, XVII, p. 319.

Males 1: Mitchell, June 16, 1916 (C. E. Mickel).

1856. *Gorytes simillimus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 367.
1867. *Gorytes ephippiatus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 426.
1895. *Gorytes simillimus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 536.

Hoplisus rufocaudatus Mickel.

1916. *Hoplisus rufocaudatus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 401.

Males 1: Mitchell, August 12, 1915 (E. M. Partridge).

KEY TO THE SPECIES

1. Females	2
Males	5
2. Suture between mesonotum and scutellum not foveolate; wings yellowish ferruginous; abdomen with short, silky, golden pubescence, <i>phaleratus</i>	3
3. Suture between mesepimeron and metapleurae foveolate for the entire length; clypeus entirely black; front, venter, and last three abdominal tergites with large punctures; suture between triangular enclosure and sides of propodeum foveolate <i>varipunctus</i>	4
4. Wings subfuscous; clypeus entirely yellow; propodeum entirely black; pygidial area with sparse, shallow punctures <i>bipartitus</i>	4
Wings hyaline, the marginal cell excepted; clypeus with base only yellow; propodeum with two rufous spots; pygidial area with deep closer punctures <i>rufomaculatus</i>	6
5. Suture between mesonotum and scutellum not foveolate	6
Suture between mesonotum and scutellum foveolate	7
6. Wings with a light yellowish cast; flagellum rather long, the joints rounded out beneath <i>phaleratus</i>	7
Wings dark fuliginous, the apex hyaline; flagellum shorter and somewhat clavate, the joints not rounded out beneath <i>propinquus</i>	7
7. Wings entirely fuliginous; first abdominal tergite entirely yellow;	

- clypeus black *infumatus*
 Wings hyaline, except the usual fuscous cloud 8
 8. Antennae long, reaching at least to apex of scutellum; propodeum not
 spotted with rufous *bipartitus*
 Antennae short, not reaching to apex of scutellum; propodeum spotted
 with rufous *rufomaculatus*

***Pseudoplisus phaleratus* (Say).**

1836. *Gorytes phaleratus* Say, *Bost. Journ. Nat. Hist.*, I, p. 368.
 1859. *Gorytes phaleratus* Say, *Leconte edition*, II, p. 752.
 1895. *Gorytes phaleratus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 537.

Males 30, females 24: Omaha (34), South Sioux City (1), Weeping Water (2), Lincoln (1), West Point (7), Carns (1), Haigler (1), Mitchell (1), Pine Ridge (1), Glen (1) and Monroe Canyon (3); July 4 and August 17; visits flowers of *Chamaecrista fasciculata* and *Monarda* sp.

***Pseudoplisus varipunctus* H. S. Smith.**

1908. *Pseudoplisus varipunctus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 348.

Females 5: Omaha (1), West Point (3) and Maskell (1); June 25 to July 25; visits flowers of *Chamaecrista fasciculata*.

The specimens from Omaha and Maskell have been taken since Smith described this species.

***Pseudoplisus propinquus* (Cresson).**

1868. *Gorytes propinquus* Cresson, *Trans. Amer. Ent. Soc.*, I, p. 379.
 1895. *Gorytes propinquus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 537.

Males 1: Glen, August 14, 1906 (L. Bruner).

***Pseudoplisus infumatus* Mickel.**

1916. *Pseudoplisus infumatus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 402.

Males 3: West Point (2) and Haigler (1); June and August.

***Pseudoplisus bipartitus* (Handlirsch).**

1888. *Gorytes bipartitus* Handlirsch, *Sitzungsberichte der Akademie der Wissenschaften*, Wien, XCVII, p. 521.
 1895. *Gorytes bipartitus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 538.

Females 1: Sowbelly Canyon, June 23, 1911 (R. W. Dawson).

Pseudoplisus rufomaculatus (Fox).

1895. *Gorytes rufomaculatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 538.

Females 1: Bad lands at the mouth of Monroe Canyon, July 22, 1901 (M. A. Carriker, Jr.), on *Helianthus* sp.

PSENINAE

KEY TO THE GENERA

1. Cubital vein in hind wings originating beyond the transverse median nervure, the latter short and straight, perpendicular; submedian cell in front wings a little shorter than the median, the transverse median vein not interstitial with the basal vein; second cubital cell usually much narrower above *Diodontus*
 Cubital vein in hind wings originating before the transverse median vein, the latter long and oblique or slightly bent, but not perpendicular 2
2. Second and third cubital cells each receiving a recurrent nervure, or the first recurrent nervure is interstitial with the first transverse cubital vein; head with a spine between the antennae; clypeus anteriorly rimmed, and with a median sinus *Psen*
 Second cubital cell receiving both recurrent nervures, rarely with the first recurrent nervure interstitial with the first transverse cubital vein; inner spur of hind tibiae dilated; propodeum with a median sulcus, the area at the base striate or alveolate; petiole of abdomen long, usually furrowed laterally; clypeus convex or subconvex, separated, anteriorly more or less rounded and with a slight vein, but without a median sinus; labrum hidden *Mimesa*

Diodontus Curtis

KEY TO THE SPECIES

- Abdomen black, with bluish reflection, apical margin of segments testaceous *tibialis*
 Abdomen more or less red *suffusa*

Diodontus tibialis (Cresson).

1872. *Mimesa tibialis* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 488.

1898. *Psen tibialis* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 18.

Males 22, female 4: Rulo (1), Omaha (20), Louisville (1), Red Cloud (3) and McCook (1); June 20 to August 20; visits flowers of *Chamaecrista fasciculata*.

Diodontus suffusa (Fox).

1898. *Psen suffusa* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 18.

Females 7: Omaha (4) and Lincoln (3); June 28 to August 19; visits flowers of *Chamaecrista fasciculata* and *Physalis* sp.

Psen Latreille

Psen monticola (Packard).

1867. *Mimesa monticola* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 407.

1898. *Psen monticola* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 11.

Females 4: Glen (1) and Monroe Canyon (3); August.

Mimesa Shuckard

KEY TO THE SPECIES

Females

1. Abdomen more or less reddish 2
Abdomen entirely black 6
2. Petiole of abdomen as long or longer than the hind femur; posterior face of propodeum finely sculptured *cressoni*
Petiole shorter than the hind femur 3
3. Posterior face of propodeum finely rugose, not reticulate *proxima*
Posterior face of propodeum coarsely sculptured, rugoso-reticulate 4
4. Mandibles with a strong tooth within near the apex; second segment and sometimes base of the third reddish *unicincta*
Mandibles not toothed within 5
5. Size small, 7 mm.; apex of first segment and second segment reddish, *pauper*
Size larger, 10 mm.; first, second and third segments reddish, *nebrascensis*.
6. Petiole longer than hind trochanter and femur combined; mesonotum with longitudinal folds *punctata*
Petiole not as long as the hind femur 7
7. All the tarsi light yellowish *chalcifrons*
All the tarsi dark, nearly black *mandibularis*

Males

1. Abdomen more or less reddish 2
Abdomen entirely black 4
2. Petiole distinctly longer than the hind femur; flagellar joints 2-5 dentate beneath *cressoni*
Petiole shorter than the hind femur 3

3. Posterior face of propodeum sculptured; reticulate; stigma entirely dark, without a proximal whitish spot *unicincta*
 Posterior face of propodeum smooth; stigma with a proximal whitish spot *dawsoni*
4. All the tarsi yellowish; last joint of flagellum entirely black; flagellar joints 4-6 prominent beneath *mellipes*
 All the tarsi dark, blackish; last joint of flagellum reddish; none of the flagellar joints prominent beneath *granulosus*

***Mimesa granulosa* (Fox).**

1898. *Psen granulosus* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 15.

1908. *Mimesa granulosa* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 389.

Males 13: Glen (11) and Harrison (2); August 9 to 21; visits flowers of *Helianthus* sp.

The eleven specimens taken at Glen were described by H. S. Smith as the female of this species. The specimens are all males, however, and the female is therefore still undescribed.

***Mimesa proxima* Cresson.**

1865. *Mimesa proxima* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 488.

1898. *Psen proximus* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 16.

Females 12: Glen (8), Harrison (3) and Monroe Canyon (1); August 4 to 21.

***Mimesa uncinata* Cresson.**

1865. *Mimesa uncinata* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 488.

1898. *Psen uncinata* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 15.

Males 2, females 3: Glen (4) and Sioux county (1); August 14 and 17.

***Mimesa dawsoni* Mickel.**

1916. *Mimesa dawsoni* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 420.

Males 1: Harrison, August 12, 1912 (R. W. Dawson).

***Mimesa nebrascensis* H. S. Smith.**

1908. *Mimesa nebrascensis* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 390.

Females 1: Lincoln.

***Mimesa pauper* Packard.**

1867. *Mimesa pauper* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 409.

1898. *Psen pauper* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 14.

Females 3: Omaha, August 20, August 30 and September 5, 1913 (L. T. Williams).

***Mimesa chalcifrons* (Packard).**

1867. *Psen chalcifrons* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 401.

1898. *Psen chalcifrons* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 13.

Females 1: Butte, July 2, 1914 (R. W. Dawson).

***Mimesa cressoni* Packard.**

1867. *Mimesa cressonii* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 405.

1898. *Psen cressonii* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 12.

1916. *Mimesa cressoni* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 421.

Males 59, females 27: Lincoln (5), Fairmont (2), West Point (1), Broken Bow (2), Oxford (2), Haigler (1), Imperial (1), Ogallala (3), Brown county (1), Mitchell (4), Glen (40), Harrison (19), Monroe Canyon (1) and Warbonnet Canyon (1); June 10 to October; visits flowers of *Helianthus* sp. and *Gutierrezia sarothrae*.

***Mimesa punctata* (Fox).**

1898. *Psen punctatus* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 9.

Females 2: Monroe Canyon (2); August 19, 1912, and August 20, 1908 (R. W. Dawson).

***Mimesa mellipes* (Say).**

1837. *Psen mellipes* Say, *Bost. Journ. Nat. Hist.*, I, p. 369.

1898. *Psen mellipes* Fox, *Trans. Amer. Ent. Soc.*, XXV, p. 8.

Males 1: Lincoln, May 16, 1908.

***Mimesa mandibularis* H. S. Smith.**

1908. *Mimesa mandibularis* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 392.

Females 3: Glen (1) and Monroe Canyon (2); August 17 to 21.

The two specimens from Monroe Canyon have been collected since Smith described the species in 1908.

OXYBELINAE

KEY TO THE GENERA

- Metanotal spine long, broad, and emarginate at apex; mandibles without a median tooth within; clypeus in female truncate, in male four- or five-dentate *Notoglossa*
- Metanotal spine acute or bluntly rounded at apex, never emarginate; mandibles with a median tooth within; clypeus in female truncate, in male three-dentate *Oxybelus*

Notoglossa Dahlbom

KEY TO THE SPECIES

Females

1. Lateral points of squamae short, not exceeding the tips 2
Lateral points of squamae long, much exceeding the tips 4
2. First two abdominal segments largely ferruginous; metanotal spine whitish *abdominalis*
Abdomen largely black (except the two apical segments); metanotal spine black 3
3. Front convex in profile; all the tibiae more or less yellowish. *emarginata*
Front protuberant above; intermediate and posterior tibiae black, *frontalis*
4. Abdomen shining, sparsely punctured; antennae entirely yellow; pubescence of front golden *cressoni*
Abdomen closely and strongly punctured; antennae dark, not yellow; pubescence of front silvery 5
5. Pronotum entirely black above; scutellum not spotted with yellow; markings whitish *intermedia*
Pronotum entirely yellow above; scutellum with two yellow spots; markings lemon-yellow *decorosa*

Males

1. Lateral points of squamae short, not exceeding the tips 2
Lateral points of squamae long, much exceeding the tips 5
2. First two segments of abdomen largely ferruginous *abdominalis*
All of the abdomen largely black 3
3. Sides of propodeum not striate; finely, shallowly, closely punctate, *minor*
Sides of propodeum distinctly, transversely striate 4
4. Front protuberant above; abdomen with four or five strong spines on each side, ten-spotted *frontalis*
Front convex in profile, abdomen with two or three weak spines, four- to eight-spotted *emarginata*

5. Abdomen entirely black, shining, rather sparsely punctured, with two rather weak spines on each side *cressoni*
Abdomen more or less marked with yellowish or whitish, quite strongly punctured, with two to four strong spines on each side 6
6. Vertex with a median tubercle; occiput strongly striato-punctate, *cockerelli*
Vertex without a median tubercle; occiput strongly punctured but not striato-punctate 7
7. Apical abdominal segments black; markings yellowish *incisura*
Three apical abdominal segments ferruginous; markings white, *albomaculata*

Notoglossa frontalis (Robertson).

1889. *Oxybelus frontalis* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 83.

Males 15, females 4: Omaha (10), Lincoln (2), Fairmont (1), Broken Bow (5) and Glen (1); June 17 to October; visits flowers of *Solidago* sp., *Aster multiflorus* and *Dicrophyllum marginatum*.

Notoglossa abdominalis (Baker).

1896. *Oxybelus abdominalis* Baker, *Ent. News*, VII, p. 158.

Males 14, females 14; Omaha (2), West Point (1), Bridgeport (1), Glen (3) and Harrison (21); June 22 to August 21; visits flowers of *Chamaecrista fasciculata*, *Gutierrezia sarothrae* and *Helianthus* sp.

Notoglossa emarginata (Say).

1837. *Oxybelus emarginatus* Say, *Bost. Journ. Nat. Hist.*, I, p. 375.

1889. *Oxybelus emarginatus* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 84.

1901. *Notoglossa emarginata* Robertson, *Trans. Amer. Ent. Soc.*, XXVII, p. 204.

Males 151, females 71: Rulo (1), Omaha (55), South Bend (1), Lincoln (4), Fairmont (2), West Point (7), Broken Bow (12), McCook (1), Imperial (2), Halsey (1), Bridgeport (5), Mitchell (29), Glen (86), Harrison (9), Monroe Canyon (4) and Sowbelly Canyon (1); June 20 to September 7; visits flowers of *Chamaecrista fasciculata*, *Melilotus alba*, *Asclepias* sp., *Vernonia* sp., *Solidago serotina*, *Helianthus petiolaris*, *Cleome serrulata* and *Gutierrezia sarothrae*.

Notoglossa minor Mickel.

1916. *Notoglossa minor* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 428.

Males 1: Omaha, July 16, 1914 (L. T. Williams); visits flowers of *Chamaecrista fasciculata*.

Notoglossa intermedia (Baker).

1896. *Oxybelus intermedius* Baker, *Ent. News*, VII, p. 160.

Females 1: Glen, August 20, 1906 (H. S. Smith).

Notoglossa cockerelli (Baker).

1896. *Oxybelus cockerelli* Baker, *Ent. News*, VII, p. 61.

Males 2: Glen (2); August 17, 1906 (H. S. Smith), and August 17, 1906 (P. R. Jones); visits flowers of *Solidago* sp.

Notoglossa incisura Mickel.

1916. *Notoglossa incisura* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 430.

Males 9: Harrison (9); August 9, 1908 (R. W. Dawson); visits flowers of *Helianthus* sp.

Notoglossa albomaculata Mickel.

1918. *Notoglossa albomaculata* Mickel, *Univ. Nebr. Studies*, XVII, p. 320.

Males 2: Mitchell (2); July 21, 1916 (C. E. Mickel).

Notoglossa decorosa Mickel.

1916. *Notoglossa decorosa* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 430.

Females 1: Omaha, July 9, 1914 (L. T. Williams); visits flowers of *Chamaecrista fasciculata*.

Notoglossa cressoni (Robertson).

1889. *Oxybelus cressonii* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 83.

Males 2, females 9: Omaha (9); June 26 to July 23; visits flowers of *Chamaecrista fasciculata*.

Oxybelus Latreille

KEY TO THE SPECIES

- I. Vertex with a distinct median tubercle; posterior ocelli each placed on the upper and outer side of a tubercle, causing these ocelli to look outwards and upwards instead of in the normal direction 2

- Vertex without a distinct median tubercle; posterior ocelli normally placed 3
2. Occiput distinctly striato-punctate; punctures of abdomen of medium size; ornaments whitish *striatus*
Occiput strongly punctured; punctures of abdomen coarse; ornaments yellowish *cornutus*
3. Squamae apparently joined at the base (this appearance is caused by the metanotum being yellow) 4
Squamae not apparently joined at the base 7
4. Body covered with an unusually dense growth of short pubescence; abdomen more or less ferruginous 5
Body not unusually pubescent; apical segment of abdomen sometimes ferruginous 6
5. Abdomen entirely ferruginous except first tergite; two apical segments with conspicuous blackish pubescence *argentarius*
Two apical, abdominal segments only, ferruginous; apical segments with thin golden pubescence *glenensis*
6. Mandibles black; continuous fasciae on all the abdominal tergites; apical segment black *albosignatus*
Mandibles yellow; abdominal tergites with lateral spots; apical segment ferruginous *unicus*
7. Mandibles distinctly yellow 8
Mandibles black or piceous, not yellow 10
8. Lateral portions of abdominal segments ferruginous; abdomen not marked with yellowish spots *umbrosus*
Abdomen not at all ferruginous (except the apical segment); abdomen marked with yellowish spots 9
9. Abdomen strongly punctured; scutellum not marked with yellow, *packardii*
Abdomen finely and sparsely punctured; scutellum marked with yellow, *laetus*
10. Apical abdominal segments ferruginous 11
Apical abdominal segments dark 14
11. Abdominal segments without lateral spines 12
Abdominal segments with lateral spines 13
12. Mesepisterna produced anteriorly so as to form a prominent projection; markings whitish *pectorosus*
Mesepisterna not produced anteriorly; markings lemon-yellow, *delicatus*
13. Abdomen rather finely and closely punctured; two apical abdominal segments ferruginous; squamae approximate at the base, almost touching *apicatus*
Abdomen rather coarsely punctured; three apical abdominal segments

- of male, two of female, ferruginous; squamae widely separated at the base *fastigatus*
14. Abdomen finely punctured 15
 Abdomen quite coarsely punctured 16
15. Abdominal tergites silvery fasciate apically, narrowly margined inwardly with bright fulvous *robertsoni*
 Abdominal tergites not silvery fasciate; with pale yellowish lateral spots rather widely separated *quadrinotatus*
16. Size large, 13 mm.; abdomen of male without lateral spines; episterna coarsely, longitudinally striato-punctate below *major*
 Size smaller, 6-9 mm.; abdomen of male with strongly developed lateral spines; episterna coarsely punctate throughout *subulatus*

***Oxybelus robertsoni* Baker.**

1896. *Oxybelus robertsoni* Baker, *Ent. News*, VII, p. 156.

1908. *Oxybelus robertsoni* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 409.

Males 1: Warbonnet Canyon, July 20, 1901; visits flowers of *Eriogonum* sp.

***Oxybelus apicatus* H. S. Smith.**

1908. *Oxybelus apicatus* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 409.

Males 1: Warbonnet Canyon, July 20, 1901 (M. Cary); visits flowers of *Eriogonum* sp.

***Oxybelus glenensis* H. S. Smith.**

1908. *Oxybelus glenensis* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 410.

Females 1: Glen, August 18, 1906 (P. R. Jones).

***Oxybelus argentarius* Mickel.**

1916. *Oxybelus argentarius* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 431.

Females 2: Harrison, August 9, 1908 (C. H. Gable), and Glen, August 13, 1906 (M. H. Swenk); visits flowers of *Cleome ser-rulata*.

***Oxybelus umbrosus* Mickel.**

1916. *Oxybelus umbrosus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 432.

Males 2: Harrison, August 4, 1908 (C. H. Gable), and August 9, 1908 (R. W. Dawson); visits flowers of *Helianthus* sp.

***Oxybelus fastigatus* Mickel.**

1916. *Oxybelus fastigatus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 433.

Males 5, females 1: Ogallala (1) and Harrison (5); June 24 to August 9; visits flowers of *Helianthus* sp.

***Oxybelus delicatus* Mickel.**

1918. *Oxybelus delicatus* Mickel, *Univ. Nebr. Studies*, XVII, p. 322.

Males 1: Mitchell, July 17, 1916 (C. E. Mickel); visits flowers of *Melilotus alba*.

***Oxybelus laetus* Say.**

1837. *Oxybelus laetus* Say, *Bost. Journ. Nat. Hist.*, I, p. 375.

1889. *Oxybelus laetus* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 82.

Females 4: Rulo (1) and Omaha (3); June 29 to August 17; visits flowers of *Trifolium pratense*.

***Oxybelus packardi* Robertson.**

1889. *Oxybelus packardi* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 80.

Males 16: Rulo (2), Omaha (1), Bridgeport (3), Mitchell (6), Glen (1) and Harrison (3); June 30 to August 20; visits flowers of *Solidago canadensis*, *Melilotus alba* and *Helianthus* sp.

***Oxybelus striatus* Baker.**

1896. *Oxybelus striatus* Baker, *Ent. News*, VII, p. 60.

Males 10: Omaha (5), Glen (4) and Monroe Canyon (1); July 30 to August 24; visits flowers of *Aster multiflorus* and *Solidago canadensis*.

***Oxybelus cornutus* Robertson.**

1889. *Oxybelus cornutus* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 80.

1908. *Oxybelus cornutus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 407.

Males 36, females 24: Omaha (1), Broken Bow (1), Bridgeport (2), Mitchell (32), Glen (15), Harrison (7) and Monroe Canyon (1); July 11 to August 28; visits flowers of *Chamae-*

crista fasciculata, *Solidago* sp., *Melilotus alba*, *Cleome serrulata* and *Helianthus* sp.

These specimens show all the intergradations between the variety *quadricolor*, having the anterior two thirds of the mesonotum ferruginous, and *cornutus*, having the mesonotum entirely black.

***Oxybelus major* Mickel.**

1916. *Oxybelus major* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 434.

Males 1: South Bend, July 14, 1915 (E. M. Partridge); visits flowers of *Melilotus alba*.

***Oxybelus pectorosus* Mickel.**

1918. *Oxybelus pectorosus* Mickel, *Univ. Nebr. Studies*, XVII, p. 321.

Males 1: Mitchell, July 17, 1916 (C. E. Mickel); visits flowers of *Melilotus alba*.

***Oxybelus subulatus* Robertson.**

1889. *Oxybelus subulatus* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 79.

Males 16; Omaha (1), South Bend (1), West Point (1), South Sioux City (1), Concord (1), Mitchell (9), Glen (1) and Jim Creek (1); June 20 to August 17; visits flowers of *Melilotus alba*.

***Oxybelus albosignatus* H. S. Smith.**

1908. *Oxybelus albosignatus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 407.

Females 5: West Point (1), Holt county (1), Curtis (1), Bridgeport (1) and Monroe Canyon (1); June 28 to August 20.

The specimens from Curtis, Bridgeport and Monroe Canyon have been taken since the species was described.

***Oxybelus unicus* Mickel.**

1918. *Oxybelus unicus* Mickel, *Univ. Nebr. Studies*, XVII, p. 323.

Females 5: Mitchell (5); July 20 to 22.

***Oxybelus quadrinotatus* Say.**

1824. *Oxybelus quadrinotatus* Say, *Keating's Narrat. Exped.*, II, App., p. 338.

1889. *Oxybelus quadrinotatus* Robertson, *Trans. Amer. Ent. Soc.*, XVI, p. 78.

Males 19, females 4: Omaha (8), Lincoln (3), West Point (3), Mitchell (1), Crawford (1), Glen (3) and Harrison (2); May 16 to August 25; visits flowers of *Chamaecrista fasciculata*, *Solidago rigida*, *Solidago canadensis*, *Spiraea* sp. and *Ceanothus* sp.

There is also one specimen of the variety *montanus* in the collection; Warbonnet Canyon, July 21, 1901 (M. Cary); visits flowers of *Borage* sp.

CRABRONINAE

KEY TO THE TRIBES

- Abdomen depressed, flat beneath; second discoidal cell much longer than the first, acuminate at the tip *Anacrabronini*
 Abdomen seldom subdepressed, convex dorsally and ventrally; second discoidal cell shorter than the first, usually very much so, broadened and subtruncate at the tip *Crabronini*

ANACRABRONINI

Anacrabro Packard

Anacrabro ocellatus Packard.

1866. *Anacrabro ocellatus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 68.

1895. *Anacrabro ocellatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 133.

Males 41, females 20: Omaha (40), South Bend (8), Lincoln (1), West Point (3), South Sioux City (3), Neligh (2) and Carns (4); June 23 to August 19; visits flowers of *Chamaecrista fasciculata*, *Asclepias tuberosa*, *Euphorbia* sp. and *Ceanothus americanus*.

CRABRONINI

KEY TO THE GENERA

1. Mandibles simple, acute at apex *Lindenius*
 Mandibles truncate, bidentate or tridentate at apex 2
2. First abdominal segment petioliform or abdomen distinctly petiolate, *Rhopalum*
 Abdomen sessile or subsessile 3
3. Mesepimeron with a strong carina following the second pleural suture; mesepisternum strongly sculptured with some form of striation, *Solenius*
 Mesepimeron without a strong carina; mesepisternum not strongly sculptured, usually only punctate *Crabro*

Lindenius LePeletier

KEY TO THE SPECIES

Females

1. The two convexities of the enclosure of the propodeum smooth, polished; posterior tibiae yellow at base only; clypeus black 2
 The two convexities of the enclosure of the propodeum distinctly and obliquely striated, subopaque; posterior tibiae yellow except spot within; clypeus yellow *flaviclypeus*
2. Cheeks with a blunt spine beneath; scutellum black *buccadentis*
 Cheeks not spined beneath; scutellum marked with yellow *errans*

Males

1. Cheeks not spinose beneath, unarmed; hind tibiae yellow at the base only *errans*
 Cheeks with a strong spine beneath 2
2. Convexities of enclosure of propodeum distinctly striated; hind tibiae except a blotch within, clypeus and scape entirely yellow. *armaticeps*
 Convexities of enclosure of propodeum smooth, polished; hind tibiae yellow at base only; clypeus and scape posteriorly black. *buccadentis*

Lindenius flaviclypeus (Fox).

1895. *Crabro flaviclypeus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 186.

Females 4: Mitchell (1), Glen (2) and Harrison (1); June 17 to August 20; visits flowers of *Helianthus* sp.

Lindenius armaticeps (Fox).

1895. *Crabro armaticeps* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 185.

Males 1: Harrison, August 4, 1908 (C. H. Gable); visits flowers of *Helianthus* sp.

Lindenius buccadentis Mickel.

1916. *Lindenius buccadentis* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 427.

Males 2, females 6: Omaha (5), West Point (1) and Glen (2); June 20 to August 18; visits flowers of *Chamaecrista fasciculata*, *Solidago* sp. and *Gutierrezia sarothrae*.

Lindenius errans (Fox).

1895. *Crabro errans* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 184.

1908. *Lindenius errans* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 404.

Males 4, females 46: Omaha (22), Lincoln (4), West Point (1), Mitchell (4), Crawford (1), Glen (10) and Harrison (12); May to August 22; visits flowers of *Chamaecrista fasciculata*, *Mentzelia* sp., *Solidago* sp., *Cirsium* sp., *Medicago sativa* and *Helianthus* sp.

The specimens with the black scutellum, mentioned by H. S. Smith, are *buccadentis*.

Rhopalum Kirby

Rhopalum decorum (Fox).

1895. *Crabro decorus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 200.

1908. *Rhopalum decorum* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 395.

Females 5: Glen (5); August 13, 1906 (H. S. Smith).

Solenius LePeletier

KEY TO THE SPECIES

Females

1. Anterior margin of clypeus produced into a strong, truncated process in the middle 2
- Anterior margin of the clypeus not strongly produced in the middle, usually rounded 5
2. Head and thorax very coarsely sculptured, being covered with large punctures, the mesonotum, scutellum and mesepisterna frequently with strong striations interspersed with punctures; abdomen with strong, distinctly separated punctures 3
- Head and thorax not very coarsely sculptured, the head rather finely and closely punctured; mesepisterna striated; ocelli forming an equilateral triangle; pronotum rounded at the sides, not dentate 4
3. Punctures of the head extremely large, deep and well separated, those on the abdomen also coarse but less so than on the head; spots on tergites four and five always separated *interruptus*
- Punctures of the head strong, but much less than in *interruptus*, and closer, especially between the ocelli and occiput; punctures of the abdomen somewhat finer than those of the head; tergites four and five with the spots united into bands *bellus*
4. First joint of flagellum fully as long as the three following united; posterior face of propodeum with feebly developed lateral ridges; pedicel more or less yellow *obscurus*
- First joint of flagellum scarcely as long as the three following united;

- posterior face of propodeum with scarcely a trace of lateral ridges (no distinct transverse series of foveae on propodeum)..*nigrifrons*
5. Mesonotum finely striated, transversely so on anterior portion, longitudinally on remainder; first joint of the flagellum longer than the two following united*singularis*
 Mesonotum not striated, either finely or rugosely punctured 6
6. Pygidium much narrowed apically, depressed or excavated 7
 Pygidium broad, triangular, flat, not depressed or excavated 13
7. Abdomen dorsally indistinctly punctured, or impunctate; pygidium always with a lateral fringe of long, thick hairs; head always finely and closely punctured; second sternite with large, much scattered punctures; propodeum not marked by foveae between the upper surface and the posterior face*sayi*
 Abdomen dorsally distinctly punctured, usually strongly so, particularly the first tergite 8
8. Space between the eyes at the base of the clypeus much less than half the length of the scape, slightly more than one fourth the length of the scape; pygidium with a lateral fringe of stiff hairs; vertex with large separated punctures*banksi*
 Space between the eyes at the base of the clypeus equal to about half the length of the scape 9
9. Pygidium without the lateral fringe of stiff hairs, or it is but feebly represented; head with strong, sometimes large, separated punctures 10
 Pygidium with lateral fringe always present and distinct; head with close, rather fine punctures 11
10. Abdomen with tergites two, four and five banded with yellow; first tergite very strongly punctured; third tergite with a small, lateral spot*texanus*
 Abdomen never banded, with a lateral spot on tergites two, four and five, the third tergite rarely spotted; first tergite not very strongly punctured*stirpicolus*
11. Mesonotum with strong punctures, separated on posterior portion; abdominal spots nearly always all widely separated, rarely forming bands on the last two tergites; propodeum strongly punctured above (femora in part reddish, trochanters black)*decemmaculatus*
 Mesonotum closely and rather finely punctured throughout; abdomen always more or less banded; propodeum striated above 12
12. First tergite with the punctuation much more distinct than on the remaining tergites; first tergite and the sternites not spotted,*odyneroideus*
 First tergite with the punctuation but little more distinct than on the remaining tergites; femora black except the apex; sternites not maculated*chrysargynus*

13. Head and abdomen rather finely punctured; mesonotum with the punctures close and not very coarse; propodeum not spotted; tibiae with a black spot within; basal half of femora usually black *dilectus*
 Head and abdomen, particularly the first tergite, rather coarsely punctured; mesonotum coarsely cribose; femora more or less reddish, *rufifemur*

Males

1. Anterior margin of clypeus produced into a strong, truncated process, not so prominently, however, as in the females 2
 Anterior margin of clypeus not strongly produced medially, usually rounded 6
2. Flagellum entire, not dentate or emarginate, not broadened basally; sculpture very coarse on head and thorax; first joint of medial tarsi sinuated; fore tarsi slightly flattened 3
 First three or four joints of flagellum produced into a huge tooth beneath; ocelli forming an equilateral triangle; pronotum rounded at the sides, not dentate 5
3. First dorsal abdominal segment basally much flattened, the flattened area bounded posteriorly by an obtuse elevation; second dorsal abdominal segment strongly depressed basally *planaris*
 First two dorsal abdominal segments normal, not conspicuously flattened or depressed 4
4. Head between the ocelli and occiput covered with very large, deep, non-confluent punctures, those on the abdomen also strong, but less so than on the head; abdomen with one, more rarely with two or three terminal bands *interruptus*
 Head between the ocelli and occiput with coarse, confluent punctures, less strong than in *interruptus*, those on the abdomen also finer and closer; abdomen with three, rarely with less, terminal bands. *bellus*
5. Joints one and two of flagellum with a huge tooth or production beneath, the third and fourth joints much less distinctly toothed, the combined length of the first two joints as great as that of joints three to six; fore femora black and yellow; sides of propodeum coarsely striated *obscurus*
 Joints one to four of flagellum equally dentate beneath, the combined length of the first two joints not greater than that of joints three and four; fore femora rufous, striped with black and yellow, *nigrifrons*
6. Mesonotum not striated, either finely or rugosely punctured 7
 Mesonotum striated, transversely on anterior portion, posteriorly longitudinally so (fore femora beneath armed with a sharp spine) .. 15
7. Abdomen above not distinctly punctured, or impunctate; first joint of the flagellum distinctly longer than the second; fore femora reddish anteriorly *sayi*

- Abdomen above distinctly punctured, particularly the first segment 8
8. Fore tarsi not or but slightly flattened; the first joint of the medial tarsi not angular 9
- Fore tarsi distinctly flattened; the first joint of the medial tarsi short, more or less angular 14
9. Antennae entire, subclavate, not emarginate; anterior trochanters armed with a strong spine or tooth beneath; sternites not marked with yellow *decemmaculatus*
- Antennae more or less emarginate beneath 10
10. Head with large separated punctures; propodeum laterally, at least the posterior face, with a series of strong foveae 11
- Head closely and rather finely punctured; propodeum without lateral foveae 13
11. Abdomen above, particularly the first two tergites, coarsely punctured; tergites two, four and five with yellow bands *texanus*
- Abdomen strongly, though not coarsely punctured above; second tergite at least, with lateral spots 12
12. Tergites two, four and five with lateral spots; head with large, separated punctures *stirpicolus*
- Tergites two and three with lateral spots, tergites four to six banded; head with large, somewhat confluent punctures *banksi*
13. First joint of flagellum not nearly as long as the two following joints united, not more than one quarter longer than the second; greater part of femora black; sternites not spotted *odynroides*
- First joint of flagellum nearly as long as the two following united, more than one quarter longer than the second (femora at apex broadly, and greater part of tibiae and tarsi, yellow) *chrysargynus*
14. First joint of medial tarsi strongly angular on outer margin, shorter if anything than the following two joints united; sculpture of mesonotum not exceedingly coarse; prepectus usually with a yellow spot; tergites two to six of abdomen with a band; tibiae spotted internally, *dilectus*
- First joint of medial tarsi but slightly angular on outer margin, slightly longer than the two following joints united; sculpture of mesonotum exceedingly coarse; prepectus not spotted *rufifemur*
15. Head finely punctured above, shining, not or indistinctly striated; pronotum declining strongly to the sides, not as wide as the occipital margin of head, widely, though not very strongly, furrowed; middle femora beneath and greater part of middle tibiae, black; no spots on scutellum *singularis*
- Head strongly striato-punctate above, subopaque; pronotum declining but little toward the sides, as wide as the occipital margin of head, deeply furrowed; greater part of medial femora and their tibiae entirely, yellow; scutellum with yellow spots *trapezoidus*

Solenius (Protothyreopus) rufifemur (Packard).

1866. *Crabro rufifemur* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 81.
1895. *Crabro rufifemur* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 158.

Males 19, females 13: Omaha (4), Lincoln (8), Fairmont (1), West Point (5), Hardy (1), Mitchell (1), Gordon (2), Glen (8) and Harrison (2); June 24 to September 10; visits flowers of *Chamaecrista fasciculata*, *Petalostemum* sp., *Melilotus alba* and *Solidago* sp.

Solenius (Protothyreopus) dilectus (Cresson).

1865. *Crabro dilectus* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 478.
1895. *Crabro dilectus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 156.

Males 1: Harrison, August 4, 1908 (C. H. Gable); visits flowers of *Helianthus* sp.

Solenius (Clytochrysus) nigrifrons (Cresson).

1865. *Crabro nigrifrons* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 482.
1895. *Crabro nigrifrons* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 145.

Females 5: Omaha (2) and Monroe Canyon (3); July 7 to August 20.

Solenius (Clytochrysus) obscurus (F. Smith).

1856. *Crabro obscurus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 418.
1895. *Crabro obscurus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 143.

Males 1, females 3: Omaha (3) and Ashland (1); May 28 to August 24.

Solenius (Xylocrabro) stirpicolus (Packard).

1866. *Crabro stirpicola* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 111.
1895. *Crabro stirpicolus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 148.

Males 3, females 9: Omaha (6), Lincoln (2), West Point (3) and South Sioux City (1); June 22 to August 20; visits flowers of *Chamaecrista fasciculata* and *Dicrophyllum* sp.

Solenius (Xestocrabro) sayi Cockerell.

1824. *Crabro sexmaculatus* Say, *Long's Expedition*, II, App., p. 341.
1895. *Crabro sexmaculatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 146.
1916. *Solenius sayi* Rohwer, *Hym. of Conn.*, p. 667.

Males 8, females 9: Child's Point (1), Omaha (7), Ashland (1), Lincoln (2), York (1), West Point (1), Glen (1) and Warbonnet Canyon (3); May 9 to September 23; visits flowers of *Aster multiflorus*.

Solenius (subgenus?) **banksi** (Rohwer).

1909. *Crabro banksi* Rohwer, *Ent. News*, XX, p. 147.

Males 1, females 4: Omaha (4) and Hardy (1); July 16 to September; visits flowers of *Solidago* sp.

Solenius (**Pseudocrabro**) **chrysargynus** (LePeletier).

1834. *Crabro chrysargynus* LePeletier, *Ann. Soc. Ent. France*, III, p. 711.

1895. *Crabro chrysarginus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 155.

1908. *Crabro bigeminus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 403.

Males 1, females 3: Monroe Canyon (1) and Warbonnet Canyon (3); July 20 to August 7; visits flowers of *Melilotus* sp., *Petalostemum* sp. and *Malvastrum* sp.

Solenius (**Pseudocrabro**) **odyneroides** (Cresson).

1865. *Crabro odyneroides* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 481.

1895. *Crabro odyneroides* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 153.

Females 3: Glen (2) and Monroe Canyon (1); August 13 to 20; visits flowers of *Cleome serrulata*.

Solenius (**Hypocrabro**) **decemmaculatus** (Say).

1823. *Crabro decemmaculatus* Say, *West. Quart. Rep. Cincinnati*, II, p. 78.

1895. *Crabro decemmaculatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 151.

Males 2, females 2: Omaha (4); August 3 to 20; visits flowers of *Chamaecrista fasciculata*.

Solenius (**Lophocrabro**) **trapezoidus** (Packard).

1866. *Crabro trapezoidus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 89.

1895. *Crabro trapezoidus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 160.

Males 1: Omaha, July 22, 1913 (L. T. Williams).

Solenius (**Lophocrabro**) **singularis** (F. Smith).

1856. *Crabro singularis* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 417.

1895. *Crabro singularis* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 159.
 1895. *Crabro maculatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 204.
 1916. *Solenius singularis* Rohwer, *Hym. of Conn.*, p. 667.

Males 2, females 2: Child's Point (2) and Omaha (2); July 14 to August 28.

Solenius (Solenius) texanus (Cresson).

1872. *Crabro texanus* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 227.
 1895. *Crabro texanus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 150.

Males 1: Omaha, July 16, 1914 (L. T. Williams); visits flowers of *Chamaecrista fasciculata*.

Solenius (Solenius) planaris (Mickel).

1916. *Crabro planaris* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 427.

Males 1: Monroe Canyon, August 17, 1908 (R. W. Dawson).

Solenius (Solenius) bellus (Cresson).

1865. *Crabro bellus* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 481.
 1895. *Crabro bellus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 137.

Males 2: Glen (2), August 17 and 19.

Solenius (Solenius) interruptus LePeletier.

1834. *Solenius interruptus* LePeletier, *Ann. Soc. Ent. France*, III, p. 716.
 1895. *Crabro interruptus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 136.

Males 37, females 29: Child's Point (1), Omaha (11), Weeping Water (1), Louisville (1), Meadow (1), South Bend (3), Lincoln (12), Fairmont (1), West Point (1), Holt county (1), Curtis (1), Bridgeport (1), Mitchell (1), Glen (14), Monroe Canyon (2), Sowbelly Canyon (1), Jim Creek (1), Warbonnet Canyon (2) and Sioux county (4); May 27 to October 12; visits flowers of *Chamaecrista fasciculata*, *Solidago canadensis*, *Solidago glaberrima*, *Ceanothus americanus*, *Melilotus alba*, *Symphoricarpos* sp. and *Astragalus* sp.

Crabro Fabricius

KEY TO THE SPECIES

Females

1. Abdomen always spotted and marked 2
 Abdomen never spotted, entirely black, or red 11

2. First joint of hind tarsi distinctly longer than the longer spur of hind tibiae 3
 First joint of hind tarsi of about equal length to the longer spur of hind tibiae 10
3. First cubital transverse vein received by the marginal cell before its middle, the space between the recurrent nervure and the apex of the submarginal cell much greater than the width of the latter cell at the apex 4
 First cubital transverse vein received in about the middle of the marginal cell, the space between the recurrent nervure and apex of submarginal cell not or rarely greater than the width of the latter cell at apex 5
4. Pronotum with lateral tooth small and weak; pronotum entirely, scutellum and metanotum in part, yellow; second and third sternites spotted with yellow *cingulatus*
 Pronotum with lateral tooth strong; pronotum with two, sinuous yellow spots only; no yellow on scutellum, metanotum or sternites, *argus*
5. Flagellum scarcely twice the length of the scape, about equal to the space between the eyes on an imaginary line drawn across the vertex before the hind ocelli; mesepisterna not striated; hind tarsi yellowish testaceous *tumidus*
 Flagellum more than twice longer than the scape, greater in length than the space between the eyes on an imaginary line drawn across the vertex before the hind ocelli 6
6. Scutellum of head and thorax subtile, sparsely punctate, granulate between the punctures; propodeum finely striated above; scutellum black (not yellow) *bruneri*
 Sculpture of head and thorax, particularly that of the mesonotum, well marked 7
7. Propodeum above very coarsely sculptured; with strong longitudinal or somewhat oblique ridges, which extend to base of posterior face; pronotum distinctly dentate laterally; scape yellow, at least anteriorly; first sternite with two separate spots *advenus*
 Propodeum above not so coarsely sculptured; if it is, then the ridges become obsolete towards the posterior face (in one case with close, rather fine, longitudinal striae; markings yellow) 8
8. Space between hind ocelli decidedly less than that between them and the nearest eye margin; propodeum with a well marked, triangular enclosure, which is longitudinally and closely striated; mesepisterna above in addition to the puncturation, distinctly striated; mesonotum very compactly punctured (first sternite with a band; extreme tips of femora yellow) *pleuralis*
 Space between hind ocelli not much less than that between them and

- the nearest eye margin; propodeum without a well-marked enclosure, the furrows forming it obsolete basally; mesepisterna not striated; mesonotum with the punctures more or less separated; hind tarsi yellow testaceous 9
9. Thorax with thick, matted pubescence of a pale fuscous color; length 14 mm. or over *largior*
- Thorax with thin pale, grayish pubescence; length 10 mm. or less, *vicinus*
10. Propodeum above with the central, longitudinal furrow wide, shallow, and much broadened basally, the furrow which margins the lateral ridges of posterior face outwardly not or indistinctly foveolate; prepectus entirely black *cognatus*
- Propodeum above with the central, longitudinal furrow narrower, deep, scarcely broadened basally, the furrow which margins the lateral ridges of posterior face outwardly, distinctly foveolate or marked by strong, transverse ridges; prepectus more or less yellow. *hilaris*
11. Pygidium broad, flat, not excavated 12
- Pygidium narrowed apically and excavated 16
12. Abdomen largely red, black apically *vierecki*
- Abdomen entirely black 13
13. Mandibles yellow in greater part; scutellum immaculate; the two convexities of the enclosed area of propodeum with microscopic striations, opaque *minimus*
- Mandibles not yellow, black, reddish apically 14
14. Scutellum black or with a minute spot; the intermediate tibiae yellow on basal portion only; yellow on pronotum broken into two, widely-separated spots; first joint of posterior and intermediate tarsi yellow *incavus*
- Scutellum almost entirely yellow (rarely black), as is likewise the outer side of intermediate tibiae; yellow on pronotum forming a continuous band 15
15. Abdomen somewhat longer than head and thorax united, the first segment not broad and narrowed basally; episternal furrow of mesopleurae forming an angle at about its middle; length 6 mm., *scutellifer*
- Abdomen a little shorter than head and thorax united, the first segment broad; episternal furrow of mesopleurae gently curved; length 4.5-5 mm. *lentus*
16. Pronotum and scutellum yellow; apical margins of abdominal segments broadly testaceous *impressifrons*
- Thorax not maculated with yellow 17
17. Enclosure of propodeum very strongly marked, the impressed lines forming it more or less foveolate; length 7.5 mm. *stygius*
- Enclosure of propodeum not strongly marked, rather indistinct, the

lines forming it not foveolate; pronotum with a small, blunt prominence laterally; all the tarsi brownish*nigricornis*

Males

1. Abdomen always spotted or marked with yellowish 2
 Abdomen not spotted, entirely black; ocelli forming an equilateral triangle *II*
2. Fore tibiae bearing a large vari-shaped shield 3
 Fore tibiae without a shield, simple; pronotum strongly dentate laterally 9
3. Antennae more or less dilated, the joints more or less prolonged beneath; fifth joint of fore tarsi with a peculiar appendage 4
 Antennae simple, fifth joint of fore tarsi without an appendage ... 7
4. First joint of flagellum not broadened to meet the second, not longer, though broader, than the pedicel, the four terminal joints together about as long as the three preceding ones united, joints 2-6 with a large appendix on outer margin, that on joint 2 narrowest and most curved, that on joint 6 broadest and not curved (tibial shield brownish, yellow basally, covered with pale dots, which are at extreme base and apex, linear; scutellum and metanotum black; first abdominal tergite banded; intermediate legs, coxae excepted, entirely yellow, the first joint of their tarsi about twice as long as the remaining tarsal joints united)*argus*
 First joint of flagellum broadened to meet the second, longer than the pedicel, the four terminal joints as long as or longer than the four preceding joints united, none of the joints with a long, acute appendix on outer margin 5
5. First joint of flagellum not hirsute beneath; tibial shield very large, fully two thirds as long as the thorax*latipes*
 First joint of flagellum with a bunch of pale, curled hair beneath.. 6
6. Anterior femora at the base of outer margin with a strong production, which is somewhat bifurcate at apex; space between hind ocelli much less than that between them and the nearest eye-margin; tibial shield basally yellow, posteriorly greenish, and streaked and dotted with yellow*pleuralis*
 Anterior femora at base of outer margin with a sharp tooth; space between hind ocelli but little less than that between them and the nearest eye-margin; tibial shield in greater part deep black, basally greenish and with broken streaks of yellow*largior*
7. Flagellum short, stout, not much more than twice the length of the scape; mesosternum naked; mesepisterna sparsely and rather subtly punctured; fore femora beneath yellow and greater part of tibiae of that color; metanotum black*tumidus*
 Flagellum long, slender, at least three times as long as the scape .. 8

8. Head and thorax subtilely punctured, clothed with unusually long pubescence; cheeks not keeled beneath; tibial shield broader than long, yellowish on anterior half, more or less whitish on posterior half *bruneri*
 Head and thorax coarsely sculptured, not pubescent more than usual; cheeks beneath along the eye-margin with a slight keel; clypeus yellow; tibial shield dark brown, darker anteriorly, marked with numerous, fine, yellowish streaks *adventus*
9. Scape of antennae cylindrical, not broader at apex than at base, flagellum tolerably slender, slightly subclavate; mesosternum with short, sparse, pale silvery pubescence, wings fusco-hyaline... *hilaris*
 Scape of antennae compressed, broader by far at the apex than at the base, flagellum stout, not thickened medially nor clavate; mesosternum with long, dense, white hair, wings hyaline 10
10. Abdomen but little longer than head and thorax united, the sixth tergite rarely spotted with yellow; fore femora beneath, towards base, with sparse, not long, white pubescence, at least not as long nor as dense as that on the mesosternum laterally (fore and intermediate femora marked more or less with black) *cognatus*
 Abdomen nearly twice as long as the head and thorax united, the sixth tergite always spotted with yellow; fore femora beneath with dense, white pubescence, as long and as dense as that on the mesosternum laterally (fore and intermediate legs entirely yellow) *cingulatus*
11. Fore tarsi greatly flattened; prothorax, tubercles and scutellum marked with yellow *planipes*
 Fore tarsi not flattened or distorted 12
12. Ultimate tergite distinctly more strongly punctured than the penultimate; posterior face of propodeum transversely rugose; clypeus and greater part of scape, prosternum and fore coxae and trochanters, black; "at the base of propodeum is a row of minute fossae," *minimus*
 Ultimate tergite not, or scarcely, more strongly punctured than the penultimate 13
13. Thorax without yellow spots; enclosure of propodeum with two large, smooth areas; greater part of four anterior legs reddish; hind tarsi dark testaceous *nigricornis*
 Prothorax and scutellum yellow *impressifrons*

Crabro (Hoplocrabro) vierecki H. S. Smith.

1908. *Crabro vierecki* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 401.

Females 2: Glen, August 13, 1906 (H. S. Smith), and Monroe Canyon, August 20, 1908 (R. W. Dawson).

The latter specimen has been collected since the species was described.

Crabro (Stenocrabro) planipes Fox.

1895. *Crabro planipes* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 193.

Males 1: Lincoln, May 16, 1908.

Crabro (Crossocerus) lentus Fox.

1895. *Crabro lentus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 190.

Females 5: Omaha (3), Lincoln (1) and West Point (1); June 20 to August 28.

Crabro (Crossocerus) scutellifer Dalle Torre.

1824. *Crabro scutellatus* Say, *Long's Expedition*, II, App., p. 341 (nec Scheven).

1895. *Crabro scutellatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 190.

Females 2: Glen (2); August 13, 1906 (H. S. Smith).

Crabro (Crossocerus) minimus (Packard).

1867. *Blepharipus minimus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 377.

1895. *Crabro minimum* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 188.

Females 2: Omaha (2); August 17, 1913, and August 25, 1914 (L. T. Williams); visits flowers of *Solidago canadensis*.

Crabro (Crossocerus) incavus Fox.

1895. *Crabro incavus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 188.

Females 1: West Point.

Crabro (Blepharipus) nigricornis (Provancher).

1888. *Blepharipus nigricornis* Provancher, *Add. Hym. Quebec*, p. 294.

1895. *Crabro nigricornis* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 195.

Females 2: Monroe Canyon (2); June 30, 1911, and August 19, 1912 (R. W. Dawson).

Crabro (Blepharipus) impressifrons F. Smith.

1824. *Crabro tibialis* Say, *Long's Second Expedition*, App., p. 340 (nec Fabricius).

1856. *Crabro impressifrons* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 417.

1895. *Crabro impressifrons* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 194.

Males 1, females 1: Omaha (1) and Falls City (1); August 20, 1913 (L. T. Williams), and April 28, 1904 (M. H. Swenk).

Crabro (subgenus?) **Stygius** (Mickel).

1916. *Thyreopus stygius* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 422.

Females 1: Bad Lands at the Mouth of Monroe Canyon, May 28, 1901 (L. Bruner); visits flowers of *Astragalus* sp.

Crabro (**Thyreopus**) **vicinus** Cresson.

1865. *Crabro vicinus* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 479.
1895. *Crabro vicinus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 170.

Females 4: Mitchell (1), Warbonnet Canyon (1) and Sioux county (2); Mitchell specimen taken June 23, 1914 (L. M. Gates).

Crabro (**Thyreopus**) **argus** (Packard).

1867. *Thyreopus argus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 359.
1895. *Crabro argus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 165.

Males 1: Glen, August 12, 1906 (P. R. Jones); visits flowers of *Cleome* sp.

Crabro (**Thyreopus**) **latipes** F. Smith.

1856. *Crabro latipes* F. Smith, *Cat. Hym. Brit. Mus.*, IV., p. 396.
1895. *Crabro latipes* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 169.

Males 2: Lincoln (1) and Warbonnet Canyon (1).

Crabro (**Thyreopus**) **largior** Fox.

1895. *Crabro largior* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 161.

Males 2, females 4: Lincoln (1), Monroe Canyon (1) and Warbonnet Canyon (4); June 8 to August 3; visits flowers of *Astragalus* sp.

Crabro (**Thyreopus**) **pleuralis** Fox.

1895. *Crabro pleuralis* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 162.

Males 2: Monroe Canyon, August 16, 1912 (R. W. Dawson), and Warbonnet Canyon.

Crabro (**Synothyreopus**) **tumidus** (Packard).

1867. *Thyreopus tumidus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 364.
1895. *Crabro tumidus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 175.

Males 3, females 2: Omaha (5); August 17 to September 8; visits flowers of *Solidago canadensis*.

Crabro (Synothyreopus) bruneri (Mickel).

1916. *Thyreopus bruneri* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 422.

Males 5, females 7: Warbonnet Canyon (2) and Sioux county (9); May.

Crabro (Synothyreopus) advenus F. Smith.

1856. *Crabro advenus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 421.

1895. *Crabro advenus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 171.

Males 4, females 6: Omaha (2), Weeping Water (1), Lincoln (4), West Point (2) and Glen (1); June 18 to September 3.

Crabro (Paranothyreus) hilaris F. Smith.

1856. *Crabro (Thyreopus) hilaris* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 416.

1895. *Crabro hilaris* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 179.

Females 6: Lincoln (4) and West Point (2); June 20 to October.

Crabro (Paranothyreus) cognatus Fox.

1895. *Crabro cognatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 178.

Females 6: Lincoln (1), Mitchell (4) and Harrison (1); August 5 to August 30.

Crabro (Paranothyreus) cingulatus (Packard).

1867. *Thyreopus cingulatus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 366.

1895. *Crabro cingulatus* Fox, *Trans. Amer. Ent. Soc.*, XXII, p. 177.

Males 1, females 4: Lincoln (1), West Point (1), Haigler (1), Glen (1) and Monroe Canyon (1); June 7 to August 20.

PHILANTHINAE

KEY TO THE GENERA

1. Eyes entire within; submedian cell of posterior wings much shorter than the median on the median vein; female with a distinct pygidial area *Apilanthops*
- Eyes more or less emarginate within; submedian cell of posterior wings as long or slightly longer than the median on the median vein; female without a pygidial area 2
2. Femora hairy below only; eyes of male not approximate above, *Philanthus*
- Femora hairy all over; eyes of male approximate above *Ococletes*

Philanthus Fabricius

KEY TO THE SPECIES

1. Punctures of abdomen normal, or fine and shallow 2
 Punctures of abdomen coarse and deep 13
2. Large species, 16-18 mm. 3
 Small species, 7-10 mm. 4
3. Dorsal segments of abdomen with broad yellow bands, emarginate anteriorly; legs entirely reddish-yellow *gloriosus*
 Dorsal segments of abdomen with narrow yellow bands, that on the first segment somewhat wider; legs black and yellow *solivagus*
4. Body covered with rather long, conspicuous silvery pubescence 5
 Body very sparsely covered with short pubescence 6
5. Puncturation of abdomen very fine; body thickly covered with long silvery pubescence *albopilosus*
 Puncturation of abdomen not fine; the punctures of moderate size and quite sparse; body sparsely covered with long silvery pubescence, *barbiger*
6. Mesonotum and abdomen impunctate, highly polished; second dorsal abdominal segment with two broad lunate marks *bilunatus*
 Mesonotum and abdomen punctured 7
7. Femora red and yellow *siouxensis*
 Femora black and yellow, or entirely black 8
8. Clypeus with a black spot on each side *simillimus*
 Clypeus entirely yellow 9
9. Yellow line on pronotum widely interrupted in the middle *politus*
 Yellow line on pronotum continuous 10
10. Basal joint of hind tarsi distinctly yellow 11
 Basal joint of hind tarsi distinctly rufous or blackish 12
11. Abdomen with fine, moderately close punctures; face usually entirely yellow *pacificus*
 Abdomen with large, sparse punctures; face with a large yellow spot above the insertion of the antennae *pulcher*
12. Hind tarsi mostly rufous; wings clear, whitish *psyche*
 Hind tarsi mostly black; wings tinged with fuscous *tarsatus*
13. Propodeum with yellow markings 14
 Propodeum without yellow markings 16
14. Yellow spot between and above antennae reaching but little more than half way from the clypeus to lower ocellus..... *flavifrons*
 Yellow spot between and above antennae reaching the entire distance between the base of the clypeus and the lower ocellus 15
15. Face above the clypeus entirely yellow; venter of abdomen for the most part yellow; mesonotum usually with four longitudinal stripes (sometimes almost obsolete in male) *inversus*

- Face with a campanulate yellow spot above the antennae; mesonotum without longitudinal stripes *crabroniformis*
16. Vertex with sparse, coarse punctures *gibbosus*
 Vertex closely and deeply punctured 17
17. Band on first tergite widely interrupted *vertilabris*
 Band on first segment of abdomen continuous var. *frontalis*

***Philanthus gloriosus* Cresson.**

1865. *Philanthus gloriosus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 86.

1866. *Philanthus gloriosus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 55.

Females 4: Lincoln (1), Mitchell (2) and Bad Lands, Sioux county (1); July to August 10, 1908; visits flowers of *Melilotus alba*.

***Philanthus solivagus* Say.**

1837. *Philanthus solivagus* Say, *Bost. Journ. Nat. Hist.*, I, p. 383.

1897. *Philanthus solivagus* Dunning, *Ent. News*, VIII, p. 70.

Females 1: Monroe Canyon, August 23, 1908 (R. W. Dawson).

***Philanthus albopilosus* Cresson.**

1865. *Philanthus albopilosus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 91.

1866. *Philanthus albopilosus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 56.

Males 4: Omaha (2) and Mitchell (2); July 29 to September 3; visits flowers of *Solidago glaberrima* and *Solidago* sp.

***Philanthus barbiger* Mickel.**

1916. *Philanthus barbiger* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 405.

Males 33: Harrison (32) and Glen (1); August 4 to August 17; visits flowers of *Helianthus* sp., *Solidago* sp. and *Chrysanthamnus* sp.

***Philanthus bilunatus* Cresson.**

1865. *Philanthus bilunatus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 97.

Males 44, females 42: Omaha (37), Louisville (2), Weeping Water (1), Lincoln (2), Carns (1), Glen (24), Monroe Canyon (16) and Warbonnet Canyon (1); July 4 to August 22; visits flowers of *Solidago* sp., *Melilotus alba*, *Achillea millefolium*, *Chamaecrista fasciculata*, *Aster multiflorus*, *Symphoricarpos symphoricarpos*, *Monarda* sp., *Mentzelia* sp. and *Helianthus* sp.

***Philanthus siouxensis* Mickel.**

1916. *Philanthus siouxensis* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 406.

Females 12: Mitchell (7), Glen (3), Harrison (1) and Warbonnet Canyon (1); July 17 to August 17; visits flowers of *Cleome serrulata*, *Petalostemum* sp. and *Melilotus alba*.

***Philanthus simillimus* Cresson.**

1865. *Philanthus simillimus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 95.

Females 3: Omaha, August 22, 1914 (L. T. Williams), on *Aster multiflorus*; Omaha, September 5, 1913 (L. T. Williams); and Child's Point, September 3, 1914 (E. M. Partridge).

***Philanthus politus* Say.**

1824. *Philanthus politus* Say, *Long's Exped.*, II, App., p. 342.
1859. *Philanthus politus* Say, *Leconte edition*, I, pp. 113, 232.
1865. *Philanthus politus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 94.

Females 2: Omaha, July 17, 1914 (L. T. Williams), and July 30, 1914 (L. T. Williams, visits flowers of *Chamaecrista fasciculata*).

***Philanthus pacificus* Cresson.**

1879. *Philanthus pacificus* Cresson, *Trans. Amer. Ent. Soc.*, VII, p. xxxii.
1904. *Philanthus pacificus* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 144.

Males 9: Bridgeport (2), Harrison (2), Glen (4) and Monroe Canyon (1); June 26 to August 19.

***Philanthus pulcher* Dalle Torre.**

1865. *Philanthus pulchellus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 93.
1893. *Philanthus pulcher* Dalle Torre, *Cat. Hymen.*, VII, p. 489.
1904. *Philanthus pulchellus* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 144.
1908. *Philanthus politus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 356.

Males 1, females 4: Warbonnet Canyon (2) and Sioux county (3); July 21; visits flowers of *Borage* sp.

***Philanthus psyche* Dunning.**

1896. *Philanthus psyche* Dunning, *Ent. News*, VII, p. 287.

1904. *Philanthus psyche* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 143.

1908. *Philanthus psyche* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 355.

Females 13: Mitchell (1), Glen (11) and Monroe Canyon (1); July 1 to August 20; visits flowers of *Mentzelia* sp. and *Gutierrezia sarothrae*.

***Philanthus tarsatus* H. S. Smith.**

1908. *Philanthus tarsatus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 356.

Females 4: Halsey (1) and Glen (3); August 17 to 20; visits flowers of *Cleome serrulata* and *Solidago* sp.

Two of these specimens have been taken since the species was described.

***Philanthus flavifrons* Cresson.**

1865. *Philanthus flavifrons* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 102.

Females 14: Mitchell (12) and Indian Creek (2); July 2 to August 16; visits flowers of *Helianthus petiolaris* and *Malva* sp.

***Philanthus inversus* Patton.**

1879. *Philanthus inversus* Patton, *Bull. U. S. Geol. Surv.*, V, p. 355.

?1879. *Philanthus sublimis* Cresson, *Trans. Amer. Ent. Soc.*, VII, p. xxxii.

1908. *Philanthus inversus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 358.

Males 26, females 7: Lincoln (2), Mitchell (12), Glen (14), Monroe Canyon (1), Bad Lands (2) and Warbonnet Canyon (1); July 13 to September 2; visits flowers of *Solidago* sp.

***Philanthus crabroniformis* F. Smith.**

1855. *Philanthus crabroniformis* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 474.

1904. *Philanthus crabroniformis* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 143.

Males 11, females 2; Lincoln (1), Mitchell (1), Glen (9), Bad Lands (1) and Indian Creek (1); August and September; visits flowers of *Solidago* sp.

***Philanthus gibbosus* (Fabricius).**

1775. *Vespa gibbosa* Fabricius, *Syst. Ent.*, p. 370.
 1859. *Philanthus punctatus* Say, *Leconte Ed.*, I, p. 231.
 1865. *Philanthus punctatus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 100.
 1891. *Philanthus gibbosus* Kohl, *Annalen naturhistorischen Hofmuseums*, Wien, VI, p. 348.

Males 118, females 84: Omaha (125), Child's Point (4), South Sioux City (1), South Bend (8), Weeping Water (1), Lincoln (6), West Point (13), Curtis (4), Bridgeport (1), Mitchell (3), Crawford (1), Glen (22), Monroe Canyon (1) and Warbonnet Canyon (2); June 22 to September 19; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Solidago canadensis*, *Aster multiflorus*, *Helianthus* sp., *Petalostemum* sp., *Ceanothus americanus* and *Cleome serrulata*.

***Philanthus vertilabris* Fabricius.**

1804. *Philanthus vertilabris* Fabricius, *Syst. Piez.*, p. 303.
 1865. *Philanthus vertilabris* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 98.

Males 22, females 57: Omaha (22), Lincoln (1), Fairmont (2), Mitchell (43), Harrison (2), Glen (6) and Monroe Canyon (3); June 23 to September 9; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata* and *Cleome serrulata*.

***Philanthus vertilabris frontalis* Cresson.**

1865. *Philanthus frontalis* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 99.
 1879. *Philanthus ventilabris frontalis* Patton, *Bull. U. S. Geol. Surv.*, V, p. 355.

Males 44: Omaha (7), Louisville (1), Lincoln (1), Fairmont (2), Red Cloud (1), Sidney (1), Mitchell (30) and Pine Ridge (1); June 18 to August 26; visits flowers of *Solidago canadensis*, *Solidago glaberrima* and *Euphorbia* sp.

Ococletes Banks

KEY TO THE SPECIES

1. Ground color of basal abdominal segment red*basilaris*
 Ground color of basal abdominal segment black 2
2. Distance between two posterior ocelli of male equal to the distance between them and the nearest eye-margin; femora of female testaceous*sanborni*

Eyes of male at the vertex almost touching the posterior ocelli,
scutellaris

Ocicletes basilaris (Cresson).

1879. *Philanthus basilaris* Cresson, *Trans. Amer. Ent. Soc.*, VII, p. xxxiii.

Males 10, females 3: Harrison (4), Glen (6) and Hat Creek Basin (1); August 4 to 23; visits flowers of *Helianthus* sp.

Ocicletes sanborni (Cresson).

1865. *Philanthus sanbornii* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 89.

1908. *Philanthus gloriosus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 359 (in part).

Males 10, females 7: South Sioux City (2), Lincoln (1), West Point (2), Mitchell (7), Glen (2) and Bad Lands (2); June 25 to August 22; visits flowers of *Melilotus alba*.

Ocicletes scutellaris (Cresson).

1879. *Philanthus scutellaris* Cresson, *Trans. Amer. Ent. Soc.*, VII, p. xxxiv.

1908. *Philanthus sanbornii* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 359.

Males 11: South Bend (2), Lincoln (1), West Point (1), Halsey (2) and Mitchell (5); June 28 to August 12; visits flowers of *Melilotus alba*.

Aphilanthops Patton

KEY TO THE SPECIES

1. Ground color of abdomen red; head and thorax with silvery pubescence; legs red *quadrinotatus*
 Ground color of abdomen black; legs black and yellow or testaceous and yellow 2
2. Size small, length 6-8 mm.; face with dense silvery pubescence; legs black and yellow; abdomen with bands broad, occupying two thirds of the segment, and not interrupted *laticinctus*
 Size larger, length 9-13 mm.; face with sparse pubescence; legs testaceous and yellow in female, black or piceous and yellow in male; bands narrower and more interrupted *frigidus*

Aphilanthops quadrinotatus Ashmead.

1890. *Aphilanthops quadrinotatus* Ashmead, *Bull. Col. Biol. Assoc.*, I, p. 7.

1898. *Aphilanthops quadrinotatus* Dunning, *Trans. Amer. Ent. Soc.*, XXV, p. 24.

Females 16: Ogallala (1), Bridgeport (1), Harrison (1) and Glen (13); June 24 to August 21; visits flowers of *Solidago* sp., *Helianthus petiolaris* and *Gutierrezia sarothrae*.

***Aphilanthops laticinctus* (Cresson).**

1865. *Philanthus laticinctus* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 91.
1898. *Aphilanthops laticinctus* Dunning, *Trans. Amer. Ent. Soc.*, XXV, p. 22.

Males 26: Ogallala (3), Bridgeport (6) and Glen (17); June 24 to August 21.

***Aphilanthops frigidus* (F. Smith).**

1856. *Philanthus frigidus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 457.
1898. *Aphilanthops frigidus* Dunning, *Trans. Amer. Ent. Soc.*, XXV, p. 20.
1912. *Nomada (Holonomada) dawsoni* Swenk, *UNIV. NEBR. STUDIES*, XII, p. 83.
1915. *Nomada (Holonomada) dawsoni* Swenk, *UNIV. NEBR. STUDIES*, XV, p. 172.

Males 30, females 12: Omaha (2), West Point (9), Ogallala (1), Bridgeport (23), Glen (3) and Monroe Canyon (1); June 24 to August 23; visits flowers of *Melilotus alba* and *Chrysothamnus* sp.

TRYPOXYLONINAE

***Trypoxylon* Latreille**

KEY TO THE SPECIES

- | | |
|---|--------------------|
| 1. Females | 2 |
| Males | 11 |
| 2. Propodeum not trisulcate | 3 |
| Propodeum trisulcate | 10 |
| 3. Abdomen entirely black | 4 |
| Abdomen banded with reddish | 7 |
| 4. Propodeum punctured or with very fine striations; size large, 18-25 mm. | 5 |
| Propodeum more or less striated or rugose | 6 |
| 5. Wings fuliginous, thorax with black pile | <i>politum</i> |
| Wings with anterior pair fuscous, posterior ones except apex hyaline; thorax with pale pubescence | <i>albipilosum</i> |

6. Propodeum with an enclosed space; wings except apical margin hyaline; posterior tarsi whitish medially; mesonotum shining...*clavatum*
Propodeum without an enclosed space; upper surface of propodeum rugose; mesonotum opaque*frigidum*
7. Propodeum punctured*rubrocinctum*
Propodeum more or less striated 8
8. Front with a strong projection; anterior half of clypeus strongly carinated*tridentatum*
Front with a longitudinal carina above the antennae 9
9. Antennae entirely black; second abdominal segment only red,
rufozonale
Antennae, except apical portion, reddish fulvous; first abdominal segment more or less, and second entirely red; thorax black, with golden pubescence*texense*
10. Abdomen with base of second and third abdominal segments reddish fulvous*johnsoni*
Abdomen entirely black; upper surface of propodeum with a raised disk which is transversely striated*fastigium*
11. Propodeum trisulcate; upper surface of propodeum with a raised disk which is transversely striated*fastigium*
Propodeum not trisulcate 12
12. Abdomen entirely black 13
Abdomen banded with reddish 16
13. Propodeum punctured or very finely striated 14
Propodeum striated or rugose 15
14. First sternite with a strong hook or spine; thorax with black pile,
politum
First sternite unarmed; thorax with pale pubescence,*albipilosum*
15. Posterior trochanters armed with a spine; mesonotum shining,
clavatum
Posterior trochanters unarmed; mesonotum opaque*frigidum*
16. Posterior trochanters unarmed 17
Posterior trochanters armed with a spine 18
17. Propodeum punctate; base of second segment reddish...*rubrocinctum*
Propodeum striated; with two strong projections at the apex,
tridentatum
18. Antennae entirely black; legs black, the hind tarsi whitish medially,
rufozonale
Antennae more or less reddish; thorax black with golden pubescence; legs reddish*texense*

Trypoxylon politum Say.

1837. *Trypoxylon politus* Say, *Bost. Journ. Nat. Hist.*, I, Pt. 4, p. 373.
1883. *Trypoxylon neglectum* Kohl, *Verh. zool. bot. Ges. Wien.*, XXXIII, p. 340.

1893. *Trypoxylon albitarse* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 474.
 1908. *Trypoxylon albitarse* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII,
 p. 352.
 1912. *Trypoxylon politum* Rohwer, *Proc. U. S. Nat. Mus.*, XLI, p.
 473.

Males 4, females 4: Nebraska City (3) and Lincoln (5).

Bred from nests; Lincoln specimens emerged in March; Nebraska City specimens emerged May 25 and June 1.

***Trypoxylon albipilosum* Fox.**

1891. *Trypoxylon albipilosum* Fox, *Trans. Amer. Ent. Soc.*, XVIII,
 p. 139.
 1893. *Trypoxylon albipilosum* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 474.
 Males 2, females 1: Omaha (3); July 26 to July 15.

***Trypoxylon clavatum* Say.**

1837. *Trypoxylon clavatus* Say, *Bost. Journ. Nat. Hist.*, I, Pt. 4, p.
 374.
 1893. *Trypoxylon clavatum* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 474.

Males 6, females 2: Omaha (8); July 8 to August 17.

***Trypoxylon frigidum* F. Smith.**

1856. *Trypoxylon frigidum* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p.
 381.
 1893. *Trypoxylon frigidum* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 474.

Females 6: Omaha (5) and Warbonnet Canyon (1); July 20 to August 25.

***Trypoxylon rubrocinctum* Packard.**

1867. *Trypoxylon rubrocinctum* Packard, *Proc. Ent. Soc. Phil.*, VI,
 p. 416.
 1893. *Trypoxylon rubrocinctum* Fox, *Proc. Acad. Nat. Sc. Phil.*, p.
 474.

Males 2, females 1: Lincoln (3); July 17 to August 3.

***Trypoxylon tridentatum* Packard.**

1867. *Trypoxylon tridentatum* Packard, *Proc. Ent. Soc. Phil.*, VI, p.
 417.
 1893. *Trypoxylon tridentatum* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 475.

Males 6, females 6: Omaha (3), Glen (8) and Monroe Canyon (1); July 14 to August 20; visits flowers of *Chamaecrista fasciculata*.

Trypoxylon rufozonale Fox.

1891. *Trypoxylon rufozonale* Fox, *Trans. Amer. Ent. Soc.*, XVIII, p. 145.

1893. *Trypoxylon rufozonale* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 475.

Males 3, females 4: Glen (2) and Monroe Canyon (5); August 3 to August 20.

Trypoxylon texense Saussure.

1867. *Trypoxylon texense* Saussure, *Reis d. Novara*, Zoöl., II, Hym., p. 77.

1877. *Trypoxylon sulcus* La Munyon, *Proc. Nebr. Assoc. Adv. Sc.*, March, 1877.

1893. *Trypoxylon texense* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 475.

Males 3: Culbertson (2), August 20, 1889 (F. C. Kenyon), and Glen (1), August 14, 1906.

The type of *Trypoxylon sulcus* La Munyon is lost, but that species is evidently the same as *texense* and should be considered synonymous.

Trypoxylon johnsoni Fox.

1891. *Trypoxylon Johnsoni* Fox, *Trans. Amer. Ent. Soc.*, XVIII, p. 147.

1893. *Trypoxylon Johnsonii* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 475.

Females 1: Omaha, August 17, 1914 (L. T. Williams).

Trypoxylon fastigium Fox.

1891. *Trypoxylon carinifrons* Fox, *Trans. Amer. Ent. Soc.*, XVIII, p. 142.

1893. *Trypoxylon fastigium* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 476.

1908. *Trypoxylon frigidum* H. S. Smith (nec F. Smith), *UNIV. NEBR. STUDIES*, VIII, p. 352.

Males 1, females 1: Omaha (1), July 25, 1914 (L. T. Williams); and Glen (1), August 13, 1906 (H. S. Smith).

MELLININAE

KEY TO THE GENERA

- Cubitus in hind wings originating beyond the transverse median nervure;
front wings with the second cubital cell receiving both recurrent nervures *Mellinogastra*
- Cubitus in hind wings interstitial with the transverse median nervure;
second cubital cell receiving both recurrent nervures; enclosure of
middle segment striated *Hypomellinus*

Cubitus in hind wings originating far before the transverse median nervure; front wings with the first and third cubital cells each receiving a recurrent nervure*Mellinus*

Mellinogastra Ashmead

Mellinogastra mellinoides (Fox).

1895. *Gorytes mellinoides* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 524.

Females 1: Monroe Canyon, August 19, 1912 (R. W. Dawson).

This specimen differs from Fox's description in having no yellow on the apical margin of the third tergite and second sternite. It may prove to be a distinct species.

Mellinogastra williamsi Mickel.

1916. *Mellinogastra williamsi* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 402.

Males 1: Omaha, August 17, 1914 (L. T. Williams).

Hypomellinus Ashmead

Hypomellinus venustus Mickel.

1916. *Hypomellinus venustus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 403.

Males 2: Omaha (1) and Harrison (1); June 14 and August 12; visits flowers of *Chamaecrista fasciculata*.

Hypomellinus tricinctus Mickel.

1916. *Hypomellinus tricinctus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 404.

Females 3: Omaha (3); August 3 to 5; visits flowers of *Chamaecrista fasciculata*.

Mellinus Fabricius

KEY TO THE SPECIES

At least three basal segments of abdomen red; legs black and yellow; abdomen of female without yellow maculae*abdominalis*
Petiole only of abdomen red; remaining segments black with yellow maculae laterally; legs red and yellow*rufinodis*

Mellinus abdominalis Cresson.

1881. *Mellinus abdominalis* Cresson, *Trans. Amer. Ent. Soc.*, IX, p. 39.

1894. *Mellinus abdominalis* Fox, *Ent. News*, V, p. 202.

Males 6, females 2: Imperial (1) and Glen (7); June 22 to August 22.

Mellinus rufinodus Cresson.

1865. *Mellinus rufinodus* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 475.

1894. *Mellinus rufinodus* Fox, *Ent. News*, V, p. 201.

Females 1: West Point, September, 1887.

SPHECINAE

KEY TO THE TRIBES

1. Second and third cubital cells each receiving a recurrent vein; propodeum with a U-shaped area on dorsal surface *Chlorionini*
 Second cubital cell receiving both recurrent veins 2
2. Propodeum without a U-shaped dorsal area *Sphecini*
 Propodeum with a U-shaped dorsal area *Sceliphronini*

CHLORIONINI

Chlorion LePeletier

KEY TO THE SPECIES

1. Second cubital cell of fore wing higher than broad 2
 Second cubital cell of fore wings as broad or broader than high ... 8
2. Claws with one tooth *cyaneum aerarium*
 Claws with two or more teeth 3
3. Claws with two teeth; clypeus with a median truncated lobe and a sinus on each side; abdomen black or at most only faintly brownish or ferruginous *laeviventris*
 Claws with three to six teeth; clypeus without a median truncated lobe but often with a median emargination or notch 4
4. Abdomen black or dark brown *atratum*
 Abdomen with some ferruginous or yellow color, at least ventrally. 5
5. Females 6
 Males 7
6. Size larger, abdomen more red; thorax with short dense pubescence; tubercles pubescent *thomae*
 Size smaller, abdomen usually more black; thorax with pubescence longer and more sparse; tubercles usually not pubescent, *bifoveolatum*
7. Sixth abdominal tergite not broadly excavated *thomae*
 Sixth abdominal tergite broadly excavated on its posterior margin, *bifoveolatum*
8. Stigmatal groove rudimentary or absent 9

- Stigmatal groove present 12
9. Third cubital cell not broader on the radial nervure than the distance between the second transverse cubital and second recurrent nervures on the cubital nervure *lucae*
- Third cubital cell broader on the radial nervure 10
10. Mandibles with two teeth; petiole black; propodeum with long white hairs above *aztecum cinereum*
- Mandibles with three teeth 11
11. Legs black, abdomen black; pubescence of thorax griseous *harrisi*
- Legs ferruginous, abdomen more or less so; pubescence of thorax golden *elegans*
12. Abdomen and legs more or less ferruginous; pubescence of thorax bright golden *ichneumonenum*
- Entirely black, with black pubescence; wings black, violaceous, *pennsylvanicum*

***Chlorion cyaneum aerarium* Patton.**

1879. *Chlorion aerarium* Patton, *Can. Ent.*, XI, p. 133.
1906. *Chlorion (Chlorion) cyaneum aerarium* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 317.
1908. *Chlorion cyaneum* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 332.

Males 26, females 29: Omaha (23), Louisville (16), Lincoln (3), North Platte (2), Haigler (4), Halsey (3) and Mitchell (3); July 14 to September 8; visits flowers of *Chamaecrista fasciculata* and *Dicrophyllum marginatum*.

***Chlorion laeviventris* (Cresson).**

1865. *Sphex laeviventris* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 463.
1906. *Chlorion (Palmodus) laeviventris* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 318.

Males 1, females 1: Halsey (2); July 29, 1912, and August 30, 1912 (J. T. Zimmer).

***Chlorion atratum* (LePeletier).**

1845. *Sphex atrata* LePeletier, *Hist. Nat. Insectes, Hymen.*, III, p. 335.
1906. *Chlorion (Priononyx) atratum* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 338.

Males 197, females 118: Rulo (2), South Sioux City (4), Omaha (23), Union (1), Ashland (1), Louisville (25), South Bend (6), Lincoln (86), Cedar Bluffs (9), Maskell (8), Con-

cord (8), West Point (10), Fairmont (24), Maxwell (3), Broken Bow (1), Holt county (3), Curtis (1), McCook (1), Lexington (1), Imperial (4), Mitchell (37), Chadron (1), Haigler (2), Dundy county (3), Harrison (2), Glen (17), Pine Ridge (2), Warbonnet Canyon (1) and Sioux county (1); June 17 to October 10; visits flowers of *Petalostemum purpureum*, *Asclepias incarnata*, *Asclepias verticillata*, *Solidago glaberrima*, *Asclepias tuberosa*, *Chamaecrista fasciculata*, *Petalostemum candidum*, *Amorpha canescens*, *Ceanothus americanus*, *Euphorbia emarginata*, *Cleome serrulata* and *Solidago rigida*.

Chlorion thomae (Fabricius).

1775. *Sphex thomae* Fabricius, *Ent. Syst.*, p. 346.

1906. *Chlorion (Priononyx) thomae* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 342.

Males 6, females 16: Lincoln (1), Imperial (1), Gering (1), Mitchell (14), Agate (1), Monroe Canyon (4) and Glen (1); June 24 to September 10; visits flowers of *Petalostemum violaceus* and *Melilotus alba*.

Chlorion bifoveolatum (Taschenberg).

1869. *Priononyx bifoveolata* Taschenberg, *Zeitschrift für aes. Naturwissenschaft*, XXXIV, p. 408.

1906. *Chlorion (Priononyx) bifoveolatum* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 346.

Males 1, females 2: Mitchell (1), Monroe Canyon (1) and Sioux county (1); July 27 to August 6; visits flowers of *Melilotus alba*.

Chlorion aztecum cinereum (Fernald).

1903. *Isodontia macrocephala cinerea* Fernald, *Can. Ent.*, XXXV, p. 271.

1906. *Chlorion (Isodontia) aztecum cinereum* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 356.

Females 2: Omaha (2); August 5 and August 17 (L. T. Williams).

Chlorion harrisi Fernald.

1856. *Sphex apicalis* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 262.

1906. *Chlorion (Isodontia) harrisi* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 359.

Males 76, females 44: Omaha (40), Child's Point (3), Weeping Water (1), Louisville (5), South Bend (5), Lincoln (15), Neligh (1), Maskell (1), West Point (6), Broken Bow (2), Curtis (1), Bridgeport (2), Glen (16), Monroe Canyon (16), Bad Lands (3), Warbonnet Canyon (1), Sioux county (1) and Pine Ridge (1); June 10 to September 19; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Solidago canadensis*, *Petalostemum* sp., *Symphoricarpos symphoricarpos*, *Euphorbia marginata* and *Helianthus* sp.

Chlorion elegans (F. Smith).

1856. *Sphex elegans* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 262.

1906. *Chlorion (Isodontia) elegans* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 361.

Males 1, females 7: Glen (4), Monroe Canyon (3), and Bad Lands (1); August 14 to August 24.

Chlorion lucae (Saussure).

1867. *Sphex lucae* Saussure, *Reise d. Novara, Hymen.*, p. 41.

1906. *Chlorion (Proterosphex) lucae* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 365.

Males 2, females 2: Curtis (1), Bridgeport (1), Haigler (1) and Glen (1); July 8 to August; visits flowers of *Melilotus alba*.

Chlorion ichneumoneum (Linnaeus).

1758. *Apis ichneumonca* Linnaeus, *Syst. Nat.*, 12th ed., I, p. 578.

1906. *Chlorion (Proterosphex) ichneumoneum* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 399.

Males 73, females 67: Omaha (12), Child's Point (1), Union (3), Humboldt (1), Louisville (21), Lincoln (23), Fairmont (1), West Point (2), Culbertson (1), Imperial (1), Haigler (1), Dundy county (1), Carns (2), Halsey (1), Mitchell (19), Harrison (1), Glen (17), Monroe Canyon (13), Warbonnet Canyon (7) and Bad Lands (6); June 21 to September 12; visits flowers of *Asclepias syriaca*, *Symphoricarpos symphoricarpos*, *Silphium integrifolium*, *Asclepias incarnata*, *Asclepias verticillata*, *Solidago glaberrima*, *Mentha canadensis*, *Euphorbia* sp., *Melilotus alba*, *Petalostemum candidum* and *Cleome serrulata*.

Chlorion pennsylvanicum (Linnaeus).1763. *Sphex pennsylvanica* Linnaeus, *Syst. Nat.*, 12th ed., I, p. 941.1906. *Chlorion* (*Protorosphe*) *pennsylvanicum* Fernald, *Proc. U. S. Nat. Mus.*, XXXI, p. 405.

Males 29, females 15: Omaha (6), Union (1), Louisville (15), Lincoln (19), West Point (1) and Glen (2); June 21 to September 10; visits flowers of *Melilotus alba*, *Asclepias syriaca*, *Petalostemum* sp., *Symphoricarpos symphoricarpos*, *Solidago glaberrima*, *Chamaecrista fasciculata* and *Euphorbia* sp.

SPHECINI

KEY TO THE GENERA

1. Front wings with two cubital cells; petiole long, two-jointed, as in *Sphex*; submedian cell as long as the median *Coloptera*
 Front wings with three cubital cells; submedian cell a little shorter than the median 2
2. Petiole of the abdomen very long, two-jointed, the second segment being elongate and slender, forming with the first a long petiole, *Sphex*
 Petiole of the abdomen not especially long, one-jointed, the second segment bell-shaped; clypeus in the female with a more or less distinct median emargination *Psammodromus*

Coloptera LePeletier**Coloptera wrightii** Cresson.1868. *Coloptera wrightii* Cresson, *Trans. Amer. Ent. Soc.*, I, p. 378.1903. *Coloptera wrightii* Melander, *Psyche*, X, p. 162.

Females 2: Bridgeport, July 10, 1912 (L. M. Gates); Pine Bluffs, August 27, 1893.

Sphex Linnaeus

KEY TO THE SPECIES

1. Pronotum or mesonotum or both, more or less transversely striated or ridged 2
 Mesonotum either smooth or punctured, but not with complete transverse striae 5
2. Thorax and legs entirely black 3
 Thorax and legs in part red 4
3. Size large, 22-30 mm.; pleura with pubescent stripes *procureus*
 Size small, 14-16 mm.; pleura entirely silvery pubescent *politus*

4. Head black; striae of propodeum becoming rugose laterally *..cressoni*
Head ferruginous; striae of propodeum more complete laterally,
ferruginosus
5. Legs at least in part red 6
Legs black 8
6. Propodeum sharply, densely, and obliquely striated; face and clypeus
silvery *alberti*
Head and clypeus black; propodeum at least centrally with transverse
striae 7
7. First joint of petiole black, i. e., with more black than second joint;
head and thorax with silvery pubescence *breviceps*
First joint of petiole with more red than second joint; species of
16-25 mm. *pruinosis*
8. Abdomen entirely black, or with a very little red; pleura with silvery
spots; clypeus of male produced; sides of propodeum finely rugu-
lose *abbreviatus*
Abdomen in part red 9
9. Pleura uniform dull black in color, without silvery pubescent mark-
ings 10
Pleura with markings of silvery pubescence; wings hyaline or nearly
so 11
10. Wings black, violaceous; second segment of petiole usually black
above *nigricans*
Wings yellowish, usually darker apically; second segment of petiole
usually red above *extremitatus*
11. Thorax with dense silvery pubescence throughout *argentatus*
Thorax with more or less sparse silvery-cinereous pubescence..... 12
12. Propodeum dorsally with well-marked oblique striae, generally con-
nected by a raised median line *vulgaris*
Propodeum without a raised median line 13
13. Mesonotum strigose near the sides *urnarius*
Mesonotum simply punctate throughout 14
14. Scutellum sparsely punctate *strenuus*
Scutellum channelled longitudinally; thorax very sparsely punctate,
juncus

***Sphex abbreviatus* (Fabricius).**

1804. *Pelopoëus abbreviatus* Fabricius, *Syst. Piez.*, p. 204.
1856. *Ammophila moneta* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 219.
1903. *Ammophila abbreviata* Melander, *Psyche*, X, p. 160.

Males 35, females 13: Child's Point (3), Omaha (40), Louis-
ville (1) and Lincoln (4); July 10 to September 20; visits flowers
of *Melilotus alba*, *Chamaecrista fasciculata* and *Symphoricarpos*
symphoricarpos.

Sphex urnarius (Dahlbom).

1843. *Ammophila urnaria* (Klug) Dahlbom, *Hym. Eur.*, I, p. 14.

1903. *Ammophila urnaria* Melander, *Psyche*, X, p. 161.

1908. *Sphex vulgaris* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 330 (in part).

Males 88, females 41: Rulo (3), Omaha (39), Child's Point (1), Louisville (17), Meadow (1), South Bend (15), Ashland (1), Roca (1), Lincoln (17), Cedar Bluffs (3), West Point (5), South Sioux City (2), Maskell (2), Fairmont (2), Oxford (1), Glen (1), Monroe Canyon (3), Warbonnet Canyon (2) and Sioux county (7); May 22 to October 11; visits flowers of *Solidago canadensis*, *Symphoricarpos symphoricarpos*, *Solidago glaberrima*, *Solidago* sp., *Asclepias incarnata*, *Vernonia fasciculata*, *Chamaecrista fasciculata*, *Aster* sp. and *Amorpha canescens*.

Sphex nigricans (Dahlbom).

1843. *Ammophila nigricans* Dahlbom, *Hym. Eur.*, I, p. 14

1903. *Ammophila nigricans* Melander, *Psyche*, X, p. 161.

Males 73, females 44: Omaha (36), Child's Point (1), Louisville (17), Meadow (7), Weeping Water (1), South Bend (19), Ashland (5), Lincoln (20), Cedar Bluffs (3), West Point (6), Maskell (3), Concord (2) and Curtis (1); June 13 to September 14; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Petalostemum purpureum*, *Solidago glaberrima*, *Symphoricarpos symphoricarpos*, *Amorpha canescens* and *Ceanothus americanus*.

Sphex procerus (Dahlbom).

1843. *Ammophila procera* Dahlbom, *Hym. Eur.*, I, p. 15.

1856. *Ammophila gryphus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 222.

1903. *Ammophila procera* Melander, *Psyche*, X, p. 159.

Males 65, females 46: Omaha (7), Weeping Water (1), Meadow (1), Ashland (1), South Bend (17), Louisville (25), Lincoln (10), Cedar Bluffs (7), West Point (2), Maskell (3), Fairmont (2), Halsey (1), Mitchell (5), Glen (6), Monroe Canyon (6) and Sioux county (3); June 20 to October 11; visits flowers of *Solidago rigida*, *Amorpha canescens*, *Asclepias tuberosa*, *Melilotus alba*, *Petalostemum purpureum*, *Vernonia fasciculata*, *Symphoricarpos symphoricarpos*, *Solidago glaberrima*, *Chamaecrista fasciculata* and *Aster* sp.

***Sphex alberti* (Haldeman).**

1852. *Ammophila alberti* Haldeman, Stansbury: *Explor. Salt Lake*, p. 368.
 1879. *Ammophila alberti* Patton, *Bull. U. S. Geol. Surv.*, V, p. 353.
 1903. *Ammophila aberti* Melander, *Psyche*, X, p. 160.

Females 1: Glen, August 17, 1906 (H. S. Smith), on *Solidago* sp.

***Sphex breviceps* (F. Smith).**

1856. *Ammophila breviceps* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 221.
 1865. *Ammophila varipes* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 457.
 1903. *Ammophila breviceps* Melander, *Psyche*, X, p. 160.

Males 35, females 40: Omaha (6), Ashland (1), Fairmont (2), Red Cloud (1), Curtis (2), Imperial (2), Oxford (1), Haigler (1), Dundy county (1), Bridgeport (1), Kimball (11), Mitchell (28), Harrison (4), Glen (8), Warbonnet Canyon (1) and Sioux county (5); June 18 to September 11; visits flowers of *Melilotus alba*, *Helianthus petiolaris*, *Cleome serrulata*, *Solidago* sp. and *Petalostemum* sp.

***Sphex ferruginosus* (Cresson).**

1865. *Ammophila ferruginosa* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 455.
 1903. *Ammophila ferruginosa* Melander, *Psyche*, X, p. 160.

Females 28: Imperial (1), Haigler (1), Halsey (1), Mitchell (19), Pine Ridge (4), Monroe Canyon (1) and Glen (1); June 9 to September 12.

It is quite probable that *cressoni* is the male of this species. In each case the opposite sex is unknown and this series of twenty-eight females was collected in the same general locality and shows practically the same seasonal distribution as the five males of *cressoni*. In structure the two species seem to show no differences except in the usual secondary sexual characters which are found in this genus. From these circumstances it would seem that these two are but a single species and probably further collecting will prove this to be the case.

Sphex cressoni H. S. Smith.

1865. *Ammophila collaris* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 456.

1903. *Ammophila collaris* Melander, *Psyche*, X, p. 159.

1908. *Sphex cressoni* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 329.

Males 5: Mitchell (1), Glen (2) and Harrison (2); July 12 to September 5.

Sphex pruinosa (Cresson).

1865. *Ammophila pruinosa* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 455.

1903. *Ammophila pruinosa* Melander, *Psyche*, X, p. 160.

Males 5, females 3: Mitchell (5), Harrison (1) and Glen (2); July 7 to September 4.

Sphex extremitatus (Cresson).

1865. *Ammophila extremitata* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 457.

1903. *Ammophila extremitata* Melander, *Psyche*, X, p. 161.

Males 46, females 86: Rulo (1), Omaha (11), Louisville (2), Meadow (3), South Bend (3), Lincoln (95), Cedar Bluffs (2), West Point (2), Oxford (1), Curtis (3) and North Platte (1); May to October; visits flowers of *Solidago glaberrima*, *Chamaecrista fasciculata*, *Achillea millefolium*, *Petalostemum purpureum*, *Petalostemum violaceus*, *Medicago sativa*, *Cleome serrulata* and *Melilotus alba*.

Sphex politus (Cresson).

1865. *Ammophila polita* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 458.

1903. *Ammophila polita* Melander, *Psyche*, X, p. 160.

Females 1: Sioux county, July.

Sphex vulgaris (Cresson).

1865. *Ammophila vulgaris* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 458.

1903. *Ammophila vulgaris* Melander, *Psyche*, X, p. 160.

Males 142, females 78: Omaha (31), South Sioux City (4), Louisville (2), South Bend (2), Lincoln (55), Cedar Bluffs (5), Concord (1), Coburn (1), Fairmont (7), West Point (15), Neligh (1), Holt county (1), Broken Bow (1), Lexington (1), McCook (1), Haigler (2), North Platte (3), Ogallala (1), Halsey (2), Bridgeport (1), Kimball (1), Mitchell (5), Gordon Creek (1), Harrison (3), Pine Ridge (1), Glen (21), Monroe

Canyon (18), Bad Lands (1), Warbonnet Canyon (4), and Sioux county (28); May 22 to October 11; visits flowers of *Solidago glaberrima*, *Amorpha canescens*, *Medicago sativa*, *Cleome* sp. and *Melilotus alba*.

***Sphex argentatus* (Hart).**

1907. *Ammophila argentata* Hart, *Bull. Ill. Lab.*, VII, p. 267.

Males 4, females 7: West Point (1), Holt county (1), Neligh (2), Halsey (6) and Glen (1); June 9 to August 25.

***Sphex strenuus* (Cresson).**

1865. *Ammophila strenua* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 459.

1903. *Ammophila strenua* Melander, *Psyche*, X, p. 161.

Males 3, females 6: Glen (3), Monroe Canyon (5) and Sioux county (1); August 3 to August 20; visits flowers of *Monarda* sp.

***Sphex junceus* (Cresson).**

1865. *Ammophila juncea* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 460.

1903. *Ammophila juncea* Melander, *Psyche*, X, p. 161.

Males 5, females 5: Mitchell (1), Glen (1), Monroe Canyon (7) and Bad Lands (1); July 14 to August 19.

***Psammophila* Dahlbom**

KEY TO THE SPECIES

1. Body wholly black; pubescence in part white, face silvery (male) or pubescence black (female) *luctuosa*
Abdomen more or less ferruginous 2
2. Petiole of abdomen short, not extending beyond hind trochanters, *grossa*
Petiole of abdomen long, extending much beyond hind trochanters... 3
3. Large species, very robust, 22-26 mm.; abdomen of female entirely ferruginous *valida*
Smaller species, 14-18 mm.; abdomen of female in part black, *violaceipennis*

***Psammophila luctuosa* (F. Smith).**

1856. *Ammophila luctuosa* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 224.

1903. *Psammophila luctuosa* Melander, *Psyche*, X, p. 158.

Males 43, females 80: Ashland (1), Brady Island (5), Mitchell (23), Halsey (11), Crawford (2), Harrison (8), Glen (1), Mon-

roe Canyon (7) and Sioux county (12); June 10 to August 15; visits flowers of *Petalostemum* sp.

***Psammophila valida* (Cresson).**

1865. *Ammophila valida* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 461.

1903. *Psammophila valida* Melander, *Psyche*, X, p. 158.

Males 4, females 8: Mitchell (1), Monroe Canyon (8) and Warbonnet Canyon (1); July 10 to August 20.

***Psammophila grossa* (Cresson).**

1872. *Ammophila grossa* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 209.

1903. *Psammophila grossa* Melander, *Psyche*, X, p. 158.

Females 34: South Sioux City (1), Lincoln (2), West Point (2), Holt county (1), Halsey (4), Mitchell (9), Glen (1), Monroe Canyon (5), Bad Lands (1) and Sioux county (2); June 2 to September 12; visits flowers of *Melilotus alba*.

***Psammophila violaceipennis* (LePeletier).**

1845. *Ammophila violaceipennis* LePeletier, *Hist. Nat. Ins.*, Hym., III, p. 370.

1903. *Psammophila violaceipennis* Melander, *Psyche*, X, p. 159.

Males 111, females 9: Lincoln (4), West Point (1), Mitchell (35), Bridgeport (1), Halsey (2), Crawford (1), Pine Ridge (1), Glen (1), Bad Lands (1), Monroe Canyon (19), Sowbelly Canyon (2), Warbonnet Canyon (1) and Sioux county (16); June 10 to August 31; visits flowers of *Melilotus alba* and *Monarda* sp.

SCELIPHRONINI

KEY TO THE GENERA

Transverse median nervure in front wings interstitial with the basal nervure; species metallic blue or violaceous; clypeus anteriorly three-dentate; petiole of abdomen not or scarcely longer than the propodeum,

Chalybion

Transverse median nervure in front wings not interstitial with the basal nervure, but uniting with the median nervure a little before the origin of the basal nervure; species black and yellow, not metallic; clypeus flat, at apex bidentate; petiole of abdomen about twice as long as propodeum,

Sceliphron

Chalybion Dahlbom

Chalybion coeruleum (Linnaeus).

1758. *Sphex coerulea* Linnaeus, *Syst. Nat.*, 10th ed., p. 571.

Males 42, females 40: Omaha (26), Louisville (12), South Bend (5), Roca (1), Lincoln (12), Red Cloud (1), Maskell (3), West Point (10), Badger (1), Carns (1), Brady Island (1), Haigler (1), Harrison (1), Glen (1), Bad Lands (1) and Sioux county (1); June 13 to September; visits flowers of *Chamaecrista fasciculata*, *Euphorbia marginata*, *Monarda* sp. and *Cleome* sp.

Sceliphron Klug.

Sceliphron coementarium (Drury).

1770. *Sphex coementaria* Drury, *Ill. Nat. Hist.*, I, p. 105.

Males 66, females 68: Rulo (1), Child's Point (1), Omaha (38), Louisville (14), Meadow (2), South Bend (2), Ashland (1), Lincoln (42), Fairmont (2), Concord (1), West Point (13), Hitchcock county (1), Haigler (2), Halsey (1), Bridgeport (1), Monroe Canyon (6), Bad Lands (1) and Sioux county (1); June 12 to September 14; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Solidago* sp., *Achillea millefolium*, *Euphorbia marginata* and *Helianthus* sp.

LARRINAE

KEY TO THE TRIBES

- Posterior ocelli perfect; inner margins of eyes subparallel; pronotum trilobed dorsally *Lyrodini*
 Posterior ocelli imperfect, flattened; inner margins of eyes strongly converging above; pronotum simple *Larrini*

LYRODINI

Lyroda Say

KEY TO THE SPECIES

- Size large, 14-15 mm.; wings dark smoky; form stout, opaque black, abdomen without silvery pile; anterior margin of clypeus of female not at all dentate laterally *triloba*
 Size smaller, 7-13 mm.; wings hyaline, tips dusky; more slender than the above, and with silvery pile on the abdomen; anterior margin of clypeus of female armed with three distinct teeth laterally *subita*

Lyroda triloba Say.1837. *Lyroda triloba* Say, *Bost. Journ. Nat. Hist.*, I, p. 372.1893. *Lyroda triloba* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 533.1913. *Lyroda triloba* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 174.

Females 1: Lincoln, August (W. D. Pierce), on *Euphorbia marginata*.

Lyroda subita Say.1837. *Lyroda subita* Say, *Bost. Journ. Nat. Hist.*, I, p. 372.1893. *Lyroda subita* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 533.1913. *Lyroda subita* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 174.

Males 19, females 17: Union (1), Omaha (22), Louisville (1), Ashland (1), Lincoln (2), Fairmont (1), West Point (1), Haigler (1), Mitchell (5) and Monroe Canyon (1); June 20 to August 19; visits flowers of *Chamaecrista fasciculata*, *Melilotus alba* and *Physalis virginiana*.

LARRINI

KEY TO THE GENERA

1. Face along the inner eye-margin without a swelling or fold 2
 Face with a more or less developed longitudinal swelling or fold along
 the inner eye-margin 3
2. Comb of anterior tarsi of female composed of very large flexible spines
 or bristles; pygidial area naked; hind ocelli oval; fore femora of
 the male always emarginate beneath the base *Tachysphex*
 Comb of anterior tarsi of female composed of stiff rather short thorns;
 pygidial area entirely covered with pubescence; hind ocelli linear,
 hooked at upper end; fore femora of male either emarginate or
 simple beneath near the base *Tachytes*
3. Mandibles indistinctly dentate; pygidial area in female bare; pronotum
 hardly depressed beneath the level of the mesonotum; posterior
 margin of the pronotum nearly straight (transversely) *Larra*
 Mandibles more or less bidentate within; pygidial area of female more
 or less pubescent 4
4. Pronotum not drawn under the mesonotum; propodeum shorter than
 the mesonotum; anterior femora of male emarginate near the base;
 pygidial area bare towards the base, but with short stiff hairs at
 the apex *Larropsis*
 Pronotum drawn under the mesonotum, especially at the sides; pro-
 podeum longer than the mesonotum; anterior femora of the male
 not emarginate near the base; pygidium pubescent in both sexes,
 Notogonidea

Notogonidea Rohwer

Notogonidea argentata (Beauvais).

1805. *Larra argentata* Beauvais, *Ins. Afr. et Amer.*, p. 119, taf. III, f. 9.
 1893. *Notogonia argentata* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 485.
 1913. *Notogonia argentata* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 141.

Males 8, females 8: Omaha (4), Weeping Water (1), Ashland (1), Lincoln (8), Fairmont (1) and West Point (1); June 25 to October; visits flowers of *Chamaecrista fasciculata*.

Larropsis Patton

KEY TO THE SPECIES

Females

1. Interocular space at the vertex less than or about equal to the length of antennal joints two and three united 2
 Interocular space at the vertex distinctly wider than the length of antennal joints two and three united 5
2. Disc of propodeum with delicate striae which diverge from beyond the base; wings nearly clear *distincta*
 Disc of propodeum strongly granulate or rugose, with indistinct divergent striae 3
3. Abdomen black *picina*
 Abdomen orange or reddish 4
4. Large species, 11-15 mm.; tarsi testaceous *aurantia*
 Small species, 7-8 mm.; tarsi piceous *rubens*
5. Antennae shorter and stouter, shorter than the head and thorax; fourth antennal joint about two times as long as its middle diameter, *vegeta*
 Antennae long and setaceous, longer than head and thorax (except in *divisa*, where they are about equal to the head and thorax); fourth antennal joint three to four times as long as its middle diameter.. 6
6. Pygidium well polished, sparsely large punctate, almost naked; form slender; abdomen black and red; wings light smoky *conferta*
 Pygidium rough, rather densely punctate, pubescent; form stouter, with dark fuscous wings 7
7. Antennae longer than the head and thorax; second abdominal segment reddish; tarsi black or nearly so *rugosa*
 Antennae about as long as head and thorax; abdomen varying from red and black to red; tarsi testaceous *divisa*

Males

1. Interocular space at vertex not wider than length of antennal joints two and three 2
Interocular space at vertex decidedly wider than the length of antennal joints two and three 4
2. Disc of propodeum with delicate striae, which diverge from beyond the base; third antennal joint one-third shorter than the fourth,
distincta
Disc of propodeum finely granulate to rugose; antennal joints three and four subequal 3
3. Abdomen red and black *aurantia*
Abdomen entirely black *picina*
4. Wings clear or nearly so 5
Wings fuscous 9
5. Abdomen red and black, or entirely red 6
Abdomen entirely black 7
6. Disc of propodeum longitudinally striated; length 6-7 mm. *sericifrons*
Disc of propodeum finely, transversely striated; length 8-11 mm.,
conferta
7. First joint of flagellum but half the length of the second..... *yatesi*
First joint of flagellum but little shorter than the second 8
8. Disc of propodeum with a longitudinal sulcus only on apical half, and with some rather indistinct raised lines diverging from the base to the sides nearly to its middle length; puncturation of mesonotum rather coarse and so close as to give it an opaque appearance; length 6 mm. *minor*
Disc of propodeum with a longitudinal sulcus usually extending its entire length, the diverging lines wanting or very short; puncturation of mesonotum rather fine, the punctures well separated; mesonotum, therefore, rather shining and smooth; length 8-11 mm. *bruneri*
9. Antennae as long as head and thorax, or nearly so; second abdominal segment red *rugosa*
Antennae distinctly shorter than the head and thorax together 10
10. Abdomen red and black *divisa*
Abdomen entirely black *vegeta*

Larropsis distincta (F. Smith).1856. *Larropa distincta* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 292.1893. *Ancistroma distincta* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 491.1913. *Larropsis distincta* Williams, *Kans. Univ. Sc. Bull.*, VIII, p.

Males 74, females 56: Omaha (54), Lincoln (44), West Point (7), Broken Bow (3), Glen (5) and Monroe Canyon (6);

August 3 to September 19; visits flowers of *Chamaecrista* sp., *Aster multiflorus* and *Solidago canadensis*.

***Larropsis aurantia* (Fox).**

- 1891. *Larra aurantia* Fox, *Ent. News*, II, p. 194.
- 1893. *Ancistroma aurantia* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 490.
- 1913. *Larropsis aurantia* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 144.

Males 4, females 7: Omaha (4), Lincoln (1), West Point (1), Mitchell (1), Harrison (2) and Monroe Canyon (2); August 1 to September 10; visits flowers of *Chamaecrista* sp.

***Larropsis rubens* Mickel.**

- 1918. *Larropsis rubens* Mickel, *UNIV. NEBR. STUDIES*, XVII, p. 329.

Females 1: Mitchell, September 6, 1916 (R. W. Dawson).

***Larropsis picina* Mickel.**

- 1916. *Larropsis picina* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 418.

Males 4, females 1: Harrison (5), August 9, 1908 (C. H. Gable).

***Larropsis sericifrons* (H. S. Smith).**

- 1906. *Ancistroma sericifrons* H. S. Smith, *Ent. News*, XVII, p. 247.
- 1908. *Ancistroma sericifrons* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 376.

Males 6: Glen (6); August 20 and 22.

***Larropsis conferta* (Fox).**

- 1893. *Ancistroma conferta* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 494.
- 1913. *Larropsis conferta* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 145.

Males 32, females 15: Omaha (1), South Sioux City (1), West Point (2), Halsey (3), Mitchell (1), Glen (31), Harrison (4), Monroe Canyon (2) and Pine Ridge (1); June to August 22; visits flowers of *Chamaecrista fasciculata*, *Melilotus alba*, *Cleome serrulata* and *Gutierrezia sarothrae*.

***Larropsis bruneri* (H. S. Smith).**

- 1906. *Ancistroma bruneri* H. S. Smith, *Ent. News*, XVII, p. 248.
- 1908. *Ancistroma bruneri* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 376.
- 1913. *Larropsis bruneri* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 145.

Males 13: Omaha (4), South Bend (1), West Point (5), Haigler (1), Ogallala (1) and Glen (1); June 24 to August 21; visits flowers of *Chamaecrista fasciculata* and *Asclepias tuberosa*.

Larropsis minor Williams.

1913. *Larropsis minor* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 146.

Males 1: Glen, August 22, 1906 (L. Bruner).

Larropsis yatesi Mickel.

1918. *Larropsis yatesi* Mickel, *UNIV. NEBR. STUDIES*, XVII, p. 329.

Males 1: Mitchell, August 2, 1917 (E. J. Yates), on *Melilotus alba*.

Larropsis vegeta (Fox).

1893. *Ancistroma vegeta* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 497.

Males 10, females 11: Bridgeport (1), Mitchell (9), Glen (10) and Monroe Canyon (1); June 15 to August 21.

Larropsis divisa (Patton).

1879. *Larra divisa* Patton, *Bull. U. S. Geol. Surv.*, V, p. 368.

1893. *Ancistroma divisa* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 495.

1913. *Larropsis divisa* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 146.

Females 2: Halsey, August 7, 1912 (J. T. Zimmer), and Harrison, August 4, 1908 (R. W. Dawson).

Larropsis rugosa (Fox).

1893. *Ancistroma rugosa* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 496.

1908. *Ancistroma divisum* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 376.

1913. *Larropsis rugosa* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 147.

Males 2, females 2: Glen, August 20, 1906, and Monroe Canyon, August 6, 1908.

Larra Fabricius

Larra analis Fabricius.

1804. *Larra analis* Fabricius, *Syst. Piez.*, p. 220.

1893. *Larra analis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 481.

1913. *Larra analis* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 140.

Females 2: Lincoln, September 10, 1908 (R. W. Dawson), and Haigler, August 20, 1909 (C. H. Gable).

Tachytes Panzer

KEY TO THE SPECIES

Females

1. Clypeus with the anterior margin in the middle, produced into a large quadrate tooth or lobe, and with several small teeth laterally ... 2
 Clypeus with the anterior margin not or scarcely produced into a lobe, at the most thickened in the middle 4
2. Propodeum strongly sulcate medially, the sulcus wide; pygidium with a coppery luster *mandibularis*
 Propodeum not strongly sulcate medially 3
3. Third joint of antennae about one quarter longer than the fourth; thorax sparsely clothed with grayish pubescence; propodeum finely granulated *harpax*
 Third joint of antennae but little longer than the fourth; front and thorax with silvery pubescence *calcaratus*
4. Clypeus armed with a large prong on either side *mergus*
 Clypeus without a lateral prong 5
5. Abdomen in part red 6
 Abdomen entirely black 8
6. Third and fourth joints of antennae equal in length; clypeus rather deeply emarginate medially; disc of propodeum granular .. *austerus*
 Third joint of antennae longer than the fourth 7
7. Pygidium not at all constricted near the apex, bronzy; species with considerable erect pile on the head and thorax *fulviventris*
 Pygidium a little narrowed before the apex; pubescence rather sparse, *rufofasciatus*
8. Clypeus without teeth, its anterior margin subtruncate, with a slight production medially; abdomen with brassy or silvery fasciae; wings light fuscous *obductus*
 Clypeus rounded out, armed laterally with more or less distinct teeth. 9
9. Metatibiae with at least the basal half of the outer posterior row of spines short, blunt, and thorn-like, the spines much stouter than those on the first joint of the hind tarsi; mandibles very narrowly notched exteriorly *obscurus*
 Metatibiae with the outer row of spines not short as in the above, usually well pointed and differing but little from those of the first joint of the hind tarsi 10
10. Abdomen not silvery fasciate; small species, 6-8 mm. *maestus*
 Abdomen silvery fasciate; large species, 14-22 mm. 11
11. Abdomen dorsally with three silvery bands; front golden 12
 Abdomen dorsally with four silvery bands; front silvery 13
12. Posterior femora ferruginous; wings yellowish, darker at the apex, *distinctus*

- Posterior femora largely black; wings subhyaline, not darker at the apex *crassus*
13. Longer spur of hind tibiae longer than the basitarsus; apex of femora, tibiae and tarsi, yellowish ferruginous *columbiae*
- Longer spur of hind tibiae about equal in length to the basitarsus; legs black, tibiae and tarsi with silvery pile, the tarsi ferruginous apically *pepticus*

Males

1. Fore coxae simple; fore femora near the base entire 2
- Fore coxae with an elongate posterior process; fore femora near the base emarginate 8
2. Joints 9-11 of antennae visibly broadened on one side, thereby contrasting with the two apical joints; abdomen partly red or entirely black *fulviventris*
- Joints 9-11 of antennae normal, not broadened 3
3. Flagellum with the basal joints not or very slightly rounded out beneath 4
- Flagellum with the basal joints distinctly rounded out beneath 5
4. Apex of femora, tibiae and tarsi, yellow ferruginous; hind tarsi very feebly spinose *crassus*
- Legs, except apex of tarsi, black; hind tarsi rather strongly spinose, *pepticus*
5. Last dorsal abdominal segment not tufted with dark hair 6
- Last dorsal abdominal segment tufted laterally with dark hair 7
6. Hind tarsi not at all spinose; lateral teeth of clypeus large and distinct *mandibularis*
- Hind tarsi distinctly spinose; longer spur of hind tibiae longer than the basitarsus *calcaratus*
7. Emargination of last ventral plate very narrow; first joint of flagellum in length about equal to the second; head and thorax with golden pubescence *harpax*
- Emargination of last ventral plate broad and round; first joint of flagellum shorter than the second; head and thorax with silvery pubescence *columbiae*
8. Pygidium with pile all appressed; usually larger species 9
- Pygidium with pile largely suberect; small black species 10
9. Wings yellow, their apical portion dark, abdomen black, larger species, *distinctus*
- Wings pale yellowish hyaline, not dark apically; abdominal segments 1 and 2 usually fulvous, rather smaller species *rufofasciatus*
10. Interocular space at vertex much less than the length of antennal joints 2-4 united 11

- Interocular space at vertex about equal to the length of antennal joints 2-4 united 13
11. Tibiae and tarsi reddish; front and thorax of body with rather long whitish hair *minor*
 Legs entirely black, except apical portion of tarsi may be reddish.. 12
12. Silvery fasciae of abdomen distinct; body well covered with pile; thorax scarcely shining, with larger, closer punctures..... *obscurus*
 Silvery fasciae of abdomen not very well defined; insect sparsely pilose; thorax shining, the punctures there finer and more separate, *intermedius*
13. Longer spur of hind tibiae shorter than the basitarsus; tarsi entirely black *parvus*
 Longer spur of hind tibiae longer than the basitarsus; tarsi with the apical half reddish *minutus*

***Tachytes mandibularis* Patton.**

1880. *Tachytes mandibularis* Patton, *Proc. Bost. Soc. Nat. Hist.*, XX, p. 394.
 1893. *Tachytes mandibularis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 501.
 1913. *Tachytes mandibularis* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 152.

Males 32, females 25: Weeping Water (1), Louisville (4), Meadow (5), Ashland (1), Lincoln (8), Malcolm (2), Curtis (1), Halsey (1), Mitchell (21), Glen (9) and Bad Lands (4); July 16 to August 20; visits flowers of *Solidago glaberrima*, *Symphoricarpos symphoricarpos*, *Lactuca pulchella*, *Asclepias* sp., *Petalostemum violaceus*, *Melilotus alba* and *Cleome serrulata*.

***Tachytes harpax* Patton.**

1880. *Tachytes harpax* Patton, *Proc. Bost. Soc. Nat. Hist.*, XX, p. 394.
 1893. *Tachytes harpax* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 501.

Males 9, females 3: Omaha (6), Lincoln (1), West Point (2) and South Sioux City (3); July 8 to August 20; visits flowers of *Solidago rupestris* and *Chamaecrista fasciculata*.

***Tachytes calcaratus* Fox.**

1892. *Tachytes calcaratus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 239.
 1893. *Tachytes calcaratus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 501.

Males 3: Omaha (1), Louisville (1) and Lincoln (1); July 30 to September 4; visits flowers of *Solidago glaberrima*.

Tachytes columbiae Fox.

1892. *Tachytes columbiae* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 241.

1893. *Tachytes columbiae* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 502.

Males 1, females 1: South Bend (2); July 15, 1914 (E. M. Partridge), on *Melilotus alba*.

Tachytes crassus Patton.

1880. *Tachytes crassus* Patton, *Proc. Bost. Soc. Nat. Hist.*, XX, p. 393.

1893. *Tachytes crassus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 502.

Males 7, females 1: Louisville (1), Meadow (3), Lincoln (3) and West Point (1); July 8 to July 31; visits flowers of *Asclepias* sp. and *Mentha canadensis*.

Tachytes pepticus (Say).

1837. *Lyrops peptica* Say, *Bost. Journ. Nat. Hist.*, I, p. 371.

1892. *Tachytes pepticus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 242.

1913. *Tachytes pepticus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 156.

Males 152, females 22: Omaha (20), Louisville (6), South Bend (8), Lincoln (21), Malcolm (1), West Point (1), Carns (4), Curtis (1), Culbertson (1), Haigler (1), Dundy county (4), Halsey (8), Bridgeport (2), Mitchell (36), Gordon (1), Crawford (1), Glen (20), Warbonnet Canyon (4), Monroe Canyon (28) and Bad Lands (1); June to September 13; visits flowers of *Melilotus alba*, *Asclepias syriaca*, *Chamaecrista fasciculata*, *Solidago canadensis*, *Asclepias incarnata*, *Solidago glaberrima*, *Asclepias verticillata*, *Ceanothus americanus*, *Solidago rupestris*, *Euphorbia marginata*, *Verbena* sp., *Ratibida* sp., *Sagittaria latifolia*, *Cleome serrulata*, *Monarda* sp. and *Petalostemum* sp.

Tachytes fulviventris Cresson.

1865. *Tachytes fulviventris* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 466.

1892. *Tachytes fulviventris* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 243.

1913. *Tachytes fulviventris* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 155.

Males 8, females 38: Omaha (2), South Bend (1), Ashland (4), Carns (1), Curtis (1), Culbertson (1), Haigler (3), Ogallala (1), Halsey (1), Mitchell (18), Gordon (2), Glen (8), Harrison (1), Pine Ridge (1) and Monroe Canyon (3); June 24 to August 31; visits flowers of *Chamaecrista fasciculata*, *Ratibida*

columnaris, *Petalostemum violaceus*, *Melilotus alba*, *Solidago* sp. and *Cleome serrulata*.

***Tachytes distinctus* F. Smith.**

- 1856. *Tachytes distinctus* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 307.
- 1892. *Tachytes distinctus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 246.
- 1913. *Tachytes distinctus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 157.

Males 31, females 27: Omaha (31), Louisville (3), South Bend (1), Meadow (3), Lincoln (13), Red Cloud (1), Curtis (2) and Haigler (1); July 10 to September 12; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Euphorbia* sp., *Helianthus* sp. and *Dicrophyllum marginatum*.

***Tachytes rufofasciatus* Cresson.**

- 1872. *Tachytes rufo-fasciata* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 217.
- 1892. *Tachytes rufofasciatus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 247.
- 1913. *Tachytes rufofasciatus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 155.

Males 1, females 2: Omaha (2) and Haigler (1); July 7 to August 12; visits flowers of *Chamaecrista fasciculata*.

***Tachytes austerus* Mickel.**

- 1916. *Tachytes austerus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 417.

Females 1: Omaha, August 5, 1914 (L. T. Williams).

***Tachytes obscurus* Cresson.**

- 1872. *Tachytes obscurus* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 217.
- 1893. *Tachytes obscurus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 504.
- 1913. *Tachytes obscurus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 154.

Males 7, females 2: Omaha (4), Louisville (1), Lincoln (1), Fairmont (1), Mitchell (1) and Bad Lands (1); July 11 to September 8; visits flowers of *Chamaecrista fasciculata*.

***Tachytes intermedius* (Viereck).**

- 1906. *Tachysphex intermedius* Viereck, *Trans. Amer. Ent. Soc.*, XXXII, p. 211.
- 1913. *Tachytes intermedius* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 154.

Males 5: Omaha (4) and Mitchell (1); July 16 to August 14; visits flowers of *Chamaecrista fasciculata* and *Melilotus alba*.

Tachytes parvus Fox.

1892. *Tachytes parvus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 249.

1893. *Tachytes parvus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 504.

Males 1: Omaha, August 13, 1914 (L. T. Williams), on *Chamaecrista fasciculata*.

Tachytes minor Rohwer.

1909. *Tachytes minor* Rohwer, *Trans. Amer. Ent. Soc.*, XXXV, p. 127.

Males 4: Omaha (4); July 14 to August 26; visits flowers of *Chamaecrista fasciculata*.

Tachytes minutus Rohwer.

1909. *Tachytes minutus* Rohwer, *Trans. Amer. Ent. Soc.*, XXXV, p. 128.

Males 2: Omaha, August 13 and 18, 1914 (L. T. Williams).

Tachytes maestus Mickel.

1916. *Tachytes maestus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 417.

Females 6: Omaha (6); July 31 to August 25.

Tachytes obductus Fox.

1892. *Tachytes obductus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 250.

1913. *Tachytes obductus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 153.

Females 5: Omaha (4) and Ashland (1); July 23 to August 5.

Tachytes mergus Fox.

1892. *Tachytes mergus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 250.

1913. *Tachytes mergus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 157.

Females 8: Omaha (8); July 12 to August 12; visits flowers of *Chamaecrista fasciculata*.

Tachysphex Kohl

KEY TO THE SPECIES

Females

1. Interocular space at vertex always distinctly more than one half the interocular space at the lower edge of the eyes; face with long pile;

- vertex with long, erect pile, which is at least as long as the diameter of an antennal joint; vertex and thorax always with well separated punctures, polished. Immediately behind each posterior ocellus is a convexity which resembles a second ocellus, then follows the transverse postocellar impression 2
- Interocular space at vertex never distinctly as much as one half the same space at the lower edge of the eyes; vertex glabrous or with very short pile; vertex and thorax often with very fine and close punctures, often subopaque. Immediately behind each posterior ocellus the slope is scarce or not interrupted to the transverse postocellar impression 3
2. Antennae with longer joints, joint three nearly three times the length of its diameter, and about as long as joint four; anterior margin of clypeus with a low blunt tooth or lobe *fuscus*
- Antennae with shorter joints, joint three about two times as long as its diameter and distinctly shorter than joint four; anterior margin of clypeus without a median lobe or else very slightly produced mesad *terminatus*
3. Abdomen red or red and black 4
- Abdomen black 17
4. At least the tibiae and tarsi reddish, femora more or less red; puncturation of thorax very fine and close 5
- Tibiae and femora always black, tarsi more or less so; puncturation of thorax fine or coarse 6
5. Clypeus rounded out for nearly its entire width, a little elevated on its anterior edge mesad, where it is shallowly emarginate, no lateral teeth; clypeus, sometimes thorax in part, femora and abdomen ferruginous; interocular space at vertex a little wider than the length of antennal joints two and three *propinquus*
- Clypeus distinctly notched mesad on its anterior edge, the two lateral teeth distinct; femora largely and the apex of abdomen, ferruginous; interocular space at vertex about as wide as the length of antennal joints two and three *belfragei*
6. Sides of propodeum finely granular, subopaque; posterior face of propodeum coarsely striated, clypeus broadly truncate 7
- Sides of propodeum distinctly though not always deeply striate, or striate and punctate combined, shining; mesonotum frequently with close but separate punctures 9
7. Abdomen entirely red; clypeus with one lateral tooth and sometimes with a shallow emargination mesad *tarsatus*
- Abdomen red and black 8
8. Longer spur of hind tibiae black, shorter than the basitarsus; marginal cell of anterior wings widely and obliquely truncate *granulosus*

- Longer spur of hind tibiae pale, longer than the basitarsus; marginal cell of anterior wings narrowly and squarely truncate *mundus*
9. Interocular space at vertex greater than the length of antennal joints two and three united 10
Interocular space at vertex about equal to the length of antennal joints two and three united 11
10. Interocular space at vertex about equal to the length of antennal joints three and four united; abdomen red, black apically... *nigrocaudatus*
Interocular space at vertex less than the length of antennal joints three and four united; abdomen red and black *consimilis*
11. Abdomen entirely red 12
Abdomen about equally red and black 16
12. Second submarginal cell much longer on the radial vein than the third submarginal *texanus*
Second and third submarginal cells about equal on the radial vein.. 13
13. Longer spur of hind tibiae longer than the basitarsus; sides of face and front with medium-sized shallow punctures interspersed with exceedingly fine ones *puncticeps*
Longer spur of hind tibiae shorter than the basitarsus 14
14. Clypeus emarginate medially; abdomen bright red *sanguinosus*
Clypeus entire; abdomen more or less brownish red 15
15. Mesonotum and scutellum with rather sparse, deep punctures, *semirufus*
Mesonotum and scutellum with close, deep punctures; the mesonotum appearing almost granulate *zimmeri*
16. Scutellum and mesonotum with rather sparse, very shallow punctures, *erythraeus*
Scutellum and mesonotum with tolerably close, deep punctures, *tenuipunctus*
17. Propodeum reticulate, wings subfuscous, tarsi black *acuta*
Propodeum granular, wings hyaline or nearly so 18
18. Longer spur of hind tibiae shorter than the basitarsus *punctifrons*
Longer spur of hind tibiae longer than the basitarsus *glabrior*

Males

1. Interocular space at vertex about two thirds or more the interocular space at the lower edge of the eyes; upper portion of frons and vertex with rather long, sparse, erect pile, which is about as long as the diameter of an antennal joint; head rather sparsely punctate and polished, pseudo-ocelli present; abdomen red-tipped, rarely entirely black 2
- Interocular space at vertex one half or less (seldom a little more than) the same space at the lower edge of the eyes; no long, erect pile on the vertex; no pseudo-ocelli behind the posterior ocelli..... 3

2. Front with rather fine close punctures *terminatus*
Front with larger separate punctures *fuscus*
3. Abdomen red, or red and black 4
Abdomen entirely black 10
4. Sides of propodeum not striate, or striate only at edges, coriaceous,
finely granulate or reticulate 5
Sides of propodeum distinctly striate throughout, often punctate be-
tween the striae 6
5. Abdomen entirely red; tibiae black; stout species *tarsatus*
Abdomen black apically; tibiae reddish *propinquus*
6. Apex of femora, tibiae and tarsi entirely reddish yellow *minimus*
At most the tarsi are partly reddish or reddish brown 7
7. Small, slender species; apical half of abdomen black 8
Larger, stouter species; abdomen all red 9
8. Clypeus slightly rounded or subtruncate on the anterior margin,
nigrocaudatus
Clypeus extended medially so as to form a triangular projection on
the anterior margin *angularis*
9. Third antennal joint not twice its apical width, antennae rather stout,
a little thickened mesad; thorax and propodeum shining, sparsely
pilose *texanus*
Third antennal joint at least twice its apical width, antennae hardly
thickened mesad; thorax and propodeum with rather abundant pile,
tarsatus
10. Width of third submarginal cell along the radius equal to the radius
from the third submarginal cell to the truncation; wings subfuscous,
acuta
Width of third submarginal cell along the radius not as much as the
length of the radius from the third submarginal cell to the trunca-
tion; wings nearly or entirely clear 11
11. Apex of femora, and tibiae and tarsi, reddish yellow *minimus*
At most tarsi in part reddish brown 12
12. Sides of propodeum distinctly striate throughout; vertex shining,
rather sparsely punctate; small, length 5-6 mm. *glabrior*
Sides of propodeum indistinctly striate, granulate 13
13. Wings subhyaline, interocular space at vertex scarcely as great as the
length of antennal joints three and four *mundus*
Wings subfuscous, interocular space at vertex greater than the length
of antennal joints three and four *punctifrons*

***Tachysphex belfragei* (Cresson).**

1872. *Larrada belfragei* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 215.

1913. *Tachysphex belfragei* Williams, *Kans. Univ. Sc. Bull.*, VIII,
p. 164.

Females 3: Omaha (1) and Lincoln (2); July and August; visits flowers of *Euphorbia* sp.

Tachysphex tarsatus (Say).

1823. *Larra tarsata* Say, *West. Quart. Rep.*, II, p. 78.

1893. *Tachysphex tarsatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 512.

1913. *Tachysphex tarsatus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 165.

Females 3: West Point (1) and Glen (2); June 21 to August 21.

Tachysphex texanus (Cresson).

1872. *Larrada texana* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 214.

1893. *Tachysphex texanus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 513.

1913. *Tachysphex texanus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 166.

Females 2: Ogallala (2), June 24, 1913 (R. W. Dawson).

Tachysphex granulatus Mickel.

1916. *Tachysphex granulatus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 413.

Females 1: Glen, August 15, 1906 (P. R. Jones).

Tachysphex sanguinosus Mickel.

1916. *Tachysphex sanguinosus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 414.

Females 1: Omaha, September 8, 1913 (L. T. Williams).

Tachysphex semirufus (Cresson).

1865. *Larrada semirufa* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 464.

1893. *Tachysphex semirufus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 515.

Females 5: Omaha (1), Mitchell (1), Sowbelly Canyon (1), Bad Lands (1) and Sioux county (1); May 28 to July 24.

Tachysphex fusus Fox.

1893. *Tachysphex fusus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 519.

1913. *Tachysphex fusus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 172.

Males 9, females 4; Omaha (5), Glen (2), Sowbelly Canyon (5) and Indian Creek (1); June 23 to August 21; visits flowers of *Chamaecrista fasciculata*.

Tachysphex terminatus (F. Smith).

1856. *Larrada terminata* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 291.

1893. *Tachysphex terminatus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 520.

1913. *Tachysphex terminatus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 172.

Males 4, females 9: Omaha (2), South Bend (1), West Point (2), Fairmont (3), Bridgeport (1), Mitchell (1), Glen (1) and Sowbelly Canyon (2); June 23 to August 20; visits flowers of *Helianthus* sp., *Polonasia* sp. and *Chamaecrista fasciculata*.

***Tachysphex acuta* (Patton).**

1880. *Larra acuta* Patton, *Proc. Bost. Soc. Nat. Hist.*, XX, p. 390.
1893. *Tachysphex acuta* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 521.
1913. *Tachysphex acuta* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 171.

Females 2: Omaha, August 3, 1914 (L. T. Williams), and Lincoln, July.

***Tachysphex tenuipunctus* Fox.**

1893. *Tachysphex tenuipunctus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 525.

Females 1: Monroe Canyon, August 18, 1912 (R. W. Dawson).

***Tachysphex consimilis* Fox.**

1893. *Tachysphex consimilis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 526.
1913. *Tachysphex consimilis* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 164.

Females 2: Omaha, July 23, 1914 (L. T. Williams), on *Chamaecrista fasciculata*, and Monroe Canyon, August 20, 1908 (R. W. Dawson).

***Tachysphex zimmeri* Mickel.**

1916. *Tachysphex zimmeri* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 415.

Females 1: Monroe Canyon, August 20, 1908 (J. T. Zimmer).

***Tachysphex glabrior* Williams.**

1913. *Tachysphex glabrior* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 170.

Males 1, females 1: South Bend, July 1, 1915 (E. G. Anderson), on *Melilotus alba*, and West Point, June 20, on *Symphoricarpos* sp.

***Tachysphex punctifrons* (Fox).**

1891. *Larra punctifrons* Fox, *Ent. News*, II, p. 194.
1893. *Tachysphex punctifrons* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 531.

Males 4, females 7: West Point (5), Bridgeport (1), Glen (1), Mitchell (2), Glen (1), Monroe Canyon (1) and Jim Creek (1); June 24 to August 4.

Tachysphex mundus Fox.

1893. *Tachysphex mundus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 531.

Females 10: Omaha (3), West Point (1), Carns (3), Mitchell (1), Harrison (1) and Monroe Canyon (1); June to August 21; visits flowers of *Euphorbia* sp. and *Chamaecrista* sp.

Tachysphex minimus (Fox).

1892. *Tachytes minimus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 248.

1893. *Tachysphex minimus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 532.

1913. *Tachysphex minimus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 173.

Males 10: Omaha (1), West Point (8) and Ogallala (1); June 24 to July 23; visits flowers of *Chamaecrista fasciculata*.

Tachysphex erythraeus Mickel.

1916. *Tachysphex erythraeus* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 415.

Females 1: Warbonnet Canyon, June 6, 1901 (M. Cary), on *Erysimum* sp.

Tachysphex nigrocaudatus Williams.

1908. *Tachysphex consimilis* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 382.

1913. *Tachysphex nigrocaudatus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 167.

Males 5: Glen (1) and Sowbelly Canyon (4); June 23 to August 20.

Tachysphex angularis Mickel.

1916. *Tachysphex angularis* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 416.

Males 5: Sowbelly Canyon (5), June 23, 1911 (R. W. Dawson).

Tachysphex puncticeps H. S. Smith.

1906. *Tachysphex punctulatus* H. S. Smith, *Ent. News*, XVII, p. 246 (nec Kohl).

1908. *Tachysphex puncticeps* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 381.

Females 1: Sioux county; May.

***Tachysphex propinquus* Viereck.**

1904. *Tachysphex propinquus* Viereck, *Ent. News*, XV, p. 87.
1913. *Tachysphex propinquus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 162.

Males 1, females 5: Louisville (2), Ogallala (1) and Harrison (1); June 24 to August 15; visits flowers of *Solidago glaberrima*.

ASTATINAE

KEY TO THE GENERA

- Marginal cell along the costal margin much longer than the stigma; eyes in the male holoptic *Astatus*
Marginal cell along the costal margin not longer than the stigma, most frequently shorter; eyes in the male normal, not holoptic; tarsal comb long, distinct; tibiae spinous *Diploplectron*

***Astatus* Latreille**

KEY TO THE SPECIES

1. Insect without red markings 2
Insect with at least the base of the abdomen red 3
2. Pubescence of thorax whitish *unicolor*
Pubescence of thorax black *nubeculus*
3. Marginal cell distinctly shorter than the first submarginal; propodeum finely granulate *asper*
Marginal cell generally as long or longer than the first submarginal; propodeum rather coarsely reticulate 4
4. Propodeum coarsely reticulated, with a central longitudinal ridge, *bicolor*
Propodeum more finely reticulate, without a longitudinal ridge down the center *nevadicus*

***Astatus unicolor* Say.**

1824. *Astata unicolor* Say, *Long's Exped.*, II, App., p. 337.
1893. *Astatus unicolor* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 541.

Males 36, females 10: Omaha (25), Meadow (1), Weeping Water (3), Lincoln (9), Haigler (2), Imperial (1), Mitchell (2), Glen (1) and Monroe Canyon (2); June 24 to September

3; visits flowers of *Chamaecrista fasciculata*, *Melilotus alba* and *Cleome serrulata*.

Astatus nubeculus Cresson.

1865. *Astata nubecula* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 466.

1893. *Astatus nubeculus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 543.

Females 2: Lincoln, June, and Haigler, August 20, 1909 (C. H. Gable). Variety A: Males 2, females 1: Monroe Canyon (1) and Sioux county (2).

Astatus bicolor Say.

1823. *Astata bicolor* Say, *West. Quart. Rep.*, II, p. 78.

1893. *Astatus bicolor* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 544.

Males 8, females 10: Omaha (4), Weeping Water (1), Lincoln (4), Monroe Canyon (2), Bad Lands (1) and Glen (1); July 9 to September 18; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata* and *Euphorbia* sp.

A specimen taken at Lincoln had attacked a nymph of *Pentatomidae* sp. and was dragging it away.

Astatus asper Fox.

1893. *Astatus asper* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 546.

Females 1: Glen, August 13, 1906 (H. S. Smith).

Astatus nevadicus Cresson.

1881. *Astata nevadica* Cresson, *Trans. Amer. Ent. Soc.*, I, p. v.

1893. *Astatus nevadicus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 540.

Females 2: Glen (2), August 20, 1906 (H. S. Smith), and August 21, 1906 (P. R. Jones).

Diploplectron Fox

Diploplectron ferrugineus Ashmead.

1899. *Diploplectron ferrugineus* Ashmead, *Ent. News*, X, p. 56.

Females 2: Glen (2), August 14, 1906 (L. Bruner), and August 21, 1906 (P. R. Jones).

PEMPHREDONINAE

KEY TO THE TRIBES

- Eyes small, their inner margins subparallel or converging to clypeus; head usually quadrate or subquadrate, well developed behind eyes; species shining; episternauli present except in *Spilomena*; usually nest in wood, *Pemphredonini*
- Eyes large, their inner margins converging to vertex; head subtransverse, scarcely developed behind eyes; species opaque; episternauli wanting; nest in sand *Miscophini*

PEMPHREDONINI

KEY TO THE GENERA

1. Anterior wings with only one recurrent nervure; abdomen with a distinct petiole *Stigmus*
- Anterior wings with two recurrent nervures 2
2. Abdomen with the petiole longer than the hind coxae; mandibles tridentate *Pemphredon*
- Abdomen with the petiole never longer than the hind coxae 3
3. Hind tibiae along the outer face spinous or subserrate; clypeus at apex emarginate *Xylocelia*
- Hind tibiae along the outer face smooth, unarmed; labrum triangularly produced *Passaloecus*

Stigmus Panzer

KEY TO THE SPECIES

Females

- Clypeus not bilobate, at the most slightly emarginate medially; third joint of antennae longer than the fourth; length 4 mm. *americanus*
- Clypeus distinctly bilobate medially; dorsulum with very fine longitudinal striations *fulvipes*

Stigmus americanus Packard.

1867. *Stigmus americanus* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 386.

1892. *Stigmus americanus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 322.

Males 4, females 4: Omaha (3), Glen (4); July 15 to August 20.

Stigmus fulvipes Fox.

1892. *Stigmus fulvipes* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 324.

Females 1: Bad Lands, August 10, 1908 (L. Bruner).

Pemphredon Latreille**Pemphredon inornatus Say.**1824. *Pemphredon inornatus* Say, *Long's Exped.*, II, App., p. 339.1892. *Pemphredon inornatus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 312.

Males 4, females 6: Omaha (6), Lincoln (1), Fairmont (1), Monroe Canyon (1) and Bad Lands (1); May 20 to August 18.

Xylocelia Rohwer

KEY TO THE SPECIES

Females

1. Mandibles yellowish or whitish 2
Mandibles entirely black; mesonotum not densely punctate before the scutellum; striato-punctate at the base; front striato-punctate...*ater*
2. Tubercles black 3
Tubercles yellowish 5
3. Posterior face of propodeum without any wedge-shaped fovea, the entire surface coarsely reticulate; legs more or less testaceous; labrum broadly and shallowly emarginate*spiniferus*
Posterior face of propodeum with a median, moderately deep, wedge-shaped fovea; remainder of posterior face finely, irregularly rugose 4
4. Apical antennal joint with a strong longitudinal furrow beneath; all the tibiae testaceous; emargination of labrum broad and deep,*antennatus*
Apical antennal joint not furrowed beneath, simple; all the tarsi more or less blackish; emargination of labrum narrow, moderately deep,*metathoracicus*
5. All the tibiae yellowish or light testaceous; nervures of wings testaceous; front sparsely punctate*occidentalis*
Middle and hind tibiae more or less blackish; wing nervures blackish. 6
6. Front rather densely punctate; abdomen distinctly petiolate*gillettei*
Front sparsely but distinctly punctate; abdomen not distinctly petiolate, subsessile; posterior face of propodeum coarsely reticulate,*siouxensis*

Males

1. Mandibles entirely black; tubercles yellowish; antennal joints 8-12 serrate beneath*maestus*
Mandibles yellowish or whitish 2
2. Tubercles black*rugosus*
Tubercles yellowish*occidentalis*

Xylocelia occidentalis (Fox).

1892. *Diodontus occidentalis* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 315.

Males 4, females 1: Mitchell (1), Glen (2), Monroe Canyon (2) and Sowbelly Canyon (1); June 14 to August 20.

Xylocelia rugosus (Fox).

1892. *Diodontus rugosus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 315.

Males 2: Omaha (2), July 2, 1913, and August 1, 1914 (L. T. Williams).

Xylocelia maestus Mickel.

1916. *Xylocelia maestus* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 347.

Males 2: Omaha (2), August 29, 1914 (L. T. Williams).

Xylocelia spiniferus Mickel.

1916. *Xylocelia spiniferus* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 348.

Females 6: Omaha (6); June 12 to July 20.

Xylocelia antennatus Mickel.

1916. *Xylocelia antennatus* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 348.

Females 1: Omaha, July 15, 1914 (L. T. Williams).

Xylocelia metathoracicus Mickel.

1916. *Xylocelia metathoracicus* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 349.

Females 1: Omaha, July 2, 1913 (L. T. Williams).

Xylocelia siouxensis Mickel.

1916. *Xylocelia siouxensis* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 350.

Females 1: Monroe Canyon, August 19, 1912 (R. W. Dawson).

Xylocelia gillettei (Fox).

1892. *Diodontus Gillettei* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 316.

Females 1: Harrison, August 20, 1912 (R. W. Dawson).

Xylocelia ater Mickel.

1908. *Diodontus nigrinus* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 393 (nec. Fox).

1916. *Xylocelia ater* Mickel, *Ann. Ent. Soc. Amer.*, IX, p. 351.

Females 5: Omaha (4); June 20 to August 29.

Passaloecus Shuckard

KEY TO THE SPECIES

Females

Third antennal joint distinctly longer than the fourth; the two longitudinal parallel impressions on anterior portion of mesonotum not foveolate; legs black; anterior tibiae in front and base of the four hind tibiae, yellow; tarsi testaceous; length 6-8 mm,*mandibularis*
 Third antennal joint not longer than the fourth; the two longitudinal impressed lines on the anterior portion of mesonotum strongly foveolate; apex of femora, tibiae and tarsi, yellow testaceous; length 5 mm.,
annulatus

Males

Antennae not spinose or dentate beneath, but strongly rounded out, black above, white beneath; two impressed lines on anterior portion of mesonotum strongly foveolate*annulatus*
 Antennal joints 5-9 beneath spinose at tip; antennae black beneath,
mandibularis

Passaloecus annulatus (Say).

1837. *Pemphredon annulatus* Say, *Bost. Journ. Nat. Hist.*, I, p. 379.

1892. *Passaloecus annulatus* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 318.

1908. *Passaloecus mandibularis* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 393.

Females 7: Glen (7); August 13 to 20; visits flowers of *Solidago* sp.

Passaloecus mandibularis (Cresson).

1865. *Pemphredon mandibularis* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 487.

1892. *Passaloecus mandibularis* Fox, *Trans. Amer. Ent. Soc.*, XIX, p. 320.

Females 1: Monroe Canyon, August 19, 1912 (R. W. Dawson).

MISCOPHINI

KEY TO THE GENERA

1. Front wings with one or two cubital cells, or with none, pygidial area wanting *Miscophus*
 Front wings with two or three cubital cells; pygidial area present; marginal cell most frequently but not always truncate, with an appendage 2

2. Mandibles strongly excised beneath; pygidial area of female well defined, broad and shining; clypeus of male with a fringe of hair on either side *Plenoculus*
Mandibles not or very feebly excised beneath; pygidium of female hardly or not shining 3
3. Hind femora normal, more or less fusiform; pygidial area poorly defined or lacking; marginal cell usually truncate and appendiculate at the apex *Niteliopsis*
Hind femora thickest apically; pygidial area well defined, pilose in both sexes; marginal cell lanceolate, not appendiculate... *Bothynostethus*

Miscophus Jurine

Miscophus americanus Fox.

1890. *Miscophus americanus* Fox, *Ent. News*, I, p. 138.
1891. *Miscophus americanus* Fox, *Ent. News*, II, p. 196.
1913. *Miscophus americanus* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 179.

Females 1: Omaha, August 13, 1914 (L. T. Williams).

Plenoculus Fox

KEY TO THE SPECIES

1. Abdomen red, black apically *apicalis*
Abdomen black 2
2. Mandibles reddish medially; hind tibiae and tarsi not at all yellowish, *propinquus*
Mandibles and hind tibiae and tarsi more or less yellowish *davisi*

Plenoculus propinquus Fox.

1893. *Plenoculus propinquus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 536.
1899. *Plenoculus propinquus* Ashmead, *Psyche*, VIII, p. 338.

Females 2: Mitchell, June 27, 1913 (L. M. Gates), and Glen, August 20, 1906 (H. S. Smith).

Plenoculus davisi Fox.

1893. *Plenoculus davisi* Fox, *Psyche*, VI, p. 544.
1893. *Plenoculus davisi* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 536.
1913. *Plenoculus davisi* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 175.

Females 6: Omaha (4) and West Point (2); June to August 20; visits flowers of *Chamaecrista fasciculata*.

Plenoculus apicalis Williams.

1913. *Plenoculus apicalis* Williams, *Kans. Univ. Sc. Bull.*, VIII, p. 175.

Males 1: Mitchell, September 9, 1915 (E. M. Partridge).

Niteliopsis Saunders**Niteliopsis plenoculoides** Fox.

1893. *Niteliopsis plenoculoides* Fox, *Psyche*, VI, p. 555.

1909. *Niteliopsis plenoculoides* Rohwer, *Trans. Amer. Ent. Soc.*, XXXV, p. 114.

Males 1, females 2: Sowbelly Canyon (3), June 23, 1911 (R. W. Dawson).

Bothynostethus Kohl**Bothynostethus distinctus** (Fox).

1891. *Nysson distinctus* Fox, *Ent. News*, II, p. 31.

1893. *Bothynostethus distinctus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 551.

1913. *Bothynostethus distinctus* Williams, *Kans. Univ. Sci. Bull.*, VIII, p. 179.

Females 1: Omaha, July 16, 1914 (L. T. Williams), on *Chamaecrista fasciculata*.

BEMBICIDAE

KEY TO THE SUBFAMILIES

- Labrum small, very much shorter than the dorso-ventral length of clypeus; intermediate tibiae with two apical spurs *Stizinae*
 Labrum very large, often longer than the dorso-ventral length of the clypeus; intermediate tibiae with one apical spur *Bembicinae*

STIZINAE

KEY TO THE GENERA

- Marginal cell about twice as long as first cubital; spurs of hind tibiae enlarged in the female, and the pygidium well developed; abdomen of the male with a single spine at apex *Sphecius*
 Marginal cell much shorter than the first cubital; spurs of hind tibiae short in both sexes, not enlarged; no pygidium; at the most with two short ridges on each side of the apical portion of last abdominal segment; abdomen of the male with three spines at apex *Stizus*

Sphecius Dahlbom

Sphecius speciosus (Drury).

1773. *Sphex speciosus* Drury, *Ill. Nat. Hist.*, II, p. 71.

1895. *Sphecius speciosus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 265.

Males 22, females 7: Omaha (15), South Bend (2), Lincoln (2) and Haigler (6); April 20 to August 28.

Stizus Latreille

KEY TO THE SPECIES

1. Females 2
- Males 7
2. Propodeum emarginate posteriorly at the sides 3
- Propodeum not emarginate, the postero-lateral angles rounded 6
3. Second cubital cell not petiolate 4
- Second cubital cell distinctly petiolate 5
4. Band on tergite five; distance between posterior ocelli slightly greater than the distance between them and the nearest eye-margin, *neglectus*
- No band on tergite five; only medial and lateral spots; distance between posterior ocelli about equal to the distance between them and the nearest eye-margin *strenuus*
5. Antennae placed at about the same distance from the clypeus as from the eyes; space between hind ocelli just about equal to that between them and nearest eye-margin; not densely hirsute; tibiae only in part yellow; hind tarsi entirely black *godmani*
- Antennae placed somewhat farther away from the clypeus than from the eye-margin; space between the hind ocelli greater than that between them and nearest eye-margin; rather densely hirsute; tibiae and tarsi entirely yellow *nanus*
6. First and second transverse cubital nervures widely separated above; size very large, 26-28 mm. *brevipennis*
- First and second transverse cubital nervures narrowly separated or meeting at the marginal cell; size, 15-18 mm. *unicinctus*
7. Propodeum emarginate posteriorly at the sides; twelfth antennal joint spinose beneath 8
- Propodeum not emarginate, the postero-lateral angles rounded; twelfth antennal joint not spinose 12
8. Black, with paler markings 9
- Yellow, with black markings 11
9. Seventh ventral segment slightly carinated down the middle; tibiae in part black *godmani*

- Seventh ventral segment flat, not carinated 10
10. Tibiae entirely yellow *nanus*
 Tibiae black and yellow *strenuus*
11. Second cubital cell distinctly petiolate *flavus*
 Second cubital cell not petiolate *xanthochrous*
12. First and second transverse cubital nervures widely separated above;
 size large, over 23 mm. *brevipennis*
 First and second transverse cubital nervures narrowly separated above
 or meeting; size smaller, 15-18 mm. *unicinctus*

Stizus godmani Cameron.

1890. *Stizus godmani* Cameron, *Biol. Centr. Amer. Hym.*, p. 102, pl. V, fig. 8.
 1895. *Stizus godmani* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 267.

Males 6, females 13: Bridgeport (2), Mitchell (17); July 11 to September 6.

Stizus nanus Handlirsch.

1892. *Stizus nanus* Handlirsch, *Sitzb. Akad. Wissensch.*, Wien, LI, Bd., Abth., I, p. 61.
 1895. *Stizus nanus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 267.

Males 1, females 1: West Point (1) and Carns (1); July; visits flowers of *Euphorbia* sp.

Stizus strenuus Mickel.

1918. *Stizus strenuus* Mickel, *UNIV. NEBR. STUDIES*, XVII, p. 331.

Males 3, females 2: Bridgeport (5); July 11, 1917 (C. E. Mickel).

Stizus flavus Cameron.

1890. *Stizus flavus* Cameron, *Biol. Centr. Amer. Hym.*, p. 103, pl. V, fig. 9.
 1895. *Stizus flavus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 268.

Males 12: Bridgeport (1) and Mitchell (11); July 11 to September 6; visits flowers of *Melilotus alba*.

Stizus xanthochrous Handlirsch.

1892. *Stizus xanthochrous* Handlirsch, *Sitzb. Akad. Wissensch.*, Wien, LI, Bd., Abth., I, p. 69, pl. I, figs. 9, 10.
 1895. *Stizus xanthochrous* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 268.

Males 12: Omaha (12); June 24 to July 14; visits flowers of *Chamaecrista fasciculata*.

Stizus neglectus (Cresson).

1872. *Monedula neglecta* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 222.
1895. *Stizus neglectus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 268.

Females 14: Omaha (13) and Lincoln (1); July 7 to September 5; visits flowers of *Chamaecrista fasciculata*.

Stizus unicinctus Say.

1823. *Stizus unicinctus* Say, *West. Quart. Rep.*, II, p. 77.
1895. *Stizus unicinctus* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 268.

Males 77, females 40: Omaha (1), South Bend (1), Lincoln (11), Fairmont (16), Maskell (1), Carns (4), Trenton (7), Haigler (1), Mitchell (63), Pine Bluffs (1), Bad Lands (1) and Sioux county (1); June 20 to September 26; visits flowers of *Melilotus alba*, *Achillea millefolium* and *Asclepias* sp.

Stizus brevipennis Walsh.

1869. *Stizus brevipennis* Walsh *Amer. Ent.*, I, p. 162.
1895. *Stizus brevipennis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 268.

Males 6, females 1: Omaha (1), Meadow (1), Lincoln (2), Red Cloud (2) and Carns (1); July 21 to August 13.

BEMBICINAE

KEY TO THE GENERA

1. Anterior ocellar cicatrix circular or elliptical in form, placed in a pit; eighth sternite ending in three spines, and in many species bearing a fourth discal spine *Stictiella*
Anterior ocellar cicatrix linear, transverse, straight or curved, in a few species the ocellus not completely obliterated 2
2. Posterior surface of propodeum concave, its lateral angles prolonged, compressed and wedge-like; maxillary palpi with six segments, labial with four; eighth sternite of male ending in three spines... *Bicyrtes*
Posterior surface of propodeum flat or convex, its lateral angles rounded; palpi otherwise; eighth sternite of male ending in a single spine 3
3. Mandibles dentate; apical end of radial cell of anterior wing on costal border; maxillary palpi with four segments, labial with two. *Bembix*
Mandibles not dentate; apical end of radial cell of anterior wing not on costal border; maxillary palpi with three segments, labial with one *Microbembex*

Stictiella Parker

KEY TO THE SPECIES

Females

1. Mesonotum with a U-shaped yellow mark, eyes convergent above; length 16–22 mm. *speciosa*
 Mesonotum at most with two longitudinal yellow marks..... 2
2. Pulvilli small, indistinct; clypeus basally, mesepisterna, femora (except apically), tibiae within, black; tarsi dark testaceous; venter black, *plana*
 Pulvilli large and distinct 3
3. Head small, narrower than thorax (head and thorax more hairy than usual); no marks on mesonotum or mesepisterna *emarginata*
 Head as usual, as wide as thorax 4
4. Length 12–15 mm.; mesosternum in greater part black; front and vertex clothed with long, pale grayish hair; puncturation of mesonotum very dense, almost granular; fasciae of tergites deeply emarginate anteriorly *pictifrons*
 Length 9 mm.; mesosternum almost entirely yellow; front and vertex with sparse, rather short, pale hair; puncturation of mesonotum distinct; fasciae of tergites, the first excepted, scarcely emarginate, *exigua*

Males

1. Intermediate femora smooth beneath; second sternite flat, not tuberculate *pictifrons*
 Intermediate femora serrate or carinate beneath, or broadly emarginate 2
2. Eighth sternite with a discal spine 3
 Eighth sternite without a discal spine 4
3. Apical joint of fore tarsi greatly enlarged; fore femora flattened; second sternite unarmed *speciosa*
 Apical joint of fore tarsi not enlarged; fore femora not flattened; second sternite with two approximate tubercles near the posterior margin; puvilli distinct *emarginata*
4. Second sternite flat not tuberculate; mesepisterna and propodeum not at all yellow *plana*
 Second sternite tuberculate 5
5. Size large, 20–22 mm.; apical joint of fore tarsi greatly enlarged, blackish; second sternite bituberculate; intermediate femora beneath with a row of short spines *spinifera*
 Size smaller, 11–13 mm.; apical joint of fore tarsi not greatly enlarged; intermediate femora beneath strongly carinated, the carination broadly and shallowly concave; first joint of intermediate tarsi much broadened *exigua*

Stictiella pictifrons (F. Smith).

1856. *Monedula pictifrons* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 355.

1895. *Monedula pictifrons* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 368.

Females 2: Omaha (1), July 7, 1914 (L. T. Williams), on *Melilotus alba*, and Weeping Water, July 20 (H. S. Smith).

Stictiella plana (Fox).

1895. *Monedula plana* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 367.

Males 4, females 7: McCook (1), Halsey (3), Mitchell (6) and Glen (1); July 10 to August 15; visits flowers of *Melilotus alba*.

Stictiella emarginata (Cresson).

1865. *Monedula emarginata* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 468.

1895. *Monedula emarginata* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 368.

Males 4, females 4: South Sioux City (1), Maskell (2), Mitchell (1) and Warbonnet Canyon (4); June 28 to August 4; visits flowers of *Monarda* sp., *Medicago sativa*, *Helianthus* sp., *Solidago* sp. and *Symphoricarpos occidentalis*.

Stictiella speciosa (Cresson).

1865. *Monedula speciosa* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 470.

1895. *Monedula speciosa* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 366.

1908. *Monedula speciosa* Cameron, *Trans. Amer. Ent. Soc.*, XXXIV, p. 236.

Females 6: Haigler (1), Sidney (4) and Mitchell (1); August.

Stictiella spinifera (Mickel).

1916. *Stictia spinifera* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 418.

1917. *Stictiella spinifera* Mickel, *Can. Ent.*, XLIX, p. 285.

Males 3: McCook (2) and Glen (1); July and August.

Stictiella exigua (Fox).

1895. *Monedula exigua* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 370.

1916. *Stictia exigua* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 419.

1917. *Stictiella exigua* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 50.

1917. *Stictiella divergens* Mickel, *Can. Ent.*, XLIX, p. 285.

Males 2, females 6: Glen (7) and Warbonnet Canyon (1); July 12 to August 17.

Bicyrtes LePeletier

KEY TO THE SPECIES

Females

1. Posterior coxae strongly dentate beneath (wings smoky).....*fodiens*
Posterior coxae unarmed 2
2. Abdomen with a strongly marked pygidial area, the lateral ridges strong;
legs ferruginous*capnoptera*
Abdomen without a strongly marked pygidial area, the lateral ridge
feeble, if present; wings scarcely smoky 3
3. Mesepisterna marked with yellow; ultimate tergite black; anterior
wings not clouded*quadrifasciata*
Mesepisterna black; flagellum black; apex of ultimate tergite black,
ventralis

Males

1. Posterior coxae armed with a tooth beneath*fodiens*
Posterior coxae unarmed 2
2. Intermediate femora beneath at the base drawn out into a prominent
tooth; joints 7-10 of antennae strongly rounded out beneath; cly-
peus black, or whitish at base only*ventralis*
Intermediate femora not dentate beneath at base, at the most angular 3
3. Legs not ferruginous in part; wings, if dusky, but slightly so; inter-
mediate femora beneath distinctly keeled, or angular at base,
quadrifasciata
Legs ferruginous and yellow; wings dusky; intermediate femora be-
neath distinctly keeled and angulate at base*capnoptera*

Bicyrtes fodiens (Handlirsch).

1889. *Bembidula fodiens* Handlirsch, *Sitz. Akad. Wissensch.*, Wien, XCVIII, p. 497.

1895. *Bembidula ventralis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 354.

1917. *Bicyrtes fodiens* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 60.

Males 1, females 1: Meadow (1), July, 1903, and Louisville (1), July 5, 1915 (E. G. Anderson):

Bicyrtes ventralis (Say).

1824. *Monedula ventralis* Say, *Exped. St. Peter's River*, II, p. 336.

1895. *Bembidula ventralis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 353.

1917. *Bicyrtes ventralis* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 62.

Males 31, females 13: Nebraska City (1), Omaha (8), South Bend (3), Lincoln (2), Cedar Bluffs (2), Neligh (1), Carns (3), Halsey (1), Mitchell (13), Gordon (1), Glen (8), Monroe

Canyon (1) and Warbonnet Canyon (1); June 25 to September 27; visits flowers of *Ratibida columnaris*, *Melilotus alba*, *Helianthus* sp., *Solidago* sp. and *Gutierrezia sarothrae*.

***Bicyrtes quadrifasciata* (Say).**

- 1824. *Monedula 4-fasciata* Say, *Exped. St. Peter's River*, II, p. 336.
- 1895. *Bembidula quadrifasciata* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 353.
- 1917. *Bicyrtes quadrifasciata* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 65.

Males 16, females 9: Omaha (14), Louisville (8), South Bend (1), Meadow (1) and Haigler (1); July 4 to September 12; visits flowers of *Melilotus alba*, *Symphoricarpos symphoricarpos* and *Solidago glaberrima*.

***Bicyrtes capnoptera* (Handlirsch).**

- 1889. *Bembidula capnoptera* Handlirsch, *Sitz. Akad. Wissensch.*, Wien, XCVIII, p. 497.
- 1895. *Bembidula capnoptera* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 354.
- 1917. *Bicyrtes capnoptera* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 72.

Males 2, females 5: Mitchell (7); July 20 to September 4; visits flowers of *Medicago sativa*.

***Bembix* Fabricius**

KEY TO THE SPECIES

Females

1. Neither metanotum nor propodeum above (excluding postero-lateral angles) marked with yellow 2
Metanotum or propodeum above or both marked with yellow 5
2. Fasciae on all tergites interrupted medially 3
A part or all of the fasciae on tergites continuous 4
3. Ultimate tergite strongly wrinkled *belfragei*
Ultimate tergite not wrinkled, punctate *spinolae*
4. Sides of thorax and propodeum with evident maculations. *primaestate*
Sides of thorax and propodeum black, rarely with inconspicuous maculation of mesepisterna above *spinolae*
5. Wings distinctly clouded medially *nubilipennis*
Wings clear 6
6. Mesonotum with no trace of discal marks 7
Mesonotum with more or less well developed discal marks 8

7. Large, 17-20 mm.; eyes divergent at clypeus; frons narrow; fasciae on tergites continuous *pruinosa*
 Smaller, 14-16 mm.; eyes very slightly divergent at vertex; frons relatively wide; fascia on first tergite almost always interrupted, *primaestate*
8. First transverse cubital vein but slightly bent; development of ocelli unusual; yellow on sternites limited to lateral spots on 2-4. *arcuata*
 First transverse cubital vein normal; ocellar cicatrices normal 9
9. Species large, 17-20 mm.; discal marks on mesonotum in form of a U, complete or broken into spots *sayi*
 Species smaller, under 17 mm.; discal marks on mesonotum consisting of a pair of narrow lines *primaestate*

Males

1. Intermediate femora smooth; not distinctly serrate or dentate; second and sixth sternites without processes *pruinosa*
 Intermediate femora distinctly serrate or dentate 2
2. Second and sixth sternites without processes, plain; sternites 2-4 for the most part black *arcuata*
 Second and sixth sternites with more or less well developed processes 3
3. Process on sixth sternite prominent, its ventral surface flattened and bifurcate at apex; spur on the middle tibiae not reaching to or beyond the middle point of the basitarsus *sayi*
 Process on sixth sternite a transverse ridge not sharply pointed but slightly curved on either side the midline; fasciae on tergite interrupted *belfragei*
 Process of sixth sternite prominent, flattened and bluntly pointed; an additional pair of small processes or ridges on this same sternite, *nubilipennis*
 Process on sixth sternite not as above; relatively small, acutely pointed or if flattened the sixth sternite lacks the lateral processes or ridges 4
4. Ultimate tergite black *spinolae*
 Ultimate tergite maculated; fasciae on tergites greenish-yellow, *primaestate*

Bembix arcuata Parker.

1917. *Bembix arcuata* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 81

Males 3: McCook (3), July, 1903 (M. H. Swenk).

Bembix nubilipennis Cresson.

1872. *Bembex nubilipennis* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 218.

1895. *Bembex nubilipennis* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 361.

1917. *Bembix nubilipennis* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 87.

Males 5, females 41: Omaha (5), Louisville (3), Lincoln (23), Fairmont (2), Holdrege (1), Culbertson (1) and Curtis (10); July 3 to September 8; visits flowers of *Medicago sativa*, *Verbena stricta*, *Petalostemum* sp. and *Cleome serrulata*.

***Bembix sayi* Cresson.**

1865. *Bembex Sayi* Cresson, *Proc. Ent. Soc. Phil.*, IV, p. 467.

1895. *Bembex Sayi* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 359.

1917. *Bembix sayi* Parker, *Proc. U. S. Nat. Mus.*, LII, p. 90.

Males 19, females 8: Lincoln (3), Fairmont (1), Haigler (2), Imperial (4), North Platte (1), Halsey (1) and Mitchell (15); June 22 to August 17; visits flowers of *Verbena stricta*, *Helianthus petiolaris* and *Medicago sativa*.

***Bembix belfragei*.**

1873. *Bembex belfragei* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 220.

1895. *Bembex belfragei* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 357.

Males 3, females 3: Omaha (1), West Point (1), McCook (2), Haigler (1) and Halsey (1); June to August 24; visits flowers of *Petalostemum purpureum*.

***Bembix spinolae* LePeletier.**

1845. *Bembex Spinolae* LePeletier, *Hist. Nat. Ins., Hym.*, III, p. 277.

1895. *Bembex Spinolae* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 357.

1908. *Bembex spinolae* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 386.

1908. *Bembex spinolae* Johnson and Rohwer, *Ent. News*, XIX, p. 378.

Females 219: Child's Point (2), Omaha (47), Louisville (19), Lincoln (16), Fairmont (7), Cedar Bluffs (1), South Sioux City (4), Niobrara (1), Norfolk (1), Neligh (1), Red Cloud (3), McCook (1), Haigler (3), Halsey (5), Valentine (2), Mitchell (87), Glen (12), Harrison (3) and Monroe Canyon (5); June 18 to October 11; visits flowers of *Chamaecrista* sp., *Symphoricarpos symphoricarpos*, *Verbena hastata*, *Asclepias incarnata*, *Solidago glaberrima*, *Verbena stricta*, *Petalostemum violaceus*, *Mentha canadensis*, *Gaillardia pulchella*, *Medicago sativa* and *Melilotus alba*.

***Bembix primaestate* Johnson and Rohwer.**

1908. *Bembex primaestate* Johnson and Rohwer, *Ent. News*, XIX, p. 378.

Females 12: Mitchell (5), Glen (5), Monroe Canyon (1) and Warbonnet Canyon (1); July 11 to August 14; visits flowers of *Petalostemum* sp. and *Medicago sativa*.

***Bembix pruinosa* Fox.**

1895. *Bembix pruinosa* Fox, *Proc. Acad. Nat. Sc. Phil.*, p. 361.

Males 6, females 11: Child's Point (1), Omaha (6), Louisville (2) and South Bend (1); July 2 to September 3; visits flowers of *Solidago canadensis*, *Asclepias verticillata* and *Melilotus alba*.

***Microbembex* Patton**

***Microbembex monodonta* Say.**

1824. *Bembex monodonta* Say, *Long's Exped.*, II, App., p. 355.

1895. *Microbembex monodonta* Say, *Proc. Acad. Nat. Sc. Phil.*, p. 363.

1908. *Microbembex monodonta* Johnson and Rohwer, *Ent. News*, XIX, p. 374.

Males 23, females 51: Omaha (15), Louisville (5), South Bend (13), Ashland (27), Lincoln (2), Cedar Bluffs (1), West Point (2), Neligh (3), Haigler (1), Halsey (1), Mitchell (3) and Gordon Creek (1); June 13 to September 30; visits flowers of *Melilotus alba*, *Solidago glaberrima*, *Vernonia fasciculata*, *Medicago sativa*, *Verbena stricta*, *Asclepias syriaca*, *Asclepias sullivanti* and *Aster salicifolius*.

CERCERIDAE

KEY TO THE GENERA

Third cubital cell not quadrate, the third transverse cubital vein oblique, joining the radial cell much before the apex; second cubital cell petiolate; abdominal tergites 2-6 without a median transverse furrow or impression, but usually margined at the apex *Cerceris*
 Third cubital cell quadrate, the third transverse cubital vein joining the radial cell at the apex; second cubital cell petiolate in the female, not petiolate in the male; abdominal tergites 2-4 in male, 2-6 in female, with a median transverse furrow or impression *Eucerceris*

Cerceris Latreille

KEY TO THE SPECIES

Females

1. Clypeus with an elevation or process with a free apical edge 2
Clypeus without such elevation, although more or less swollen 25
2. The clypeal process erect, and as long or longer than broad 3
The clypeal process much broader than long, or not erect 5
3. Clypeal process deeply, roundly emarginate, the apical lateral angles appearing as long teeth; vertex red clear across *alceste*
Clypeal process entire; head black and yellow 4
4. Enclosure of propodeum more or less smooth or longitudinally striate, very narrow yellow bands on tergites three, four and five .. *clypeata*
Enclosure of propodeum obliquely striate at the sides, no yellow bands on tergites three, four and five *gnara*
5. First, and often second abdominal segments mostly reddish 6
First abdominal segment black 13
6. Enclosure of propodeum either transversely or longitudinally striated. 7
Enclosure of propodeum smooth or punctate at the sides 11
7. Enclosure of propodeum transversely striated; mesepisterna with a spine before the intermediate coxae; propodeum red 8
Enclosure of propodeum longitudinally striate; mesepisterna not spined; propodeum not red 9
8. First two segments of abdomen largely red; clypeus very strongly bidentate at the apex; markings whitish *comifrons*
Only the first segment of abdomen red 10
9. Pygidial area narrowed and rounded at the apex; clypeal projection narrower at the tip than at the base *argia*
Pygidial area narrowed and distinctly truncate at the apex; clypeal projection in the form of a transverse ridge *echo*
10. Yellow abdominal bands broad, occupying the tergites almost entirely; projection of clypeus narrower apically than at base *vicina*
Yellow abdominal bands narrow, occupying about one fourth of tergites; projection of clypeus as broad at apex as at base, quite deeply concave *nebrascensis*
11. Clypeal process entire or quadrate *alacris*
Clypeal process deeply emarginate, appearing lunate 12
12. Lateral angles of clypeal process not much elevated; abdomen yellowish only on basal segments; wings dark *bicornuta*
Lateral angles of clypeal process high; insect almost entirely yellowish, *frontata*
13. From the tip of the clypeal process, which is not much elevated, hangs a thin lamella usually divided in the middle 14
No such lamella present 17

14. Scutellum marked with reddish; only the second tergite banded with yellow; clypeal lamella divided in the middle *flavofasciata*
 Scutellum marked with yellow 15
15. Clypeal lamella emarginate in the middle, practically divided; yellowish; enclosure strongly rugose *compacta*
 Clypeal lamella not emarginate in the middle 16
16. Propodeum largely yellowish; legs reddish; posterior orbits and two spots on vertex yellow *squamulifera*
 Propodeum black; legs black, yellow and red; posterior orbits and vertex black *mandibularis*
17. Scutellum marked with yellow; usually a mark on first tergite 18
 Metanotum only with yellow 21
18. Propodeum marked with yellow; second abdominal segment entirely black *intractibilis*
 Propodeum not marked with yellow 19
19. Mesepisterna not toothed or ridged; narrow bands on all tergites; clypeal process small; enclosure smooth in middle *compar*
 A small tooth or ridge on mesepisterna 20
20. Large species, 12-13 mm.; broad yellow band on the second tergite; rather finely punctate *pleuralis*
 Small species, 7-8 mm.; no band on third tergite; no yellow on inter-antennal ridge; very coarsely punctate *kennicotti*
21. Body very sparsely punctate and shining; clypeus with a low elevation almost coming to a point; femora black *nitida*
 Body rather coarsely punctate 22
22. Spot at base of mandibles, usually also on propodeum; markings white; enclosure striate all over; clypeal process emarginate in front, *nigrescens*
 No spot at base of mandibles nor on propodeum 23
23. Clypeal process short, narrower at apex than at base; yellow lateral spots on first tergite; rather broad emarginate band on second tergite *arbuscula*
 Clypeal process not or but little narrowed in front 24
24. Angles of clypeal process sharply produced; enclosure strongly striate; spots on first abdominal tergite connate *dentifrons*
 Clypeal process broad, angles not produced; spots on first tergite almost meeting; second tergite with a broad yellow band, widely and deeply emarginate; remaining tergites with narrow yellow bands; wings black *architis*
25. Wings wholly black; face with three transverse pale spots, metanotum yellow, scutellum immaculate, band only on second tergite; enclosure broad and smooth *fumipennis*
 Wings not wholly black 26
26. Second tergite of abdomen immaculate *insolita*
 Second tergite of abdomen banded 27

27. Enclosure transversely rugose; stigma dark brown; spots on scutellum and band on metanotum yellow; small coarsely punctate species 28
 Enclosure smooth in part or longitudinally striate; stigma yellowish, first tergite of abdomen with a band 30
28. First segment of abdomen black, usually with yellow mark; band on second tergite usually emarginate in front *finitima*
 First segment of abdomen red; band on second tergite usually not emarginate in front 29
29. Propodeum black *rufinoda*
 Propodeum reddish (except enclosure) *rufinoda crucis*
30. Scutellum, but not metanotum, yellow; clypeus all yellow; band on first tergite; hind femora blackish; enclosure punctate on sides, *catawba*
 Metanotum, but not scutellum, yellow; yellow spot on clypeus; first tergite spotted; hind femora yellowish; enclosure mostly smooth, *fulvipediculata*

Males

1. Hind femora mostly dark, mostly pale, or dark on base 2
 Hind femora pale on base, with a large black spot near apex; rarely spot on scutellum, metanotum yellow 17
2. Scutellum not spotted, but metanotum yellow; enclosure not transversely rugose 3
 Scutellum marked with yellow, or both scutellum and metanotum black, or both yellow 7
3. First abdominal segment red; legs yellowish *vicina*
 First abdominal segment black with yellow markings 4
4. Wings black; a large lateral spot on each side of face; scape of antennae black; hind femora and stigma also black *fumipennis*
 Wings subhyaline; face all yellow or whitish 5
5. Propodeum marked with yellow; apical segment of abdomen largely yellow *fugatrix*
 Propodeum entirely black; apical segment of abdomen black 6
6. Band on second tergite not emarginate, legs 2 and 3 wholly yellow; no tuft of golden hair on last segment *gnara*
 Band on second tergite emarginate in front, femora 2 and 3 black on base; apical segment with tuft of dense golden pubescence each side, basal joint of hind tarsi curved *venator*
7. Enclosure irregularly transversely rugose; stigma blackish; hind femora mostly black; small, coarsely punctate species 8
 Enclosure more or less smooth, or longitudinally striate 10
8. First segment of abdomen mostly reddish; band on second tergite not emarginate *rufinoda*

- First segment black, sometimes with a spot or band of yellow 9
9. Face wholly yellow *finitima*
 Face with a large black spot each side between clypeus and base of the mandibles *finitima nigroris*
10. No band on the second tergite, which is wholly black; a band on the first tergite; no marks on metanotum *insolita*
 A band of yellow on second tergite 11
11. Mesepisterna dentate; antennae situated high above the clypeus, the last joint thick; bands on tergites subequal in width *compar*
 Mesepisterna not toothed 12
12. Hind femora black, except at tips; metanotum black; small, coarsely punctate species *kennicotti*
 Hind femora mostly pale 13
13. Metanotum black 14
 Scutellum and metanotum marked with yellow 15
14. Propodeum without yellow stripes; first tergite immaculate (sometimes both scutellum and metanotum black) *flavofasciata*
 Propodeum with yellow stripes; first tergite with a yellow band; bands on tergites subequal in width *femur-rubrum*
15. Large species, 22-25 mm.; red, black and yellow *frontata*
 Smaller species, 10-15 mm.; black and yellow 16
16. Propodeum not marked with yellow; stigma dark; clypeus acutely produced below in the middle *compacta*
 Propodeum with lateral yellow spots; stigma yellowish; yellow mark on clypeus acuminate below *pleuralis*
17. Clypeus flat, broadly truncate in front; propodeum and first tergite marked with yellow; enclosure striate at the sides *occipitomaculata*
 Clypeus convex, no transverse impression 18
18. Large species, 13-15 mm.; clypeus truncate apically; first tergite of abdomen spotted; bands on remaining tergites subequal *sexta*
 Smaller species, 9-12 mm.; clypeus usually tridentate 19
19. Spots on first tergite; enclosure striate all over; ornaments white; venter with large spots or bands *nigrescens*
 Rarely spots on first tergite; enclosure striate all over, last ventral plate furcate at the tip 20
20. Enclosure finely evenly striate; abdomen very slender, first segment narrow; usually but four or five teeth above on hind tibiae, *imitatoria*
 Enclosure more coarsely striate; abdomen broader, more coarsely punctate; six to eight teeth above on hind tibiae *clypeata*

Cerceris bicornuta Guerin.

1845. *Cerceris bicornuta* Guerin, *Icon. Reg. Anim.*, p. 443.

1912. *Cerceris bicornuta* Banks, *Ann. Ent. Soc. Amer.*, V, p. 16.

Females 13: Omaha (4), Louisville (4), Lincoln (3) and Mitchell (2); July 21 to September 12; visits flowers of *Melilotus alba*, *Asclepias syriaca*, *Asclepias verticillata*, *Symphoricarpos symphoricarpos*, *Euphorbia* sp. and *Lactuca pulchella*.

Cerceris venator Cresson.

1865. *Cerceris venator* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 116.

1908. *Cerceris venator* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 364.

Males 48: Omaha (10), Louisville (3), South Bend (7), Meadow (2), Lincoln (16), Roca (2), Concord (1), Maskell (2), Culbertson (2) and Mitchell (3); June 24 to September 5; visits flowers of *Asclepias syriaca*, *Asclepias incarnata*, *Chamaecrista fasciculata*, *Melilotus alba*, *Ceanothus americanus*, *Petalostemum candidum*, *Euphorbia marginata* and *Solidago glaberrima*.

Cerceris frontata Say.

1823. *Cerceris frontata* Say, *West. Quart. Rep.*, II, p. 80.

1912. *Cerceris frontata* Banks, *Ann. Ent. Soc. Amer.*, V, p. 16.

Male 1, females 2: Haigler (2), Lincoln (1); August 2 to August 20.

Cerceris fumipennis Say.

1837. *Cerceris fumipennis* Say, *Bost. Journ. Nat. Hist.*, I, p. 381.

1912. *Cerceris fumipennis* Banks, *Ann. Ent. Soc. Amer.*, V, p. 17.

Males 27, females 18: Rulo (4), Child's Point (1), Omaha (11), Louisville (5), South Bend (13), Lincoln (4), Maskell (1), Glen (3), Warbonnet Canyon (1) and Sioux county (1); June 24 to September 12; visits flowers of *Melilotus alba*, *Asclepias incarnata*, *Solidago glaberrima*, *Symphoricarpos symphoricarpos*, *Amorpha canescens*, *Ceanothus americanus* and *Cleome serrulata*.

Cerceris mandibularis Patton.

1880. *Cerceris mandibularis* Patton, *Proc. Bost. Soc. Nat. Hist.*, XX, p. 403.

1912. *Cerceris mandibularis* Banks, *Ann. Ent. Soc. Amer.*, V, p. 17.

Females 2: Rulo, June 29, 1915 (E. M. Partridge); Omaha, July 11, 1914 (L. T. Williams).

Cerceris compacta Cresson.

1865. *Cerceris compacta* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 127.

1912. *Cerceris compacta* Banks, *Ann. Ent. Soc. Amer.*, V, p. 17.

Males 3, females 2: Omaha (3), Lincoln (1) and Bridgeport (1); June 17 to August 13; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata* and *Asclepias incarnata*.

Cerceris flavofasciata H. S. Smith.

1908. *Cerceris flavofasciata* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 364.

Males 9, females 5: Rulo (1), Child's Point (2), Omaha (1), South Bend (7), Lincoln (1), Maskell (1) and Monroe Canyon (1); June 30 to August 20; visits flowers of *Melilotus alba*, *Ceanothus americanus* and *Amorpha canescens*.

Cerceris dentifrons Cresson.

1865. *Cerceris dentifrons* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 124.

1912. *Cerceris dentifrons* Banks, *Ann. Ent. Soc. Amer.*, V, p. 18.

Females 1: South Sioux City, August 3, 1912 (L. T. Williams).

Cerceris clypeata Dahlbom.

1845. *Cerceris clypeata* Dahlbom, *Hymen. Eur.*, I, pp. 221 and 500.

1865. *Cerceris clypeata* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 114.

1912. *Cerceris clypeata* Banks, *Ann. Ent. Soc. Amer.*, V, p. 18.

Males 51, females 9: Rulo (2), Child's Point (3), Omaha (29), Louisville (1), South Bend (4), Meadow (1), Lincoln (7), Tekamah (1), West Point (2), South Sioux City (2), Maskell (1), Glen (4) and Warbonnet Canyon (1); June 26 to August 25; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Solidago canadensis*, *Teucrium canadense* and *Medicago sativa*.

I have not restricted this species more than Cresson or Packard. *Clypeata* as designated by Banks has not been taken in the state. Practically all the female specimens at hand have the yellow band on the second segment emarginate in front; two or three have small yellow spots on the first segment; one or two have small yellow spots on the metanotum; two or three have the enclosed space on the metanotum mostly granulate, others have it more or less striated; the projection of the clypeus varies from about as long as broad, to very much longer than broad. All

this variation occurs in nine specimens with no two alike. One of these might possibly be placed as *dakotensis* Banks. The males also vary considerably in the distribution of yellow on the first abdominal segment and metanotum, and to some extent in the sculpture of the enclosed space. However, in this series of 51 males there does not seem to be any constant variation or any structural character by which they might be grouped and correlated with the females. Further collecting and study may show these to be distinct species, but from the material at hand it would appear that this is a wide ranging and quite variable species.

***Cerceris deserta* Say.**

1824. *Cerceris deserta* Say, *Long's Exped.*, II, App., p. 344.

1912. *Cerceris deserta* Banks, *Ann. Ent. Soc. Amer.*, V, p. 18.

Males 1: Mitchell, September 5, 1916 (R. W. Dawson).

***Cerceris gnara* Cresson.**

1872. *Cerceris gnara* Cresson, *Trans. Amer. Ent. Soc.*, IV, p. 229.

1912. *Cerceris gnara* Banks, *Ann. Ent. Soc. Amer.*, V, p. 22.

Males 19, females 24: Rulo (2), South Bend (5), Curtis (1), Bridgeport (2), Mitchell (32) and Monroe Canyon (1); June 23 to August 7; visits flowers of *Melilotus alba* and *Ceanothus americanus*.

***Cerceris alceste* Mickel.**

1918. *Cerceris alceste* Mickel, *UNIV. NEBR. STUDIES*, XVII, p. 333.

Female 1: Mitchell, August 24, 1916 (C. E. Mickel).

***Cerceris occipitomaculata* Packard.**

1866. *Cerceris occipitomaculata* Packard, *Proc. Ent. Soc. Phil.*, VI, p. 62.

1908. *Cerceris occipitomaculata* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 368.

Males 13: Omaha (7), Lincoln (3), Fairmont (1) and Glen (1); August 9 to September 14; visits flowers of *Solidago canadensis*.

***Cerceris imitatoria* Schletterer.**

1865. *Cerceris imitator* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 125 (nec F. Smith).

1887. *Cerceris imitatoria* Schletterer, *Zoologische Jahrbucher*, II, p. 494.

1908. *Cerceris imitatoria* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 367.

1912. *Cerceris imitatoria* Banks, *Ann. Ent. Soc. Amer.*, V, p. 20.

Males 7, females 1: Rulo (1), Omaha (1), South Bend (1), Lincoln (1), West Point (1) and Sioux county (2); June 17 to August; visits flowers of *Ceanothus americanus*.

Cerceris nigrescens F. Smith.

1856. *Cerceris nigrescens* F. Smith, *Cat. Hym. Brit. Mus.*, IV, p. 466.

1912. *Cerceris nigrescens* Banks, *Ann. Ent. Soc. Amer.*, V, p. 20.

Males 2, females 2: West Point (2), Mitchell (2); June to July 20; visits flowers of *Cirsium* sp.

Cerceris sexta Say.

1837. *Cerceris sexta* Say, *Bost. Journ. Nat. Hist.*, I, Pt. 4, p. 382.

1865. *Cerceris Sexta* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 119.

Males 1: West Point.

Cerceris architis Mickel.

1916. *Cerceris architis* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 409.

Females 1: South Bend, July 2, 1915 (E. G. Anderson); on *Melilotus alba*.

Cerceris arbuscula Mickel.

1916. *Cerceris arbuscula* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 410.

Females 1: Omaha, July 23, 1913 (L. T. Williams).

Cerceris vicina Cresson.

1865. *Cerceris vicina* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 120.

1908. *Cerceris vicina* H. S. Smith, *UNIV. NEBR. STUDIES*, VIII, p. 367.

Males 10, females 11: Mitchell (17), Glen (3) and Bad Lands (1); July 13 to August 15; visits flowers of *Medicago sativa*, *Melilotus alba*, *Helianthus* sp., and *Petalostemum* sp.

Cerceris conifrons Mickel.

1916. *Cerceris conifrons* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 410.

Females 6: Neligh (1), Mitchell (2), Glen (1) and Harrison (2); August; visits flowers of *Helianthus* sp. and *Melilotus alba*.

Cerceris nebrascensis H. S. Smith.

1908. *Cerceris nebrascensis* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 368.

Females 2: Glen (2); August 12 to 15 (P. R. Jones).

Cerceris insolita Cresson.

1865. *Cerceris insolita* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 129.
1908. *Cerceris insolita* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 370.
1912. *Cerceris insolita* Banks, *Ann. Ent. Soc. Amer.*, V, p. 23.

Males 26, females 4: Omaha (24), Meadow (1), West Point (1), South Sioux City (1), Carns (1), Mitchell (1) and Glen (2); June 28 to August 25; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Solidago canadensis*, *Asclepias* sp. and *Cleome serrulata*.

Cerceris intractibilis Mickel.

1916. *Cerceris intractibilis* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 411.

Females 1: Child's Point, July 14, 1915 (E. M. Partridge).

Cerceris femur-rubrum Viereck and Cockerell.

1904. *Cerceris femur-rubrum* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 135.

Males 5: Glen (1), Bridgeport (4); July 11 to August 13; visits flowers of *Cleome serrulata*.

Cerceris squamulifera Mickel.

1916. *Cerceris squamulifera* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 411.

Females 2: Imperial, July 2, 1911 (J. T. Zimmer), and Bridgeport, July 11, 1917 (C. E. Mickel).

Cerceris fulvipediculata Schletterer.

1865. *Cerceris fulvipes* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 126 (nec Eversman).
1887. *Cerceris fulvipediculata* Schletterer, *Zoologische Jahrbucher*, II, p. 492.
1912. *Cerceris fulvipedunculata* Banks, *Ann. Ent. Soc. Amer.*, V, p. 24.

Females 6: Omaha (1), Lincoln (4) and Glen (1); August and September; visits flowers of *Chamaecrista* sp.

Cerceris fugatrix Mickel.

1918. *Cerceris fugatrix* Mickel, UNIV. NEBR. STUDIES, XVII, p. 335.

Males 1: Mitchell, August 4, 1916 (C. E. Mickel).

Cerceris alacris Mickel.

1918. *Cerceris alacris* Mickel, UNIV. NEBR. STUDIES, XVII, p. 334.

Females 2: Mitchell, July 20 and 21, 1916 (C. E. Mickel).

Cerceris compar Cresson.

1865. *Cerceris compar* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 126.

1912. *Cerceris compar* Banks, *Ann. Ent. Soc. Amer.*, V, p. 25.

Males 33, females 25: Rulo (1), Child's Point (2), Omaha (9), South Bend (2), Lincoln (2), Red Cloud (1), West Point (37), Emerson (1), South Sioux City (2) and Sioux county (1); June 17 to July 20; visits flowers of *Melilotus alba*, *Psoralea* sp. and *Ceanothus americanus*.

Cerceris pleuralis H. S. Smith.

1908. *Cerceris pleuralis* H. S. Smith, UNIV. NEBR. STUDIES, VIII, p. 366.

Males 3, females 3: Omaha (1), South Bend (1), Lincoln (1), Rock county (1) and Glen (1); July 2 to August 19; visits flowers of *Helianthus* sp., *Chamaecrista fasciculata* and *Melilotus alba*.

The specimens from Omaha and South Bend have been taken since the species was described.

Cerceris kennicotti Cresson.

1865. *Cerceris kennicotti* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 128.

1912. *Cerceris kennicotti* Banks, *Ann. Ent. Soc. Amer.*, V, p. 25.

Males 25, females 21: Omaha (43), South Bend (1), Lincoln (1) and Neligh (1); July 14 to August 25; visits flowers of *Chamaecrista fasciculata*, *Asclepias syriaca*, *Asclepias* sp., *Solidago canadensis* and *Melilotus alba*.

Cerceris catawba Banks.

1912. *Cerceris catawba* Banks, *Ann. Ent. Soc. Amer.*, V, p. 25.

Females 1: Weeping Water, July 20, on *Petalostemum* sp.

Cerceris rufinoda Cresson.

1865. *Cerceris rufinoda* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 121.

1912. *Cerceris rufinoda* Banks, *Ann. Ent. Soc. Amer.*, V, p. 26.

Males 102, females 15: Omaha (5), Beatrice (1), Lincoln (6), Red Cloud (1), Culbertson (1), Carns (1), Brown county (1), Haigler (1), Mitchell (73), Gering (1), Crawford (2), Harrison (17), Glen (4) and Monroe Canyon (1); June 18 to August 26; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Helianthus* sp., *Cleome serrulata*, *Euphorbia marginata* and *Mentzelia* sp.

Cerceris rufinoda crucis Viereck and Cockerell.

1904. *Cerceris rufinoda crucis* Viereck and Cockerell, *Journ. New York Ent. Soc.*, XII, p. 139.

1912. *Cerceris rufinoda crucis* Banks, *Ann. Ent. Soc. Amer.*, V, p. 26.

Females 2: Omaha (1) and Monroe Canyon (1); August 7 and 14; visits flowers of *Chamaecrista* sp.

Cerceris argia Mickel.

1916. *Cerceris argia* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 412.

Females 1: Lincoln, August 5, 1904, on *Solidago* sp.

Cerceris echo Mickel.

1916. *Cerceris echo* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 412.

Females 41: Omaha (4), Curtis (1), Mitchell (21), Glen (4), Harrison (8) and Monroe Canyon (2); July 13 to August 29; visits flowers of *Melilotus alba*, *Chamaecrista fasciculata*, *Cleome serrulata*, *Solidago* sp. and *Helianthus* sp.

Cerceris finitima Cresson.

1865. *Cerceris finitima* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 122.

1912. *Cerceris finitima* Banks, *Ann. Ent. Soc. Amer.*, V, p. 27.

Males 38, females 28: Rulo (1), Omaha (11), Lincoln (8), West Point (5), South Sioux City (2), Neligh (1), Ogallala (1), Bridgeport (2), Mitchell (13), Harrison (13), Glen (9) and Monroe Canyon (1); June 17 to August 31; visits flowers of *Chamaecrista* sp., *Solidago canadensis*, *Melilotus alba*, *Asclepias* sp., *Euphorbia* sp. and *Cleome serrulata*.

Cerceris finitima nigroris Banks.

1912. *Cerceris finitima nigroris* Banks, *Ann. Ent. Soc. Amer.*, V, p. 27.

Males 12: Omaha (2), Haigler (1), Bridgeport (2), Mitchell (3) and Harrison (4); July 8 to August 25; visits flowers of

Cerceris nitida Banks.

Females 1: Rulo, June 30, 1915 (L. Bruner).

KEY TO THE SPECIES

1. Middle or lateral lobes of clypeus produced, forming a tooth or cone 2
Lobes of clypeus not produced, flat or slightly convex 6
2. Lateral lobes of clypeus produced, forming a stout tooth on each lobe
perpendicular to the surface, body largely yellow *canaliculata*
Only the middle lobe of clypeus produced; body largely black and red,
or black, red and yellow 3
3. Abdomen without yellow markings, first three abdominal segments
more or less ferruginous, three apical segments black *bicolor*
Abdomen with yellow markings 4
4. Tergites finely and closely punctured; enclosure of propodeum strongly
rugose; ground color of body varies from black to ferruginous,
zonata
Tergites sparsely punctured; enclosure of propodeum smooth, or more
or less transversely and obliquely striate 5
5. Sternites not marked with yellow; scutellum black; clypeus toothed at
the apex, with a broad process between the teeth *rubripes*
Third and fourth sternites with yellow bands (sometimes interrupted);
scutellum yellow; apex of clypeus toothed but no process between
the teeth *elegans*
6. Enclosure of propodeum shining, transversely striate; middle lobe of
clypeus convex, toothed at apex; body coarsely but not densely
punctured *fulvipes*
Enclosure of propodeum opaque, punctate; middle lobe of clypeus flat,
produced at apex; body finely and densely punctured *montana*

1. Second cubital cell petiolate *montana*
 Second cubital cell not petiolate 2
 2. Thorax largely yellow and ferruginous; sternites three and four with
 a fringe of long, erect, curved bristles on the apical middle, and a
 row of short, erect, closely appressed bristles on apical middle of
 sternite five *canaliculata*

- Thorax largely black, marked with more or less yellow 3
3. Enclosure of propodeum strongly rugose; sternites three, four and five with two short rows of erect, curved bristles on the apical middle, *zonata*
- Enclosure of propodeum more or less transversely or obliquely striate 4
4. Sternites three, four and five with a fringe of long, erect curved bristles on the apical middle; size large, 15-18 mm. *superba*
- Either sternite five, or sternites three and four without a fringe of bristles; size smaller, 11-14 mm. 5
5. Sternites three and four each with a fringe of long, erect bristles on the apical middle; sternite five with dentiform processes on the apical middle; enclosure of propodeum more or less obliquely striate *elegans*
- Sternites three and four without a fringe of long, erect bristles; enclosure of propodeum more or less transversely striate 6
6. Venter of thorax black; hind coxae ferruginous or blackish... *rubripes*
- Venter of thorax marked with whitish; hind coxae largely whitish, *fulvipes*

Eucerceris canaliculata (Say).

1823. *Philanthus canaliculatus* Say, *West. Quart. Rep.*, II, p. 80.
1823. *Cerceris bidentata* Say, *West. Quart. Rep.*, II, p. 80.
1882. *Eucerceris canaliculatus* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Males 3, females 2: Lincoln (1), Haigler (1), Mitchell (1) and Bad Lands (2); July and August; visits flowers of *Melilotus alba*.

Eucerceris bicolor Cresson.

1881. *Eucerceris bicolor* Cresson, *Trans. Amer. Ent. Soc.*, IX, Proc., p. xxxviii.
1882. *Eucerceris bicolor* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Females 4: Benkelman (1), Mitchell (1) and Glen (2); July and August.

Eucerceris rubripes Cresson.

1879. *Eucerceris rubripes* Cresson, *Trans. Amer. Ent. Soc.*, VII, Proc., p. xxiii.
1882. *Eucerceris rubripes* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Males 35, females 7: Lincoln (1), West Point (3), Maskell (3), Curtis (6), Gordon (2), Glen (21) and Monroe Canyon

(6) ; June 24 to August 27 ; visits flowers of *Melilotus alba* and *Solidago* sp.

***Eucerceris zonata* (Say).**

1823. *Philanthus zonata* Say, *West. Quart. Rep.*, II, p. 79.

1865. *Eucerceris laticeps* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 107.

1882. *Eucerceris zonatus* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Males 13, females 10: Child's Point (1), Omaha (4), Louisville (1), Lincoln (12), Niobrara (1) and Glen (4) ; July 31 to September 14 ; visits flowers of *Aster multiflorus*, *Vernonia fasciculata*, *Euphorbia* sp. and *Petalostemum violaceus*.

***Eucerceris fulvipes* Cresson.**

1865. *Eucerceris fulvipes* Cresson, *Proc. Ent. Soc. Phil.*, V, p. iii.

1882. *Eucerceris fulvipes* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Males 59, females 4: Crawford (1), Harrison (8), Glen (46), Monroe Canyon (5), Bad Lands (2) and Warbonnet Canyon (1) ; July 13 to September 15 ; visits flowers of *Helianthus* sp., *Solidago* sp., *Melilotus* sp. and *Cleome serrulata*.

***Eucerceris superba* Cresson.**

1865. *Eucerceris superba* Cresson, *Proc. Ent. Soc. Phil.*, V, p. 108.

1882. *Eucerceris superba* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

Males 5: Glen (4) and Monroe Canyon (1) ; August.

***Eucerceris elegans* Cresson.**

1879. *Eucerceris elegans* Cresson, *Trans. Amer. Ent. Soc.*, VII, Proc., p. xxiii.

1882. *Eucerceris elegans* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. vii.

1916. *Eucerceris elegans* Mickel, *Trans. Amer. Ent. Soc.*, XLII, p. 413.

Males 3, females 2: Halsey (4), Bridgeport (1) ; July 11 to August 29.

***Eucerceris montana* Cresson.**

1882. *Eucerceris montana* Cresson, *Trans. Amer. Ent. Soc.*, X, Proc., p. viii.

Females 1: Haigler, July 7, 1911 (J. T. Zimmer).