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A STUDY OF THE COCCINELLIDAE OF IOWA

KARL LONGNECKER

The writer has collected Coccinellids in several localities of Iowa for some time, and also has exchanged specimens with collectors in this and other parts of the country. The specimens have been classified and are in the collection of Iowa Wesleyan College.

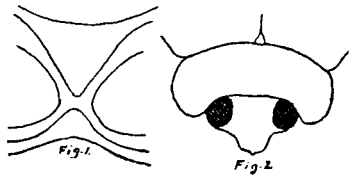
A list of Coccinellids known to occur in Iowa follows. Those which are listed by Wickham in his "Coleoptera of Iowa" are marked with a W; those which are represented by specimens in the collection of Iowa State College are marked A, and those in the collection of Iowa Wesleyan College with an I.

LENG'S CATALOGUE No.	SCIENTIFIC NAME	
10880	<i>Hyperaspis proba</i> (Say.)	W.
10879	<i>Hyperaspis signata</i> (Oliv.)	A. W.
10908	<i>Hyperaspis fimbriolata</i> Melsh.	A.
10923	<i>Hyperaspis lugubris</i> (Rand.)	A. W.
10930	<i>Hyperaspis undulata</i> (Say.)	I. A. W.
10949	<i>Hyperaspis pratensis</i> Lec.	A. W.
10972	<i>Brachyacantha ursina</i> (Fab.)	I. A. W.
10974	<i>Brachyacantha felina</i> (Fab.)	A. W.
10979	<i>Brachyacantha 4-punctata</i> Melsh.	A. W.
10988	<i>Microweisea marginata</i> (Lec.)	A. W.
10989	<i>Microweisea misella</i> (Lec.)	A. W.
10998	<i>Stethorus punctum</i> (Lec.)	W.
11012	<i>Scymnus brullei</i> Muls.	W.
11013	<i>Scymnus haemorrhous</i> Lec.	W.
11018	<i>Scymnus cervicalis</i> Muls.	A. W.
11022	<i>Scymnus iowensis</i> Csy.	W.
11028	<i>Scymnus collaris</i> Melsh.	W.
11020	<i>Scymnus marginicollis</i> Mann.	A.
11082	<i>Scymnus americanus</i> Muls.	W.
11093	<i>Scymnus flavifrons</i> Melsh.	W.
11143	<i>Delphastus pusillus</i> (Lec.)	W.
11150	<i>Psyllobora 20-maculata</i> (Say.)	I. A. W.
11154	<i>Anisosticta bitriangularis</i> Say.	A. W.
11158	<i>Ceratomegilla fuscilabris</i> (Muls.) (Common)	I. A. W.
11162	<i>Hippodamia 13-punctata</i> (L.) (Common)	I. A. W.
11163	<i>Hippodamia parenthesis</i> (Say.) (Frequent)	I. A. W.
11171	<i>Hippodamia glacialis</i> (Fabr.)	I. A. W.
11172	<i>Hippodamia 15-maculata</i> Muls.	A. W.
11173	<i>Hippodamia convergens</i> Guer. (Common)	I. A. W.
11184	<i>Coccinella novemnotata</i> Hbst. (Common)	I. A. W.
11185	<i>Coccinella transversoguttata</i> Fald.	I. A. W.
11189	<i>Cycloneda sanguinea</i> (L.) (Common)	I. A. W.
11192	<i>Olla abdominalis</i> (Say.)	I. A. W.
11193	<i>Adalia bipunctata</i> Linn.	I. W.
11194	<i>Adalia frigida</i> (Schn.)	W.
11196	<i>Cleis picta</i> (Rand.)	W.
11202	<i>Anatis 15-punctata</i> (Oliv.)	I. A. W.
11205	<i>Neomysia pullata</i> (Say.)	I. A.
11217	<i>Chilocorus bivulneris</i> Muls.	I. A. W.

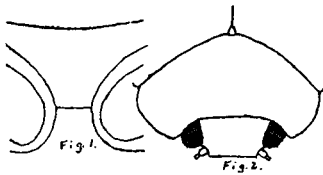
The writer has endeavored to make a workable key for Iowa Coccinellidae, with accompanying illustrations where it is possible. The sketches with each species show the markings, the size being indicated by the line beside each sketch. In preparing the key frequent reference was made to a number of publications, the chief ones being Leng's four papers "Notes on Coccinellidae" and Blatchley's "Coleoptera of Indiana."

KEY TO IOWA TRIBES OF COCCINELLIDAE

- 1—Middle coxae narrowly separated (Fig. 1); body elongate-oval and glabrous; legs long, free, the femora extending beyond the sides of the body; abdomen with six segments visible in both sexes; head not deeply inserted, the thorax strongly sinuate but not covering the eyes. (Fig. 2).



Tribe I. Hippodamiini.



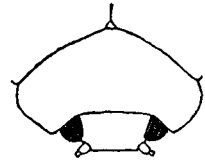
- 1—Middle coxae widely separated (Fig. 1); legs shorter, the femora generally extending beyond the sides of the body; head deeply inserted, the thorax covering a large portion of the eyes-----2

- 2—Body compact, generally oval in form; epipleura narrow, generally horizontal, flat or feebly concave. Abdomen with

- six segments well developed, the fifth shorter-----3
 2—Body loosely jointed, generally rounded in form; epipleura wide, concave, strongly descending externally. Eyes finely faceted-----4
 3—Body glabrous.
 3—Body pubescent.

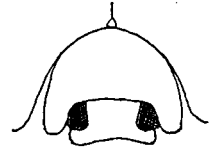
Tribe II. Hyperaspini.
 Tribe III. Scymnini.

- 4—Frontal plate narrowed from the base, and not covering the base of the antennæ. Upper surface of the body glabrous. Tribe IV. Coccinellini.



- 4—Frontal plate broadly dilated, concealing the base of the antennæ and subdividing the eyes; upper surface glabrous; body rounded, very convex; legs free or feebly retractile.

Tribe V. Chilacorini.



KEY TO IOWA GENERA OF TRIBE HIPPODAMIINI

- 1—Tarsal claws simple; body oval; hind angles of thorax obtuse but not rounded; length less than 3.5 mm.
 I. *Anisosticta*.

One species only. *Anisosticta bitriangularis* Say

- 1—Tarsal claws either with a large tooth at base or bifid; length 4.5mm. or more-----2
 2—Claws with a large quadrate basal tooth; thorax with a narrow but distinct margin along the base.
 II. *Ceratomegilla*.



Our only species. *Ceratomegilla fuscilabris* (Muls.)



2—Claws bifid, the two lobes unequal in length and acutely pointed; thorax not margined at base. III. Hippodamia.



KEY TO IOWA SPECIES OF GENUS HIPPODAMIA



1—Thorax black with broad pale lateral margins, within each of which is a black dot, occasionally jointed; tibiae and tarsi pale.

13-punctata (L.)

1—Thorax with a narrower white lateral margin, without distinct dots, but usually intruded upon by a more or less pronounced angulation of the central black area; legs black thruout -----2

2—Black disc of thorax nearly divided by a quadrate spot at the middle of base, and an elongate triangular spot at apex. *parenthesis* (Say).



2—Black disc of thorax without white spot at base and apex, but with two discal divergent white dashes-----3



3—Elytra each with six small spots (in some cases partly or wholly obsolete), three of which are on the front half. *convergens* Guer.



3—Front half of elytra without markings or with only a humeral dot; back half with three large dots, in some specimens coalescent. *glacialis* (Fab.)



Note—Wickham lists *15-maculata* for Iowa, while Blatchley and others make it a variety of *convergens*. Our series, though large, does not show the characters they describe.

KEY TO IOWA GENERA OF TRIBE COCCINELLINI

1—Body large, 4 to 7.5 mm.; antennæ shorter, with last joint truncate-----2
1—Body small, 2 to 2.5 mm.; antennæ slender, with last joint elongate.

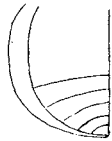
Psyllobora.



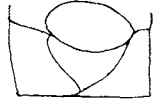
Our only species. *Psyllobora 20-maculata* (Say).

2—Antennæ only slightly longer than head; epipleura not extending to the sutural tip-----3

2—Antennæ longer, extending at least to the middle of the thorax; epipleura entire-----8



3—Metacoxal plate divided by an oblique line joining the boundary arc at about its middle point, forming an angular middle plate-----4



3—Metacoxal plate not or only partly divided, the oblique line either wholly obsolete or feeble, or, where more distinct, not joining the boundary curve posteriorly -----5



4—Body usually rounded, strongly convex; elytra reddish yellow, with more than two broadly oval or transverse spots; tarsal claws with a large subquadrate tooth at base. *Coccinella*.



4—Body oval, less convex; elytra reddish with one or two black spots on each; tarsal claws as in illustration. *Adalia*.



One species.

Adalia bipunctata (L.)

Note—Blatchley and others describe *A. frigida* (which is also listed by Wickham for Iowa) as very similar to *A. bipunctata*. None of our specimens exhibit all the characters which they describe, although one has two distinct spots on each elytron.

5—Elytral punctures very minute and inconspicuous, equal; side margins distinctly reflexed-----6

5—Elytral punctures strong, conspicuous and more or less unequal-----7

6—Mesosternum truncate anteriorly; body broadly rounded and very convex; pronotum black with pale lateral markings; elytra yellow, immaculate. *Cycloneda*.

Our only species.

Cycloneda sanguinea (L.)



6—Mesosternum broad and rather feebly sinuate; elytra brownish yellow, each with a sub-basal transverse series of four small black spots, a medial series of three spots, the inner the largest, and, at apical fourth, near the margin, another small rounded black spot; under surface and legs pale. *Olla*.



One species only.

Olla abdominalis (Say)

7—Mesosternum truncate; body oblong-oval, moderately convex; pronotum pale, variegated with black markings, the elytra pale, with an irregular dark design. Cleis.

Our only species.

Cleis picta (Rand)



8—Tarsal claws bifid; posternal process compressed in front; elytra without spots. Neomysia.

Our only species.

Neomysia pullata (Say)



8—Tarsal claws as in Coccinella; posternal process broad, strongly convex in a transverse direction and prominent at apex; elytra with numerous spots. Anatis.



Our only species.

Anatis 15-punctata (Oliv.).

KEY TO IOWA SPECIES OF GENUS COCCINELLA

1—Elytra normally with nine spots.

9-notata Host.



1—Elytra normally with sub-basal band and four spots.

transversoguttata Fald.



TRIBE CHILOCORINI

Iowa has but one genus of this tribe, represented by a single species. *Chilocorus bivulneris* Muls.



TRIBE HYPERASPINI

KEY TO IOWA GENERA OF TRIBE HYPERASPINI

1—Front tibiae with a strong spine on outer edge near the middle; eyes with a small emargination in front. Brachyacantha.

1—Front tibiae without spines; eyes entire; elytral spots well defined and usually fewer in number. Hyperaspis.

KEY TO IOWA SPECIES OF GENUS BRACHYACANTHA

1—Elytra each with two spots, one basal, one subapical.

quadripunctata Melsh.

1—Elytra each with five clearly defined yellow spots, one humeral, one large basal, two near the middle and one subapical.-----2

2—Larger, 2.5 to 3.3 mm.; basal spot never much more than semi-circular, broadly truncated by the basal margin. *ursina* Fab.

2—Smaller, 1.8 to 2.3 mm.; elytral spots smaller and unequal, the two median much smaller than the others. *felina* (Fab.) *10-pustulata*.

For Genus Hyperaspis see other Literature.

BIOLOGY DEPARTMENT,

IOWA WESLEYAN COLLEGE.