

100. *Tettigidea lateralis* Say. This form is not uncommon at Moline but it is apparently much more common southward. I have a number of specimens collected from Aug. 9th to 16th; some of them are full grown but the majority are pupae in the last stage.

101. *Tettigidea polymorpha* Burm. I have not found this species in the neighborhood of Moline, but I have a number of specimens collected by Mr. Hart in the central part of the State.

## PHASMIDAE.

102. *Diapheromera sayi* Gray. This species is not uncommon in Rock Island county and probably it is not less common throughout the State, though its form and habits render it too inconspicuous to be known by many. July 11th is the earliest date I have for its capture at Moline.

\*103. *Diapheromera velii* Walsh, Proc. ent. soc. Philad., v. 3, 410.

104. *Anisomorpha buprestoides* Stoll. A single specimen in the mu-

seum of the State laboratory of natural history is labeled ♂ Saratoga, Union Co., Ill., July 1877.

## MANTIDAE.

105. *Stagmomantis carolina* Linn. This species occurs not rarely in the southern part of the state.

## BLATTIDAE.

\*106. *Blatta germanica* Fab. Given on the authority of Thomas.

\*107. *Periplaneta americana* Linn. Is in no collection of Illinois Orthoptera that I have seen, but I include it on the authority of Thomas.

108. *Periplaneta orientalis* Linn. Too abundant in old houses.

109. *Ischnoptera pennsylvanica* De Geer. Not found in Rock Island county, but it is common in the southern part of the state, where it is common under old logs.

\*110. *Ischnoptera unicolor* Scudd. Given on the authority of Thomas.

## A SUPPLEMENTARY NOTE ON DIABROTICA 12-PUNCTATA.

BY H. GARMAN, LEXINGTON, KY.

After the first part of my paper on this insect was published (*Psyche*, v. 6, p. 29) and the second part was nearly all in print, I received from Prof. C. V. Riley a copy of his notes on the habits and life-history of the species with per-

mission to use them in what I might subsequently write. It is not now possible for me to take advantage of this courtesy further than to add here some of the more important observations which his notes contain.

In an introductory paragraph he says: "Prof. H. Garman justly calls in question (*Psyche*, v. 6, p. 29; Feb. 1891) a statement made in *Insect Life* (v. 1, p. 59) where, by a typographical oversight, the Twelve-spotted Diabrotica is stated to have 'bred upon' instead of 'fed upon' melons. The error is self-evident from the language and from the tenor of the article which does not treat of larval habits at all but of the food-habits of the beetle."

"My knowledge of the corn-feeding habit of the larvae of this insect dates from April 30, 1883, when Judge Lawrence Johnson forwarded to me from Allenton, Wilcox Co., Ala., a number of larvae of which he wrote as follows: 'I sent you last week from Allenton specimens of the same destructive 'bud-worm' that I once mentioned as heard of but not seen. This is about the right time, for they are now going into the pupa stage and in the sand you will find one of the pupae. The worm leaves the corn after doing its mischief and the pupa referred to was found immediately under the stalk among the roots. I have never met with this worm except in the prairie regions of southern Alabama, but have heard of it in Mississippi.'"

From these larvae Professor Riley obtained adults May 21, 1883. He obtained larvae and beetles from Mississippi in 1884 where they are said to abound in corn fields from March to the middle of May. In June, 1886, they were reported to him as injuring corn at Mt. Vernon, Va., the result being a withering and drooping of the central parts, while in some cases the plants were killed as soon as sprouted.

The eggs were obtained by Professor

Riley from females confined with earth, and were placed in the soil as in the case of *D. longicornis*. Larvae collected June 18 from infested corn at Mt. Vernon, Va., changed to pupae June 22, and beetles emerged July 6, and produced eggs on the following day. Larvae from these eggs were first observed July 15. In this connection Professor Riley continues:

"The above indicates that this insect is at least double-brooded, in which respect it differs in habit from the closely allied *D. longicornis* which is single-brooded and winters usually in the egg, though occasionally in the adult state. The second brood of *Diabrotica 12-punctata* doubtless winters over, and deposits eggs about the young corn or other plants in the spring. Eggs of the last brood are also doubtless deposited in the fall, and winter over, as is usually the case with *D. longicornis*."

I am not at present prepared to believe that the female *D. 12-punctata* produces eggs in the fall of the year. Careful examination of examples taken whenever possible has failed to show ova in the ovaries at any time except in the early spring just before the first brood of larvae appear, and again when these larvae become beetles. After these adults have deposited their eggs, no gravid females occur again until the following spring. The search for them has been especially thorough in the fall and winter, and among all the examples dissected during these periods not a single one showed any signs of developed ova.

"The early stages of *D. 12-punctata* are scarcely different from those of *D. longi-*

*cornis*. The egg is larger, being .03×.02 of an inch as against .025×.015 in the case of *longicornis*. In color, instead of being dirty white it is dull yellowish. The hexagonal pits are exactly like those on the egg of *longicornis*, but are perhaps smaller, as there are 30-35 in its entire length as against 20 only in the smaller egg of *longicornis*”

The larva is said to differ from that of

*D. longicornis* in being larger and in the presence of the two small tubercles at the posterior edge of the caudal plate. The pupae of the two species are said to differ only in size.

Two dipterous parasites of *D. 12-punctata* are known to Professor Riley, one a Tachinid obtained from the larva, the other coming from the adult.

## DESCRIPTIONS OF THE PREPARATORY STAGES OF TWO FORMS OF CERURA CINEREA Walk.

BY HARRISON G. DYAR, NEW YORK.

I have discussed the differences between the Eastern and Western forms of the imago in the Canadian entomologist<sup>1</sup> and in the present article consider the larval stages. The larvae of the two forms are much alike; the differences, after eliminating certain apparent ones due to individual variation, narrow to the greater prominence of crimson in *cinereoides* and its somewhat shorter caudal filaments or *stema-poda*, to use Dr. Packard's term. My examples of *cinerea* were nearly without crimson spots in the dorsal patches, but Professor Lintner has allowed me to see some notes by Professor Riley on this species in which they are described as present, and doubtless the character is variable. In the following some allowance should be made for individual variation.

CERURA CINEREA *Walker*. (Eastern form.)

*Egg*. Slightly more than hemispherical, the base flat. Color, dead black; diameter 1.2 mm.

Laid singly; the larva hatches by eating a hole in the side but does not devour the rest of the shell.

*Larva: Second stage*. Head rounded, the sutures deep, blackish brown; width 1 mm. Cervical horns brown, spinose as are the caudal filaments, the latter twice annulated with pale yellow. Body green, a blackish brown subdorsal line on each side, the space between them over the dorsum filled in with the same color except in three patches (1) on joint 3 posteriorly, joints 4 and 5 quadrate, (2) on joints 8-10 pointed anteriorly, and (3) a rounded one on joint 12. These are of a more yellowish green than the body color. Extensile threads black, once annulated with white. Length of larva 7 mm, of tails 5 mm.

*Third stage*. Head subquadrate, rounded,

<sup>1</sup> Can. ent., v. 22, p. 253.



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