

finely punctate, highly polished, the pleura with a row of fine black dots, and an extra dot outwardly; connexivum acute, the intersegmental sutures indented and marked with a black dot. Tergum black, the sutures, exteriorly, with a double black spot. Length to end of abdomen, 9 to 10 mm. Width of pronotum,  $5\frac{1}{2}$  to 6 mm. A pair of these insects taken in Massachusetts have been kindly given to me by Mr. A. H. Kirkland. Other specimens have been sent to me for examination from Rhode Island, Pennsylvania, and the District of Columbia. I have found it once, July 4, in a sandy pine woods district in southern Maryland. Only a few specimens have thus far been reported. It seems to be of rather uncommon occurrence."

### GRAPTA INTERROGATIONIS.

BY ARTHUR J. SNYDER, N. EVANSTON, ILL.

Under the title "Notes on Vanessa Interrogationis," in the February number of CAN. ENT., Mr. W. F. Fiske gives some interesting statements corresponding to observations made here. I kept bait for moths on the trees in and near my yard from the beginning of the year 1896, and captured Noctuids during January, February, and March.

Diurnals came to the bait for the first time on April 12th. *Vanessa Antiopa* led the van, followed closely by the *Graptas* and *Pyrameis Atalanta*. In a few days *Interrogationis* and *Atalanta* were abundant. *Grapta Comma* appeared on the 17th of April.

April 24th I made the following note in my record: "Previous to this date all the *Grapta Interrogationis* were hibernating specimens and of the form *Fabricii*. This evening (my observations were made from four p.m. 'till dusk) all were of the dark form *Umbrosa*, but also all old hibernating specimens."

On the 25th both *Umbrosa* and *Fabricii* were seen. During the last of April and first part of May *Graptas* were exceedingly abundant.

On May 7th saw the first *Grapta* depositing eggs on elm. Captured the ♀ and found it to be *Umbrosa*. A single butterfly procured from these eggs was of the form *Umbrosa*.

Soon the eggs and larvæ of *Graptas* were abundant on the elm trees and shrubs, especially on the low branches of young trees. One could hardly turn over a bough of one of these without finding several larvæ.

Mr. Fiske came near proving a point concerning which many of us are interested, but the weak point is this: Did he examine the leaves of the branch of elm on which he netted the ♀ *Umbrosa*? If not, how does he know that there were no eggs upon the limb at the time of confining the ♀ there?

I have frequently found upon the same limb larvæ of *Graptas* in several stages of maturity, small ones just hatched, and others almost ready to pupate.

I am inclined to think that *Umbrosa* and *Fabricii* may be obtained from eggs laid by one ♀, just as Mr. W. H. Edwards has succeeded in raising imagoes of *Papilo Oregonia* and *Bairdii* from eggs laid by a single individual.

To prove these points just as we would have them, both sexes should be reared, each form paired with its kind, and *vice versa*, and the results noted. The second generation of specimens thus observed should settle the question.

While I cannot positively answer Mr. Fiske's question as to where the immense number of *Umbrosa* came from, the observations made here go to prove that the uncommon appearance of the species was not confined to one locality, but the "wave" probably extended over the entire eastern United States. It is my opinion that the preceding autumn was an unusually favorable one for the *Graptas*, for both *Umbrosa* and *Fabricii* were common here in August, 1895.

*Grapta Comma* was very abundant here in the autumn of 1892, but did not appear in great numbers again until the spring of 1896.

*Papilio Ajax* is very rare here in ordinary years, but in 1895 suddenly great numbers of badly worn specimens appeared and remained for some days. Every collector captured examples, I think, but hardly any one secured a perfect specimen.

The nearest point at which the food plant of *Ajax* is found, so far as I have been able to ascertain, is on the Michigan side of Lake Michigan. In this case the butterflies may have been carried from their usual haunts by winds.

Insects undoubtedly migrate, sometimes suddenly and in immense numbers, as has been noted of *Danais Archippus* and *Callidryas Eubule*, and sometimes slowly, taking years to reach a certain locality hitherto unknown to the species.

*Chrysophanus Helloides* is moving eastward. A few years ago it

was considered a Rocky Mountain species, but lately specimens have been taken in Iowa, Illinois, and Indiana.

Another question is why the form *Fabricii* should appear before *Umbrosa* and then later on both forms appear at the same time?

The broods of *Interrogationis* seem very irregular as to time of appearance, but there are at least two annual broods here.

#### A NEW *CELIOXYS* FROM NEW MEXICO.

BY T. D. A. COCKERELL, MESILLA, N. M.

*Celioxys menthae*, n. sp.—♂. Length  $9\frac{1}{3}$  mm., black with the legs and base of abdomen ferruginous. Pubescence scanty, dull white, rather dense and tinged with ochraceous on face. Head rather large; vertex shining, with large, well-separated punctures; mandibles bifid at ends, ferruginous except tips and extreme base; antennæ black, flagellum faintly rufescent beneath towards the end; mesothorax shining, with extremely large, well-separated punctures; a band of dull white pubescence at base of scutellum and a patch above base of wings; scutellum shining and sparsely punctured, without any trace of a keel, rounded behind, with a very small tubercle at the middle (representing the median tooth of *aperta*, etc.), lateral teeth large, flattened and rounded at tips; enclosure of metathorax distinct, very finely granular, with a basal series of large pits; tegulae apricot colour; wings dusky hyaline, the apical margin broadly smoky, nervures piceous, stigma fuscous, marginal cell more produced at tip than in *altilis*; coxæ more or less darkened, legs otherwise entirely bright ferruginous, with the pubescence extremely scanty; abdomen shining, segments 2–5 with transverse sublateral grooves; punctures sparse, largest and densest at sides, rather small and numerous on dorsum of first segment, absent on dorsal middle of segments 2–5, except for an apical row and on 2 an imperfect basal one; sixth segment with sparse minute punctures. Hair-bands very narrow and interrupted dorsally, so as to be inconspicuous. First segment except the extreme base entirely ferruginous; second and third segments, and fourth more or less, ferruginous at sides; venter ferruginous except apex. Apex with six teeth, of the terminal ones the lower are the longer.

*Hab.*—Deining, N. M., at flowers of garden mint in Mrs. Bristol's garden, July 9, 1896. (Ckll. B. 45.) Very distinct by the sparsely punctured (in parts impunctate) abdomen with its rufous first segment. Nearest, perhaps, to *C. texana*, Cr.

There is a *Celioxys* taken by Prof. Townsend on the Gila R. in numbers, which I could not definitely identify. A specimen sent to Mr. Fox comes back marked "near *mæsta*." Very possibly the species is new, but I do not at present care to give it a name, as there are several closely allied forms which I have not seen, and it may be one of them.

Mailed May 1st, 1897.