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TABLE OF CONTENTS

OSBORN—Report of Progress on Study of the Hemiptera of Ohio and Description of New Species.....	273
SCHAFFNER—Key to the Genera of Ohio Woody Plants in the Winter Condition	277
DE LA TORRE BUENO— <i>Nerthra stygia</i> Say and Some Notes on the Family Gelastocoridae, 287	
YORK—The Hibernacula of Ohio Water Plants.....	291
SCHAFFNER, MABEL—Key to the Ohio Sumacs in the Winter Condition.....	293
SURFACE—Meeting of the Biological Club.....	294

REPORT OF PROGRESS ON STUDY OF THE HEMIPTERA OF OHIO AND DESCRIPTION OF NEW SPECIES.*

HERBERT OSBORN.

As a result of collections during the past year quite a number of species have been added to the State list, observations have been made on distribution, habits and life history of others and much additional material gathered for a general catalogue of the Hemiptera of the State. The Trustees kindly assigned a small sum from the MacMillin Research Fund but owing to the pressure of other engagements only a portion of the fund was used this season. I was able, however, to make considerable collections at Cincinnati, Ashtabula and Steubenville as well as in the vicinity of Sandusky where six weeks of the early summer was spent. The collections at Steubenville and Ashtabula were fortunate in disclosing forms new to the State and I hope it will be possible to get additional material from the northeastern part of the State to represent other months.

A number of species have been collected by Mr. Otto H. Swezey, Jas. G. Sanders, and J. S. Hine and I am under special obligations to Mr. Chas. Dury of Cincinnati, and Mr. E. V. Louth of Ashtabula, for assistance in their respective localities.

A brief summary of the most interesting of these species and descriptions of new species will be given here but it is intended to complete a catalogue as early as practicable to include discussion of all known species.

Aradus acutus Say. This species which is common further south and an interesting addition to our state fauna was taken at Chillicothe by Mr. Swezey.

* Presented at meeting of Ohio Acad. Sci., Cleveland, November 26, 1904.

Eucanthus acuminatus Fab. Taken near Sandusky on Sandusky River a number of specimens being secured from an old log and stump where they seemed to congregate.

Pediopsis basalis VanD. Taken at Arcanum on cottonwood by Mr. Swezey.

Deltocephalus configuratus Uhl. Collected at Ashtabula in August.

Goniagnathus palmeri VanD. One specimen of this interesting little species taken at Columbus.

Typhlocyba rubroscuta Gill. Collected at Columbus.

Typhlocyba crevecouri Gill. Columbus, collected by Mr. J. G. Sanders. The specimens agree perfectly with descriptions except that there is a broad black band covering segments 1 to 5 of the abdomen both above and below not mentioned by Gillette who says "all beneath pinkish yellow."

Livia maculipennis Fitch. This interesting little Psyllid was discovered at Ashtabula while collecting near the city with Mr. E. V. Louth. Adults were first swept from the heads of a *Juncus* identified by Mr. Louth as *Juncus acuminatus*, closer examination of the heads revealed nymphs enclosed in the swollen glumes in many instances occurring in large numbers so the heads were fully packed. The relation of these nymphs to the adults that had been swept was at once suspected and definitely proven later by breeding.

Platymetopius obscurus n. sp. Head moderately produced, front uniformly dark brown, minutely dotted with yellow, color olivaceous brown above and below, elytra with minute roundish white spots. Length female, 4.5-4.75 mm. Male 4.

Vertex about one and one-half times as long as broad, acutely angled, front narrow tapering gradually to apex, clavus longer than broad, widening slightly at apex, pronotum about as long as vertex, rounded anteriorly nearly truncate behind. Elytra scarcely hyaline, a series of reflexed cross veinlets in the costal area.

Color, dark olivaceous brown, vertex with pair of yellow spots and with minute yellowish lines. Front dark fuscous with yellowish arc near the vertex and numerous minute yellowish dots, larger on the loræ; scutellum and elytra coppery fuscous with indistinct longitudinal lines—five on pronotum, two on scutellum, elytra with rounded white dots on the apical and ante-apical cells and in basal portion of corium. Ramose lines and reflexed costal veinlets blackish.

Genitalia—Last ventral segment of female elongate, rounded behind. Male valve nearly as long as broad, obtusely angled behind; plates elongate triangular, reaching tip of pygofer.

Specimens from Greensburg, Pa., Columbus, O., and Cold Spring Harbor, N. Y.

***Thamnotettix furculatus* n. sp.** Size and general pattern of clitellarius with dorsal spot narrower, more elongate, dark spots at base of antennæ and elongate, forked process on female ventral segment. Length of female, 5 mm.

Vertex slightly longer on middle than at eye, very slightly angulate, intermediate in this respect between clitellarius and exquisitos. Front full, almost tumid, clypeus widening toward tip and broadly rounded, loræ not broad not reaching margins of genæ. Pronotum, lateral margins rounded, nearly twice as wide as long, posterior border almost straight.

Color, dark chocolate to fuscous with bright yellow markings, vertex bright yellow with hind border black or fuscous. The common band of occiput and anterior third of pronotum extending over the posterior part of the eye. Two prominent black spots on the margin between vertex and front, a black spot below the base of each antenna, posterior two-thirds of pronotum bright lemon yellow of same color as discal claval spot, scutellum dark brown with darker spots on either side of median space. Base of part of clavus brown, claval suture and about half the width of elytra dark fuscous to black with a broad fuscous apical band, the costal-half of elytra back to the apical cells hyaline tinged with yellowish, beneath pale yellow to whitish.

Genitalia: The last ventral segment of female deeply emarginate with a prominent tooth at the edge of the emargination extending about one-fourth of the segment beyond the outer margin. A long narrow median process reaching as far back as the hinder tooth and with a deep incision thus forming a narrow elongate fork.

One specimen, female, was secured from Sandusky River about twenty miles above Sandusky, July 2, 1904. It must have been taken in sweeping in woodland or in low vegetation bordering woods. It is very closely related to clitellarius being scarcely larger but the common claval spot narrows to each end, the vertex is slightly more produced, the base of antennæ spotted and above all the genital segment entirely different from any species known to me.

A specimen of what is evidently the male of this species was taken in Columbus, June 20, 1901. The color markings and shape of vertex agree perfectly and the length, 4.5 mm., is in usual proportion for the sexes in this genus. The genitalia differ decidedly from those of clitellarius the valve being long, the hind edge strongly angled; plates broad convexly narrowing to tip, reaching to tip of pygofer, a submarginal dark line, marginal cilia yellow.

***Phlepsius collitus* Ball.** This species has been separated from *fulvidorsum*, with which it was formerly confused, by Prof. Ball.

As the record for *fulvidorsum* given in a previous list was based on a specimen from Vinton which proves to be *collitus* this name should be entered. Specimens of *fulvidorsum* were taken at Little Mt. by Mr. J. G. Sanders, Aug. 21, '04, so this species will still be included in our state list.

***Phlopius maculatus* n. sp.** Mottled with black and white with ramose lines on pronotum and elytra forming fairly well defined patches; female segment long, bisinuate, notched at middle. Length to tip of elytra 7.25 mm.

Head barely wider than pronotum. Vertex broad, slightly longer at middle than next the eye; anterior edge scarcely acute; ocelli close to the margin of the eye; front broad, sides nearly parallel to below antennal pits then rapidly converging to base of clypeus; clypeus widening slightly to tip; loræ large, broad, extending from half way between antennal pits and clypeus almost to margin of cheek; pronotum short, anterior margin strongly curved; hind margin distinctly concave; elytra large slightly contracted behind clavus, apex slightly flaring.

Color, white or cream, densely mottled or streaked with dark fuscous black; vertex having two quite strong patches on the posterior border, not quite touching the eyes with some faint lines at middle and at anterior margin; the front minutely dotted, with slight indication of regular arcs; clypeus, loræ and cheeks more faintly marked; pronotum with dark confluent lines or spots forming a wavy, irregular band across the middle and another indefinite band on the posterior border; scutellum with two discal points and broken border black; elytra with confluent dots or lines in all of the areoles forming a distinct black spot at middle of claval border and about four on costa; beneath gray, the femora annulated with black, tibiæ with black spots and annulus at apex; last joint of anterior and middle tarsi and apical portions of hind tarsal joints black; body gray with last ventral segment polished black except basal and lateral portion.

Genitalia—last ventral segment of female twice as long as preceding, lateral margins strongly reflected, hind border deeply bisinuate; the central portion somewhat produced with rather deep notch at middle.

This is a large and handsome form only a single specimen of which was taken at Cedar Point, July 30, 1904. It is so distinct from any of the known species of the genus that it seems best to describe it even though but a single specimen is in hand.