

except the last two (and very probably they also occur) are given by Sharp from the Amazon region in South America (Sharp, Staphylinidæ of the Amazon, Trans. London Ent. Soc., 1876, Parts I. and II., May and June), while *Philonthus* and *Xantholinus* are found also in New Zealand.

NATURAL HISTORY NOTES ON CERTAIN COLEOPTERA.

No. I.

BY JOHN HAMILTON, M. D., ALLEGHENY, PA.

Ceophyllus monilis Lec. Several of these curious little coleopters were taken May 11th, from a colony of ants inhabiting under a flat stone. This ant is honey yellow, .18 inch in length, very sluggish in its movements, and not disposed to be vicious; it seems to be the same as that with which *Batrisus bistriatus* is found (also in May), and is perhaps *Lasius integerrimus*, Mayr., which Mr. E. A. Schwarz thinks is the name of the ant with which on several occasions he found the same beetle in Michigan in early spring.

The beetles were on the under side of the stone distributed among the ants, and taking alarm immediately on its being overturned, scampered off so quickly into the underground galleries that only a few could be captured.

Dr. Leconte founded the genus on a single specimen taken in Michigan, in August, under the bark of the American linden; his specimen was only .11 inch in length, while these measure .16; otherwise his description applies, or from the different habitat another species might be inferred. Does *C. monilis* desert the ants in the spring to breed beneath bark during the summer and its offspring resort to the habitations of these ants to spend the winter? It is on many lists, but, except in the instance mentioned, has any one taken it elsewhere than with these insects? There are a considerable number of beetles found in friendly association with ants, especially in the spring, many of which are not recorded as having been observed elsewhere; but where their larval lives are spent is something entirely unknown. Some of them, in the spring, leave their friends, like *Cremastochilus canaliculatus*, which may be observed from May till August alighting during the hottest sunshine on warm stones and dusty roads; but whether all likewise leave is uncertain. The suggestion

is made to those finding ants-nest-beetles to mount an ant with each, as it will add much to the interest and value of the collection.

Eleusis pallidus Lec., seems to be rare. The specimens from which Dr. Leconte described the species were found in ants' nests; but their occurrence there was probably accidental, as their exceedingly thin, depressed form indicates a subcortical rather than a subterranean habitus. This summer I took a colony of over twenty under the decomposing bark of a Balm of Gilead (*Populus candicans*), a near ally of the western cotton tree, under the bark of which another species, *E. fasciatus*, is found abundantly.

Cercus pennatus Murr., may be taken plentifully about the second week in May, on the blossoms of the Red Elder (*Sambucus pubens*), and is seldom seen after it is out of bloom. It is mostly found on bushes growing in or near marshy places, those on dry situations yielding but few examples; and from this it may be properly inferred that the larvæ require a humid soil for their habitation. In the synoptic table in Dr. Horn's revision, the club of the antennæ is said to be bi-articulate; this, however, does not appear to be a very constant character, as the difference in size between the ninth and tenth joint is in many specimens scarcely appreciable, especially in the males.

Cucujus clavipes Fab. The very depressed form of this well known beetle indicates, *a priori*, its subcortical habit, and no other has power to adapt its tastes to a greater variety of timber—locust, maple, oak, hickory, gum, buckeye, &c., are all alike to it. The larvæ do not eat the wood nor the bark, living apparently on the moisture existing between the two. They are elongate, much depressed, brownish yellow, and scarcely to be distinguished from those of *Dendroides canadensis*. Some time in September, the larva having matured, constructs a circular cell from small particles of the decaying bark and wood, and in this completes its transformations before severe frost, but the beetle does not quit the cell till the following spring. I have never known any of these insects to be taken elsewhere than under bark, though they undoubtedly fly, being possessed of a good pair of wings. On the 10th of October, 15 newly disclosed individuals and several pupæ were taken under the bark of a gum log; the latter are depressed like the beetle, pale at first, the eyes, antennæ and portions of the legs gradually changing to black, and the elytra becoming red after disclosure. This insect is annual.

Elatér militaris Harr. is as rare as the preceding is common, though

it may eventually be discovered to be much more plentiful than heretofore, since collectors have been furnished with the data for its recognition by the publication of Dr. Leconte's Synopsis of the genus (Trans. Am. Ent. Soc., vol. 12). Till now it has been among a set of unfortunate beetles, with names in the catalogues and descriptions accessible to few. It may readily be confounded with *E. linteus*, with which it is found, specimens of which occur with the apical black of the elytra more or less obsolete; but it may always be distinguished by the epipleura being entirely black, whereas in *lin-teus* the anterior half is conspicuously pale. The elytra are yellower than in *lin-teus*, with the external and sutural margins narrowly black and a little cloudiness at the apex in one of my two specimens. The antennae, besides having the second and third joints rounded and equal, scarcely exceed in length the thorax in the male, while in the female they are one third shorter. Nine specimens that I have seen have the foregoing characteristics.

Elasmocerus terminatus Say, was obtained in large numbers from a box of dead grape vines in May and June. These grape vines also yielded a multitude of *Phymatodes amoenus*, some *Neoclytus erythrocephalus*, *Chariessa pilosa*, *Tenebrioides corticalis*, besides other smaller species. The *P. amoenus*, which had nearly pulverized the vines, had mostly emerged before *E. terminatus* appeared. On splitting the vine several of its pupae were found in galleries excavated by the larvae themselves; these were from four to six inches in length; the distal end was packed with coarse fibre after the manner of the Cerambycans, and the other, towards which lay the head, with fine dust, leaving about an inch of vacancy for the pupa. These, like the perfect insects, vary from .25 to .50 inch in length. They are cylindrical, the abdomen smooth without projections or hooks, and having a greater diameter than the parts anterior; color entirely pale, the emargination of the eyes and tip of the abdomen first become dark, then the legs and wing pads; next the pupa skin is cast, and in three or four days the head and thorax have also changed to dark and the abdomen to red, and then the perfect insect comes forth in quest of flowers and a mate, the time occupied in the transformation having been from ten to fourteen days.

The vines contained the larvæ of several species, but which produced this beetle was not certainly ascertained, though I strongly suspect it to have been one that was round, six-footed, .25 to .50 inch. in length, white with a very small retractile black head armed with short, strong mandi-

bles; the legs stout, with one claw; the pro-legs well developed; the segments gradually tapering from the seventh to the head, the others not varying much in diameter, except the last, which is tapering and terminated with two short black hooks; the body has a few long stiff hairs. These larvæ were taken in the act of excavating galleries similar to the ones in which the pupæ of *E. terminatus* were found.

Whether the larvæ are carnivorous is unknown, but they are certainly lignivorous, as the work of their burrows shows. The Cleridæ are said to be parasitic in the larva state, but this species looks like an exception, as that much misapplied term is scarcely elastic enough to embrace a larva that is at the most only carnivorous.

Xanthonia villosula Mels. Two forms at least are recognized in this species. The first is the typical, entirely brownish rufous, and usually taken on oak, especially white oak, in June and July; it is so abundant and well known as to require no further notice. The other is slightly larger, with the thorax a little less convex and more coarsely punctured; the under sides except the legs are black; the antennae, mouth parts and feet are always yellowish; the head, thorax and elytra vary from ferruginous through all degrees of cloudiness to deep black. Like the other form, in life they are densely coated with an amorphous white powder that gives them the appearance of having been dusted with flour, and is so fugitive as to be only imperfectly preserved by the most careful handling possible. This form appears to feed on hazel alone, though it may be taken on any bush in its vicinity. While perhaps not separable from the first form by any constant structural characters, yet for the benefit of collectors it might be well that it should as a color variety have a name.

When color variations are in any way constant, they are as necessary in a complete cabinet as typical forms, and might be named and catalogued with great advantage to collectors and no detriment to science.

Nemognatha nemorensis Hentz. This beetle has a wide range, extending from the Atlantic to Colorado. It is probably not so rare as it seems to be, owing perhaps to the character of its food plant and its apparent resemblance to certain common and undesirable species of Lampyridæ, both of which may cause it to be readily overlooked. I find it abundantly throughout July on two species of *Rudbeckia* growing in meadows bordered with woods (*R. speciosa* and *R. hirta*), which rarely yield any Coleoptera except *Acmaeodera pulchella*. The insects belonging to this genus and the next (*Gnathium*) are remarkable for having the

outer lobe of the maxillae greatly elongated, being in some species equal to the length of the body, and very slender. As seen in the cabinet these lobes are widely separated, but in life they are closely approximated, forming a single nematoid appendage. In the present species this arrangement is admirably adapted to the character of the flowers on which they feed; the florets of the *Rudbeckias* being very long and very compactly inserted on the disk, to reach the nectaries at their bases, just such an armature is required. The lobes of the maxillae are inserted closed and do not embrace the florets nor open and shut in feeding, but are moved up and down like a drill, the needle shifting around among the florets without being withdrawn; but in what way the nourishment is conveyed to the mouth I could not ascertain.

The species of this genus are numerous west of the Mississippi, and it would be interesting to learn what species of flowers they frequent.

NOTE ON ORYSSUS SAYI.

BY W. HAGUE HARRINGTON, OTTAWA.

The members of the genus *Oryssus* are apparently rare in Canada, and I was therefore much pleased to capture on the 2nd June a fine ♀ *O. Sayi*. It was running up and down a telegraph pole (one of the new ones put up for the electric light wires), and had at first glance all the appearance of some small wasp (*Crabronidæ*), searching for a suitable hole for its nest. Its movements were very quick, and its antennæ vibrated rapidly. It was so alert and restless that my prospects of capturing it without a net seemed far from bright. However, the capture was made, and its struggles in my cyanide bottle were brief. A few days later I took a ♂ upon one of the same poles, although in a different part of the city, and saw what appeared to be another of these insects fly away from higher up the pole. On the 24th I secured another female, which was even more active than the first, and which flew away and returned to the same place twice before I effected its capture. This habit of flying away when disturbed and of returning, even from some distance, to the very spot left, is one which I have noticed in other species of *Uroceridæ*. The poles upon which the above specimens were taken are cedar, and it is more than probable that the insects had emerged from the poles, as many had very numerous holes in them, apparently of *Uroceridæ* as well as of *Coleoptera*.



Hamilton, John. 1886. "Natural History notes on certain Coleoptera. No. I." *The Canadian entomologist* 18, 26–30. <https://doi.org/10.4039/Ent1826-2>.

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