inine nature of the Greek P-SU-KHE. Without the article, SAKHU is the understanding, the illuminator, the eye, and soul of being, that which inspires.

The ancients evidently were not very good Entomologists, for this original meaning, beautiful as it is, is altogether incompatible with the teachings of the modern science, for in these days we realize that the so-called spiritual life, as represented by the butterfly, is but a span in comparison with the earthly life, as illustrated by the larva, and that the heavenly aspiration and grace which mark the shorter life are the outcome of a comparative eternity of rioting and waste; yet, be it said, the silk worm at the eleventh hour makes a good record.

"Well were it for the world, if all
Who creep about this earthly ball,
Though shorter-lived than most he be,
Were useful in their kind as he."

Moreover, who that has ever attempted to capture a Limenitis arthemis, but has learned to his cost, that though a thing of beauty, and its possession a joy forever, its habits are deceitful. Well do I remember a chase for this butterfly – the first that I had ever seen on the wing. It was a royal game of tag, with hide-and-go-seek variations. We see-sawed up and down a ravine for nearly an hour. When first discovered it was regaling itself in the sunlight, upon a leaf about half way down the opposite bank, all the while jerking its wings, after a fashion, as if beckoning me over. By the time I had worked my way down over the rocks and through the briers, it was spreading its wings on the bank I had just left, and when I returned it was away again to its favorite leaf on the other side. Tired and heated, I gave up the chase, when the arthemis, in a most provoking way, lit upon a shrub beneath my very nose. This coquettish insect apparently realized my discomfiture, and after repeated approaches and withdrawals, it rose on wing, and with

"The light coquettes in sylphs aloft repair And sport and flutter in the fields of air."

## SHORT NOTES ON COLEOPTERA.

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

Hololepta fossularis Say. The habitatio of this insect is usually under locust bark in the first stages of decay, a fact so well known that collectors

would look for it in no other place. But last summer I found a number of them under the bark of *Ulmus fulva* (slippery elm), the odor of which in the same state of decomposition is as rank as that of *Robinia*. With them were several *H. lucida*. The individuals of these two species so approximate as in some examples to be scarcely separable; and indeed there is a reasonable doubt whether any of them are instinctively conscious of being specifically different.

Ips fasciatus Oliv. This well known species is very variable in size, color and sculpture. Several of these color variations have been described as species, as: 4-guttatus Fab., 4-signatus Say, bipustulatus Mels., 6-pustulatus Reitter. Quadriguttatus Fab. is the European form, and though described subsequently to fasciatus Oliv., is still retained in the European catalogues, as the form fasciatus does not occur there, as I am informed.

The form *fasciatus* is the most common here, and is that into which all the others are resolved; in it the elytra are black with an irregular broad basal, and a sub-apical fascia, yellow; individuals are met with totally black without any spot; others have only a small basal and sub-apical spot yellow (more often reddish); others add to these a humeral lunule; others have various other spots, and by the gradual dilation and coalescing of these through a series of specimens, the full form *fasciatus* is reached, which can be readily verified by any one who takes the trouble.

The point I wish to present is the seasonal character of the melanism. I have never met with these black and spotted forms at any other time than in early spring, usually during April, at the sap of trees, especially birch and maple. As the season advances these entirely disappear, and the fasciate form alone remains, continuing till autumn. Some of these probably hibernate (though this is not established by observation), and appear in the spring among the recently developed melanotic variations. Whether the fasciate form decreases northwardly and increases southwardly has not been ascertained, but two specimens from Mt. Washington and two from Montana are of the form 4-guttatus. As the species in the north extends across the continent, northern collectors might easily determine the matter. This insect is often found in the green ears of maize; but only in such as have been injured by birds or animals, which scarcely entitles it to be classed among the injurious.

Gaurotes abdominalis Bland. This graceful Longicorn occurs from Massachusetts to Western Virginia, but in restricted localities, which accounts for its being met with by so few collectors. It usually affects

wild places along streams that flow between rugged hills and mountains. Here it appears early in May on the blossoms of the wild plum, and a little later in more abundance on various species of Cornus (C. circinata, C. paniculata and C. alternifolia), popularly known as swamp dog-wood, though the species mentioned do not usually grow on wet ground. It is also fond of laurel blossoms (Kalmia latifolia and K. angustifolia). I have never observed it later than the first week in June. It is exceedingly wary and active, not being easily taken by beating. After a sudden noonday shower I took over twenty specimens, by hand, from a low Cornus bush, into the cymes of which they had crawled for protection.

It greatly resembles *G. cyanipennis*, and like it, varies in color from bright green to copper and golden; but is always to be known by its rufous abdomen. The structural differences, notwithstanding the close similarity, are so great that eventually the two species may be placed in different genera. See Bulletin of Brooklyn Ent. Soc. v. 7, p. 107.

Saperda discoidea Fab. According to all the observations on record that I have seen, the larva of this beetle lives under the bark of diseased or deadened hickory and walnut, and before transforming penetrates the solid wood and there undergoes its changes. My own observations are not in accord with this. I once took from the thick bark of a hickory log in some cordwood, four mature individuals, the larvæ of which had fed partly on the bark and partly on the wood, and when approaching maturity had entered the bark and there disclosed. The past year, I found in May more than twenty of the full fed larvæ, pupæ, and beetles yet immature, in the bark of a large standing hickory that had been deadened about two years previously; they were all on the north side of the tree and none over fifteen inches from the ground. After feeding on the outer layers of wood till they had nearly attained their full growth, the larvæ had bored, instead of the wood, into the thick bark, closing their burrows in the usual way, and there transforming like the species of Urographis do in oak bark.

Where the larva selects the wood it may be legitimately inferred that the bark is not thick enough for its purposes. But how does it know whether the bark is thick or thin? This instinctive versatility in adapting itself to circumstances is only another of the mysterious things that meet the investigator of Nature at almost every step.

Dioedus punctatus Lec. is abundant here from April to September. It inhabits decaying oak (mostly of the red and chestnut species) that is

almost changed to humus. It is found in all its stages at the same time, and seems to have no other business than to hasten the destruction of its habitation. I have never met with a specimen elsewhere. Heretofore its habitatio has been given as under the bark of yellow pine.

Scolytus rugulosus Ratz. I have obtained this insect twice from hickory twigs placed in a box. The color of these is black, like S. 4-spinosus I have others that are reddish-brown, said to be from peach trees. I have carefully looked for it several times in diseased trees of the last mentioned species, and also in pear trees affected by blight, but always with negative results.

Macrobasis unicolor Kirby is found here in countless numbers from the middle of July till the middle of August, on a leguminous plant (Baptisia australis) growing abundantly on the river shore, the foliage of which it eats with great avidity and entirely destroys. In Economic Entomology it is classed among the insects injurious to vegetation, according to Riley in the Missouri Reports, devouring potato vines, beans, the foliage of the apple and the honey locust; and on Mount Washington was found by Mr. F. Gardiner, jr., on Pyrus americana. Here it has not been observed to have such tastes, nor to eat any other than the plant mentioned, though potatoes, beans, &c., are cultivated very extensively close by.

From the observations of Mr. Riley as given in his paper, "On the Larval Characters and Habits of the Blister-beetles," &c., it is probable the young of this beetle live on the eggs of *Caloptenus femur-rubrum*, which is also very abundant on the river shore. The gray race is the only one occurring here, and fortunate is it for the farmers along the river that the insect prefers a useless weed to his beans and potatoes. I have experimented with them, and find they possess vesicatory properties equal to the imported *C. vesicatoria*, a fact, however, that is not new.

In the larval state of Coleoptera many live in decaying bark and wood, some confined to a single species, or the species of a genus and perhaps its allies. Hickory and beech are more palatable to a greater number than any other wood. The following seem to be omnivorous:—

Cucujus clavipes feeds on locust, maple, sycamore, wild cherry, hickory, white oak, elm; Clinidium sculptile on spruce, hemlock, tamarack, black oak, hickory, chestnut, ash, gum, poplar, birch; Synchroa punctata on all species of oak, hickory, apple, cherry, mulberry, osage orange, chestnut; Dendroides canadensis on nearly everything.



Hamilton, John. 1885. "Short notes on Coleoptera." *The Canadian entomologist* 17, 45–48. https://doi.org/10.4039/Ent1745-3.

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