

but there seems to be no doubt as to the relationship of the two, in the light of future observations. Because of the danger of introducing a most serious pest, no living examples were brought out.

The larva forms a case for pupation, composed of a brownish material, probably largely excrementitious. This case lies within the bean pod and the adult emerges through an irregular opening which is broken out at or near the end of the cell. Several pods which were opened for examination showed the newly disclosed adult weevils, feeding larvae and other larvae in their cells. Sometimes as many as three grubs had attacked a single bean. Occasionally one seed in a pod would be sound while all of the rest would be damaged.

In order to estimate the percentage of damage, a lot of pods were picked and opened. Further, a number were examined for the blotches but not gathered. This estimate indicates that in the plot most carefully studied the injury runs about 80 per cent. Badly attacked seed did not mature in the pod but shrivelled and became distorted.

From my observations, it appears that the adults emerge from the pupa case into the lumen of the pod and probably depend upon the pod splitting to effect their escape. If this be true, it follows that the danger of introduction of this pest into the United States lies mostly in permitting shipment of green beans, i. e., snap beans and fresh shell beans. It is doubtful if there is much danger from dried beans of good grade, although they can not be considered entirely safe.

In my opinion, shipment of beans in the pod, whether green or ripe, from Mexico to the United States, would be dangerous and might easily result in the introduction of another bean pest of first rate importance. I consider that on the plateau, near Mexico City at least, this *Apion* is a worse menace than *Epilachna*. Since observations in Mexico show it to be coincident in bean fields with *Epilachna*, it is probable that the same habit would obtain in the United States, and I consider it likely that in case of introduction it would do as great damage in this country as in its native home.

**THE IDENTITY OF *HABROBRACON BREVICORNIS* (WESMAEL).
(HYM., BRACONIDAE).**

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Wesmael's description¹ was based on an insect having 17 joints in the antennae in the female and 20 to 26 joints in the male.

¹Nouv. Mem. Ac. Sc. Bruxelles, vol. 11, 1838; p. 23, fig. 2, wing.

Marshall² later referred to it certain British specimens having 14-jointed antennae in the female and 21 to 23-jointed antennae in the male.

The present writer,³ following Marshall's determination, synonymized with *brevicornis*, *Bracon juglandis* Ashmead, *Habrobracon hebetor* Johnson (not Say), and *Bracon (Habrobracon) honestor* Riley and Howard (misprint for *hebetor*). In the large number of specimens examined the female antenna in no case had more than 15 joints and the male antenna never more than 22. The species as thus determined is apparently invariably parasitic on lepidopterous larvae such as *Ephestia*, *Plodia*, and *Galleria* infesting stored products.

In connection with the importation into the United States from Europe of parasites of the European Corn Borer (*Pyrausta nubilalis* Hubner) there has been reared in considerable numbers a species of *Habrobracon*, the females of which have 17-jointed (in one small specimen 16), and the males 21 to 27-jointed antennae. This species is very closely allied to the one previously determined as *brevicornis*, differing from it, in addition to the antennal characters, apparently only in the slightly shorter malar space and larger eyes, a somewhat greater tendency to black coloration, and shorter ovipositor.

There seems to be no room for doubt that these European specimens are the true *brevicornis*, Wesmael. This makes it necessary to call the parasite of storage insects by the oldest name, which is *juglandis* Ashmead. This is, in a way, unfortunate, since the species has nothing to do with *Juglans* except as stored walnuts become infested by lepidopterous larvae.

Such host records as that of Brischke recording *brevicornis* as a parasite of *Dioryctria abietella* and of Webb (quoted by Marshall) with *Myelois ceratoniae* as host should probably be credited to *brevicornis*.

The two species may be separated by the following characters:

Antennae in female 17-jointed, in male 20 to 27-jointed; malar space in female hardly one-third, in male barely one-fourth as long as eye; ovipositor sheath hardly longer than hind femur

Habrobracon brevicornis (Wesmael).

Antennae in female 13 to 15-jointed, in male 20 to 23-jointed; malar space in female quite, in male nearly one-third as long as eye; ovipositor sheath distinctly longer than hind femur

Habrobracon juglandis (Ashmead).

²Trans. Ent. Soc. Lond., 1885; p. 24, Pl. I, figs. 1a, 1b.

³Proc. Ent. Soc. Wash., vol. 16, 1914, p. 101.

NOTES ON *AGRILUS LATERALIS* SAY (COLEOP.).BY W. S. FISHER, *U. S. Bureau of Entomology.*

This apparently rare species was described by Thomas Say from Missouri, from material collected on the expedition to the Rocky Mountains under Major Long, and has been reported from a number of widely separated localities from Maine to New Mexico, but its host plant remained unknown, at least it has not been reported in the literature.

On March 12, 1918, Mr. A. B. Champlain, of Lyme, Connecticut, submitted some limbs of Bayberry (*Myrica carolinensis* Mill) infested with *Agrilus* larvae to the writer for identification. As this was a new host plant for the genus, the material was caged, and on June 2, the first adult emerged, which proved to be *Agrilus lateralis* Say.

During the summer of 1918 the writer was located at Lyme, Connecticut, and had a chance of making observations on the habits of this species during the season. On May 29 a large patch of Bayberry was carefully examined and this species was found in the larva, pupa and adult stages. Some of the adults had nearly burrowed through the bark, but no emergence holes could be found after a careful search. The first adult was found on the Bayberry foliage on June 3, and the last one on July 8, and were most abundant about the middle of June. The adults are very active, and when disturbed, would alight on the upper surface of the foliage without making any attempt at hiding on the underside of the leaves, as is the habits of some species of this genus. They seem to prefer the foliage on the low plants growing along the outside of the patches, and usually select the sunny places that are protected from the wind. The adults feed around the margins of the leaves, causing them to become somewhat ragged in appearance.

The eggs are rather variable in outline, usually oval and somewhat flattened. The surface is feebly corrugated, especially towards the margins, and each egg is partially covered with fine excrement. When first laid, the egg is whitish, but in a few days it changes to a grayish color, similar to that of the bark, resembling some of the soft scales, and is rather difficult to distinguish on the bark. The eggs are glued tightly to the bark, and are usually deposited singly near the ground on healthy plants. In captivity the adults would not oviposit on anything except freshly cut limbs, and this was also found to be the case out-doors, as no eggs were found on dead stalks. The larva on hatching from eggs laid in captivity were unable to bore into the wood, on account of the wood drying out very rapidly and becoming extremely hard. All of the eggs laid on the plants out-doors had hatched by July 31, and the larvae had bored into the wood.

This is a two year species. In most cases the eggs were laid near the ground, and the larvae on hatching, bore directly into the bark from the underside of the eggs, filling the empty shells with excrement, then burrowing downwards into the roots where they pass the first winter, the following spring they start making spiral mines around the limbs and extending upwards for a considerable distance before reaching maturity, when they extend their mines into the wood and make their pupal cells near the outer wood, from which they emerge the following year. These mines are rather difficult to distinguish, and as the plant is a rapid grower, the new wood grows over the larval mines, causing a slight swelling on the outside, which is scarcely noticeable. When these mines are examined, those made by the larvae during the first year are covered with new wood, and represented by a raised spiral ring on the wood, while the mines made during the second year are only covered by a thin filament of wood, allowing the dark borings in the mines to be readily seen through the new wood.

This species seems to be apparently free from natural enemies in the localities where the writer made observations, as no evidence of parasites was found in any of the mines.

In some sections a great many of the plants have been killed by this beetle, but where the plants were only slightly infested, the mines were soon overgrown, without any noticeable injury to the plants.

A DIVING WASP.

By A. N. CAUDELL.

The following is an extract from my Entomological Journal:

“Monday, July 4, 1921.—A blazing hot day, but I went picnicking to Great Falls, on the Maryland side of the Potomac. Very disagreeable weather, but in spite of the heat I secured a few desirable insects and made some interesting observations. Before crossing the swinging bridge I found a pair of green stone flies mating on the ground and after crossing the bridge I took a nymph of *Pterophylla camellifolia* on a large oak leaf but a few feet from the ground. Among other insects taken was a female psammocharid wasp which Mr. Rohwer identified later as *Anoplus illinoiensis* Robt. I first observed this wasp on a flat stone barely rising above the surface of a stagnant pool of water, about three inches in depth, lying near the river. The wasp was lying on one side and kicking the hind legs as if severely injured. Soon it dragged itself a few inches and turned over on the other side and kicked the legs, mostly the long hind ones, with which it rubbed the end of the abdomen,