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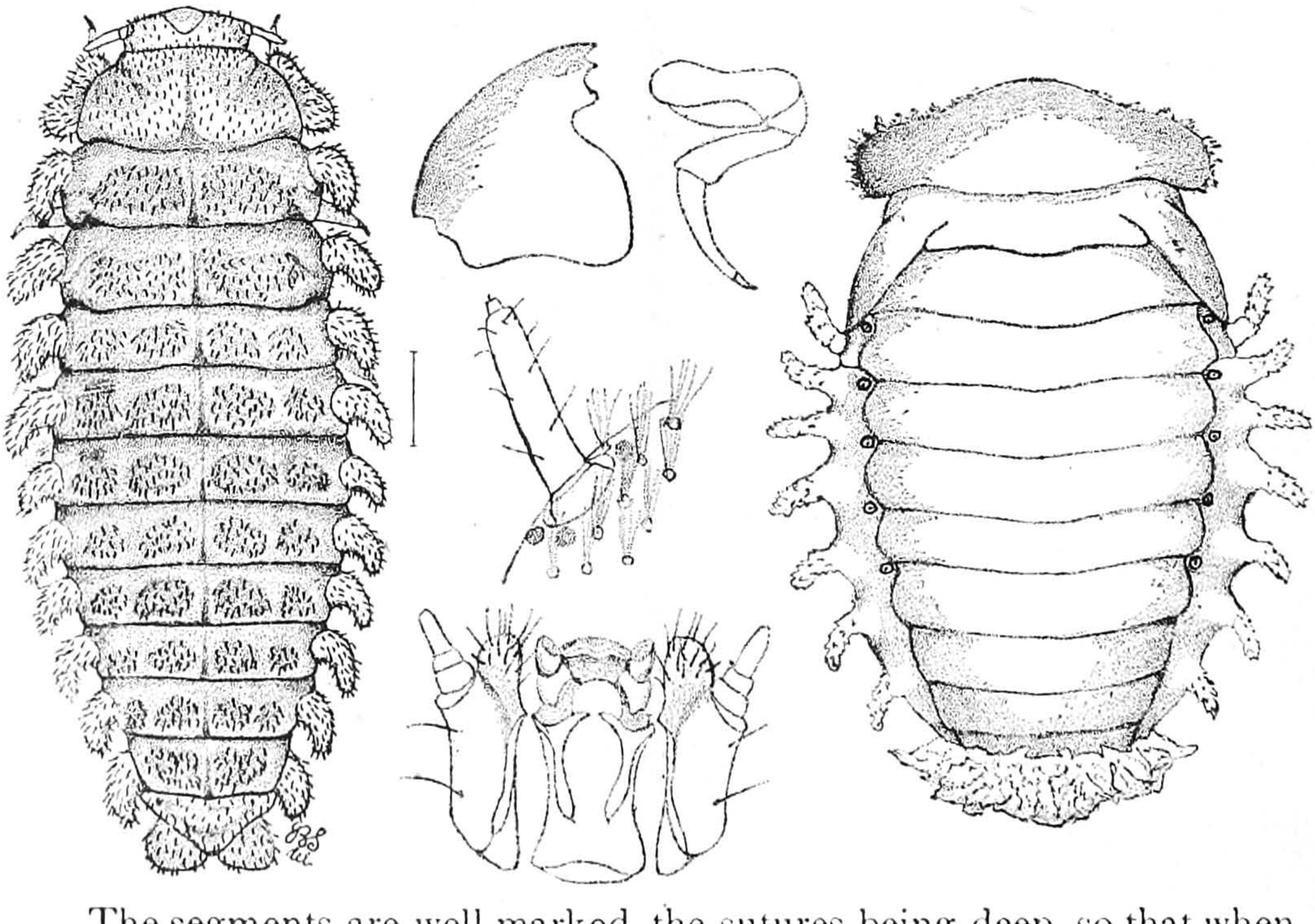
Larva of Aphorista Vittata, *Fabr.*

By JOHN B. SMITH.

Early in November 1885, Mr. E. A Schwarz and myself while collecting in Virginia found under a decaying log a number of larvæ feeding upon a mould fungus. Close search revealed a few very fresh specimens of *Aphorista* (*Mycetina*) *vittata*, and as the larva agreed closely with that of *Epipocus discoidalis* in Dr. Riley's collection which Mr. Schwarz had collected in Texas, it was assumed that the larva was that of *A. vittata*—a supposition which was verified by afterward obtaining the pupa, though none were found at this time.

Larva of all sizes were found, the largest—mature as it proved— about 8 mm. in length, and, as they appeared with retracted head and somewhat curled, about half as broad as long. They were of a dirty blackish brown color above, dirty yellowish white beneath, flattened though yet rather stout, and furnished at the sides of abdomen with a double row of lateral appendages, the upper dorsal, but at the extreme side of the segment; the lower ventral: the stigmata are situated between these appendages. The thoracic segments have only one of these lateral appendages, as has also the anal segment. The form of these appendages and their proportion and situation are well enough shown by the accompanying figure, and require no detailed description. The head is small, retracted, and usually not visible from above, in the living insect. The antennæ are short with a small thick socket joint, a very short 2nd joint, a long, cylindrical, somewhat tapering terminal joint, which is furnished with a few scattered hairs, and has at tip a small tubercle, making really a fourth joint. Ocelli, three on each side; one before, and two

behind the base of the antennæ. The mouth parts are proportionately very small, and so sunken that they are difficult to dissect out. The figure will render detailed description unnecessary. The maxillæ in the figure are separated from the labrum: naturally, they are bent inward above, so that only the palpi are visible. The maxillæ are rather sparingly clothed with rather thick bristles diverging to all sides; the palpi are three jointed, the basal joint very thick and short, the second still shorter and not so thick, the 3d longer than the other two combined and much more slender. The labial palpi are two jointed, the terminal joint obliquely truncate. The head is equally and somewhat sparsely covered with punctures from each of which arises a bunch of hair spreading fan-like toward the tip, as shown in the figure. The lateral appendages are densely clothed with the same fan-like hair tufts, inserted also in distinct punctures. The pro-thorax above is covered in the same way, except near the base and in the depressed central furrow. The meso-, and meta-thorax have on each side a somewhat depressed, harder, more shining scute or plate, also punctured and furnished in the same way with hair tufts. The abdominal segments except the 8th and 9th have each two smaller, ovate scutes of the same nature, each side of the middle. On the 8th segment the scutes are confluent, and cover a greater part of the surface. The 9th segment is equally punctured and furnished with spreading setæ.



The segments are well marked, the sutures being deep, so that when the insect is placed flat, they look like deep incisions, the sides declivous.

Except the head and terminal segment, all others have a distinct longitudinal furrow, deepest at the posterior portion. Except where punctured as shown in the figure, the upper surface is finely rugose or shagreened.

The figures will supply all details omitted here, better than descriptive terms can do; the interesting peculiar features being the lateral appendages and the spreading tufts of hair arising from distinct punctures. What purpose do they serve?

The pupa is equally peculiar, and is sufficiently described by the figure. It is white, with a very faint yellowish tinge, the elytra tucked in beneath the fore and median legs and over the posterior pair.

A Family of young trap-door Spiders.

(Fachylomerus carolinensis, *Hentz.*)

By Geo. F. Atkinson.

Two questions were asked by Mr. Moggridge about the habits of young trap-door spiders. For the answer to these he was unable to make any observations, so far as the record shows. The questions are; 1st, do young trap-door spiders make nests like those of the parent without being shown? 2nd, do the males of trap-door spiders make a nest with a trap-door when very young? To the first question we would almost unhesitatingly reply in the affirmative, without direct observation. In regard to the second, it is well known by those who have given much attention to the habits of trap-door spiders, that the mature males, at least, do not build trap-door nests, but seek a hiding place under stones, logs, etc.

There is also another question as to the constancy with which species follow a *uniform type* in the construction of their nests. Some naturalists make the different kinds of nests a partial basis for classification, and others are looking for different characters manifested in the variations of the trap-door; whether the door is horizontal; the hinge lower or higher than the distal part of the door; or the door sloping one side, etc.

The object of this paper is to present the variations produced by a family of 28 young trap-door spiders, in the building of their nests, which I have carefully observed and noted. I trust also to show that, from the labors of these little creatures, and of several mature ones, which I have had in captivity, a great deal of light is thrown on the questions stated above.