

than curculios, this order of things was reversed a little later in the year. Some persons will no doubt wonder how such a large fly can be developed from a curculio larva which is stung while so young; but we do not know how long the parasite egg remains unhatched, and it must be remembered that it is a rule, wisely ordained and long known to exist in insect life, that the parasitic larva does not at first kill outright, but subsists without retarding growth, upon the fatty portions of its victim, until its own growth is attained. Thus the first worm derives its nourishment from the juicy fruit and grows on regardless of the parasite which is consuming its adipose substance until the latter is sufficiently developed, and the appointed time arrives for it to destroy its prey by attacking those parts more vital.

"This parasite, which I will now proceed to describe, belongs to the second subfamily (*Braconides*) of the Ichneumon flies (*Ichneumonidae*), and the venation of its wings, and the three-jointed abdomen, place it in the genus *Sigalphus*. Westwood (Synopsis, p. 63), gives three cubital panes or areolets in the front wings as characteristic of the genus; but Brulé (p. 510) and, as Mr. Cresson informs me, Westmael in his *Braconides de Belgique*, give only two, which is the number in our insect.

"*Sigalphus curculionis*, Fitch—Imago (Fig. 15 a, male; b, female). Head, black, sub-polished and sparsely covered on the face with short whitish hairs; ocelli touching each other; labrum and jaws brown; palpi pale yellow; antennæ (Fig. 15 c) twenty-seven-jointed, filiform, reaching when turned back, to middle joint of abdomen or beyond, the bulbous and small second joint rufous and glabrous, the rest black or dark brown, though 3-10 in many specimens are more or less tinged with rufous; 3-14 very gradually diminishing in size; 14-27 sub-equal. Thorax, black, polished, the metathorax distinctly and broadly punctate, and the rest more or less punctate or rugose, with the sides sparsely pubescent. Abdomen, pitchy-black, flattened, the dorsum convex, the venter concave, and the sides narrow-edged and slightly carinated; the three joints distinctly separated and of about equal length; the first joint having two dorsal longitudinal carinæ down the middle; all densely marked with very fine longitudinally impressed lines, and sparsely pubescent (Dr. Fitch in his description published in the *Country Gentleman*, under date of September, 1859, states that these lines leave 'a smooth stripe along the middle of its second segment, and a large smooth space on the base of the third;' which is true of a few specimens, but not of the majority in which the impressed lines generally cover the whole abdomen). Ovipositor longer than abdomen, but when stretched in a line with it, projecting backwards about the same length beyond; rufous, with the sheaths black. Legs, pale rufous, with the upper part of hind tibiae and tarsi, and sometimes the hind femora, dusky. Wings, sub-hyaline and iridescent, the veins pale rufous, and the stigma black. Length, female .15-.16 inch, expanse, .30; male differs only in his somewhat smaller size, and in lacking the ovipositor. In many specimens the mesothorax and the eyes are more or less distinctly rufous.

"Described from 50 females, and 10 males, bred June 23rd—July 29th, 1870; from larvæ of *Conotrachelus nenuphar*, and 2 females obtained from Dr. Fitch."

"Larva (Fig. 14 a), white, with translucent yellowish mottlings. Pupa (Fig. 14 c, female), .17th inch long, whitish, members all distinct, the antennæ touching hind tarsi, the ovipositor curved round behind, reaching and touching with its tip the third abdominal joint, which afterwards forms the apical joint of imago; five ventral joints which in the imago become much absorbed and hidden, being strongly developed. Cocoon (Fig. 14 b), composed of one layer of closely woven yellowish silk."

"Variety *Rufus*.—Head, thorax and most of the first abdominal joints entirely rufous, with the middle and hind tibiae dusky, and the ovipositor three times as long as abdomen, and projecting more than twice the length of the same beyond its tip. Described from three females bred promiscuously with the others. This variety is slightly larger, and differs so remarkably from the normal form that, were it not for the absolute correspondence in all the sculpturing of the thorax and body, and in the venation of the wings, it might be considered distinct. The greater length of the ovipositor is very characteristic, and accompanies the other variation in all three of the specimens."

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