

TENTHREDO ARCUATUS (Foerster).

On August 8, 1909, at Sonnenberg, Lucerne, Switzerland, I had the opportunity to make the following observations on the feeding habits of an adult which belonged to this species. This adult had only one antenna, but as far as could be observed behaved in a perfectly normal manner, and was so docile that it could be observed under a half inch lens. This female would fall, alighting heavily on the head of one of the common Umbellifers and, due to the momentum of the flight, would fall beneath the head of the Umbellifer. After recovering itself and righting itself on the flower, it would bite a stamen off near its base and fall beneath the crown of flowers holding itself downward by the four posterior legs. In this position it proceeded to devour an entire stamen, using the maxillary palpi, mandibles and labrum, but the labial palpi did not move. After the entire stamen had been devoured the sawfly would repeat the operation until it had completely devoured four stamens. After devouring four stamens it walked over the head of the flower and by use of the palpi obtained the small drops of liquid adhering to the base of the receptacle. After visiting all the flowers on the head, the insect took flight. To make sure of the species it was captured before it had the opportunity to alight on another flower. The species of Umbellifer was not determined.

In commenting on this species in the Entomologist for February, 1913, Morley states that he has seen it chase flies and has known of one female found masticating a female *Empria pennipes*.

TWO ABNORMALLY DEVELOPED SAWFLIES.

By S. A. ROHWER, *Bureau of Entomology*.

Although the sawflies often have abnormal venation, it is very seldom that a sawfly with abnormal body characters is ever collected. As far as I am able to learn only seven gynandromorphic sawflies have been reported upon. In view of the fact of the usual stability in the bodies of sawflies the following notes may be interesting.

XENAPATES TERMINALIS (Say).

On May 13, 1911, along with other sawflies collected at East Falls Church, Virginia, an abnormal female of this species was collected. The abnormality occurs in the abdomen which does not have the gonapophyses developed except slightly, and the nates are abnormal. The cerci are normal as is the rest of the insect. The abnormal development of the eighth ventral and the entire

ninth abdominal segments while the rest of the insect developed normally, is not without interest. This abnormality is readily noted as the sheath (which is composed of the gonapophyses, which are appendages of the eighth and ninth ventral segments) is so reduced that it cannot be seen without magnification of thirty-five diameters.

TENTHREDELLA SPECIES (PROBABLY VERTICALIS Say) MALE.

At Glencarlyn, Virginia, on June 9, 1911, a male of this species was collected, in which the lateral ocelli are entirely wanting. This causes the vertex to be depressed. Along with this abnormality of the head goes a slightly different type of coloration and a narrowing of the facial quadrangle, so it is impossible to accurately determine this male. The obliteration of the ocelli is the first record of the kind known to me.

In this connection, for completeness' sake, it may be well to call attention to the abnormally developed propodium in *Oryssus abietes* Rohwer, which is described on page 154, Proc. U. S. Nat. Mus., vol. 43, September, 1912.

NOTE ON A BARKMINING LEPIDOPTERON OF THE GENUS MARMARA CLEMENS.

BY AUGUST BUSCK, *Bureau of Entomology.*

In the course of the work on forest Lepidoptera at Falls Church, Virginia, we have lately bred several specimens of *Marmara fulgidella* Clemens, from oak; it is gratifying to find that the biology of the species definitely confirms the generic determination made by Mr. Chas. Ely and myself a year ago, when we transferred the species from the genus *Gracilaria* to *Marmara*, solely on pterogostic characters.

The larva is of the identical flat, deeply segmented form as that of *Marmara salictella* Clms., the type of the genus. It forms long winding galleries just under the epidermis of young trunks and branches of oak, similar to those of *M. salictella* Clms. on willow, and leaves the mine in early spring, April, to spin a small cocoon in some convenient crack in the bark. The cocoon is ornamented by similar globular air-bubbles, voided by the larva through the anal opening as is characteristic of the other species of this genus. Imago issued in May.

Similar *Marmara* mines were found less commonly on chestnut, but unfortunately the imago were not secured this year; this may prove the same species or one of the allied forms, *fasciella* Chmb., or *elotella* Busck, as yet listed under the genus *Gracilaria*.