

middle division of the plate. The penis is curved downward, armed with two sharp teeth, hollow beneath; below it arise two sharp slender accessory spines.

The beautiful brown or delicate pink tints, and the unusual multiplicity of ring-like discal and peridiscal spots, add to the bizarre nature of this form.

Larva spiny. "The larvae feed gregariously and are of a brownish green with black spines. The eggs are laid on the young green stems at the top of the tree (*Dialium guineense*), and the pupae are found under the food-tree, lying on the surface beneath leaves." \*

Beutenmüller describes the larva as

being armed with black spines along the back and sides on "1, 2, 3, 11 and 12 segments." Remaining rows of spines yellow (green) tipped with black, with the spinules also tipped with black." (Journ. N. Y. Ent. Soc., v. p. 166, 1897).

From his description we judge that the larva is armed with spinulated spines, hence it does not belong with the *Urotinac*, the larva of *Urota* being smooth-bodied in its final stage. It appears to be nearer to the *Bunacinac*, whose larvae in some cases have spinulated spines, and perhaps the group has arisen from that phylum.

## TWO NEW SPECIES OF OPHION.

BY E. P. FELT, ALBANY, N. Y.

The members of this genus are extremely difficult to characterize in an entirely satisfactory manner and the descriptions of these two forms have remained unpublished for several years on this account.

*Ophion (Eniscopilus) arcuatum* sp. nov.—Light fulvo-ferruginous, the larger opaque chitinous spot of the cubito-discoïdal cell with a distinct arcuate continuation extending along the hinder margin of the glabrous area and partly around the smaller chitinous spot.

Head medium, yellowish posteriorly, face yellowish, antennae slightly longer than the

body; ocelli black, equidistant; mandibles bidentate, fuscus apically. Thorax, sericeous; meso-thorax, convex; scutellum and post-scutellum, prominent, the former yellowish; meta-thorax, slightly depressed in front of the transverse carina; lateral carinae distinct. Wings hyaline, having hardly a trace of the fuscus visible in *Ophion (Eniscopilus) purgatum* Say; marginal nervure slightly thickened and sinuate near the small stigma; cubito-discoïdal nervure, weakly sinuate, not appendiculate; its bulla  $\frac{1}{2}$  the width of the third discoïdal cell from its apex; two sub-triangular opaque spots in the glabrous area of the cubito-discoïdal cell, the larger one with a chitinous, usually yellowish continuation along the hinder margin of the glabrous area to a point beyond the smaller chitinous spot, which latter is anterior and lateral of the center of the glabrous area. Legs, honey

\* From a letter from Mr. A. J. Clements, Sierra Leone, Africa, to Mr. William Schaus, published by W. Beutenmüller in Journ. N. Y. Entomological Society, ix., p. 194, 1901.

yellow. Abdomen, strongly compressed, slightly darker at the tip, the first and second segments being very slender. The claspers of the male are rounded apically.

Length about 23 mm. Wing spread from 30 to 35 mm.

Habitat, Albany, N. Y. May 6, 1876 (W. M. Hill). Ithaca, N. Y., July 16, 1889 (J. M. Stedman). South Britain, Conn. 1884 (G. F. Pierce).

There are examples of this species from Cambridge, Mass., in the collection of the Museum of Comparative Zoology and from Georgia and New Hampshire in the collection of the Academy of Natural Sciences of Philadelphia. Types will be deposited in the New York State Museum and also at Cornell University.

*Ophion (Eniscophilus) appendiculatum* sp. nov.—Light fulvo-ferruginous, larger opaque spot of the cubito-discoidal cell with a small extension on its posterior angle. The smaller chitinous spot is nearly circular, light yellow in color and slightly posterior to the center of the glabrous area.

This species differs in addition to the above characteristics from the preceding one in having the cubito-discoidal nervure slightly angled and not sinuate. It is a smaller form, having a length of 18 mm. and a wing spread of about 27 mm. This species is probably an inhabitant of New Jersey, as it came into my possession through the kindness of Dr. J. B. Smith. The type is deposited in the New York State Museum.

## ON THE UNITED STATES ORTHOPTERA WHICH HAVE BEEN REFERRED TO THE GENUS TRIDACTYLUS.

BY SAMUEL H. SCUDDER, CAMBRIDGE, MASS.

An examination of nearly three hundred specimens widely distributed over the United States leads me to believe that of the ten nominal species of *Tridactylus* which have been accredited to this country, only three names can be retained: *apicalis* Say, *terminalis* Uhl., and *minutus* Scudd. To *apicalis* belong I believe as synonyms *tibialis* Guér., *mixtus* Hald., and probably *illinoiensis* Thom.; to *terminalis*, *fissipes* Sauss. and *incertus* Sauss.; to *minutus*, *histrionicus* Sauss., and *histrionicus* Sauss. The discovery by Mr. A. P. Morse of the variation in

the fore tibiae of the male at once threw doubt upon the validity of several nominal species and I can see no good reason for retaining them.

There is considerable difference, as will be shown below, and as Saussure has pointed out, between the smallest of our species and the larger forms, and on this account Saussure has applied the name of *Heteropus* to this division, which I am inclined to regard as of generic value. The name *Heteropus*, given to an African species by Palisot de Beauvois, cannot, however, be used here,



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