An apparently undescribed structure in the Coccinellidae (Coleoptera)

By V. F. EASTOP
Department of Entomology, British Museum (Nat.Hist.), London, S.W.7

SYNOPSIS

An account is given of brushes, composed of modified spinules, which occur on the posterior abdominal segments of several species of Coccinellidae. The different stages at which pigmentation develops in *Adalia bipunctata* and *Coccinella septempunctata* are also recorded.

THE posterior halves of the last three abdominal tergites of adults of *Adalia bipunctata* (L.) are largely occupied by pairs of brushes of modified spinules (fig. 1, X); the lateral abdominal sclerites (fig. 1, Y) also bear circular brushes (Plate I, fig. A) of spinules. The spinules in the middle of the dorsal brushes (Plate I, fig. D) are up to 30 μ long, have swollen bases about 3 μ wide and have simple apices. Near the edges of the brushes the spinules are thinner and may have bifid or trifid apices (Plate I, fig. E).

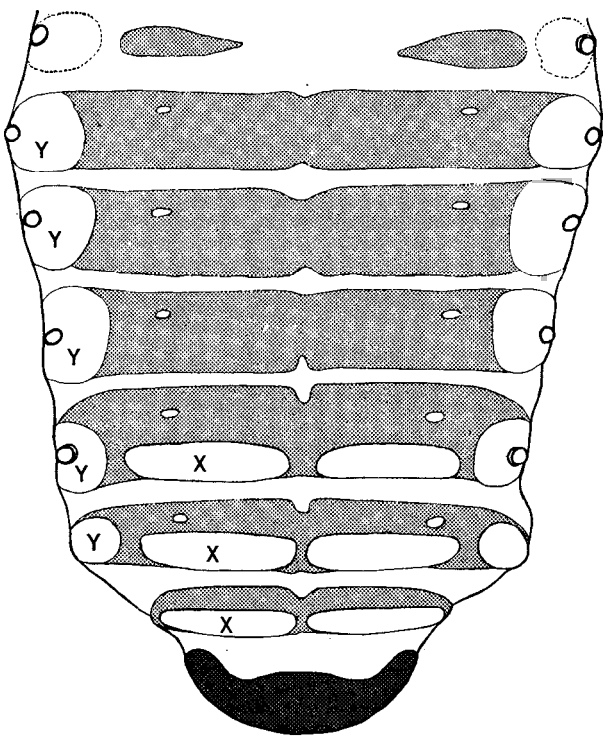


FIG. 1.—*Adalia bipunctata*, abdominal tergum, showing dorsal (X) and lateral (Y) brushes of modified spinules. (×40.)

The transition from one form to another is gradual (Plate I, fig. C). The spinules of the more posterior lateral sclerites (Plate I, fig. C) resemble those of the dorsal brushes (Plate I, fig. D), but the spinules on the more anterior lateral sclerites are only up to 10 μ long.

Adalia decempunctata (L.), *Propylea quatuordecimpunctata* (L.), *Pullus auritus* (Thunberg) and *Thea vigintiduopunctata* (L.) also bear similar structures, which may be concerned with wing folding, as the brushes are absent dorsally and only weakly

Proc. R. ent. Soc. Lond. (A). **44** (7–9). Pp. 111–112, 1 fig., 1 plate 1969.

indicated laterally in *Rhyzobius litura* (F.) with vestigial wings. No previous description of these structures has been found either in the Coleoptera or elsewhere.

This is a convenient place to record a difference between *Adalia bipunctata* and *Coccinella septempunctata* L., to which no previous reference is known. The dark pigmentation in the elytra of *A. bipunctata* appears early in the development of the adult inside the pupa; *C. septempunctata* emerges from the final moult as a pale orange insect and the black spots develop during the following hour, failing to develop if the beetle is killed soon after emergence.

Thanks are due to Mr. R. D. Pope for determining specimens of the species mentioned and for other information about Coccinellidae.

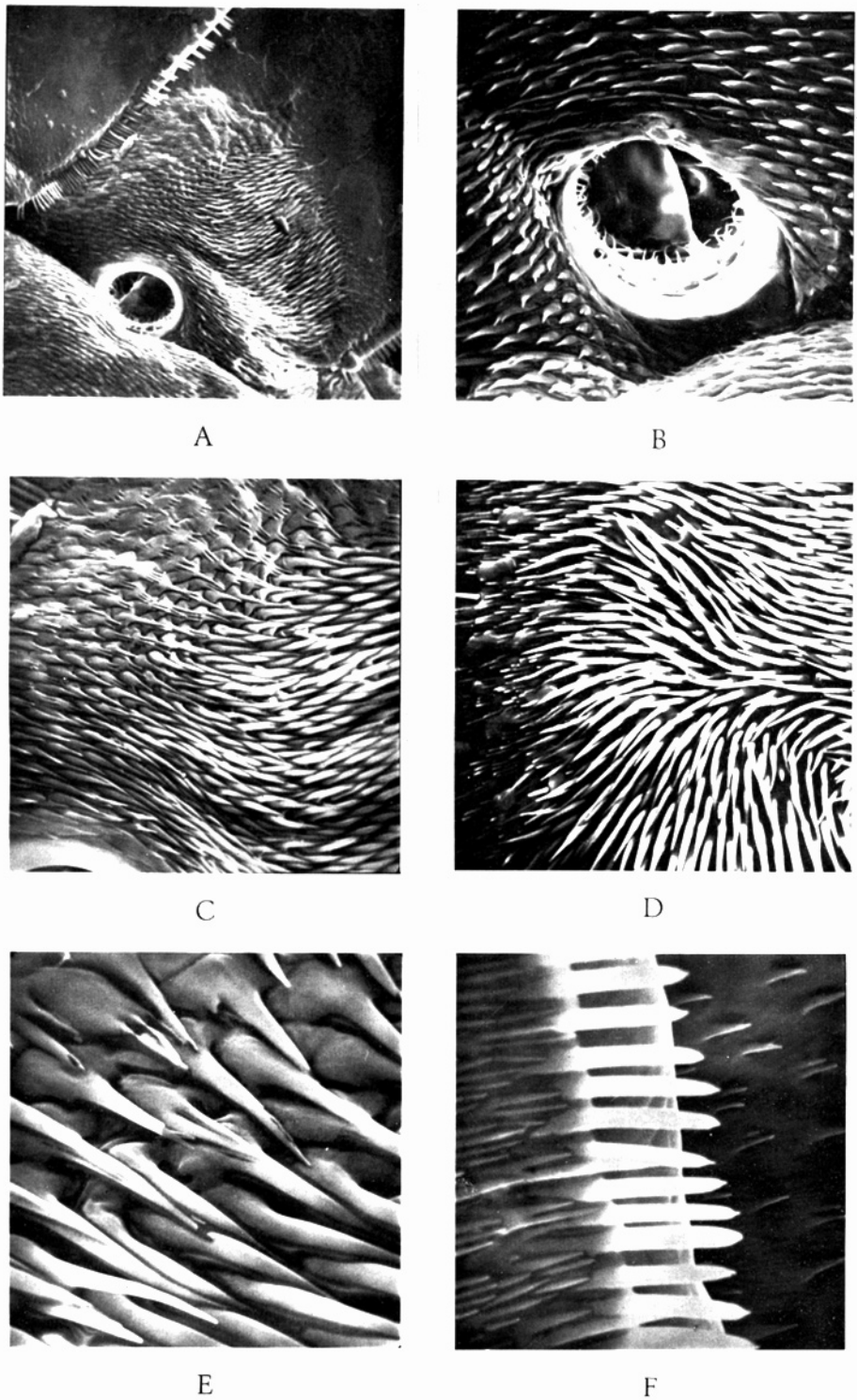
(Manuscript received 16th October, 1968)

PLATE

Adalia bipunctata.

FIG. A.—Lateral abdominal sclerite and spiracle (×68).
FIG. B.—Spiracle and surrounding spinules (×163).
FIG. C.—Enlargement of part of A ×(165).
FIG. D.—Modified spinules of tergite (×163).
FIG. E.—Greater enlargement of part of A (×725).
FIG. F.—Hairs on posterior margins of abdominal tergite (×650).

(Electroscan photomicrographs by H. C. Dale)



Adalia bipunctata

V. F. Eastop