
Letter to the Editors

DEFENSIVE SECRETION OF STICK INSECTS

To The Editor

In a recent paper, Smith et al. (1979) presented the chemical composition of the defensive secretion of the stick insect *Graeffea crouani* Le Guillo. I found the paper very interesting, but incomplete in the following points.

Even if only some odd chemical structures of the defensive secretion of *Paradoxomorpha crassa* (Blanch) have been published (Schneider, 1934; Moreno, 1940), they should at least have been mentioned.

Furthermore, the chemotaxonomy of the defensive secretion within the insect order Phasmida was never discussed. It has been pointed out that the defensive compounds in general are characteristic at higher levels, e.g., the families Carabidae and Tenebrionidae (Coleoptera) (Blum 1978). For comprehensive reviews see Bettini (1978).

In the two species of Phasmida in which the defensive compounds have been detected with modern techniques, viz., *G. crouani* (Smith et al., 1979) and *Anisomorpha buprestoides* (Stoll) (Meinwald et al., 1962, Happ et al., 1966), the following discussion can be made. The insect order Phasmida is divided into two suborders (Bradley and Galil, 1977), and *G. crouani* and *A. buprestoides* belong to different suborders. It is therefore very interesting to see that anisomorphal (from *A. buprestoides*) is very similar in structure to the different isomers of iridodial (from *G. crouani*). This could indicate that closely related chemical compounds are used within this insect order, even in such distantly related species as *G. crouani* and *A. buprestoides*.

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