

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE

Paradichlorobenzene as a Fumigant in the Entomological Museum.

During the past year the writer has made tests with paradichlorobenzene to determine its value as a fumigant and deterrent of insect pests in the entomological museum. This material was introduced into boxes and drawers which were infested with the confused flour beetle (*Tribolium confusum*). It was found that the beetles were killed in from one to six hours, the time depending upon the amount of crystals introduced. Tests were also made on the effectiveness of paradichlorobenzene in killing dermestid larvae which commonly infest neglected museum drawers. A few crystals of this chemical, when placed in a tight drawer, were found to kill dermestid larvae in from one to four hours. This chemical not only acts as a deterrent of pests which would enter insect cases, but will actually kill those that cannot retreat within a limited time. Paradichlorobenzene, which is now readily obtained in the market, comes in crystalline form and can be handled much as naphthalene, but when used in the insect cabinet has the advantage of killing the pests which are confined in the cases. Paradichlorobenzene evaporates somewhat more rapidly than naphthalene, still a half ounce placed in a tight case will last from five to eight weeks, and the gas may still be effective for three or four months in unopened cases. This material is the most convenient and satisfactory fumigant for insect cases that the writer has used, in fact, proving so successful that carbon disulphide fumigation has been discontinued in the care of the insect collections at the University of Minnesota.—HARRY H. KNIGHT, University of Minnesota.

A New Character for Differentiating the Families of Muscoidea (Dipt.).

Every beginner in the study of the Muscoidea has found it difficult to distinguish with certainty what family some forms belong to and there has long been much uncertainty as to the validity of the distinction between the Dexiidae and the Sarcophagidae. Two or three years ago I had occasion to make an exhaustive examination of the Tachinidae and related forms to discover if there were present some hitherto unconsidered character which would enable any entomologist to recognize the different families with more certainty than is at present possible. After some careful comparative work I finally decided that it is invariably possible to distinguish between the Sarcophagidae, Muscidae, and Calliphoridae on one hand, and the Tachinidae and Dexiidae

on the other by the shape of the metanotum. In the last two this is biconvex in profile, there being a small but distinct convexity just below the scutellum which is absent in the members of the other three families known to me.

This character is so constant that it must have a fundamental significance and it is remarkable that in the group which we in this country consider as the Tachinidae practically all the species which areinquilines or parasites in the nests of bees, such as the genera *Metopia*, *Senotania*, etc., lack the basal convexity and are definitely allied in this respect with Sarcophagidae. I consider, however, that they are entitled to separate family rank, being more readily separable from Sarcophagidae than are the Muscidae from the Anthomyiidae. Some European workers have lumped these genera with the Sarcophagidae.

I make this character known at this time to enable other workers to try it out as fully as possible.—J. R. MALLOCH, Biological Survey, Washington, D. C.

Let Us Try to Help Each Other (Dip.: Borboridae).

In the *Tijdschrift voor Entomologie*, lxiv, p. 120, Dr. Duda (I suppose we all know his, the learned doctor's, individual name) has a paper entitled "*Fiebrigella* und *Archiborborus*, zwei neue sudamerikanische Borboridengattungen," in which two new genera of the dipterous family Borboridae are proposed. In spite of the numerous published articles and recommendations on the publication of scientific papers, and the recommendations of the International Committee on Nomenclature, as to the designation of types, we have here an instance of either indifference, ignorance or carelessness in the preparation of the paper. It is regrettable that this is true of so many valuable contributions.

Archiborborus is proposed for *Borborus hirtipes* Macq. and the following new species: *submaculatus* (Chile), *maculipennis* (Chile), *setosus* (Bolivia), *calceatus* (Colombia), *orbitalis* (Peru and Bolivia) and var. *latifrons* (Peru). No mention of a genotype or even type specimens for the species (this latter a common omission of authors). There should have been a genotype designated for *Archiborborus*, but apparently there is none. I therefore designate *Archiborborus submaculatus* Duda the type of *Archiborborus*.

For the habitat of *Fiebrigella verrucosa* n. g., n. sp., one must refer to the general discussion of the genera in the beginning of the paper. None is given in the proper place under the description of the genus and species. This is very tantalizing.

A table of the genera of the Borboridae is included in the paper, which will no doubt prove useful to students of that family.—E. T. CRESSON, JR.



Malloch, John Russell. 1923. "A new character for differentiating the families of Muscoidea (Dipt.)." *Entomological news, and proceedings of the Entomological Section of the Academy of Natural Sciences of Philadelphia* 34, 57–58.

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