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PROCEEDINGS

01-226

IMMATURE STAGES OF BUPRESTIDAE (COLEOPTERA) - our present knowledge and morphological characteristic.

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With respect to the fact that Buprestids are primary as well as secondary pests and also vectors of tracheomycoses, the attention that has been yet paid to larval morphology and biology of Buprestidae can be considered as minimal.

We can estimate the world Buprestid fauna to be about 12000 species but only larvae of 310 species have been described so far (2.6%). Moreover a lot of old descriptions are inapplicable for taxonomical studies. While nearly 50% of Buprestid larvae from Europe have been described, we know only 2 larvae from the Afrotropical region and 22 from the Oriental region.

From the morphological viewpoint we can recognize 4 morphoecological types: Julodis-type, Buprestis-type, Agrilus-type and Trachys-type. On the basis of larval morphology we can see that some groups are quite artificial (e.g. Trachyinae) and they call for a revision.

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THE LARVAL CHARACTERS OF BUPRESTID BEETLES AND THEIR TAXONOMICAL VALUE (COLEOPTERA: BUPRESTIDAE)

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The application of larval characters in buprestid systematics is considerably limited by the insufficient knowledge of larval stages as well as by the wide-spread opinion that the evolutionary trends do not coincide on the preimaginal and imaginal stages of ontogeny, and that the larval features are mostly adaptive ones.

Comparative morphological examination has revealed the presence of two groups of larval characters: 1) inadaptive, and 2) adaptive. Inadaptive features are basically determined by the common ancestry and remain nearly constant for the main phylogenetic lineages of buprestids. Adaptive characters are closely related to biological specialization and characterize the morpho-ecological forms of buprestid larvae, which may be closely similar in systematically unrelated taxa. Several related morpho-ecological larval forms can be found within the same genus (for example, *Acmaeoderella*); as this takes place the larvae belonging to different morpho-ecological forms within the same genus are often distinguished much more clearly than the larvae from closely related genera, attributed to the same forms. There are no rigid boundaries between both character categories: the morphoclines of adaptive characters allow to elucidate the evolutionary trends and to clarify the relationship level of different taxa.

The necessity of detailed analysis and evaluation of larval characters and the possibilities of their application to buprestid systematics can be illustrated by the example of some larvae from different phylogenetic lineages which are attributed to the same morpho-ecological forms: leaf miners *Paratrachys* (*Polycestinae*) and *Trachys* (*Trachyinae*), as well as *Pterobothris* (*Buprestinae*) and *Agrilus* (*Agrilinae*).

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PHYLOGENETIC ANALYSIS OF THE "PLEASING FUNGUS BEETLES" (EROTYLIDAE) BASED ON LARVAL MORPHOLOGY

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A phylogenetic study of the "Pleasing Fungus Beetles" (Coleoptera: Erotylidae) is presented. The analysis includes 44 erotyloid species (representing all five subfamilies) and eight species of the closely related families Languriidae and Cryptophagidae.

The 85 characters used in the study are derived entirely from larval morphology. Despite unique problems posed by this data source study finds that larvae represent a rich source of information about phylogenetic relationships in Erotylidae.

Implications of the cladogram for the taxonomy of Erotylidae are discussed. Various aspects of erotyloid biology are interpreted within the proposed phylogenetic framework, including pupation behavior and fungus host preference.

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TAXONOMY OF "TRILOBITE LARVAE" GENUS *DULITICOLA* MJÖBERG, 1925 (COLEOPTERA: LYCIDAE) FROM SOUTH-EAST ASIA

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"Trilobite larvae" are the neotenus females of a unique group of Lycidae. Extreme sexual dimorphism is exhibited in that the males are typical lycids while the females retain larval features and grow to 10 times the size of the males.

Of the three described taxa, only one i.e. *Duliticola paradoxa* from Sarawak, described by E. Mjöberg, 1925, is well known. New species from Peninsular Malaysia and southern Thailand have been described recently. A possible synonymy between *Duliticola* and *Platerodrilus* Pic, 1921 will be discussed. A new classification system with more emphasis on female characters will be proposed.