EVOLUTION OF MODE OF LIFE AS A KEY BASE FOR DIVISION OF THE BEETLES INTO THE GROUPS OF HIGH TAXONOMICAL RANK

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SUMMARY

Mode of life may be considered as an inherited group's feature which was immediately connected with conservatism of ontogenetical development. Modification of it seems to be more important for formation of the taxonomical syndrome of a group of related species than structural characters (Linnaeus' principle of group determinism of characters). Thus the evolution of mode of life should be used not only for testing of the phylogenetic models, but also as a base for reconstruction of the past of groups.

Mode of beetle's life as a whole is characterized with significant plasticity in imaginal stage and conservative demands in immature instars. According to this point of view the historical development of the Coleoptera is interpreted, and the taxa of rank of suborder and infraorder are grounded.

However similar mode of life may result in structural and ontogenetical similarity. Imaginization of larvae of the Adephaga and Staphyliniformia developed namely due to similarity of their mode of life. As the resemblance of the Chrysomeloidea and Curculionoidea was caused by the same tendency to phyllophagization common for the both groups, the differences between these superfamilies must be regarded as more ancient than their similarity. This conclusion corresponds with the paleontological record. The advanced Curculionid forms are known from the Triassic while the archaic Chrysomelids were found only in the Jurassic. Moreover, these Jurassic fossils of the Chrysomeloidea have very primitive features so the linking of them to any of the modern families presents a great problem. Therefore this difference must be reflected in the system of the order, and the Curculioniformia should be treated as a distinct infraorder.