Metathoracic Features of Omoglymmius hamatus and their Significance for Classification of Rhysodini (Coleoptera: Adephaga)

Rolf G. Beutel

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Skeleton and musculature of the metathorax of imagines of Omoglymmius hamatus (LeConte 1875) were examined and interpreted phylogenetically. Unsklerotized posterolateral parts of the notum, the extremely narrow postnotum, absence of the crista metasternalis transversalis, wide separation of the metacoxae, small size of the metacoxae, poorly developed laminae metacoxales, the broad pedunculus metafurcalis, presence of 2 processus metacoxales anteromesales, presence of a calcar tibialis in dd, reduction of the venation of the alae, the large median piece of sternitum abdominale II, and various muscular features are considered as autapomorphic characters of Rhysodini. The metacoxae do not project beyond the lateral margin of the ventral sclerite of the metathorax. This derived condition suggests a placement of Rhysodini within a monophyletic unit comprising Geadephaga excluding Trachypachini. The plesiomorphic condition, i.e. metacoxae that clearly project beyond the lateral margin of the ventral sclerite is found in members of Cupedidae, Trachypachini, and Hydradephaga. The metacoxae are almost in contact with the epipleurae elytrales in adults of O. hamatus, Dhysores thoreyi (Grouvelle 1903), and Rhyzodes Dalman 1823, but clearly separated from the epipleurae in members of Clinidium Kirby 1835 and Rhyzodiastes Fairmaire 1895. The latter condition is considered as a groundplan character state of Rhysodini. The extension of the epipleurae elytrales towards the lateral margin of the metacoxae and the ventral sclerite may indicate a closer relationship between Omoglymmiina Bell & Bell 1978, Dhysorina Bell & Bell 1978, and Rhysodina Bell & Bell 1978. The fusion of the bracchia metafurcales anteriores, and the poorly developed bracchia metafurcales laterales represent significant common derived character states of O. hamatus, D. thoreyi, and Rhyzodes. A very basal position of Rhysodini within Adephaga is not supported by the results of this study. Some affinities between the posterior parts of the anepisternum and epimeron of members of Rhysodini and Scaritini may point towards a closer relationship between both taxa.


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