

REVISION OF THE CALAPPIDAE

ZDRAVKO ŠTEVČIĆ

Centre for Marine Research, “Rudjer Bošković” Institute
52210 Rovinj, Croatia, Yugoslavia

SUMMARY

The brachyuran Calappidae *sensu* Balss (1957) is composed of three subfamilies, Calappinae, Matutinae and Orithyinae. However, an examination of the history of the comprehension of these three groups shows that they have been interpreted in various ways. From critical re-examination of Balss's diagnosis and from reconsideration of all available data, it can be concluded that because of the considerable differences in shape, structures and functions of adults and larvae, as well as their mode of life, these three groups, in spite of their several similarities, are not closely related, as believed before, and therefore their unity on a higher systematic level is questionable. The available data permits the conclusion that these three groups form separate well-delimited families, as originally stated by Ortmann (1892), i.e., Calappidae De Haan, 1833, Matutidae De Haan, 1833, and Orithyiidae Dana, 1852.

Introduction

As with all animal taxa, the brachyuran family Calappidae (*sensu* Balss, 1957), has been interpreted systematically in various ways. Comprehension of its status and position has varied from author to author. The group has been considered to be either a family or a superfamily, and it is interesting that for more than 140 years its sub-groups have been classified together, implying their close affinity. Because of increasing overall knowledge of crab biology, as well as theories of systematics and evolution, it is necessary from time to time to re-examine earlier concepts and test their conformity to modern views of science. Accordingly, I here present a solution of the problem posed by the calappids.

Balss (1957), in the last great monograph on decapod Crustacea, included in the family Calappidae Alcock, 1896 three subfamilies: Calappinae Alcock, 1896; Matutinae Alcock, 1896; Orithyinae Ihle, 1918. However, neither all previous authors, nor all subsequent ones, have invariably accepted such a classification, and so it is better at the outset to give a historical review of the knowledge of these groups from a systematic point of view.

The first classification of higher taxa that included calappids as such was that of de Haan (1833), who distinguished within the Oxystomata two relevant families, Calappidea and Matutoidea. Shortly after, H. Milne Edwards (1837) distinguished within the Oxystomata the tribe Calappiens comprising of the genera *Calappa*, *Platymera*, *Mursia*, *Orithyia*, *Matuta* and *Hepatus*. Macleay (1838) united the families Calappidae and Matutidae into one systematic unit—stirpe Calappina. Dana (1852) distinguished again within the subtribe Leucosoidea two relevant families, Matutidae and Calappidae, with two subfamilies within the latter, Calappinae and Orithyinae. Miers (1886) accepted the classification of Dana and further divided Matutidae into two subfamilies, Matutinae and Hepatinae. Ortmann (1892) established the subdivision Calappinea, composed of three families: Calappidae, Matutidae, and Orithyiidae. Alcock (1896) united all these groups into a single family Calappidae, with two subfamilies, Calappinae and Matutinae; the subfamilies of Miers thus were reduced to the status of alliances, i.e. Calappoida, Orithyoida, Matutoida and Hepatoida. Later, Ortmann (1901) subdivided the Calappidae into three subfamilies: Calappinae, Orithyinae and Matutinae. The latter classification was accepted by Borradaile (1907), Ihle (1918), and Balss (1957), as mentioned before. It is noteworthy that Ihle, after detailed morphological analysis, although accepting the latter classification, has expressed a doubt about the inclusion of *Orithyia* within Calappidae. Glaessner (1969) first used the category of superfamily, Calappoidea, for this group, but included in it only the family Calappidae, with two subfamilies, Calappinae and Matutinae. Recently Guinot (1978) has radically revised this group, excluding from it *Hepatus* and allied genera, and has included in the superfamily Calappoidea two families, Orithyiidae