

REFLECTIONS ON AND SUGGESTIONS FOR THE STUDY OF EURYPTERIDS

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Although I have been studying eurypterids for only ten years, I offer the following observations on the 178 year recorded history of the group. Much of what follows is derived from trying to understand eurypterid paleobiology using the time-honored procedures of reading the original publications, measuring specimens, recording data, and testing hypotheses.

Without doubt, eurypterids have been considered an obscure group. Throughout the history of eurypterid research, there have been only a few individuals at any one time studying eurypterids.

Other than a perceived rarity of occurrence, another possible reason for the difficulty of study is that the original descriptions of the 235 currently accepted species are published in 96 separate journal/book titles, many of which are no longer issued. Many of these original descriptions (as well as later descriptions) also inadequate because diagnoses that would enable species to be differentiated are lacking.

With few exceptions, the majority of publications dealing with eurypterids focus on description, taxonomy and classification. It is surprising then, that many specimens have been misidentified. The three most common situations I have found are: 1) wrong genus and/or species: 2) not eurypterid: and 3) inorganic. The lack of identification keys may be at the root of many of these misidentifications.

As noted above, most papers dealing with eurypterids are systematic in nature. Other than gross lithology, the stratigraphic position within a formation, associated biota and associated sedimentary structures, are rarely mentioned. Such data would improve the understanding of eurypterid paleoecology.

I offer the following suggestions to help move eurypterid research into the twenty-first century. First, revise the Treatise or publish a new multi author monograph. In this way, the diagnoses of at least all 62 currently recognized genera can be made uniform. Second, modern, updated studies should be completed on both obscure and well-known faunas so that the paleoecological data is readily available. Third, existing data can be entered into computer databases, so that global studies on paleobiogeography and paleobiodiversity can be attempted.