

be called to the superiority which Pallas displays in his descriptions of Amphipoda. In the present century Krøyer can have but few rivals for combined fulness and accuracy of detail. In the whole multitude of contributions to the voluminous literature here considered, it is obvious that some writers have done more harm than good, or that, to speak in the most lenient terms, their productions are of no value whatever; but while this can be fairly said only in rare cases, the examples are very numerous of fruitful industry and high scientific excellence. Without, however, any attempt to appraise seriatim the merits and services of this host of writers, it may be convenient to mention a few works which the student will find, if not indispensable, at least of foremost value, for particular branches of the subject. Thus, for the general structure of an Amphipod, he should certainly consult the *Histoire Naturelle des Crustacés d'eau douce de Norvège*, by G. O. Sars, 1867; for embryogeny, the *Mémoire sur la formation du Blastoderme chez les Amphipodes, les Lernéens et les Copépodes*, by E. van Beneden and E. Bessels, 1869, and Ulianin's *Essay*, 1881; for the circulation of the blood, the papers by Wrzesniowski, 1879, and Delage, 1881; for the family of the Cyamidæ, the contributions of Lütken, 1873 and 1887; for the Caprellidæ, Mayer's *Die Caprelliden*, 1882, to which an Appendix is to be presently published; for the Phronimidæ, Claus' *Essay*, 1879, and for the Platyscelidæ, the same writer's work of 1887; and to this list the treatise by Bovallius on the Amphipoda Hyperina, and that by Wrzesniowski on the subterranean Amphipods, when completed, will doubtless need to be added. For the study of the Amphipoda Gammarina the works of importance are so numerous that it might be misleading to point out a few as more prominently essential than the rest, yet on the difficult subject of the Cædiceridæ the paper by J. Sparre Schneider in 1883 ought not to be overlooked.

Classification.—The division of the Amphipoda into three groups, the Gammarina, Caprellina, and Hyperina, has been long and widely accepted, and is followed in this Report as of practical utility and based on reasonable grounds. Geology is unfortunately almost silent about these Crustacea. To all intents and purposes there have been as yet no fossil Amphipods discovered.¹ If, nevertheless, we may assume the three groups to have been all derived from a common ancestral form, then the evidence of the groups themselves may be taken to show that the Gammarina and Caprellina, by their similar mouth organs, are more nearly connected with one another than either with the Hyperina, and that the Hyperina, in respect of their mouth organs, are furthest removed from the primitive form, inasmuch as their maxillipeds have lost that resemblance to modified legs which is so striking in the other two groups. From both the Gammarina and the Hyperina the Caprellina are separated by the slight development of the pleon. This character can be readily explained as an acquired adaptation to their habits of life. If the suggestion be made that the ample pleon might as well have been developed from

¹ See pp. 111, 118, 276, 300, 353, 409, 471, 486.