

world without the competition of other species of Amphipods. In order to enable the family to extend its range over the fresh-waters of the world, no further change was needed than such as would enable some of the progeny to pass from salt-water to brackish, and from brackish to fresh. But the sections of this genus having once obtained command of the rivers, by the capacity of living vigorously in the river-water, would have an immense advantage over all rivals attempting in the future to make a lodgment in the streams, while their capacity for life therein was in its initial stages and only feebly developed.

In the arrangement around and near to *Gammarus* of such genera as *Niphargus* and *Gammaracanthus* and *Mæra*, there is in point of fact a very general agreement, so that we shall not be very rash in regarding the Gammaridæ as a natural family. If from the considerations already mentioned we may regard it also as the typical family of the Amphipoda, the next point of interest will be to determine whether the other families can only be grouped confusedly around it, or whether any lines of succession can be suggested. It is evident that if the *Gammarus*-form had at any time such possession of the ocean-world that it was able to stock the majority of the fresh-water streams with genera and species which can be traced back to it in a direct line, the more or less amphibious Orchestidæ ought to be traceable to the same source. Between *Gammarus* and *Talitrus* there are, it is true, important distinctions, but they are in part bridged over by the genera *Hyale* and *Hyalella*, and to a very considerable extent, they show adaptation on the part of the Orchestidæ in general to altered conditions of life.

The next family which seems easily derivable from *Gammarus* is that represented by the genus *Amphithoë*. It will be noticed in the history of the subject, that, before the minute subdivision of genera, the discoverer of a new species, if he did not assign it to *Gammarus*, was very apt to call it an *Amphithoë*. *Amphithoë* indeed has before now been chosen for description as a typical genus of the Amphipoda. The genus, in its present acceptation, has an extremely extensive distribution, and by the simplicity of structure which it exhibits, and its general approximation to *Gammarus*, it is well fitted to be the link between that genus and the nest-forming Podoceridæ in general. Near to, yet not to be derived from, the Podoceridæ, and by their somewhat more erratic characters placed at a greater distance from *Gammarus*, come the Photidæ. Again, at various distances beyond the Podoceridæ, we may imagine positions for the Corophidæ, Cheluridæ, Dulichidæ, and Icilidæ. The Dulichidæ seem to lead on by a very natural sequence to the Caprellidæ, with which Bate and Westwood have gone to the extreme length of actually classing them, in their group Aberrantia.

Returning to the family of the Gammaridæ, we find in close alliance with it two other families, the Atylidæ and Eusiridæ; nor are these remote from the Pleustidæ and Epimeridæ. The remainder are by no means easy to group in any plausible order of relationship to the ancestral form. The eyes of the Ampeliscidæ give them a position