

The question naturally arises, whether or no *Candeina* is essentially a free-swimming type in the same sense as *Globigerina* or *Hastigerina*; and except on the hypothesis that an organism which is sometimes pelagic is necessarily always pelagic, for which there is no reasonable ground, the evidence is not sufficient to supply a positive answer. *Hastigerina*, the genus to which *Candeina* bears most resemblance in the extreme tenuity of the shell-wall, is comparatively common in surface gatherings, whilst its shells are very rare in the bottom ooze of the same areas, and are invariably much broken; and it is difficult to see why there should be any discrepancy in the proportionate numbers of surface and bottom specimens if the life conditions are identical. On the other hand, it is worth mentioning that *Candeina nitida* sometimes occurs in dredged material which is almost entirely composed of organisms of pelagic habit.

There is no record of the occurrence of the species in the fossil state.

Family IX. ROTALIDÆ.

The Foraminifera of the Family ROTALIDÆ form a complicated and difficult group, assuming characters so diverse in their extreme modifications, that there is scarcely a single feature, beyond the calcareous shell and its hyaline and perforate texture, that is common to the whole of the members. There are nevertheless certain peculiarities of structure and modes of growth that may be regarded as distinctively "Rotaline"; and, though these are not common to the entire series, the exceptional cases are comparatively few, and the connection of the aberrant forms with those of more typical character is for the most part sufficiently obvious. Thus, with the rare exceptions alluded to, the test is always polythalamous, and in its early stages, if not throughout, the chambers are spirally arranged; and, typically, the spire is inequilateral, that is to say, the convolutions are more embracing on one side than the other. It is needless at the outset to dwell upon these and other characters of more or less general application, which will be best understood and their comparative significance best determined when considered with relation to the consecutive generic types.

The simplest of all spiral and perforate Foraminifera are comprised in the genus *Spirillina*, the test of which consists typically of an undivided tube coiled regularly upon itself. Usually the spire is symmetrical and complanate; but in some cases the coils are more or less oblique, foreshadowing the inequilateral construction of the true *Rotalinæ*, and in others the successive convolutions are superimposed more or less vertically, so as to produce a conical test. The conical *Spirillinæ* are scarcely distinguishable from the feebler varieties of *Patellina*; and the relationship of the genus to the Rotaline group is further evidenced by the tendency of the weaker modifications of *Pulvinulina* to assume Spirilline characters.