

boniferous epoch had just the same characters as its living descendants and similar limits of variation—the only difference being the tendency to shell-thickening occasionally exhibited in the fossil test, and the larger dimensions of some of the living specimens, both of which are exceptional features.

The area of the geographical distribution of *Ammodiscus incertus* does not include the polar seas, like that of its near ally *Ammodiscus gordialis*; nevertheless the species has been observed as far north as the southern coast of Norway and the Farøe Channel. It is found on the shores of Great Britain, Belgium, and France; and Parker and Jones report its occurrence at four points in the Mediterranean, at depths ranging from 90 to 360 fathoms. The Challenger gatherings furnish specimens from four Stations in the North Atlantic, 450 to 1350 fathoms; from four in the South Atlantic, 675 to 2350 fathoms; and from seven in the South Pacific, 275 to 2325 fathoms. The only record of its presence in the North Pacific is at a single point in the very deep area—Station 253, depth 3125 fathoms, and the specimens from that locality evince a tendency to become irregular in contour, like *Ammodiscus gordialis*.

*Ammodiscus incertus* is a common fossil of the Carboniferous beds of England and Scotland, and a rarer constituent of the *Fusulina* rocks of the Caucasus. In the Permian system it appears in the Lower and Middle Magnesian Limestones of England, and in the Zechstein of Germany. It is found in the Lias of England, France, and Germany, and in the Oolitic formations of England, France, and Switzerland; in the Cretaceous series of England, Germany, and Bohemia, in the Eocene Clays of the London Basin, and in the Lower Tertiary Sandstones of Vienna. The stratigraphical details of its distribution may be found, for the most part, in the memoirs referred to in the synonymy of the species.

*Ammodiscus tenuis*, H. B. Brady (Pl. XXXVIII. figs. 4–6).

*Ammodiscus tenuis*, Brady, 1881, Quart. Journ. Micr. Sci., vol. xxi., N. S., p. 51.

Test circular, planospiral, very thin; consisting of a few broad somewhat overlapping convolutions; peripheral edge rounded. Diameter of large specimens,  $\frac{1}{8}$ th inch (3 mm.).

This is probably nothing more than a local variety of *Ammodiscus incertus*, to which it bears somewhat the same relation that *Cornuspira foliacea* bears to *Cornuspira involvens*. Nevertheless the comparison of small, possibly immature specimens of the two forms (figs. 2 and 4), is sufficient to show that the morphological distinction does not vary either with size or stage of growth. Adult examples of *Ammodiscus incertus* and *Ammodiscus tenuis* of about the same dimensions, present, the one about seventeen, the other about seven convolutions; and the test is altogether thinner in the latter variety.

*Ammodiscus tenuis* is of very restricted distribution, and the record of its occurrence