developed typical shells are double. The specimens from which figs. 2 and 3 have been drawn are somewhat thicker and more compactly built than those commonly met with in northern seas, but in other respects they illustrate fairly the characters of the species.

Under the name *Rotalina nitida* (Rec. For. Gt. Br., p. 54, pl. iv. figs. 106–108), Prof. Williamson has described a starved modification of the type, frequent in some localities. The test is of small dimensions and of patelloid or subconical outline. Its walls are extremely thin and the septa are single.

The fine discoidal variety, named by d'Orbigny *Rotalia* (*Turbinulina*) *ammoniformis* (Ann. Sci. Nat., vol. vii. p. 276, No. 55;—Soldani, Testaceographia, vol. i. p. 55, pl. xxxiv. fig. *K*), common amongst the shore-sands of the Adriatic, and as a fossil in some of the later Tertiaries of Central Italy, differs from the typical *Rotalia beccarii* in the more complanate form of the shell, its very numerous segments, the absence of superficial granulation, and the somewhat evolute disposition of the later convolutions. It derives a certain interest from the fact that in respect of septation the test presents intermediate characters, some of the septa being single, whilst others of the same shell are distinctly double.

Rotalia beccarii is essentially a shallow-water species, most abundant in the littoral and laminarian zones of temperate seas. It inhabits the margins of all the great oceans, except the Arctic and the Antarctic, as well as those of the Mediterranean, the Adriatic, and the Red Sea. The farthest point north at which I find any note of its occurrence is about lat. 60° N., in the Shetland Seas; and its most southerly locality, off the Cape of Good Hope, lat. 35° S. The record of its distribution leaves no doubt that its home, whatever the latitude, is at depths of less than 50 fathoms; at the same time small specimens are known to occur sporadically in much deeper water, and such examples have been found at four Challenger Stations, of which the depths range from 1350 to 2950 fathoms.

Its earliest appearance as a fossil is about the middle of the Tertiary epoch. It has been obtained from the Miocene formations of Austria (Reuss, Karrer), and of Calabria (Seguenza); from the later Tertiaries of Central and Southern Italy, Spain, the Island of Rhodes, Bulgaria, New Zealand, &c. (Costa, Seguenza, Terquem, Jones and Parker, &c.); from the Crag of the eastern counties of England (Jones, Parker, and Brady); and from the Post-tertiary deposits of England, Scotland, Ireland, Norway, and Italy (Sars, Crosskey and Robertson, Wright, &c.).

Rotalia broeckhiana, Karrer (Pl. CVII. fig. 4, *a.b.c.*).

Rotalia broeckhiana, Karrer, 1878, Drasche's Geol. d. Insel Luzon, p. 98, pl. v. fig. 26.

A small thick variety of *Rotalia beccarii*, with somewhat tall spire and convex inferior face.