

Only exceptionally, and chiefly in the Antarctic, forms were found between 1500 and 1000 metres that in warm waters live at the surface. The Salpæ are individually most abundant in warm water, and in the Atlantic we do not find a single species which is peculiar to the area north of lat. 45° N. Apstein tells us that three species have been found in the northern region, viz. *Salpa fusiformis*, *S. mucronata*, and *S. sonaria*, but they really belong to warm waters and have been carried north by currents (see Fig. 447). The genus *Cyclosalpa* comprises typical warm-water forms.

The genus *Doliolum* is also, according to Neumann's¹ treatise on the "Valdivia" collection, chiefly a warm-water form exceedingly sensitive to changes of temperature. *Doliolum krohni*, *D. tritonis*,

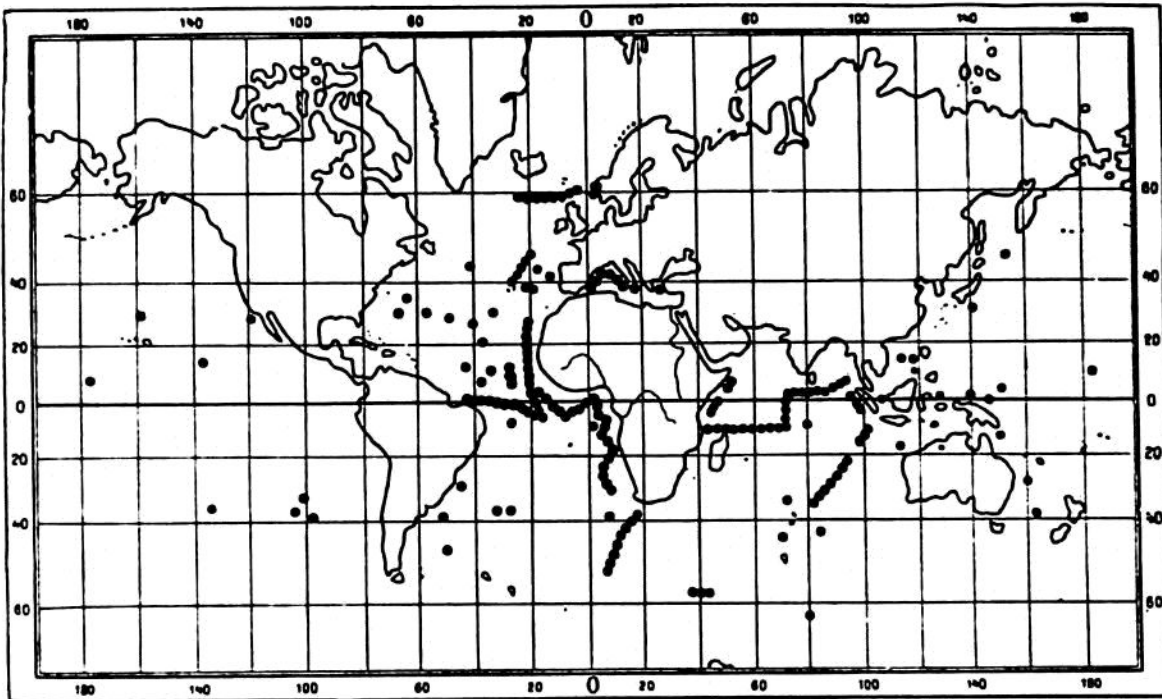


FIG. 447.—DISTRIBUTION OF *SALPA FUSIFORMIS*.
(From Apstein.)

D. mülleri, and *D. gegenbauri* are the species which go farthest north in the Atlantic.

The genus *Pyrosoma* (Fig. 448) has from the earliest days of oceanography attracted the interest of man, to a great extent on account of the strong phosphorescent light emitted, the name meaning "fire-animal." The individuals are aggregated into cylindrical colonies, which may attain an enormous size (several yards long). Some occur in the surface-waters, some in deep water.

In the narrative of the "Challenger" cruise, Sir John Murray, describing the voyage from the Bermudas to the Azores, writes as follows:—"On the 25th (of June) a very large colony of a new species of *Pyrosoma* was captured in the trawl. The cylinder was 4 feet 2 inches in length and 10 inches in diameter, closed at one end, and as in the

¹ Neumann, *Wiss. Ergeb. Valdivia-Expedition*, Bd. 12, 1906.