

almost uniform throughout the year. At depths of from 800 to 1200 fathoms the constant temperature may average about 40° F., and at depths of 2000 fathoms and

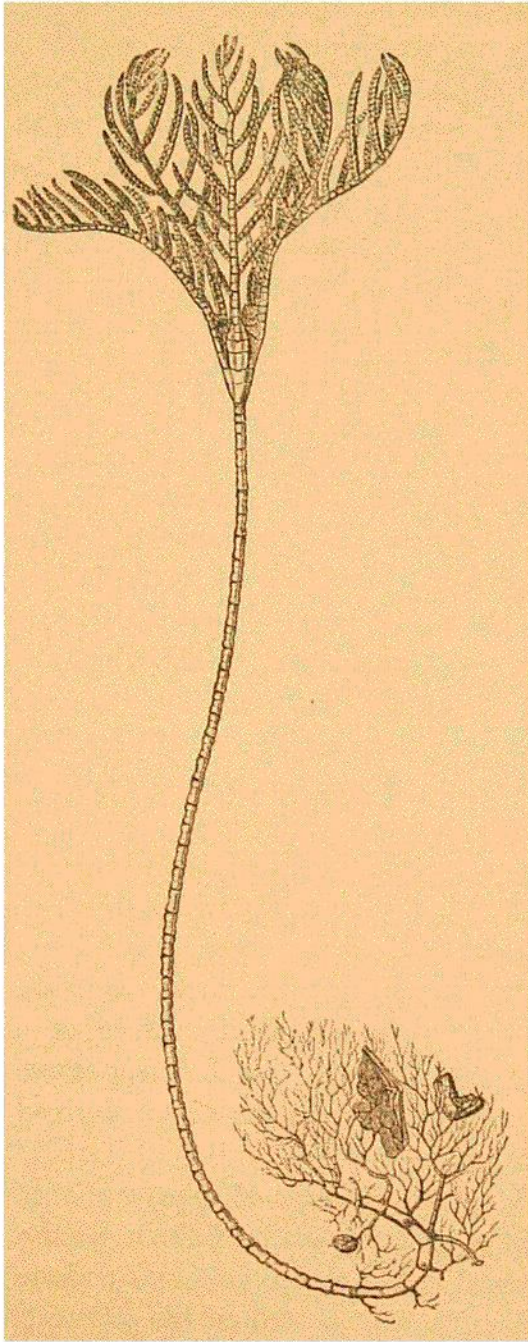


FIG. 17.—*Rhizocrinus lofotensis*, M. Sars.

upwards the thermometer usually indicates a minimum of 35°, while in certain restricted areas only it sinks to a degree or so below the freezing-point. The range of the thermometer throughout the whole of the abyssal region does not, therefore, as a rule exceed 6° or 8° F. As we pass into higher latitudes, north and south, the temperature-conditions of the abyssal region gradually rise towards the surface, until, in the seas of Northern Scandinavia and Labrador, the temperature of the whole mass of water, from 100 fathoms downwards, has a mean temperature of about 36° F. Of all circumstances, a uniformity of temperature seems to favour most the extension of animal species, so that while many forms characteristic of the *infra-median* zone occur in the lists of the Scandinavian naturalists, from depths of from 100 to 200 fathoms, there is likewise a general extension upwards of the Gorgoniæ, the Isids, the Corals, the Elpididæ, and other groups belonging to the true abyssal fauna; and, still further north, abyssal forms, as, for example, *Rhizocrinus* among the Lofoten Islands, follow the cold water almost to the shore.

So far as we can judge, direct sunlight does not penetrate to great depths, and consequently in deep-sea animals the eyes are often absent, or they are atrophied by disuse; or, as in the case of many crustaceans, the organs in the position of the eyes are modified to perform some other function. In some cases, at moderate depths, where a certain amount of light may still be supposed to penetrate, the eyes are large and clear, exaggerated apparently to catch its last feeble rays. Many deep-sea animals are slightly, and some are vividly, phosphorescent.

It is difficult to imagine what the object or the effect of this faint illumination may be; but, at all events, the light does not seem to be sufficiently stimulating to maintain organs of vision in a state of functional activity.