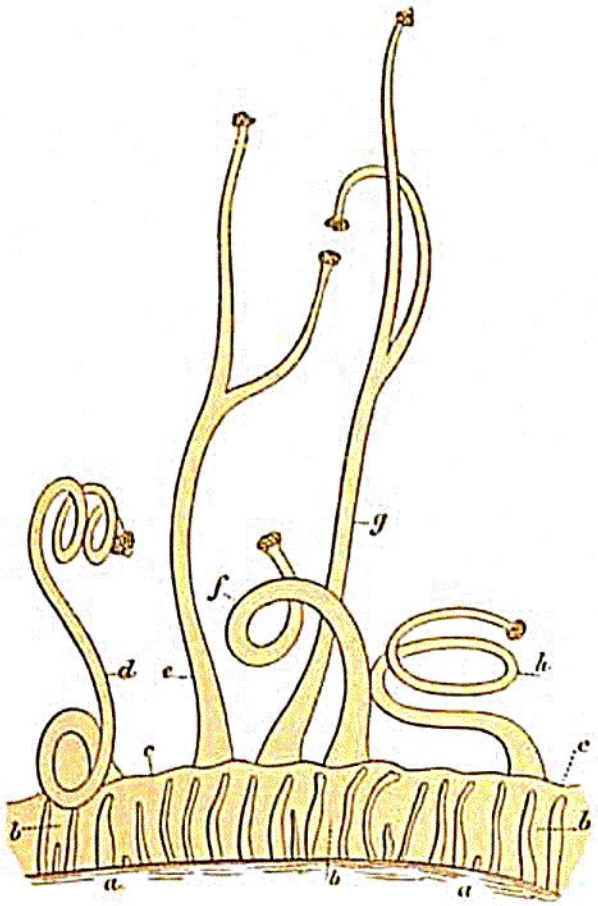
is so equally disposed, for, upon plunging the focus to the base of the upright individuals, a uniform layer of fleshy substance (Pl. XVII. *Figs.* 1, K, 5, *a*, 5ª, *c*, 5ᵉ, *a*, 6, *d*) is found to occupy the whole length and breadth of the group. It is neither in this layer, nor in its upward continuation, the outer wall of the individuals, that the rosy tint lies, but in the interior of the thick-walled, closely anastomosing channels (*Figs.* 5, *b*, 5ª, *c*, 5ᵉ, *c*, and 6, *b*, and Pl. XXVI. *Fig.* 18, *b b*¹). Unlike the hydroids of other genera, those of Hydractinia are composed of no less than four different forms of individuals. Premising, what has been ascertained for some time, that the sexes are separate, all the individuals of one colony being either male or female, it may be said that each colony is trimorphous. Taking a female colony (Pl. XVI. *Fig.* 1) for example, we find, first, the reproductive form (A B C F), with a globular head (*h*), of short spherical tentacles, along whose stem the egg-bearing medusæ (*e*) bud; secondly, a form which is nothing more than an extremely elongated reproductive hydroid (E, and wood-cut 33), with much smaller heads than the generality of the first form and a stem which is frequently branched (*e g*). This form is only to be found on the outskirts of the colony. However, between this form and the reproductive one there are gradations, showing, as will be pointed out hereafter, that, after all, this form is hardly to be separated from the first. Lastly comes the sterile form (D G H I), with long, tapering tentacles, arranged in one row, and a short proboscis (*p*). The fourth form is found among the males (Pl. XVI. *Fig.* 2); it is the sterile hydroid (D E F G H I), with a long proboscis (*p*). Otherwise the males and females resemble each other. The degree of intermixture of the fertile and sterile individuals varies considerably; in some parts of a colony they are about equally distributed, whilst in others they are either nearly all fertile, or nearly all sterile. In all cases the hydroids are densely packed together.

Fig. 33.



The outskirts of a hydromedusarium of Hydractinia polyclina, to show the extremely elongated fertile hydræ which fringe the border. Magnified 25 diameters. From nature, by H. J. Clark.

a the edge of the shell (Natica) to which the colony is attached. —*b* parallel ridges of the horn-like network. —*c* edge of the horn-like layer. —*d f h* individual hydræ coiled into one, two, or three spiral turns. —*e g* two hydræ which are forked, and have two heads.

Underlying the whole colony is a layer of horny substance, either in the form of a network, or of a uniform layer, with ridges upon the upper surface, anastomosing