

shows them to arise between lobes of the disk (Pl. VII. *Figs.* 1, 2, and 3), which form, around their bases, as distinct sheaths as in the *Æginidæ*. Moreover, though in the adult *Aurelia* the radiating channels are tubular, in the young they are flat pouches, as in the *Æginidæ* and *Pelagidæ*. I have, therefore, no doubt that the *Æginidæ* must be removed from the order of the *Hydroidæ*, and that they are an embryonic type of the order of the *Discophoræ* proper, bearing to the higher *Discophoræ* the same relation as the simple, deciduous, medusa-buds of the *Hydroids* bear to the more highly organized free naked-eyed *Medusæ*. The special homologies of the *Æginidæ* to the young *Aurelia* and the lower *Phanerozoa* is most striking, as a comparison of the plates of Gegenbaur¹ with Pl. XI^b. *Fig.* 4 may show. But even when the young *Aurelia* has so far advanced in its development as to exhibit all the prominent structural features of the genuine *Discophoræ* it has not yet assumed the true characters of its own genus, as they appear in the adult. In the first place, the lobes of the eyes remain for a time more prominent than the rest of the margin of the disk, and, in the second place, the tentacles are much fewer than afterwards. In these respects our young *Aurelia* may, therefore, fairly be compared to those genuine *Discophoræ* which, in their adult state, have prominent ocular lobes and a few tentacles only, such as *Nausithoe*, *Pelagia*, and *Chrysaora*, and even *Sthenonia*, though in the latter genus the tentacles are almost as numerous as in the adult *Aurelia*; but the ocular lobes preserve their prominence over the tentacular lobes, while in *Cyanea* the tentacular lobes of the margin are the larger. The fact that, in the young *Aurelia*, the tentacles appear rather like bunches than like a marginal fringe, ought not to be overlooked; and in this connection it may be noticed, also, that the homology of the ocular apparatus to the tentacles is most satisfactorily traced in the young *Aurelia* (Pl. XI^b. *Figs.* 2, 3, 4, and 17), where the marginal lobules (i^2) of the disk (see also, Pl. VII. *Figs.* 2 and 3) correspond to the lappets (j) of the ocular lobes, and the tentacles themselves (i^3) to the eye (h); a radiating chymiferous tube (e) penetrating into the peduncle of the eye, in the same manner as into the tentacles.

But this is not all: if the youngest *Aureliæ* resemble the *Æginidæ*, and the more advanced young have striking affinities to the lower *Discophoræ*, it is equally certain, that the adult *Aurelia* resembles more closely the *Rhizostomeæ*, than any other genus of the *Discophoræ Semæostomeæ* does. This resemblance arises chiefly from the structure of the oral appendages. In the *Rhizostomeæ*, the opposite margins

¹ See Gegenbaur, in *Zeitsch. f. wiss. Zool.* vol. 8, pl. 10, and V. Carus, *Icones Zoologicae*, Pl. II. f. 17. I suspect that in this last figure the parts are not represented in their natural relations. I do not know a single *Aculeph* in which the corners

of the mouth point in the direction of an inter-ambulacrum, as is the case in this figure. Nor are the four bunches of tentacles of the sexual organs here symmetrically connected with the bunches of ovaries, as they always are in nature.