

the same in all members of this order. The stem of the gonostyle is always richly ramified, and bears on each branch one or several sexual palpons (*gq*), a single gynophore or female medusome (*f*), and a great number of androphores or male medusomes (*h*). These latter become mature whilst attached to the gonodendra; they have ovate or club-shaped spermata, with a more or less rudimentary umbrella (Pl. XXIII. fig. 8, *h*; Pl. XXV. fig. 7, *h*; Pl. XXVI. fig. 8, *h*).

The larger female gonophores, however, are probably always detached in the immature state from the stem, and become mature as free Anthomedusæ. Their umbrella (*f* in the figures quoted) is well developed, campanulate or pyriform, with four radial canals and a ring-canal, and a broad velum around the ostium. The manubrium, in the wall of which the eggs ripen, seems to be developed usually after the detachment. It is not visible in the sessile gynophore, or forms only a small tubercle in the centre of the subumbrella (Pl. XXIII. fig. 8, *fm*). The apex of the gynophore is attached to the branch of the stem by a large conical pedicle (Pl. XXIII. fig. 8, *f*). These pedicles remain attached to the stem of the gonodendron, when the ripe gynophores are detached. Some very large specimens of *Caravella maxima*, which I observed in the Bay of Algiers (Straits of Gibraltar), in March 1867, bore voluminous gonodendra, the androphores of which were filled with ripe sperm. Some of their numerous branches possessed each a single medusiform gynophore (Pl. XXVI. fig. 8, *f*), whilst in other branches only its conical pedicle was visible, the campanulate umbrella having been detached (compare Chun, 86, p. 1168).

The Cystalidæ, Epibulidæ, and Rhizophysidæ seem to possess on each branch of the gonostyle a single sexual palpon only, corresponding to the single gynophore (Pl. XXIII. fig. 8); whilst the Salacidæ and Physalidæ bear several gonopalpons on each branch. The gonopalpons of the Physalidæ are covered inside by the same black hepatic villi as the siphons, and thus prove to be modified mouthless siphons (Pl. XXVI. fig. 8, *q*). The sexual tasters of the Rhizophysidæ are often covered outside with peculiar cnidonodes (Pl. XXIII. fig. 8, *gq*).

*Ontogeny*.—The development of the Cystonectæ from the fertilised egg is up to this time quite unknown. The ripe eggs themselves have never been observed. The medusiform gynophores are detached early from the trunk, and the special forms of Anthomedusæ, in which they produce ova, are not yet known. Very little is known also of the monogastric larvæ of the Cystonectæ (*Cystonula*), and of their peculiar metamorphosis. Those of *Physalia* were first described by Huxley (9, p. 102, pl. x. figs. 1, 2) and afterwards by Chun (83, p. 558). The *Cystonula* of the other families is hitherto unknown. Some light, however, may be thrown upon this complete darkness by a number of larval forms which I captured by means of the tow-net in December 1881, in Ceylon, and which are figured in Pl. XXII. figs. 1–4. Compare their description below, under that of the family Cystalidæ (p. 315).