

Although Compound Ascidiæ are probably all hermaphrodite if the entire life of the Ascidiozoid be taken into consideration, still it very often happens that particular Ascidiozooids when examined are found to have the reproductive organs of only one sex developed. This was the case in a number of the Challenger colonies, and in many of these cases I have been able to make out that the female organs develop first in the young Ascidiozoid, and then, after the ova have attained maturity and escaped, the male system begins to form, and is found in a fully developed condition in the adult Ascidiozoid only. I have found this protogynous arrangement in the following species, and it probably exists in many more:—

BOTRYLLIDÆ.

Botrylloides tyreum.

Botrylloides fulgurale.

Sarcobotrylloides wyvillii.

Polycyclus jeffreysi.

DISTOMIDÆ.

Colella pedunculata.

Colella thomsoni.

Colella gaimardi.

Colella quoyi.

Colella murrayi.

Colella ramulosa.

In a number of the Polyclinidæ and Didemnidæ also, only male reproductive organs were found in the Ascidiozooids examined, but in such cases it is not certain that the female system occurs only in the younger Ascidiozooids.

In *Cælocormus huxleyi*, on the other hand, a protandrous condition appears to exist (see p. 322), the male organs developing first, and being succeeded later on in the life of the Ascidiozoid by the female system.

In some of the Polystyelidæ the polycarps are unisexual, and the male and female polycarps differ in appearance. In one species, *Goodsiria pedunculata*, only female polycarps were found in the Ascidiozooids examined, but whether this is a case of protogyny or protandry is not known. Possibly it may be due to a unisexual condition of the Ascidiozooids. It would not be surprising to find that in a group where the polycarps have become differentiated and heteromorphic, one or more species were unisexual.

Tailed larvæ were found in a number of the colonies examined, either in the peribranchial cavities of the Ascidiozooids or in a specially formed incubatory pouch (see *Colella pedunculata*, p. 89), or merely imbedded in the common test of the colony.

The following list, giving the species in which larvæ occurred, the dates when the