

—specially devolves, and though, as we shall presently see, the formation of the sexual elements is far from being in all cases dissociated from the trophosome, we may conveniently designate collectively all those parts which have special charge of the protection and development of these elements, as the *gonosome*.¹

1. *The Gonophore.*

The most important zooid of the gonosome is the gonophore, as the hydranth is that of the trophosome. Its office is to give protection to the sexual elements—ova or spermatozoa—and to bring these to a more or less advanced stage of maturity before their final liberation.

Throughout the whole of the Calyptoblastic Hydroids, and in many of the Gymnoblasic, the gonophores are produced as buds from the sides of a column-like body which springs from the cœnosarc. This body is morphologically a hydranth with its tentacles and mouth suppressed. It is known as the *blastostyle*, and in the Calyptoblastea is contained within a protective capsule-like chamber, which has its walls lined with perisarc, and is known as the *gonangium*.

In the Gymnoblasteria the gonophores are more usually borne as buds directly by the cœnosarc without the intervention of a blastostyle, but whether a blastostyle be present or not, they are in this section never protected under cover of a gonangium.

The gonophores may be divided into two main groups. In one of these, after it attains a certain degree of maturity, the gonophore becomes detached from the colony, leads henceforth an independent, locomotive life, and after bringing its sexual products to maturity discharges these into the open sea. To the gonophores belonging to this group the name of *planoblasts* (wandering buds) may be given.

In the other group the gonophores never become detached, but discharge their sexual products while still forming part of the colony. The gonophores belonging to this group may be distinguished by the name of *hedrioblasts* (sedentary buds).

Form and Structure of the Planoblast.—The planoblasts are all, with a single known exception,—that presented by *Dicoryne*, in which the planoblast is a ciliated tentacula-bearing sac²—velum-bearing Medusæ (Craspedotæ or Hydromedusæ).³ In form

¹ The sarcostyles do not belong exclusively to either of these systems, and we have both trophosomal and gonosomal sarcostyles.

² *Gymnoblasic Hydroids*, p. 292, pl. viii.

³ The most obvious character of all Medusæ consists in the presence of a gelatinous umbrella which acts as a swimming organ, and which carries at the centre of its lower or concave surface a more or less prominent gastral tube. The Medusæ are divided into two primary sections—the Craspedotæ (velum-bearing) or Hydromedusæ, and the Acraspedæ (without a velum) or Scyphomedusæ. The Craspedotæ, among which alone we find those Medusæ which admit of being traced in the course of their development to a Hydroid trophosome, differ fundamentally from the Acraspedæ. The most important points of difference by which the Craspedotæ are separated from the Acraspedæ are the following:—1. The possession by the Craspedotæ of a true velum which does not exist in the Acraspedæ. 2. The absence in the Craspedotæ of "gastral filaments" which are always present in the Acraspedæ where they spring from