

# THE EUDOXID PHASE OF *LILYOPSIS ROSEA* CHUN (SIPHONOPHORA PRAYIDAE).

By A. K. TOTTON,  
British Museum (Natural History).

SEXUAL adults of Siphonophores are medusae, often free swimming, or else reduced and fixed medusoids. The so-called eudoxids are separated pieces of the stem, which is the elongated pedicel of the polypoid larva, oozoid or paedophore (see Totton 1954). Each eudoxid bears a characteristic group of buds, including adults. In this Prayid genus the gastrozoid and tentacle together with the other buds are given buoyancy by a large gelatinous bract. There are two kinds of medusoid adult, a group of reduced sexual adults or gonophores and one single asexual nectophore or special swimming bell that has no manubrium.

The only known figures of the *Lilyopsis* eudoxid are those by Graeffe (1860), Chun (1885) and Moser (1917) together with a recent sketch by M. Carré. But it was only after examination of a living specimen taken and photographed by M. Carré of the Station Zoologique at Villefranche in the Spring of 1965 that I was able to homologise the, at first sight, rather complicated system of bracteal canals with the pattern for other Prayids (see Totton 1965, figure 74). With the help of some schematic sketches made at the time I can now give an analysis of their arrangement and name them.

It may be pointed out that these *Lilyopsis* eudoxids do not live long in captivity; and so far none have been preserved in a life like condition.

Figs. 1 and 2.

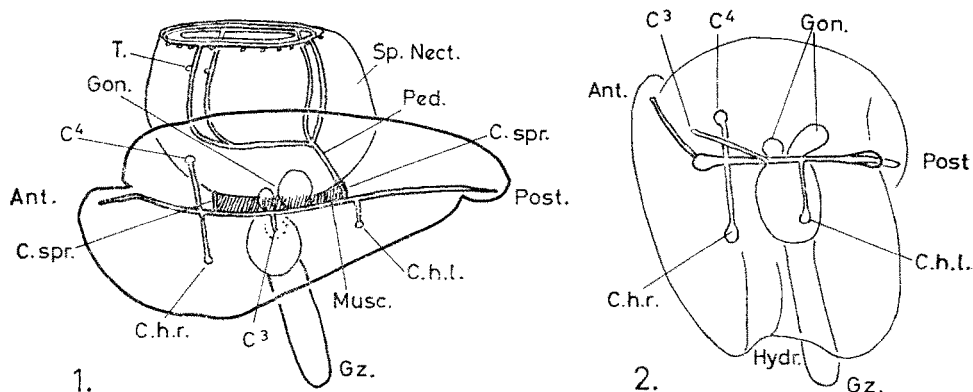
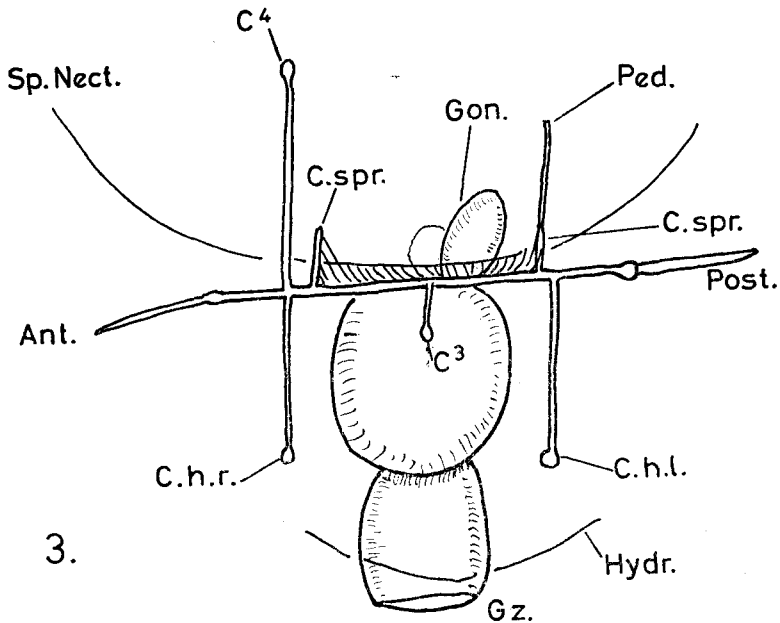


Fig. 1. A living eudoxid of *Lilyopsis rosea* (schematic)  $\times 8$ . Fig. 2. The same eudoxid after fixation  $\times 10$ . Ant=anterior (oral) end; C<sup>3</sup>=dorsal canal; C<sup>4</sup>=ventral canal; C.h.l., C.h.r.=left and right hydroecial canals; C. long.=longitudinal canal (part of stem); C. Spr.=spur-canal; Gon=gonophore; Gz=gastrozoid; Hydr.=hydroecium; Musc.=muscular lamella, attaching Sp. Nect. to C. long.; Ped=pedicel canal of Sp. Nect.; Post=posterior (aboral) end; Sp. Nect=special (asexual) nectophore; T=tache (pigmented).

Fig. 3.



The bracteal canal system of the eudoxid.  
(Abbreviations as in Figs. 1 and 2.)

The morphological feature was that so puzzling hitherto was the apparent multiplicity of canals. However the ground plan turns out to be very similar to that found in species of *Rosacea* (see Totton 1965). The right- and left-hydroecial canals (C.hl, C.hr) are comparatively short. The dorsal canal (C<sup>3</sup>) arises between them to run up to the surface of the bract. The ventral canal (C<sup>4</sup>) comes off opposite the right-hydroecial canal at the anterior end of the eudoxid, and the asexual nectophore is attached by an elongated muscle-band extending between the two short spur-canals. From the left-hand (posterior) spur-canal arises the pedicular canal of the asexual (special) nectophore at the posterior end. As mentioned above there is a longitudinal canal, part of the original stem, whose ends contract after severance of the eudoxid. There is a disc like tache, orange-red in colour, near the distal end of each of the anterior radial canals of the nectophore. They lie vertical to the surface in the mesogloea of the nectophore.

## REFERENCES.

- GRAEFFE, E. 1860. Beobachtungen über Radiaten und Wurmer. *Denkschr. schweiz. naturf. Ges.* 17, 1-59, 10 pls.  
 CHUN, C. 1885. Ueber die cyclische Entwicklung und die Vewandtschaftsverhältnisse der Siphonophoren. *S.B. preuss. Akad. Wiss.* for 1882, 1155-72, 1 pl.  
 MOSER, F. 1917. Die Siphonophoren der Adria und ihre Beziehungen zu denen des Weltmeeres. *S.B. Akad. Wiss. Wien. Math.-nat. Klasse, Abt. 1*, 126, 9, 703-63, 3 pls., 1 fig.  
 TOTTON, A. K. 1954. Siphonophora of the Indian Ocean... *Disc. Rep.* 27, 1-161, 12 pls., 83 figs.  
 TOTTON, A. K. 1965. A synopsis of the Siphonophora. 230 pp., 153 text-figs., 40 pls., British Museum (Nat. Hist.).