Observations on the genus Ocythoë of Rafinesque : with a description of a new species / by William Elford Leach.

On the Genus Ocythoë
Dr Leach. June 5. 1817.

12.

OBSERVATIONS

ON

THE GENUS OCYTHOË OF RAFINESQUE,

WITH

A DESCRIPTION OF A NEW SPECIES.

BY

WILLIAM ELFORD LEACH, M.D.
F.R.S.

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OBSERVATIONS, *&c.*

Read before the ROYAL SOCIETY, *June* 5, 1817.

PLINY, ALDROVANDUS, LISTER, RUMPHIUS, D'ARGENVILLE, BRUGUIERE, BOSC, CUVIER, and SHAW, have described a species of this genus, that is often found in the *Argonauta argo* (common paper-nautilus) and which they have regarded as its animal, since no other inhabitant has been observed in it.

Sir JOSEPH BANKS, and some other naturalists, have always entertained a contrary opinion, believing it to be no more than a parasitical inhabitant of the Argonaut's shell, and RAFINESQUE, (whose situation on the shores of the Mediterranean, has afforded him ample opportunities of studying this animal, and of observing its habits) has regarded it as a peculiar genus, allied to the *Polypus** of ARISTOTLE, residing parasitically in the above mentioned shell.

Dr. BLAINVILLE, ten months since, when speaking of the *Argonauta*, said, " animal unknown," and he has lately informed me, that he has written a long dissertation to prove, that the *Ocythoë* of RAFINESQUE, does not belong to the shell in which it is found.

The observations made by the late Mr. JOHN CRANCH, zoologist to the unfortunate Congo expedition, have cleared from my mind any doubts on the subject. In the gulf of

* Sepia octopodia LINNE.

Guinea, and afterwards on the voyage, he took (by means of a small net, (which was always suspended over the side of the vessel) several specimens of a new species of *Ocythoë*, which were swimming in a small *argonauta*, on the surface of the sea.

On the 13th of June, he placed two living specimens in a vessel of sea water; the animals very soon protruded their arms, and swam on and below the surface, having all the actions of the common *polypus* of our seas: by means of their suckers, they adhered firmly to any substance with which they came in contact, and when sticking to the sides of the basin, the shell might easily be withdrawn from the animals. They had the power of completely withdrawing within the shell, and of leaving it entirely. One individual quitted its shell, and lived several hours, swimming about, and showing no inclination to return into it; and others left the shells, as he was taking them up in the net. They changed colour, like other animals of the class cephalopoda; when at rest the colour was pale flesh-coloured, more or less speckled with purplish; the under parts of the arms were bluish grey; the suckers whitish.

The *Ocythoë* differs generically from the *polypus*, in having shorter arms, with pedunculated instead of simple suckers; the superior arms too are dilated into, or furnished with, a wing-like process on their interior extremities.

All the internal organs are essentially the same as in the *polypus*, although they are somewhat modified in their proportion; but as these differences may be the result of the contraction caused by the spirits, in which they are preserved, it may be more prudent not to dwell on them. Two cha-

racters, however, which I could not discover in the *polypus*, may be mentioned, namely, four oblong spots on the inside of the tube, resembling surfaces for the secretion of mucus; two inferior and lateral, and two superior, larger, and meeting anteriorly. On the rim of the sac, immediately above the branchiæ, on each side, is a small, short, fleshy tubercle, which fits into an excavation on the opposite side of the sac. This character, which, with slight modifications is common to this genus, to *loligo* and *sepia*, does not exist in the *polypus*.*

Although the superior arms are stated to perform such different functions from those of the *polypus*, yet they are supplied in the same manner, and from the same source with nerves. The muscles of these parts were in too contracted a state, to enable me to ascertain if they were in any degree different from those in the same parts of its kindred genus.

The general form of the body of this species of *ocythoë*, is the same as that of the common *polypus*, and it is covered by the same integuments, without any surface adapted either to adhere to, or to secrete, the shell in which it is found. The sexes differ as in the *polypus*.

Ocythoë Cranchii.

O. corpore purpureo-punctato, brachiis subtus cærulescente-griseis; superioribus membranâ spongeosâ pallidâ maculatâ.

The superior arms are generally attached to the side of the membranes (fig. 5. Pl. XII.); but in one specimen the membranes adhere only by their base, below the apex of the

* The rudiment of the bone, which occurs in the *polypus*, (as has been observed by Cuvier) is not to be found in the *ocythoë*.

arm, fig. 6. The membrane is subject to great variation in size and form, and is often different on the arms of the same individual.

One male only was sent home, all the others were females, which had placed their eggs in the spiral part of the shell.

One female, that had deposited all her eggs, withdrew completely within the shell, as in fig. 3; her body on one side had all the impressions of the shell, and the suckers on all the arms were diminished in size, as if from pressure.

EXPLANATION OF PLATE XII.

Fig. 1. Ocythoë CRANCHII sitting within the shell.

Fig. 2. The animal without the shell.

Fig. 3. One completely retracted within the shell.

Fig. 4. Ditto taken out of the shell, showing the impressions of the shell on the body.

Fig. 5. Left superior arm (common appearance) magnified.

Fig. 6. Right superior arm (variety) magnified.

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.