

The Occurrence of *Diadumene cincta* T. A. Stephenson in the River Roach, Essex.

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SEVERAL small anemones resembling *Metridium dianthus* were collected from the River Roach and sent to me in the summer of 1934. A careful examination proved them to be *Diadumene cincta* which was first recorded from Plymouth. T. A. Stephenson (1, 1925, p. 880) described both an orange and a fawn variety of this species, the former from the Breakwater and the latter from the Pier, Plymouth. The Roach anemone agrees with the Plymouth one in all its more important habits and its external and internal characters. It would appear that the specimens of *D. cincta* from the New England Creek, Essex, recorded by T. A. Stephenson (2, 1935) since this account was first written, may have been derived from this river.

The anemones were dredged in abundance from the River Roach attached to living and dead shells of *Ostrea* and *Mytilus* and to *Alcyonidium* and *Halichondria*. All (about thirty) which I have seen were small, the diameter of the base averaging 0.6 cm. and the disc 1.5 cm. They were orange, but some were pale while others were more deeply coloured. No fawn ones have as yet been found in this locality.

The scapus wall is thin, translucent with a bluish caste and with the mesenterial insertions showing through. The cinclides are evident as distinct dull purple-grey spots, each with a central depression clearly visible under a hand lens. The tentacles are the same colour but paler than the scapus. They are usually uniformly coloured but in some specimens there are two faint bluish lines running along their upper surface and, in one individual, there was a pair of short dashes at their bases instead of these lines. The lip lobes are ribbed, deep red-orange and sometimes with an irregular white powdering at their bases. (In the fawn but not in the orange variety from Plymouth there is an opaque cream bar at the bases of the outer tentacles.)

The anatomy of an Essex specimen which was sectioned agrees in all its main features with that described by E. M. Stephenson (3, 1925, p. 897) for *D. cincta* except that the cinclides are mainly very definite, imperforate, endodermal evaginations instead of imperforate, ectodermal invaginations.

Both spirulæ and penicilli are very abundant in the acontia. Their sizes correspond with those given by T. A. Stephenson (4, 1929, p. 173) and my own records for *D. cincta* from Plymouth (see Table I). The penicilli resemble in form those from the acontia of *Metridium dianthus* (5, 1934, p. 910, Fig. 2), except that they all have a distinct long terminal thread and their capsules are much wider. The spirulæ are different in form and very much smaller than those of *M. dianthus* (4, 1929, p. 175). The spiral commences a short distance from the capsule; it does not expand at its distal end and it has only about six turns.

The very close resemblance between the external appearance of *D. cincta* and the young of *M. dianthus* has been discussed by T. A. Stephenson (1, 1925, p. 884) and the differences between them enumerated. The fewer and rather larger tentacles and the purple-grey colouring round each cinclis in *D. cincta*, with the differences in the stinging cells from the acontia, are three of the easiest and most readily ascertained characters which distinguish these two anemones.

TABLE I.

MEASUREMENTS IN SEA-WATER OF THE LIVING CAPSULES OF THE UNEXPLODED SPIRULÆ (SP.) AND THE EXPLODED PENICILLI (PEN.) FROM THE ACONTIA OF FIVE SPECIMENS OF *D. cincta* FROM THE RIVER ROACH AND TWO FROM PLYMOUTH.

All the anemones were small; the average diameter of the disc was 1.5 cm. and the base 0.6 cm.

Locality.	No. of Nematocysts.	Range in size in μ of the nematocysts.	Average size in μ of the nematocysts.
River Roach 1	{ Sp. 20 Pen. 20	15-17 \times 1.5-3 42-55.5 \times 7-8	16.1 \times 2.3 46.5 \times 7.6
" " 2	{ Sp. 20 Pen. 20	14-17 \times 2-2.5 40.5-45 \times 6-7	15.1 \times 2 43.7 \times 6.4
" " 3	{ Sp. 20 Pen. 20	14-16 \times 2-2.5 33-44 \times 6-6.5	15.2 \times 2 38.4 \times 6.3
" " 4	{ Sp. 20 Pen. 20	13-15.5 \times 1.5-2 35.5-44 \times 5.5-7	14.7 \times 2 39.7 \times 6.3
" " 5	{ Sp. 20 Pen. 20	13.5-15.5 \times 1.5-3 39-43 \times 6.5-8	14.8 \times 2 40.5 \times 7.2
Plymouth Breakwater 1	{ Sp. 20 Pen. 20	13-17 \times 2-2.5 45-52 \times 6-7.5	14.9 \times 2.1 47.7 \times 6.5
" 2	{ Sp. 20 Pen. 20	14-17 \times 2-2.5 42.5-45 \times 5-7	15.7 \times 2 43.8 \times 6.2

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