FAUNA OF THE CHILKA LAKE

MOLLUSCA NUDIBRANCHIATA.

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(With 1 text-figure.)

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MOLLUSCA NUDIBRANCHIATA.

By Sir Charles Eliot.

The Nudibranchs collected by Dr. Annandale and Mr. Kemp in the Chilka Lake consist of three specimens, namely two small Aeolids and an *Elysia*. Both species must be treated as new. They may possibly be identical with animals known to us only by the figures and slight descriptions of older naturalists, but they do not correspond exactly with any such figures and descriptions.

Cuthona annandalei, a member of the same genus of Aeolids, has been found in brackish water in the mouths of the Ganges and *Alderia modesta*, a form allied to *Elysia* though not very nearly, is known to inhabit brackish marshes in the British Isles.

Cuthona henrici, sp. nov.

The notes on the living animal are as follows :—

"Two specimens (with drawing from life of one [1]) from off Ganta Sila in the main area of the Chilka Lake, 28-xii-1913.

Colour yellowish-white; cerata dark olive-green with variable black markings at their base.

The specimens were dredged in about five feet of water from among weeds on a muddy bottom just off the rocks of Ganta Sila. When placed in a dish they floated in the surface-film back downwards and moved along rapidly in this position.

They probably feed on the Hydroid *Bimeria fluminalis*, Annandale.

Specific gravity of water (corrected) about 1·006."

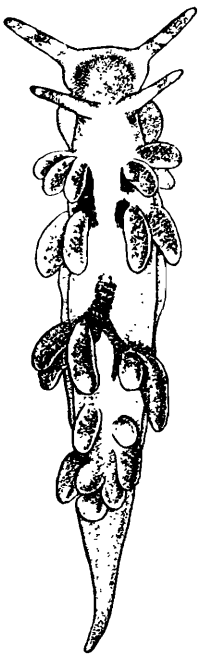

Fig. 1.—*Cuthona henrici*, sp. n. × 15. Drawn from life by Mr. G. H. Henry.

The preserved specimens correspond to the above description, but the bodies appear to have shrunk more than the cerata, making the latter seem relatively larger. The colour has become a dull yellowish-brown. The large specimen is bent, but would be about 10 mm. long if straightened.

The oral tentacles are large and distinct. The rhinophores are of about the same size, cylindrical and smooth,

[1] The drawing was made by Mr. Henry of the Colombo Museum who is alluded to in the specific name.

without a trace of perfoliations. The cerata are rather thick and some are almost ovate. They are set in four groups. The first, second and third groups are divided into two halves, containing two or three cerata on the right and left respectively. The fourth is a clump of seven cerata disposed irregularly across the back. The vent is on the right side about half way down. The shape of the body is elongate and the tail is moderately long. The foot is expanded into a distinct margin all round the body. In front it is rounded and ample, but not produced into horns or other appendages.

The cutting edge of the jaws bears a single row of denticles, blunt and shaped rather irregularly. The radula consists of a single row containing 27 yellowish teeth, of which two are still in process of formation. The teeth are of the horse-shoe shape with a moderately strong central cusp. On either side of it there are usually seven denticles. Of these five are long, pointed and conspicuous. The outermost and that nearest to the central cusp are considerably smaller and sometimes hardly visible.

These specimens cannot be assigned with certainty to any of the tropical species described under the names of *Cuthona* and *Cratena*, and most of these must be regarded as merely provisional. In describing small Aeolids of inconspicuous colouration and without any very salient characteristics, it is particularly desirable to examine a large series of specimens and ascertain what variations occur in the size and markings of the body and in the details of the teeth. But unfortunately there is rarely sufficient material for such an examination and it is consequently difficult to say whether the characters considered as specific really have such importance.

The present species is certainly distinct from *C. annandalei* described by me in the *Records of the Indian Museum* (vol. V, 1910, p. 248) but it is remarkable that both were found in brackish water and feeding on similar hydroids (*Bimeria*). For the name of the genus see my Supplement to Alder and Hancock's Nudibranchs, p. 129. I do not think that the genera *Cuthona* and *Cratena* can be maintained as distinct and *Cuthona* is the older name.

Elysia chilkensis, sp. nov.

The notes on the living animal are as follows:—

"A single specimen taken among weeds in a few inches of water close to the shore at Mahosa in the outer channel of the Chilka Lake, 20-iii-1914.

Form of body elongate and narrow, pointed behind but not produced. Tentacles very slender, tapering, pointed.

Colouration:—Dorsal surface dull moss-green marbled with a darker shade and dotted with white. Front of head between tentacles brownish, the brownish shade gradually diappearing behind head on sides of body. A colourless streak along the mid-dorsal line behind the head; a broad dark brown bar along each side of the head interrupted by a whitish streak containing the orifice of the tentacle.[1] Ventral surface greenish.

Specific gravity of water (corrected to 15°C) 1·0260."

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[1] If this implies that the tentacle is retractile it is probably a mistake.

The preserved specimen is 17 mm. long and of a uniform brown colour. The shape is as described in the above notes. The rhinophores are very distinct. They would be about 7 mm. long if straightened out, but are curved backwards into a crescent shape and still remain remarkably tapering and pointed. Their surface is smooth and under a lens presents no sign of a fold, but a section seen under the microscope shows a shallow groove. But in life the organs can hardly have been auriform as in most *Elysiae*. The wings are narrow and erect and the veins or ridges on their inner sides are prominent and conspicuous. The pericardial prominence is large and distinct. It it somewhat distorted as preserved, but its natural shape was probably oval. The external orifices appear to be placed as in *E. viridis*, but are not easily seen. The foot is long, distinct and bipartite, the anterior portion being marked off distinctly from the rest.

The radula is of the type usual in the genus and contains 8 teeth in the ascending part, 16 in the descending part and 5 in the heap. The teeth resemble those of *Elysia faustula* as described and figured by Bergh in his Malacogische Untersuchungen (in Semper's *Reisen*, Heft IV, pl. xxii, figs. 15-17. *Cf.* Eliot in *Proc. Zool Soc. London*, 1904, p. 295). They are dagger-shaped, rather elongate and there are no signs of denticulation on the lower edge.

This animal is in most respects a typical *Elysia*, but it has long, tapering tentacles which appear to be only slightly grooved, whereas in most species the tentacles are rather short and distinctly folded or auriculate. *E. lobata*, Gould, from Honolulu, *E.* (*Actaeon*) *australis*, Q. and G. and *E. coodgeensis*, Angas, both from Port Jackson, Australia, and *E. viridissima*, Trinchese, from the Mediterranean are all said to have long tentacles and the present specimen is very likely identical with one of them. But in colour it does not agree with any of them. This is not an important discrepancy for colouration is extremely variable in this genus, coloured borders and spots being present or absent in otherwise similar specimens. Still in the absence of any agreement as to colour it is impossible to identify our specimen with any of those known by the somewhat meagre descriptions of the authors mentioned above and it must be regarded provisionally as a new species, *Elysia chilkensis*.