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XXXIX.—Synopsis of the Genera and Species of Zoophytes inhabiting the Fresh Waters of Ireland

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mens, when examined with a high magnifier, exhibit very minute spiral striæ.

I have obtained two specimens from shelly sand at Tynemouth, and Mr. Thompson has obligingly transmitted specimens to me for examination sent to him from the west coast of Ireland.

It has very much the general form of a *Limneus*, the fold on the pillar adding to the resemblance. In the absence of any knowledge of the animal, I have placed it provisionally in the genus *Odostomia*, to which, among the marine mollusks, the shell has the nearest affinity; it is probable, however, that it should constitute the type of a new genus. It resembles *Rissoa vitrea* in the oblique position of the whorls, but is less cylindrical, and has the body whorl much larger and more ovate. *R. vitrea*, though described as smooth, is, when in a fresh state, more distinctly striated than this species.

XXXIX.—*Synopsis of the Genera and Species of Zoophytes inhabiting the Fresh Waters of Ireland.* By George J. Allman, M.B., M.R.C.S.I., M.R.I.A., Demonstrator of Anatomy in Trinity College, Dublin *.

The freshwater Zoophytes of Great Britain have hitherto been all included under the four following genera, *Hydra*, *Cristatella*, *Alcyonella*, and *Plumatella*. Of these, *Hydra* has been made to include four British species, *Cristatella* one, *Alcyonella* one, and *Plumatella* has been described as containing three species. Of the above nine species I am of opinion that two must be erased, viz. the *Hydra verrucosa* of Templeton, which appears identical with *Hydra fusca*, and the *Plumatella gelatinosa* of Fleming, which is evidently the same with Blumenbach's *Tubularia Sultana*. To the seven species which now remain I am enabled to add five, of which four do not appear to have been hitherto described, and the other is only to be found noticed in the fauna of the continent.

This addition to the freshwater Zoophytes, by which the number of British species is increased more than two-thirds, requires also the establishment of an additional number of genera. The genus *Plumatella*, which was originally established by Bose, is now made to include two forms of Zoophytes which I feel convinced it would be better to consider generically distinct. One of these forms is characterized by the tentacular disc being crescentic and the tentacula numerous, about sixty; the other by the disc being circular and the tentacula not so numerous, from twenty to thirty. The former must be retained in the genus *Plumatella*, and it would appear that Bose had this form alone in

* Read at the Meeting of the British Association at Cork.

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view when he established the genus; but the latter would certainly be better removed and placed in a genus by itself.

To this conclusion, my observations on the freshwater Zoophytes had induced me to arrive, and indeed the above passage had been written when I happened to meet in the 'Comptes Rendus' with an abstract of a memoir by M. Gervais on the freshwater Zoophytes of the neighbourhood of Paris. I was pleased to find that in Gervais's memoir he had taken the same view of the subject with myself, and that for a Zoophyte with a circular disc, found near Paris, and which he considers identical with *Tubularia Sultana* of Blumenbach, he has constituted a new genus, giving to it, in honour of Frederic Cuvier, the name of *Fredericella*. To Gervais then is due the first accurate discrimination of the species originally included under the genus *Plumatella*, and their distribution between two distinct genera; and as this dismemberment of the original genus is founded on strict zoological principles, I shall unhesitatingly adopt it, particularly as I had myself arrived at the same conclusion without any knowledge of Gervais's researches. The Zoophytes then at present included under *Plumatella* I shall distribute between two genera, retaining under *Plumatella* those with crescentic discs, and removing to *Fredericella* those whose discs are circular.

An important addition to the British genera is *Paludicella*. This term was given by Gervais to a freshwater Zoophyte originally discovered by Ehrenberg, and called by the latter *Alcyonella articulata*. For the addition of this interesting genus to the British fauna we are indebted to Wm. Thompson, Esq., who found the polypidom cast on shore at Lough Erne in August 1837; and I have myself since obtained living specimens in the Grand Canal near Dublin, and have been enabled fully to establish its identity with the continental Zoophyte.

Paludicella, of which but a solitary species appears to have been discovered, is a Zoophyte of much zoological importance. While it possesses many points of structure which naturally connect it with the other ascidioid lacustrine Zoophytes, it is at the same time characterized by certain peculiarities which approach it to the marine species, and which I conceive sufficient to justify me in assuming *Paludicella articulata* as the type of a distinct family among the lacustrine Zoophytes.

In October 1842 I discovered in the docks of the Grand Canal, Dublin, a hydroid Zoophyte of much interest. It is referable to no known genus, and occupies a position between *Coryne* and *Hermia*. For the reception of this Zoophyte therefore I have been obliged to form a new genus, to which I have given the name of *Cordylophora*.

I have now found in Ireland all the species of freshwater Zoo-

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phytes which have been described as British, and with the genera just noticed, and some new species which have occurred to me, a synopsis of the genera and species of the freshwater Zoophytes of Ireland will stand as follows:—

Order HYDROIDA.

Family HYDRAIDÆ.

Genus HYDRA.

Char.—"Polypes locomotive, single, naked, gelatinous, subcylindrical, but very contractile and mutable in form; the mouth encircled with a single series of granuliferous filiform tentacula."

1. *H. viridis*, 2. *H. vulgaris*, 3. *H. fusca*.

Family TUBULARIADÆ.

CORDYLOPHORA, nov. gen.

Char.—Polypidom horny, branched, rooted by a creeping tubular fibre; branches tubular. Polypes developed at the extremities of the branches, ovoid, bearing the mouth at the distal extremity, and furnished with scattered filiform tentacula.

Cordylophora lacustris.

Order ASCIDIOIDA.

Family LIMNIADES.

Genus CRISTATELLA.

Char.—Polypidom free, contractile, locomotive. Polypes issuing from apertures arranged upon the upper surface; tentacular disc crescentic. Ova with marginal spines.

C. Mucedo.

Genus ALCYONELLA.

Char.—"Polypidom fixed, encrusting or floating in the form of an irregular sponge-like mass, composed of vertical aggregated membranous tubes opening on the surface." Tentacular disc crescentic. Ova not furnished with spines.

A. stagnorum.

Genus PLUMATELLA.

Char.—Polypidom fixed, coriaceous, confervoid, tubular, branched. Polypes issuing from the extremities of the branches; tentacular disc of a crescentic form; tentacula numerous (about sixty), arranged upon the margin of the disc in a single series, invested at their origin by a membrane.

1. *P. repens.*

2. *P. emarginata*, nov. spec.—Polypidom cylindrical, closely adherent in the greater part of its extent, but sending off several

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short free branches, about half an inch in length; margins of apertures with a deep notch, which is filled up by a transparent membrane.

3. *P. fruticosa,* nov. spec.—Polypidom shrubby, adherent in but a small part of its extent, suddenly dilated towards the apertures; margins of apertures entire.

Genus Fredericella.

Char.—Polypidom fixed, coriaceous, tubular, branched. Polypes issuing from the extremities of the branches; tentacular disc orbicular; tentacula arranged on the margin of the disc in a single series, less numerous than in *Plumatella* (about twenty-four), invested at their origin by a membrane.

1. *F. Sultana.*

2. *F. dilatata,* nov. spec.—Polypidom dilated towards the apertures.

Family PALUDICELLAIDÆ.

Genus Paludicella.

Char.—Polypidom fixed, coriaceous, consisting of a single series of claviform cells with a catenulated arrangement; apertures unilateral, tubular, placed near the wide end of the cell. Tentacular disc of polypes orbicular, bearing upon its margin a single series of tentacula; tentacula free.

P. articulata.

XL.—*On the Marine Algæ of the vicinity of Aberdeen.* By G. Dickie, M.D., Lecturer on Botany in the University and King's College of Aberdeen.

[Continued from p. 10.]

[With a Plate.]

Himanthalia lorea.—This remarkable plant is not uncommon at Aberdeen. It usually occurs in detached patches: many parts of the coast are destitute of it; in other spots it is in great profusion, and is most usually found near low-water mark. In this vicinity it seldom attains any great size, rarely exceeding 2 to $2\frac{1}{2}$ feet.

Dr. Montagne's statement, that it possesses both *acrosperms* and *basisperms* on different individuals, is quite correct, as I have verified by examining an extensive series of specimens.

While the thong-shaped receptacles are still immature, their surface is covered with numerous pores from which filaments issue, and exactly resemble those on the species of *Fucus,* and which in a former paper were stated to be barren *conceptacles.* In *Himanthalia* they are generally all ultimately fertile, producing, as already mentioned, either *acrosperms* or *basisperms.*

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