

great difficulties to those who possess leisure and the opportunities of a sea-side residence; and to any such person, whose eye may fall upon these pages, I commend the investigation as one which will amply reward him.

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NOTE on the REPRODUCTIVE ORGANS of the CHEILOSTOME POLYZOA. By T. H. HUXLEY, F.R.S.

OBVIOUS as are the ovicells and partially-developed ova of the *cheilostome Polyzoa*, the precise position of their ovaria and testis has not yet been determined; the general idea that the ova are developed within the ovicells being wholly an assumption. The investigation of the question is not without difficulty, on account of the delicacy of the ova in their young condition, the greater or less opacity of the ectocyst, and the obstruction offered by the other viscera if the cells be viewed in any of the positions which they ordinarily assume, lying, that is, on their front or back faces. By tearing up a polyzoarium, with needles, into single series of cells, and causing one of these series to lie upon its side, I found the process of examination much facilitated.

In the younger cells of *Bugula avicularis*, I find that, as in many of the hippocrepian Polyzoa, there is a cord, or funiculus, connecting the extremity of the stomach with the bottom of the cell, and attached to this I found, close to the stomach, a single small pale ovum, commonly possessing a double germinal spot. At its lower attachment, on the other hand, the funiculus is surrounded by a mass of minute, pale, spherical corpuscles. In these cells, no ovicells were as yet developed; but in older cells they make their appearance as diverticula of the ectocyst and endocyst, having their internal cavity continuous by a narrow neck with that of the cell. A valvular aperture eventually becomes developed at the lower part of their anterior face.

In such older cells, the ovicell is at first empty, and we find the ovum attached to the funiculus increasing in size, and acquiring a reddish coloration; but in those still further advanced, a similar, but larger and redder, body makes its appearance in the ovicell, and after undergoing yelk-division becomes a ciliated embryo. In these older cells, again, we find the granular mass at the bottom of the cell gradually developing into a mass of spermatozoa, which eventually float loose in the cavity of the cell.

I have no doubt, therefore, that in *Bugula avicularis* the ovarium is situated at the top of the funiculus, the testis at

its base; that impregnation takes place in the cavity of the cell, and that the ovum passes from thence into the ovicele—there, as in a marsupial pouch, to undergo its further development. The testis has a similar form and structure, and its position is invariably at the bottom of the cell in *Bugula flabellata*, *B. plumosa*, and *Scrupocellaria scruposa*, but that of the ovarium varies greatly. Thus in *B. flabellata* the ovarium is placed at the middle of the back of the cell, and is not directly connected with the funiculus; in *B. plumosa*, it lies at the apex of the back of the cell; in *Scrupocellaria scruposa*, it is at the upper and back part of the cell. The ovarium rarely presents more than one or two ova.

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*On the REPRODUCTIVE ORGANS of certain FUNGI, with some remarks on GERMINATION.* No. II. By FREDERICK CURREY, Esq., M.A.

THE following paper is intended as a sequel to a previous communication on the same subject which appeared in the last volume of this Journal (see vol. iii., p. 263.) The instances in which a particular fungus has been observed to produce a variety of fruits differing essentially from one another, are already very numerous, and are daily on the increase. This polymorphism of fructification is highly interesting and important, not only in a physiological point of view, but from the effect which it must necessarily have upon the classification of the vast tribe of Fungi. Not only have different genera of the same order been already proved to be identical, but Fungi originally classed in different orders, and apparently of widely-different habits and structures, have been proved to be the produce of the same mycelium. The facts which I proceed to mention, are principally the result of observations made since the publication of my former paper, and they will, I hope, be considered interesting additions to this branch of microscopical science.

1. *ASTEROSPORIUM HOFFMANNI*—*Kunze*.—The fungus known by the name of *Asterosporium Hoffmanni* is a plant which is frequently met with in this country upon twigs of beech. It was originally ranged under *Stilbospora*, but was separated by Kunze as long ago as the year 1819, and erected into a separate genus. Although the very peculiar shape of its spores affords some grounds for this separation, the plant accords in every other respect with *Stilbospora*, in which genus it is still retained by some mycologists. Each one of the