

gradually causes the disappearance of the partition which separated the two vesicles.

In the non-encysted individuals nearly the same phenomena occur. The two *Noctiluca* unite by their buccal notches, which become gradually effaced; and the tentacles disappear, sometimes by becoming detached, sometimes by their being absorbed into the body.

Although M. Cienkowski has repeatedly witnessed all the phases of the copulation, and been able to preserve its products alive for two or three days, he has never seen in them any changes which would indicate a commencement of the formation of zoospores. Nevertheless the dimensions, and the lobate form, of most of the vesicles borne by the disks of zoospores are in favour of their relation to the products of copulation.

It is difficult, however, to pronounce an opinion as to the nature of this copulation, which seems to have nothing to do with a sexual act, but probably facilitates the formation of zoospores and has much analogy with the formation of the plasmodium in the Myxomycetes.

M. Cienkowski concludes, from the sarcodic nature of the contents of the *Noctiluca*, from the presence of the flagellum discovered by Krohn, and, finally, from the occurrence of a reproduction by active zoospores, that this organism must take its place in the class of the Flagellata, in which it should form a distinct group, in consequence of its striated tentacle.—*Archiv für mikr. Anat.* ix. (1872) p. 47; *Bibl. Univ.* 1873, *Bull. Sci.* p. 167.

#### *Natal Sponges.* By Dr. J. E. GRAY, F.R.S. &c.

In the Proc. Zool. Soc. 1873, pp. 17 & 21, Dr. Bowerbank has described two sponges, which he says were received from his friend Captain Charles Tyler, "who obtained them from Port Elizabeth." Captain Tyler kindly informs me that he bought these sponges of Mr. Cutter. The British Museum had the first pick of this collection from Port Elizabeth, so that they are both in the British Museum.

1. *Leuconia glomerosa*, Bowerbank (P. Z. S. 1873, p. 17, t. iv.), is the same as the species I long ago described and figured under the name of *Aphroceras alcicornis* (P. Z. S. 1858, p. 113, t. x.), from a specimen Dr. Harland received from Hongkong; but we have many specimens in the British Museum from Natal.

2. *Ciocalypta Tyleri*, Bowerbank (P. Z. S. 1873, p. 21, t. iv.). We have several specimens of this "interesting species" in the Museum from Natal; and Mr. Carter informs me that he can find no difference between it and the crumb-of-bread sponge (*Halichondria panicea*) of Ellis, Johnston, and Bowerbank, and it certainly cannot be more than a variety of that species. Dr. Bowerbank says that it is very like the typical species of the genus *Ciocalypta*. The genus *Ciocalypta* has always been a puzzle to me. Is that also described from a specimen of *Halichondria*, which he says is exceedingly closely allied to the Natal species?

If, as we have observed, *Haliphysema tubulatum* is a *Dictyocylindrus*, it is not strange that his *Ciocalypta* should prove to be nothing but a common *Halichondria panicea*.



Gray, John Edward. 1873. "Natal sponges." *The Annals and magazine of natural history; zoology, botany, and geology* 12, 264–264.

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