EUTETRAMORUS GLOBOSUS, A NEW GENUS AND SPECIES OF ALGÆ BELONGING TO THE PROTOCOCCOIDEA (Family Cœlastridæ).

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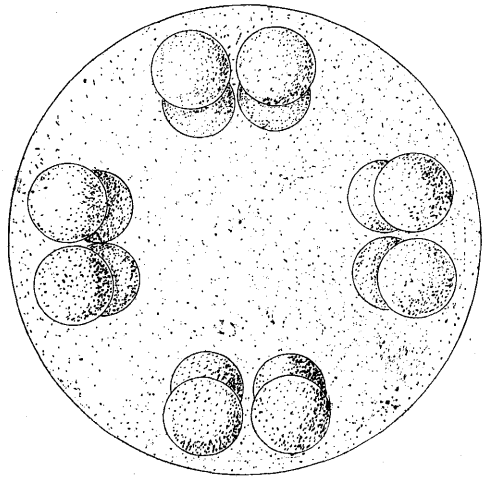
While studying the plankton from "Mirror Lake," a small pond on the campus of the State University at Columbus, Ohio, exceedingly rich in phytoplankton at certain times of the year, a form quite unique in structure was noted with much interest. It consisted of 16 cells, each containing a chloroplast, the cells being arranged in groups of fours and imbedded in an almost invisible gelatinous matrix. The organism was non-motile with no trace of flagella. The preparation was one taken from a



Eutetramorus globosus n. g., n. sp. (x2000.)

sterilized specimen bottle filled with water and floating algæ—mostly Cladophora—at the margin of the lake, Oct. 9, 1915, the observation being recorded a few days later. An interval of over two years has elapsed during which period various samples of water from the lake have been studied without again noting the species however.

The organism is referable to the Family *Cœlastridæ* (*Cœlastraceæ*) of the *Protococcoidea** and constitutes a new genus quite different from forms thus far known. The drawing (Fig. 1)

*The endings of the Class and Family names are identical with those utilized in a systematic review of the typically unicellular forms which will be published shortly. They are an extension of those proposed by Poche (1911). Nomenclatural methodology, particularly among the primitive plant-animal organisms is in a somewhat chaotic condition.

is taken from a camera lucida sketch made at the time with a Leitz Binocular, 2 mm. apochromatic objective.

Eutetramorus n. g.

Cells non-motile, light chlorophyl green; united into a colonly of 16 cells arranged in groups of 4's within a gelatinous like mucous covering; plane of each series of 4 cells perpendicular to the square included by the groups.

Represented by a single species.

E. globosus n. sp.

Cells spherical, containing a chloroplast with central pyrenoid, the 16 cells united in groups of 4's, the distance between each group and the adjacent lateral group being approximately one and one-half times the diameter of the individual cell; reproduction unknown.

Diam. (single cell 5μ. (colony) 30μ.

Distribution, Mirror Lake, Columbus, Ohio (U. S. A.).

Habitat, surface water at margin of lake.

The relationship of the form to *Cœlastrum* and the other allied genera of the family seems clear, although the systematic position must be a provisional one until the method of reproduction is known. In its organization it represents the lowest form of the family where a definite colonial organization is attained.

Kofoid (1914) has recently described a new genus and species, *Phytomorula regularis*, from a reservoir at Berkeley, California, which is allied to *Cœlastrum* and is of unusual interest in that it represents a 16 celled colonial form extremely flattened, the cells being contiguous although not arranged in the same plane. The species was extremely rare and he had been unable, at the time of the presentation of the paper, to obtain informa- tion as to its method of reproduction.

The family *Cœlastridæ* now consists of five genera which may be separated in accordance with the table given below. Three of the genera have an extremely restricted distribution which, however, may be the result of their comparatively rare occurrence. *Eutetramorus* is based on a single specimen obtained at Columbus, Ohio. *Phytomorula* is described from a very few specimens obtained in a reservoir at Berkeley, California.

Burkillia is known only from Burma. The remaining two genera, *Cœlastrum* and *Sorastrum* are abundant and have a wide distribution. The genus *Hariotina* based by Dangeard (1889) on *H. reticulatum* is now included with *Cœlastrum* while *Selenosphœrium* of Cohn (1879) is placed with *Sorastrum.*

TABLE OF GENERA.

A¹ Cells comparatively smooth or at least not developing acute processes or spike-like appendages; colonies with cells regularly arranged, usually approximating the form of a sphere, which may be extremely flattened.
- B¹ Colonies formed of 16 cells; form not that of a true sphere.
  - C¹ Cells arranged in groups of fours, the groups not contiguous; colony not flattened.....1. Gen. **Eutetramorus**
  - C² Cells not arranged in groups of fours; contiguous; colony flattened.....2. Gen. **Phytomorula**
- B² Colonies formed of 2–32 cells; form approximately spherical. 3. Gen. **Coelastrum**

A² Cells developing acute processes or provided with acute or spike-like appendage processes; colonies with cells not regularly arranged, not approximating the form of a sphere.
- B¹ Cell walls gradually narrowed into an acute process. 4. Gen. **Burkillia**
- B² Cells provided with spike-like appendages or elongate processes. 5. Gen. **Sorastrum**

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