

£5
MINISTRY OF COMMERCE AND INDUSTRY, EGYPT

Fisheries Research Directorate

NOTES AND MEMOIRS No. 22

THE FISHERY GROUNDS NEAR ALEXANDRIA

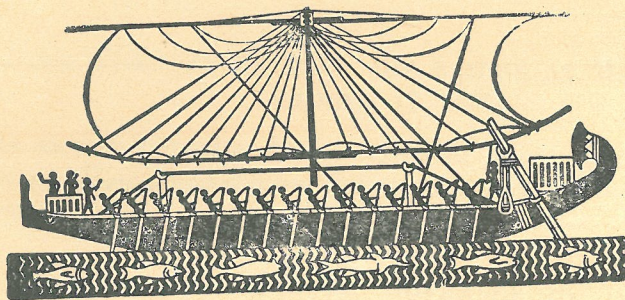
XIV.—PHYTOPLANKTON FROM THE NILE

(with 4 Figures)

BY

H. BACHMANN

Luzern



CAIRO

GOVERNMENT PRESS, BULÂQ

1936

MINISTRY OF COMMERCE AND INDUSTRY, EGYPT

The Fishery Grounds near Alexandria

XIV.—Phytoplankton from the Nile

BY

H. BACHMANN

Luzern

In October 1934 Professor STEUER sent me Egyptian plankton samples for revision as to its phytoplankton content. To my great regret the work had to be delayed. As the following results show, only those samples, from the Nile that are of interest. I thank Professor STEUER most heartily for having given me the samples for revision.

LAKE MATYT, SEPTEMBER 12 AND 29, 1933

The sample contains fine white detritus. No phytoplankton at all is to be stated; neither are there any littoral forms.

LAKE EDKU, D 1 NEAR ISLE DERFIL, OCTOBER 1, 1933

Fine detritus prevailing in the sample. In this detritus, few littoral Diatoms (*Gomphonema*, *Navicula*) are interspersed. Phytoplankton is missing.

LAKE EDKU, D 49, NEAR THE BRIDGE AT MAADYAH,
OCTOBER 17, 1933

The sample contains fine detritus in which some specimens of *Synedra* and *Gyrosigma acuminatum* are to be identified. Phytoplankton is missing.

NILE NEAR ROSETTA, NOVEMBER 18, 1933

This sample, too, contains fine mineral detritus. Moreover there are some larger parts of vegetable detritus. The phytoplankton consists principally of the genus *Melosira*; its quantity can be called predominant. The cells are much longer than broad. On the girdle side a distinct sulcus is to be observed. The cells are

without teeth or bristles. Diameter of cells 4–10 μ , height of valva 30–34 μ . Pores of the mantle-surface in slanting spirals, crossing each other in two directions. This species is very closely related to *Melosira granulata* (Ehrenb.) Ralfs. The lack of teeth and bristles, however, justifies the creation of a new species which I call *Melosira crucipunctata* nov. spec.

Besides this *Melosira* the plankton sample contained: *Synedra longissima* var. *vulgaris* Meister, *Synedra ulna* var. *aequalis* Brun and fragments of typical *Melosira granulata*. I possess some other plankton samples from the Nile which had been collected for me by the late Dr. Hans Amberg, Luzern, in 1904. The samples are from the following stations:

- (1) Assuan, 936 km., 9-II-1904. Water temperature 16.4° C.
- (2) Above Edfu, 840 km., 8-II-04, T=16.5° C.
- (3) Dendera, 655 km., 4-II-04, T=15.0° C.
- (4) Assiut, 396 km., 2-II-04 T=14.3° C.
- (5) Above Fashn, 160 km., 30-I-04, T=14.3° C.
- (6) Cairo, 8-IV-04, T=18.8° C.
- (7) Bedreshein, 23 km., 29-I-04, T=14.2° C.

A very small net having been used, the samples are very scanty. The samples 1, 2 and 3, however, contain the genus *Melosira* very frequently, even predominant. It is the same *Melosira* as in Professor STEUER's samples. Breadth of the cells, 3, 6 to 14 μ , length 27–30 μ . At the stations 4, 6 and 7 *Melosira granulata* var. *angustissima* Müller was to be noted beside the typical *Melosira crucipunctata*. And like STEUER's samples, those of AMBERG as well showed hardly any other phytoplankton. One may mention: *Pediastrum clathratum* with varieties, *Surirella splendida*, *Eudorina elegans*.

These samples coming from a large district of the Nile prove that the *Melosira* in STEUER's material represents a real phytoplankton component of Nile water and not merely a passive swimming organism.

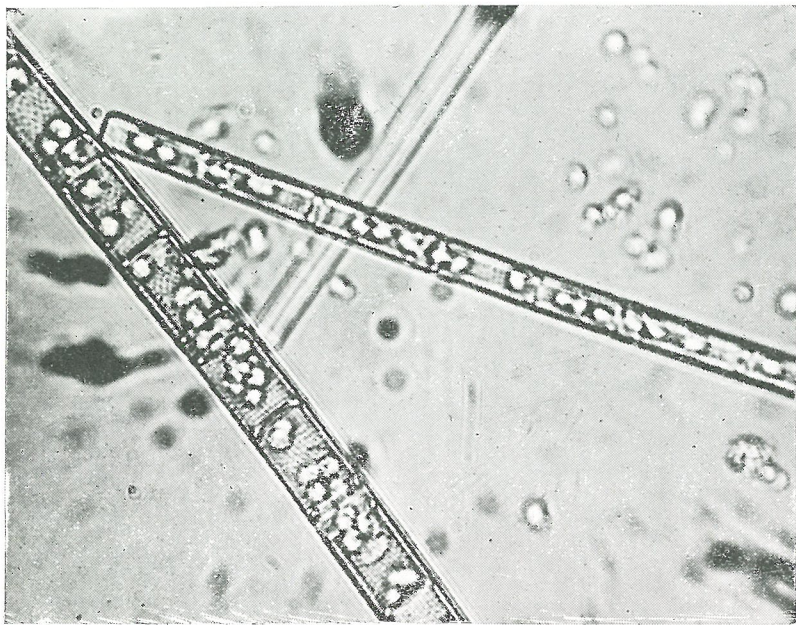


FIG. 1
Melosira crucipunctata Bachm.
 Nile near Rosetta, 18.XI.1933. leg. Prof. Steuer

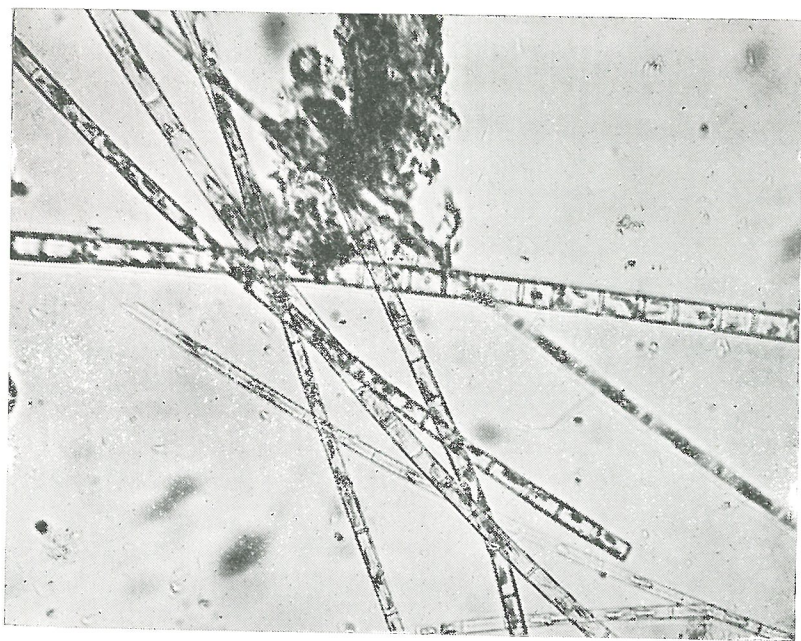


FIG. 2
Melosira crucipunctata Bachm.
 Assuan, 9.II.1904. leg. Dr. Amberg

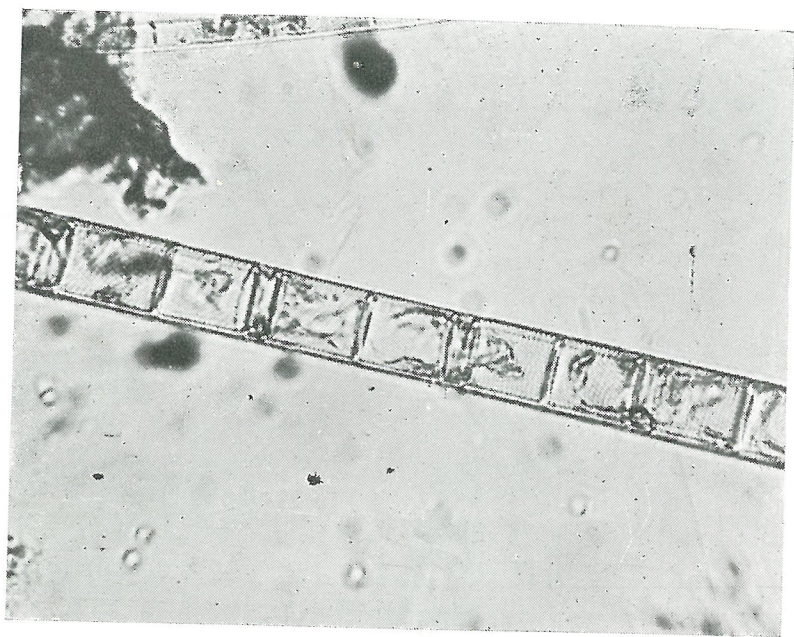


FIG. 3
Melosira crucipunctata Bachm.
 Assuan, 9.II.1904. leg. Dr. Amberg

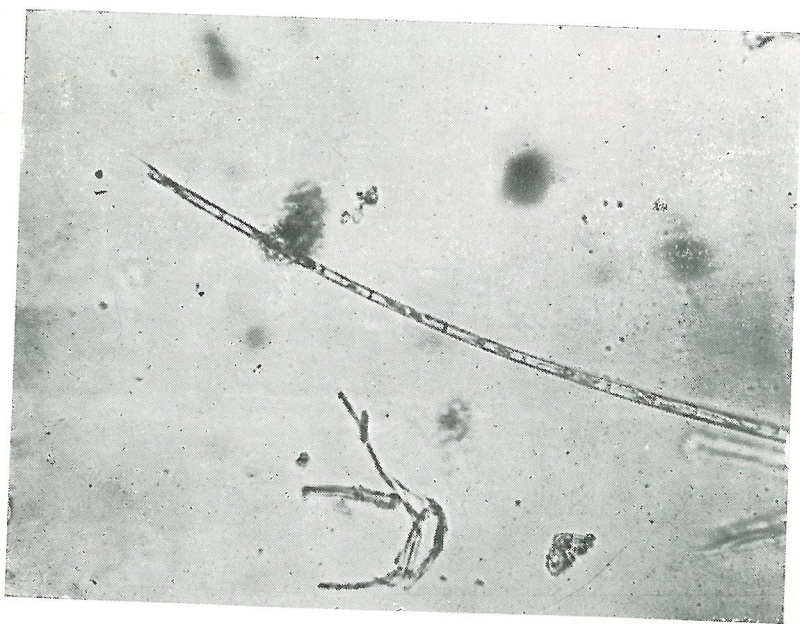


FIG. 4
Melosira granulata var. *augustissima* Müller
 Assuan, 9.II.1904. leg. Dr. Amberg