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NOTICES OF PUBLICATIONS ON FOREIGN VEGETATION

Allen, W. E. "A Quantitative and Statistical Study of the Plankton of the San Joaquin River." *Univ. California, Publications in Zoology*, **22**, 1920, pp. 1-292.

This paper contains an exhaustive analysis of the plankton of a Californian river, confirming in part some of the conclusions obtained by Kofoed for the Illinois River plankton. In the area investigated (near Stockton), the San Joaquin River flows over deep alluvium, and possesses a rather sluggish current during the dry period (August to December). Floods usually begin about late December, and continue, following the melting of the alpine snows, until June.

The phytoplankton is dominated by Diatoms, chiefly *Asterionella gracillima*, *Cyclotella* sp., and *Melosira granulata*. Myxophyceae (*Anabaena*, *Oscillatoria* and *Nostoc*) and Chlorophyceae (*Pediastrum*, *Scenedesmus*) are frequent but not conspicuous, in view of the numbers of Diatoms. Cladocera are the most abundant animals but Rotifers are also at times abundant, particularly in the sewage-laden Stockton Channel.

The author concludes that temperature is the principal factor determining the plankton periodicity: he points out that in contrast to most rivers and the sea, the San Joaquin shows a plankton maximum in autumn, the period when the current is least and the temperature generally high. He found that the numbers of plankton organisms varied very markedly at different times of the day and night, chlorophyll-bearing organisms increasing in numbers from about midday until sunset. The number of animals usually decreased as the day progressed. Daily observations during August showed a distinct tendency for the chlorophyll-bearing organisms to be most numerous when the moon was full, in agreement with Kofoed's suggestion as to lunar pulses in the Illinois River plankton. It is to be regretted that the author had no assistance to enable him to extend the enquiry to the determination of variations in the physical conditions of the river waters.

Strøm, K. M. "Freshwater Algae from Caucasus and Turkestan." *Nyt Magazin för Naturvidenskaberne*, **57**, 1919, pp. 1-14.

The author describes the collections made by Professor Wille in these regions. He remarks on their poverty in species, which he attributes to the geological structure and dry climate of the region traversed. *Cladophora* was generally the dominant alga, but there were numerous species of *Chroococcus* and *Oscillatoria*, and about twenty species of Desmids.

Strøm, K. M. "Freshwater Algae from Tuddal in Telemark." *Ibid.* 1919, pp. 14-66.

The algae from the mountains of Southern Norway are practically undescribed, and the results included by the author in the above paper are therefore of considerable interest. The algal flora is composed very largely of Desmids, though Myxophyceae are also frequent. It is impossible to summarise the varied communities observed, but the general results fully confirm the view that rocks of pre-carboniferous age bear rich Desmid floras.