British Ecological Society

Mikrobiologische Untersuchungen ueber einige Japanische Wasserleitungen. by H. Hattori
Journal of Ecology, Vol. 8, No. 1 (Mar., 1920), p. 72

Published by: [British Ecological Society](#)

Stable URL: <http://www.jstor.org/stable/2255230>

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results contrary to those of Senn were obtained; isolated cells were found to predominate under more or less anaerobic conditions, whilst in the presence of an adequate oxygen-supply coenobia are largely formed. It is suggested that in the former case the single cells afford a larger surface for respiration. Calcium-salts, in a concentration of 0.25–1.75 per cent., accelerate development and cause an increase in size, both of the single cells and of the coenobia, whilst potassium-salts (0.5–1.75 per cent.) have an inhibiting influence on the formation of coenobia.—The diverse experimental results obtained are illustrated by a large number of plates.

Chodat, R. “Le jardin alpin et le laboratoire de biologie alpine de la Linnaea à Bourg-Saint-Pierre (Valais) en 1915.” *Bull. Soc. Bot. Genève*, 2^{ème} sér., **7**, 1915, pp. 188–211.

This report contains some interesting data on alpine Algae. As a result of the investigation of red and black snow from diverse new localities, the flora is stated to form a well-marked association of *Chlamydomonas nivalis* Wille, *Raphidium nivalis* Chod., *Ancylonema nordenskiöldii* Berg., *Pteromonas nivalis* Chod., and cells of *Cystococcus* arising from the disorganisation of Lichens; occasionally other forms are found, but these are not to be regarded as typical of the association. The cells of *Cystococcus*, when exposed to prolonged light, develop the same yellow tint as is characteristic of the *Pteromonas*. It is worthy of note that the members of this snow-flora are not encountered elsewhere than in the immediate vicinity of the snow-fields. The glacial waters of the high Alps are characterised by the abundance of large Diatoms (*Surirella spiralis*, *Stauroneis phoenicenteron*, etc.), by the presence of enormous quantities of Mesotaeniaceae (*Cylindrocystis* spp., *Mesotaenium violascens*), and by various Protococcales, including several new forms. Data are also given on the flora of the red lake (Bec-rond, Entre deux Tours) which owes its colour to *Euglena haematodes*.

Hattori, H. “Mikrobiologische Untersuchungen ueber einige japanische Wasserleitungen.” *Journ. Coll. Sci. Tokyo*, **40**, 1917, Art. 4, pp. 1–76, plates I–VI.

Apart from numerous statistics on the occurrence of Bacteria, the author deals with the microorganisms (Chlorophyceae, Diatomaceae, Bacteria, etc.) present in the sand-filters and their role in connection with filtration. The superficial slimy mass formed by them increases the efficiency of the filters, but does not directly antagonise the development of Bacteria in the water. On the other hand the considerable reduction in the quantity of organic substance in the water, after filtration, is thought to be due to the activity of the microorganisms in the sand-strata. Among the more important Algae concerned are *Melosira varians*, *Synedra* spp., *Cymbella tumida*, *Diatoma hiemale*, *Navicula lanceolata*, *Nitzschia acicularis*, *Cosmarium obtusatum*, various Zygnemaceae, *Oedogonium* spp., *Conferva*, *Anabaena*, *Coelosphaerium*, etc., on the whole the kinds of Algae usually encountered in small relatively stagnant pieces of water. Data are also given as to the periodicity of the flora.

Piercy, A. “The structure and mode of life of a form of *Hormidium flaccidum* A. Braun.” *Ann. Bot.*, **31**, 1917, pp. 513–537, 3 tables and 6 figures.

The author gives an account of the life of the Alga in question in its native habitat. The filaments survive throughout the year, but are subject to modifications during periods of drought, when an accumulation of refractive granules takes place in the cell-contents and changes occur in the longitudinal walls and the septa. Reproduction takes place by