JAPANESE BOTANICAL LITERATURE.

Kusano, S., Preliminary notes on the chemotaxis of the swarm-spores of Myxomycetes. (Bot. Mag. Tokyo, Vol. XX. Feb. 1906, p. 23-27) (Japanese).

Of about twenty species of Myxomycetes examined, only three namely *Æthaliium septicum*, *Stemonitis fusca* and *Comatricha longa* were found to germinate easily in water, and they were used for the study. The ripe spores germinate in water kept at about 20° C for a few hours, and the swarm-spores seem to be alive for over a week. Using PFEFFER'S capillary method the following results were obtained:

1. Acids attract the swarm-spores. Of about twenty organic and inorganic acids experimented, all gave the chemotactic stimulus to the swarm-spores. The stimulus varies according to the degree of electric dissociation of the acids. Very slightly dissociated acids like boric acid and hydrocyanic acid show very little attraction. When the degree of dissociation is about the same, the attraction of dibasic acid is stronger than that of monobasic acid: e. g. sulphuric acid attracts more than nitric or hydrochloric acid in the same degree of concentration.

2. Acid-salts or such salts which are acidic in solution due to hydrolytic dissociation cause the positive chemotactic locomotion of the swarm-spores.

3. Swarm-spores are also attracted towards the acidic juice of various fruits.

4. They are indifferent towards various carbohydrates and neutral non-metallic salts of organic or inorganic acids.

5. Alkaline solutions cause negative chemotactic reactions.

The author concludes that the chemotactic attraction is due to the H-ion present in the solution.

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