# Species of Algae Found in Acid Sulphur Springs of Kerala

In certain parts of Kerala the water coming out of springs have a high acid reaction and water also contains iron. The analysis of the water collected from three different sources are given below :-

| No. of sources. | Sources | pH | Sulphate p. p. m. | Iron p. p. m. | Nitrogen | Conductivity MICROMHOS / CM |
|---|---|---|---|---|---|---|
| 1 | Vellayani | 2.5 | 530 | 20 | Trace | 8760 |
| 2 | Varkala I | 3.5 | 720 | 110 | Trace | 9210 |
| 3 | Varkala II | 3.7 | 727 | 37 | Trace | 9412 |

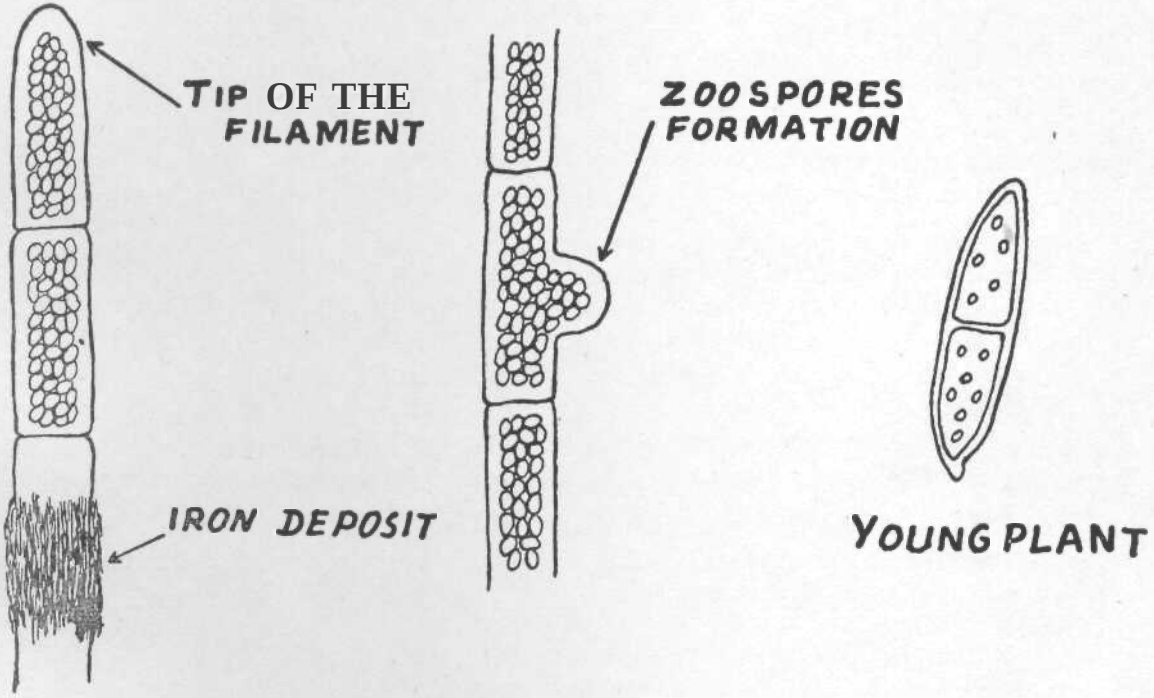
It was found that when this water was inoculated into a nutrient agar & soil extract agar there was no growth of bacterial flora. Even fish does not grow in these tanks. But a kind of Alga was found to grow well. The Alga was seen even on rocks at the spring mouth.

Sample of these Algae from different localities were collected and examined. They were found to be indentical to Tribonema species (1) Threads are occasionally found densely covered with irregular masses of mucilage coloured brown by carbonates of iron. The unbranched threads with deposits of iron are composed of uniform cylindrical cells with cellulose walls which are thin with obtuse end. There is a continuous internal cellulose layer enveloping the whole protoplast. The chloroplast occupy the whole cytoplasm, irregular in shape more often mumerous and discoid. In some cells there is a bulging which may be the formation of zoospores.

There is accumulation of iron in the Algae and it gave on analysis the following results :-

| No. | Source | Nitrogen % On oven dry basis | Fe2 03 % On oven dry basis. |
|---|---|---|---|
| 1 | Vellayani | 2.1 | 4.120 |
| 2 | Varkala | 1.9 | 5.076 |

# ALGAE FOUND IN ACID SULPHUR SPRINGS OF KERALA



The atga was found to live in symbiosis with a particular type of bacteria which resemble azotobacter. This alga from its morphological characters appears similar to *Tribonema* sp ; (1) Further work is in progress.

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