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Kemp

Ottawa Technical College

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My Dear Mr. Brewster

I send you I think an interesting Alga which I have fallen upon in my afternoon rambles. I have put specimens in a little bottle of fresh water in the hope that they will reach you in a growing or living state. The plant is *Salmella lyalina* by no means an uncommon plant altho it has only been imperfectly described by authors. It is noted by Hensel, Rabenhof, and Wood but none of ^{the} books to which I have had access note the remarkable features in it which I want you to look at.

You will see that it is a hollow sphere and when attached to rocks or logs is quite globular, with no opening. It is filled, but not crowded, with bright green spores of a general oval form. I looked at it ~~the~~ very soon after it was gathered when it was quite fresh and was somewhat surprised to find all the spores expanding and contracting with a jerk. This led me to give special attention to the thing, but when I came to look at

It again I found the vitally one, I collected
hundreds more ^{specimens} and have investigated this peculiar
with the deepest interest.

All the spores contract, but they
are seemingly of two kinds - one contracting
less slightly and retaining its oval form with
sometimes a little projection at one extremity
and a large white cell in the interior, and for
a little distance delicate cross markings or
corrugations. The other kind is very singular
it expands, often more than double its own length,
and has a long clear beak, at the extremity
of which there is a long apparently tubular
and delicate Cilium. In the interior of the beak
there are threadlike processes or possibly lateral
corrugations of the cell walls, which are delicately
cross striated and are seemingly ^{the} contractile
organs. I can only at present conjecture
that this jerking and these beaked & ciliated
cells have something to do with fecundation.
- that the beaked are the male cells, or in some
way act as such, and the others female.
Some of the latter have as if little apertures at
the contracting end, which may become some tiny
go-spores thrown off by the long ciliated process

but this at present is mere conjecture
My microscope is wanting in lens power
a fourth is all I have but some-
thing more is necessary to make out
the structure of this cell. There may be
some one about the College interested
in Biological researches who would
apply an 1/8th or 1/16th to the cells and
especially to the structure of the cell
and the beak. I am trying to cultivate
this plant and so far find its spores
settling on the glass and the sporules gradually
enlarging. I find too that the spores con-
tinue jerking even after they leave the containing
gelatine!

I send you some rough sketches of enlarged
forms of the spores which I have observed.
If you think the matter of sufficient scientific
interest it might be mentioned at the
Nat. Hist Society.

I cannot find any Booke or Sponges
here. If you have Powerbank in the February
and feel at liberty to send it me by Express for
a few days I shall be responsible for its safe

Return. I have quite a collection of sponges
and would like if possible to determine
them.

Am glad to know that you
have a work on Anthropology
in the press and hope to see it soon

Yours Sincerely,
G. S. Sneyd



The cross striae are not so distinct as I
have made them here. They are not obvious
to any measure