

Note on Sporocysts & Macrospores

Dr. Collected by Mr Thomas
in the Sicily of *Therapsid* & *Ther.*
Prof Reubening and I have examined the
specimens sent with the following results. ~~etc~~

The ~~Mass~~ Sporocysts all present
like those sent some time ago
of Prof Otter. In one of
them a Macrospore of the
Species *Sporangia* *Amurensis*
can be seen in place ^{in one of the circular sporocysts,} & ~~ringing~~
them completely. In another
there seem to be detached
groups of small Macrospores
fully immature. This would
indicate that they grew in groups
or perhaps the apparent group
result from portions of the
Sporangia contained within
the sporocyst having been
separated. There seems no
doubt that the peculiar
of this ^{specimen} ~~specimen~~ indicates a
distinct species.

The fine slides of Macrospores
do all by entirely with reference
to the differences of them in
me, thickness of wall, perfection
of the pinn structure and
contents

In point of size, to by the
typical sp Hummeris as a
magn (say 1/80 th of an
inch) there are a few specimens
nearly double this diameter and
others much smaller. There
are also very minute thin-walled
objects sometimes filled with
dense black vitreous matter
which would seem to be microsomes.
These are especially abundant
in the slide marked "898, Luckraud, near
Lake tunnel"
They are probably the first of 2
types found of this Micro-
spores and are similar in size
to those of Sulimnia. The
extreme thinness of their
wall must have been
unfavorable to their preservation,
and very very light they
may have drifted into
places distinct from the
macrospores.

In thickness of wall
the larger specimens generally
be well and there also shows
the pores most distinctly but
the difference is one of degree
and may possibly be due to

in the state of
 difference of ~~shape~~ ^{of} ~~material~~
~~of~~ ~~to~~ ~~the~~ ~~same~~ ~~as~~
 known growth. Still the
 specimens both in size and
 thickness are so great that
 it by no means improbable
 that there may have
 been distinct species.
 The term Chicapeensis may
 well be retained as at
 least a varietal designation
 of the thicker and more
 firm form, ^{and the term name Clavaria}

It is to be observed also that
 the round and the lipid forms
 the macrospores may
 have been of at
 least two species
 belonging to
 these two
 kinds of
 spores
 respectively

^{and the term name Clavaria may be applied to the very large and thick-walled specimens, Clavaria and Clavaria of my paper of 1888}
 As to content, most
 of the specimens appear
 to have been deprived of
 their normal contents by
 germination or decay. Many
 show a slit an open slit,
~~as has been noticed in very~~
~~young paper and have~~
 a faint mark probably of attachment
 and shed, apparently of an
 inner membrane, ^{or indication of peridium contents} these facts were
 referred to in the original description*
 Those specimens about, have the
 interior filled with black matter

* Ann Acad of Science 1884 & Chicago Transactions

and which also are probably
the lighter specimens tending
to float, as observed by
The Thomas, probably retain
their contents in a stummi-
lined plate, and are hence
up completely flattened.
It is probable these, rather
than the empty sporocysts,
that are the principal source
of petroleum in the shales.
If the stummi-lined contents
are semi-fluid, they might
be gradually expelled by pressure
and so be a source of liquid
bitumen.

Now that we know
with certainty the sporocysts
in which these macrospores
were contained and find
that as stated in their description
of the specimens obtained in Ohio ^{in 1888}, * these are larger and
more loosely cellular than those
of the Brazilian species, first described,
there can be no doubt in regarding
the ~~proper~~ provincial name *Sporocystes*
and in calling them *Polytoma* *harmani*
and variety *cheyennensis*, as suggested by me
in 1888.

* Canadian Journal of Science 18

Mr Thomas is at liberty
I make any use of the
above note that he
may think proper
in Community for New
York & the Chicago Academy

A. M. Dawson

(July 1901)