

Note on Abnormal Sporocarp of *Salvinia natans*.

BY

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With Plate XLVIII.

This sporocarp, remarkable in that it contains both mega- and microsporangia, was found among material supplied at the Royal Botanic Garden, Edinburgh, to the class of Advanced Practical Botany.

Normally the Hydropteridæ, which are heterosporous, have their microsporangia and megasporangia in different sporocarps, which in *Salvinia* are externally indistinguishable, but in *Azolla* are quite distinct. Yet in *Azolla* the two kinds of sporocarps can be traced back to one type, whilst in the case of *Salvinia* there has been an almost entire lack of evidence of common origin.

In the microsori of *Azolla*, the megasporangium aborts at an early stage. In the megasori, on the other hand, only the megasporangium develops, but there are found at later stages of development primordia of microsporangia, which abort. *Azolla* thus shows what we may take to be the stage of separation of the original hemaphrodite sori into male and female ones.

In the male sorus of *Salvinia*, on the contrary, we do not find aborted microsporangia, nor aborted megasporangia in the female sorus. But in my specimen we have an example of the primitive stage which is more closely approached by *Azolla*, and the value of the evidence is strengthened by the close relationship between the two. It is easy to understand the cause of the development, for, as Goebel¹ points out, the separation of microsporangia and megasporangia favours cross-fertilisation.

So far as I am aware, this particular abnormality has been only once before observed. It is recorded by Goebel² :—"We

¹ Goebel, *Organography of Plants*, vol. ii. (1905), p. 487, footnote 6.

² Goebel, *L.c.*

have no reason for supposing that *Salvinia* originally had sori composed of both microsporangia and megasporangia, yet the behaviour of *Azolla* suggests such a supposition."

"Moreover, Heinricher found on one occasion in *Salvinia natans* a sporocarp which contained some megasporangia among a number of microsporangia."

There may have been some peculiarity in the material supplied, as this feature seemed less rare in it than in that examined by those who have investigated these plants. I had two other examples of it among the sporocarps I examined, and of these I am positively certain that one at least was a case similar to that shown. I may mention that no normal female sporocarps have been found in this material to my knowledge. But this is negative evidence, and some may yet be found. If we take it that the material is quite normal, the repetition of instances is an important support to the supposition that this is merely a reversion to a more primitive state of hermaphroditism—once the ordinary condition in the Hydropterideæ.

My thanks are due to Mr. W. E. Evans, who was kind to make the excellent photographs reproduced on Plate xlviii.

EXPLANATION OF THE FIGURES IN PLATE XLVIII.

Illustrating Mr. Gray's Note on "Sporocarp of *Salvinia*."

FIG. A. Normal sporocarp.

FIG. B. Abnormal sporocarp.

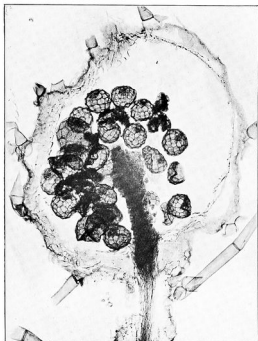


Fig. A.

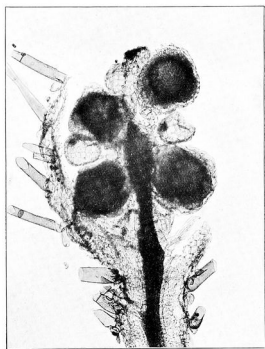


Fig. B.

Gray—Sporocarps of *Salvinia*.

