SPIRAL PHYLLOTAXY IN *EQUISETUM DEBILE*

The paper reports an abnormal arrangement of leaves in *Equisetum debile* which grows in aquatic, semi-aquatic and xerophytic conditions. Leaves are small, arranged in whorls, united at the base to form sheath round the nodes (Hauke, 1963). Number of leaves varies from 6 to 20 per whorl in the plants growing in different environmental conditions.

Few abnormal branches have been observed in semi-aquatic forms. These branches have been noticed at the time of cone formation. On close examination it has been found that these abnormal branches exhibit spiral phyllotaxy. Earlier to this report, a late stage of spiral phyllotaxy in *E. palustre* has been described by Bierhorst (1971). We have recorded several early and late stages of spiral phyllotaxy in *E. debile* (Text-figs. 1-3). At what stage and how the spiral phyllotaxy is formed in this genus, is not definitely known. It has been observed that at an early stage, one of the leaf of a whorl at the node enlarges. This enlarged leaf does not fuse with other leaves of the same whorl but fuses with the leaves of the next whorl. This unique interwhorl fusion follows with spatial distoration transmitted up to the shoot. Spiral phyllotaxy continues up to 4 or 5 nodes. Later, this branch either behaves normally or gets dried up. The present account reveals that the spiral phyllotaxy is of common occurrence in *E. debile*.

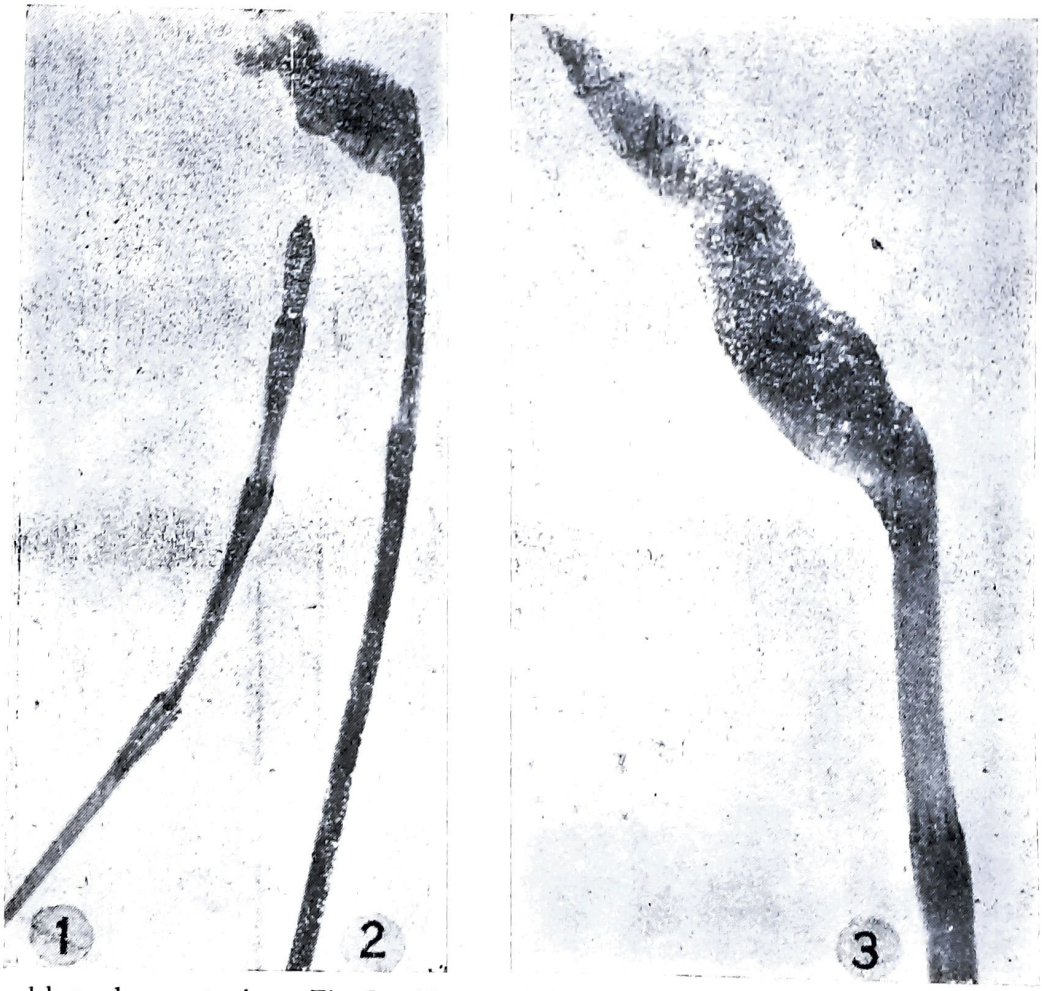

Fig. 1—Normal branch. x nat. size; Fig. 2—Abnormal branch showing early stage of spiral phyllotaxy. x nat. size; Fig. 3—Abnormal branch showing late stage of spiral phyllotaxy. x nat. size.

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References

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