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The Occurrence of Specialized Vessels in the Stem of *Pothos scandens* L, (Araceae)

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Abstract: ***The vessels are not restricted to the roots in aroids as was considered earlier. They occur in the stem of Pothos scandens L.studied so far. The occurrence of the vessels in the stem in Araceae appears to be recorded for the first time.***

Keywords: Vessels, stem, Pothos scandens

1. Introduction

Studies of the Cheadle school have revealed that the vessels arose first in the root of monocotyledons (Cheadle, 1942, 43; Cheadle and Tucker, 1961; Cheadle and Kosakai. 1971 etc.) This feature has often been employed in discussions of the phylogeny of the group and of the flowering plants as a whole (Takhatajan, 1969; Cronquist, 1968. 1981; Dahlgren et al 1985). In the Araceae, the vessels are restricted to the roots and are absent elsewhere in the plant. (Cheadle and Tucker, 1961); the vessels in the root are also of a primitive type. In the course of studies on the vegetative anatomy of Araceae, the present author found vessels in the aerial stem of some genera and species of the family and those of *Pothos scandens* arc reported here as they are of a more specialized type in comparison to the vessels in the root.

2. Materials and Methods

The stem material was macerated with the usual chromic acid-nitric acid mixture and processed for staining with safranin.

3. Results

The vessels in the root are narrow and with a multiperforate end-wall plate. In the stem, the early metaxylem vessels are also narrow, multiperforate, and very similar in those in the root; the late metaxylem elements (3950-4200 μm long and with diameter of 96-120 μm) are rather broad and also with a multiperforate end wall plate but with up to four bars (fig. 1 A, B)

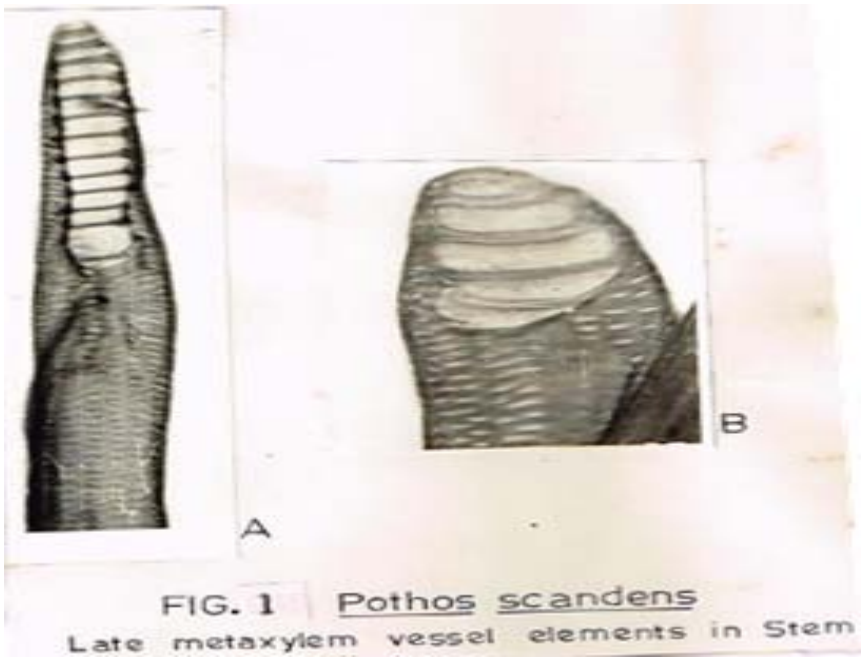


FIG. 1 Pothos scandens
Late metaxylem vessel elements in Stem

4. Conclusion

The unique feature is that the vessels in the stem of this plant are of a more specialized type vis-a-vis those in the root, Expectedly they should be less special-ized. This is a rather anomalous, situation and is reported, as far this author is aware, for the first time. In other genera of the family, e.g. *Epipremnum*, *Philodendron* etc. where vessels in the stem are recorded, such a condition with few bars is not observed.

5. Acknowledgement

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