SELAGINELLA STEM ANATOMY ADDITIONAL NOTES ON TAIWAN SPECIES

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In the last issue of Taiwania[1] we discussed the *Selaginella* of Taiwan. A key, based on stem anatomy characters, was given to the known species, and descriptions of the anatomy of each was given. This study is still being continued. Plate I gives illustrations of six species. *S. doederleinii* Hieron. shows a stem without an aerenchyma zone. The cortex has an outer thick walled, lignified zone and an inner parenchyma zone which extends to the stele.

S. leptophylla Baker has a wide aerenchyma zone and narrow trabeculae connecting the thin walled cells of the cortex to the stele.

S. delicatula (Desv.) Alston shows a stem with 3 vascular bundles each with a distinct endodermis and a narrow aerenchyma zone surrounding the amphicribal vascular bundles.

S. mollendorffii Hieron. has a very long flattened stele surrounded by an aerenchyma zone.

The illustrations of *S. involvens* (Sw.) Spr. and *S. pseudo-involvens* Hayata are more highly magnified to show details of their steles. Both are elongate and flattened, but the former has a central "V-shaped" bulge, and the later has the two ends and central portion swollen.

Slides of all species were prepared by Beryl B. Y. Shih; and the photographs were made by Mr. Sheng-yuh Wu, both of our Botany Department.

Further study on *S. tamariscina* shows that sections of younger branches differ considerably from the stems at the base. The branches examined have a large cortex composed of thick walled, which are non-lignified and have large lumen. The stele is elongated and flattened; where the stem branches, two bundles of equal size are formed; in the cortex are several very small vascular bundles, (usually four) these being spaced about equidistant between epidermis and stele.

S. boninensis[2] has a single central vascular bundle; the cortex is composed entirely of thin walled cells; the aerenchyma zone appears very narrow; the epidermal cells are thin walled with a small amount of cutin on the outer wall.

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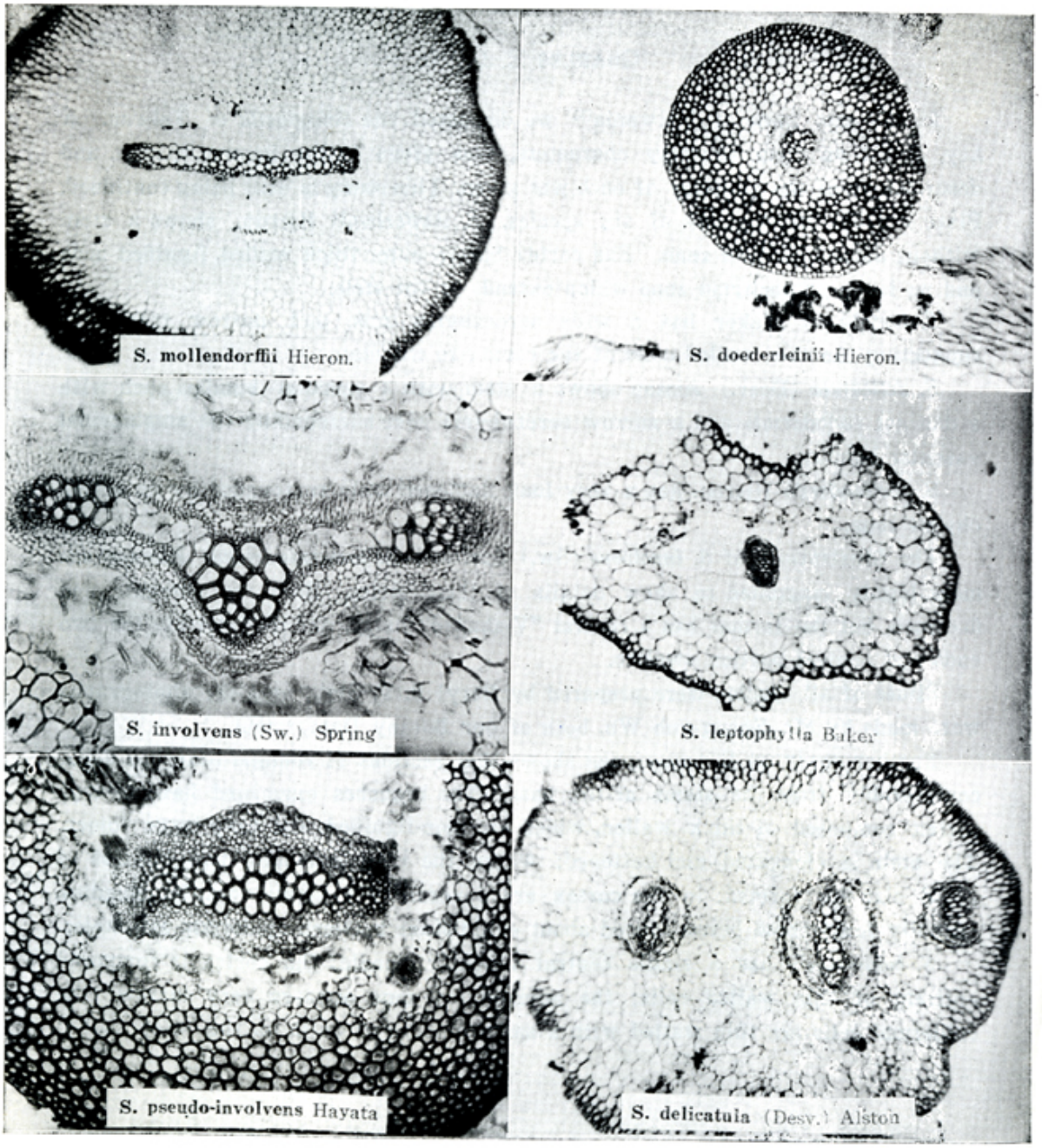
(1) Taiwania **12**:65-90, 1966

(2) Our only material available for making slides is very old, and the sections are far from perfect.



Cross section of *Selaginella* stems