

A NOTE ON VESSELS IN HYPOLYTREAE OF CYPERACEAE

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In an earlier paper (Cheadle and Kosakai, 1972) on vessels in *Cyperaceae* we had available only two genera (*Chorizandra* and *Chrysithrix*) and two species of the tribe *Hypolytreae*. This was unfortunate, for it turned out that *Hypolytreae* has the most primitive vessels on the whole. After reading the paper, Mr. Pieter Baas generously sent us fragments of roots, stem (culm), and leaves of the following additional genera and species of *Hypolytreae*:

Hypolytrum compactum Nees & Mey. M 970 (rhizome also);

H. nemorum (Vahl) Spreng M 969;

Paramapania parvibractea (Clarke) Uitt. M 968;

P. radians (Clarke) Uitt. M 971.

After soaking in boiling water, the fragments were macerated and mounted in dilute glycerin for study. Camera lucida drawings were made of perforation plates and immediately adjacent walls for permanent record.

On the grounds of a rather aberrant, and probably specialized leaf anatomy of *Chorizandra* and *Chrysithrix* (Baas, 1969), Mr. Baas predicted that in *Hypolytrum* and *Paramapania* an even lower level of vessel specialization would be revealed and he is right. We did not find vessels with simple (uniperforate) perforation plates (highest specialization) in any of the organs examined. Long scalariform plates (most primitive form) were relatively common, particularly in stems and leaves. Perforation plates with relatively few — and often thin — bars occur commonly in the late metaxylem of roots, but were less common in late metaxylem of stems and leaves. The perforation plates are all relatively long with relatively numerous bars in vessels of early metaxylem. Baas in Metcalfe (1971: 312), also reported vessels with 'many-barred scalariform' perforation plates in metaxylem in roots of *Hypolytrum strictum* Poepp. & Kunth.

Our new data are combined in Table 1 with those provided for *Hypolytreae* in our earlier (1972) paper. The meaning of the numbers is given in the table footnote. They

TABLE 1. Vessel Specialization* in Metaxylem in *Hypolytreae*

Organs	No.		Metaxylem		
	Genera	Species	Early	Late	Both
Root	4	6	1.50	1.83	1.67
Rhizome	3	3	1.33	2.00	1.67
Stem	3	5	1.00	1.20	1.10
Leaf	3	6	1.00	1.17	1.08
All organs			1.20	1.50	1.35

* Specialization of vessels based on kinds of perforation plates: 1, scalariform only; 2, mostly scalariform; 3, scalariform and simple; 4, mostly simple; 5, simple only.

represent levels of specialization of perforation plates, which reflect specialization of vessel members. (The term vessel is used interchangeably with vessel member unless meaning is thereby obscured.) The inclusion of the present data reduces the values in nearly every instance (except for early metaxylem in stem and leaf, where the value remains the same). The number representing specialization of vessels in metaxylem throughout the plant is reduced from 2.0 in the 1972 paper (p. 221) to 1.35. This means that vessels in this tribe are even less specialized than we reported earlier and the position of *Hypolytreae* as least specialized among all the tribes in *Cyperaceae* is further substantiated as far as vessels are concerned.

In addition to the four species reported here, only *Cladium jamaicense* and *C. mariscoides* lack highly specialized vessels throughout the plant in species of *Cyperaceae* we have examined. Thus we are interested in having material from other genera among the fourteen listed for *Hypolytreae* by Hutchinson (1959). We would appreciate hearing from anyone having either herbarium or preserved materials of species in our missing genera and preferably of all organs.

LITERATURE CITED

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