

A Further Chromosome Count for *Osmunda* (Osmundales) from Peninsular Malaysia

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The near cosmopolitan fern genus *Osmunda* has been well studied cytologically. Autotetraploid and triploid plants were experimentally produced by Manton (1950). In Peninsular Malaysia, the genus is represented by two species, namely *O. javanica* Bl. and *O. vachellii* Hook., and both are uncommon, restricted to a few localities in the primary forests of Pahang. *O. javanica* is also found in the highlands (Cameron Highlands and Fraser's Hill) whilst *O. vachellii* is a species of both higher and lower elevations (Bidin, 1984a).

The cytology of all the three genera in Osmundales (*Osmunda*, *Todea* and *Lepopteris*) is distinctive and uniform, all have $n = 22$ (Lovis, 1977). Bidin (1984b) has reported the chromosome number of *O. vachellii* ($n = 22$) from the National Park Tembeling, in Pahang. The cytology of *O. javanica* is studied and the chromosome number is reported in this paper for the first time.

Squashes made from the tapetal cells of *O. javanica* collected from Telom Valley, Cameron Highlands and grown in the Universiti Kebangsaan Malaysia Glasshouse (UKMB) also showed clearly $2n = 44$ (Fig. 1). This finding confirmed the uniformity of the cytology of the genus in Peninsular Malaysia as well as the world.

All the specimens gathered and kept at UKMB were from several localities in undisturbed forests of Pahang, growing in fairly deep shade in permanently damp and

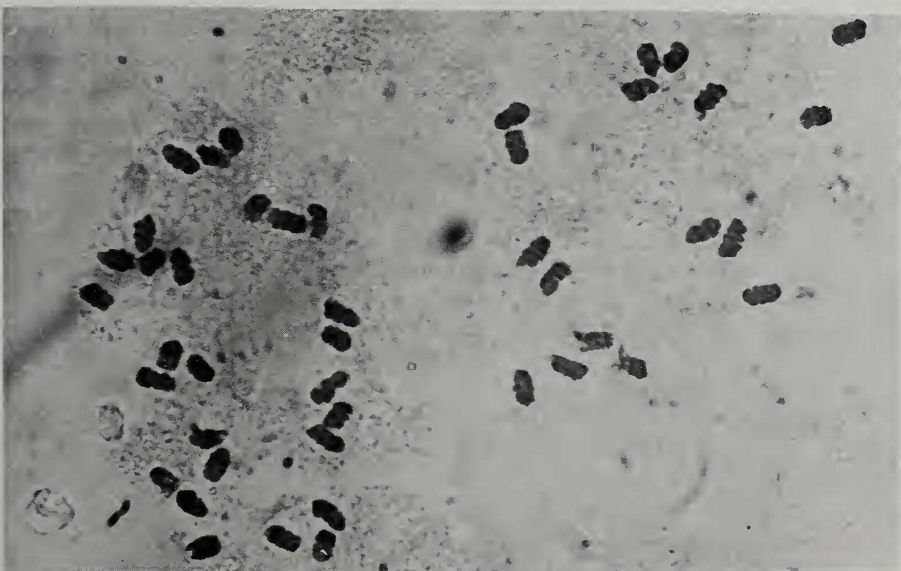


Fig. 1: Mitosis in *Osmunda javanica* Bl. from Cameron Highlands, Pahang. $2n = 44$. 1000X

wet habitats. *O. javanica* was collected from Telom Valley, Cameron Highlands and Fraser's Hill (elevation c.4000 ft.); whilst *O. vachellii* was collected from the rocky bank of River Tembeling in Malaysia's National Park (elevation c.50 m).

The plants grew well in the glasshouse and produced sporangia.

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References

- Bidin, A. (1984a). Ferns of family Osmundaceae in Peninsular Malaysia. *Nature Malaysiana* 9(1): 28-31.
- Bidin, A. (1984b). A chromosome count for *Osmunda vachellii* from Peninsular Malaysia. *Fern Gaz.* 12(6): 360-362.
- Lovis, J.D. (1977). Evolutionary patterns and processes in ferns. *Adv. Bot. Res.* 4: 229-415.
- Manton, I. (1950). *Problems of cytology and evolution in the Pteridophyta*. Cambridge University Press, London.