

Palynology of Eleven Species of the Genus *Tectaria* Cav. (Tectariaceae-Polypodiaceae).

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The genus *Tectaria* can be distinguished by its erect rhizomes, blades simple to mostly pinnatifid or 1-2-pinnate, veins netted, often with free, included sometimes forked veinlets, sori abaxial and rounded to oblong, rarely the sporangial in continuous marginal coenosori [1]. It is a pantropical genus, about 230 species [2], mostly developed in Southeast Asia and adjacent Pacific islands; there are 25-30 species in America, mostly of South America. They generally live on limestone at low elevations, in wet forests.

The aim of this work was to study the morphology of the spores of *Tectaria athyrioides* (Baker) C. Chr., *T. draconoptera* (D. C. Eaton) Copel., *T. heracleifolia* (Willd.) Underw., *T. incisa* Cav., *T. aff. incisa* Cav., *T. juglandifolia* (Baker) C. Chr., *T. mexicana* (Fée) C. V. Morton, *T. panamensis* (Hook.) R. M. Tryon & A. F. Tryon, *T. rufovillosa* (Rosenst.) C. Chr., *T. transiens* (C. V. Morton) A. R. Sm., and *T. vivipara*, as a contribution to the knowledge of the genus to ascertain its utility for the delimitation of close species.

Some of the spores were collected in the field in Oaxaca, Puebla and Veracruz, Mexico; for some others the material was taken from herbarium sheets. The spores were set on a coal tape and this last one on a small aluminum stick. Some of the spores were broken to see the spore structure, later were covered with coal dust and gold. Micrographs were taken using a Scanning Jeol 35CF microscope. The descriptions were made following the terminology of Lellinger & Taylor [3] and Tryon and Lugardon [4].

Tectaria spores are ellipsoidal, monolete, the aperture is $\frac{1}{2}$ to $\frac{3}{4}$ the length of the spore, their size are between 28 to 53 μm , the biggest is *T. transiens* (40-53 μm) and the smallest is *T. juglandifolia* (28-41 μm). The exospore is plain; the perispore is cavate with scales below, in *T. heracleifolia*, *T. mexicana* and *T. aff. incisa* with abundant pillars. The surface has coarse folds as *T. vivipara*, small folds in *T. mexicana*, *T. athyrioides* and *T. juglandifolium*, broad perispore wings in *T. panamensis* and *T. rufovillosa*, scale-echinate in *T. draconoptera*. The elements between the folds are part of the perispore, for example in *T. incisa* and *T. panamensis* is reticulate, in *T. vivipara* is micro-echinate, in *T. mexicana* is with scales and micro-echinate, in *T. juglandifolium* is regulate, and pillate in *T. rufovillosa*, in *T. athyrioides* is slowly verrugate.

The data obtained show that some spores present a similar morphology, but the elements between the folds helped to move away close species.

References:

- [1] Mickel J. T., Smith A. R. "The Pteridophytes of Mexico" Mem. *New York Bot. Gard.* 88. (2004), p. 609.
- [2] A. R. Smith, *et al*, *Taxon* 55(2006): 705-731.
- [3] D. B. Lellinger & W. C. Taylor. 1997. "A classification of spore ornamentation in the Pteridophyta". ed. R. J. Johns, (Holttum Memorial Volume. Royal Botanic Gardens, Kew. London) p. 33-42.
- [4] Tryon, A. F. & B. Lugardon. 1991. "Spores of the Pteridophyta, Surface, Wall Structure and Diversity based on Electron Microscope Studies". Springer Verlag. New York. 633 pp.
- [5] We thank curators of the herbaria consulted for allowing us to study their specimens during visits or for sending them on loan

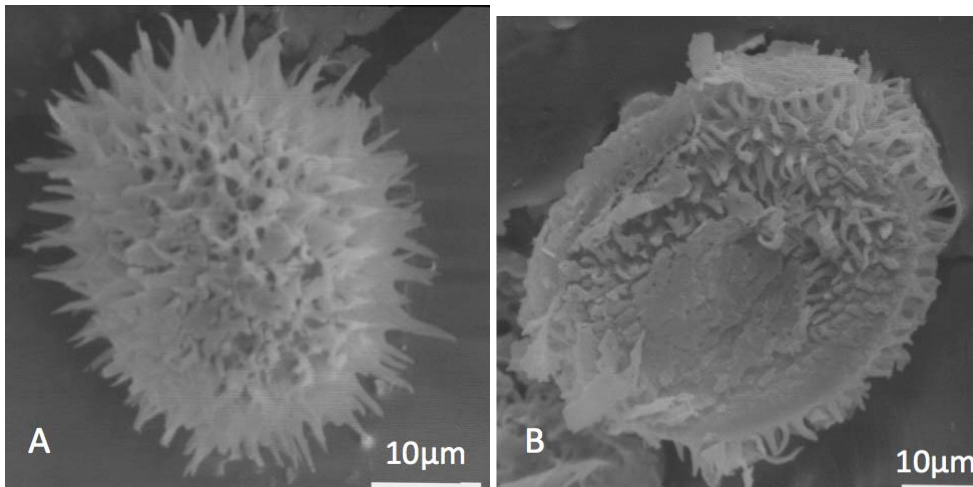


Figure 1. A) Spore of *Tectaria draconoptera*, with perispore scale-echinate B) Spore of *Tectaria aff. incisa*, the perispore with abundant pillars.

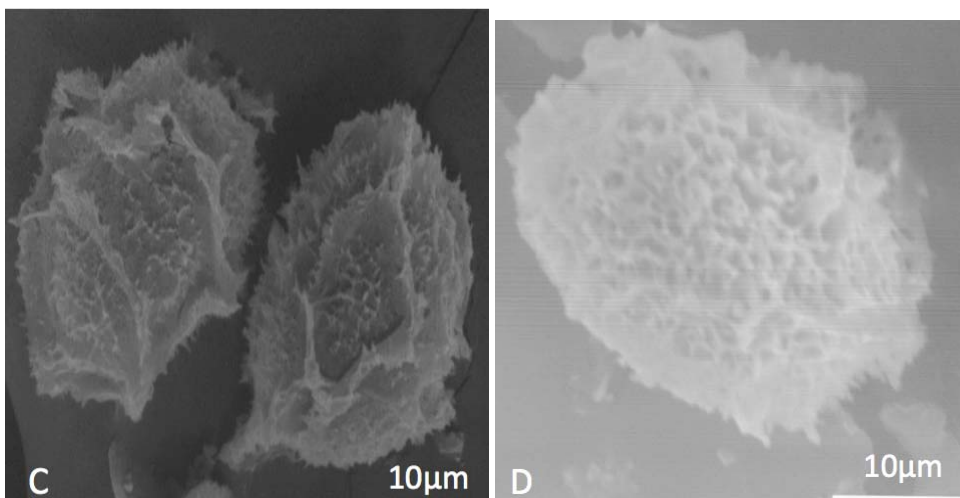


Figure 2. C) Spore of *Tectaria panamensis* with broad perispore wings. D) Spore of *Tectaria incisa*, perispore reticulate