Abstract

Spores morphology and synangia in neotropical fern species of Marattia (Marattiaceae). The Marattiaceae are represented by a small family of four to six genera that bear sporogenous structures of two types: sorus with free eusporangia in Angiopteris and Archangiopteris, and indurated synangium in Christensenia, Danaea and Marattia. Marattia is a pantropical genus of about eight to ten species in the paleotropic and seven to eight species in the neotropic. In order to describe the spores and synangium morphology, this study analyzed the shape of the receptacles, and the position of the synangium, and evaluated the spores with SEM, of seven neotropical species of the genus Marattia: M. alata, M. cicutifolia, M. excavata, M. interposita, M. laevis, M. laxa y M. weinmanniifolia from several collections. The receptacles were fully developed in M. cicutifolia and M. laevis, and scarcely overelevated in the rest of the species. The synangium was ellipsoidal and had intramarginal to supramedial position in the laminae. The spores of Marattia were elliptic. Among the taxa, only monolete spores were found, with no trilete, aborted or deformed spores. The laesura was linear and reached about two of the total length of the spore. The perispore appears as a continuous thin layer deposited on the exospore according to its ornamentation in M. cicutifolia and M. laevis. It is smooth in M. alata, rugate in M. excavata and pustulate-rugate in two species: M. interposita and M. laxa. The exospore is echinate in M. cicutifolia and M. laevis and pustulate in the other species. In M. weinmanniifolia spores produced by the same sinangium may have different ornamentation types. We concluded that, while the presence of ellipsoidal and superficial synangia and monolete spores aperture were generic traits, the micro and macro-ornamentation types of the perispores and exospores vary at specific level. Besides, macro-ornamentation can be bulliform (pustulate), a combination of bulliform and muriform types (pustulate-rugate), muriform (rugate-retate) and stelliform (echinate); finally, granular micro-ornamentation can be seen frequently in perispores.

Keywords

Marattia, neotropic, ornamentation, receptacles, sinangia, spores.