Abstract

The spore morphology and wall ultrastructure of Sphaeropteris gardneri (Hook.) R.M. Tryon from Brazil were analyzed with LM, SEM and TEM. The spores are trilete with an ornamentation formed of short low ridges with spines in their margins. The exospore is 2.5μm thick, two-layered in section and single or branched channels are present. The perispore is 1.2μm thick and two-layered. The inner layer has three strata: the inner stratum is formed of a network of branched and fused threads, the middle stratum has threads with a radial orientation and in the outer stratum thin, dark fibres are immersed in a less dense contrasted matrix. The outer layer of the perispore is the one that forms the echinate-ridges and is constituted of threads arranged in a compact way. Globules of different sizes are observed on the surface. The differences found in the perispore ornamentation and ultrastructure in Alsophila, which was previously studied, and those of Sphaeropteris, show a tendency to wall complexity.

Keywords

Sphaeropteris, spores, morphology, ultrastructure.