

Sporopollenin

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Contents: Sporopollenin in the biological context. The role played by sporopollenin in the development of pollen in *Pinus banksiana*. Morphological and fluorescence microscopical investigation on sporopollenin formation in *Pinus sylvestris* and *Gasteria verrucosa*. Primuline induced fluorescence of the first exine elements and Ubisch bodies in *Ipomoea* and *Lilium*. Ultrastructural and chemical studies of pollen wall development in the Epacridaceae. Implications on the nature of sporopollenin based upon pollen development. Production of sporopollenin by the tapetum. Notes on the resistance and stratification of the exine. The preservation of sporopollenin membranes under natural conditions. A palaeobiological definition of sporopollenin. Aspects of sporin. The chemistry of sporopollenin. Some chemical and geochemical studies on sporopollenin. Demonstration of surface free radicals on spore coats by ESR techniques. Application of scanning electron microscopy techniques and optical microscopy to the study of sporopollenin. A scanning electron microscope study of exine structure. An experimental investigation into the decay of pollen and spores in various soil types. Microbiological degradation of sporopollenin. Lipid components in fresh and fossil pollen and spores. The petrology and geochemistry of sporinite. Diagenesis of sporopollenin and other comparable organic substances: application to hydrocarbon research. Thermal degradation of sporopollenin and genesis of hydrocarbons. Contact between the spore cytoplasm and the growing sporoderm of the *Selaginella* megaspore. Review of the UV-fluorescence of fresh and fossil exines and exosporia. Summary and general discussion. Index.

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