

## LEAF NECROSIS OF ZAMIA CAUSED BY *MYCOLEPTODISCUS INDICUS*

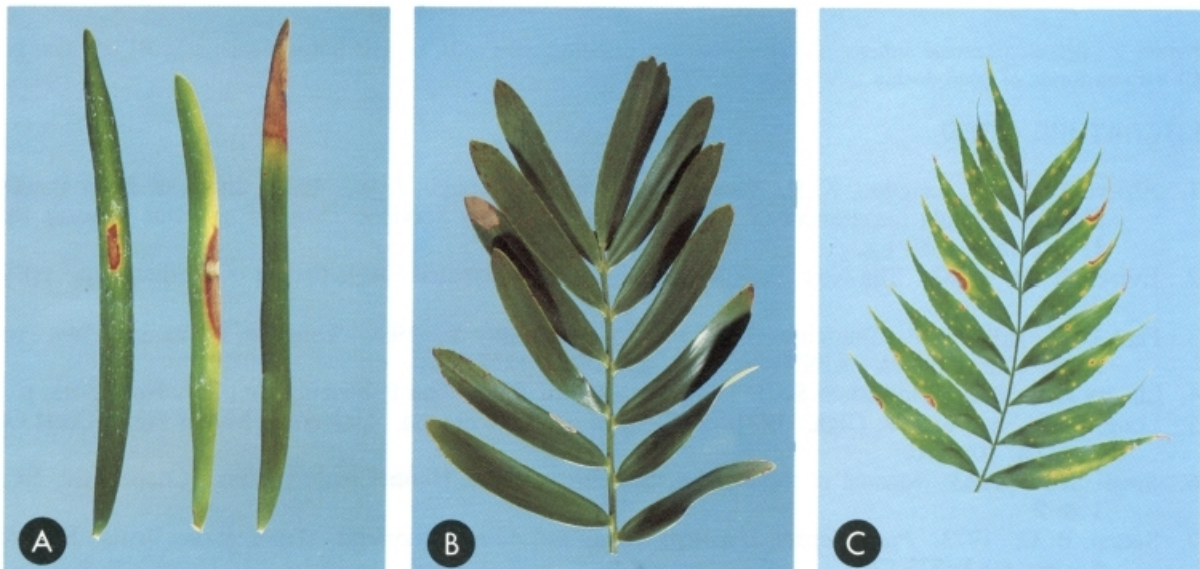
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The genus *Zamia* (Cycadaceae) is comprised of some 40 species which are abundant in the tropics and subtropics, particularly in the West Indies and the Americas (4,6). Three species are native to Florida (2,5). These plants are mostly low, evergreen, palm-like shrubs with leathery, fern-like leaves, and thick stems or trunks which are partly or entirely subterranean. *Zamia* spp. grow on a wide variety of soil types, and do best in shady locations (2). *Zamia* spp. regenerate by means of seeds produced in cones on female plants, the genus being dioecious (2). Coontie is the common name for *Zamia*, derived from the Seminole Indian phrase 'Conti Hateka' for white root or white bread plant. Coontie was a main source of flour, an important food obtained from the fleshy stems of the Florida species by these early Americans (2,5,6).

**CAUSAL AGENT AND DISTRIBUTION:** Of the relatively few organisms affecting *Zamia* (1,3) the fungus, *Mycoleptodiscus indicus* (Sahni) Sutton appears to be one of the most important. It has been reported from India, Brazil, Cuba, Venezuela, Brunei, Nigeria, Fiji, New Zealand, Cambodia and the U.S.A. (7,8). Great numbers of dark brown to black sporodochia are produced on necrotic leaf tissues following infection by the fungus. Sporodochia are usually more prevalent on the lower leaf surface and may occur singly or in clusters (Fig. 2) (8). Under favorable conditions masses of hyaline, aseptate conidia are produced by conidiogenous cells. The conidia are spread to other plants via wind and rain.

**SYMPTOMS:** Infection typically commences at the tips of leaflets and occasionally at the margins on the leathery leaf species such as *Z. pumila* L. and *Z. furfuracea* L. f. On the more soft-leaved species such as *Z. fischeri* Miq. infection may occur as discrete spots (Fig. 1). The necrotic leaf tissues are brown, and infection typically progresses to envelop entire fronds.

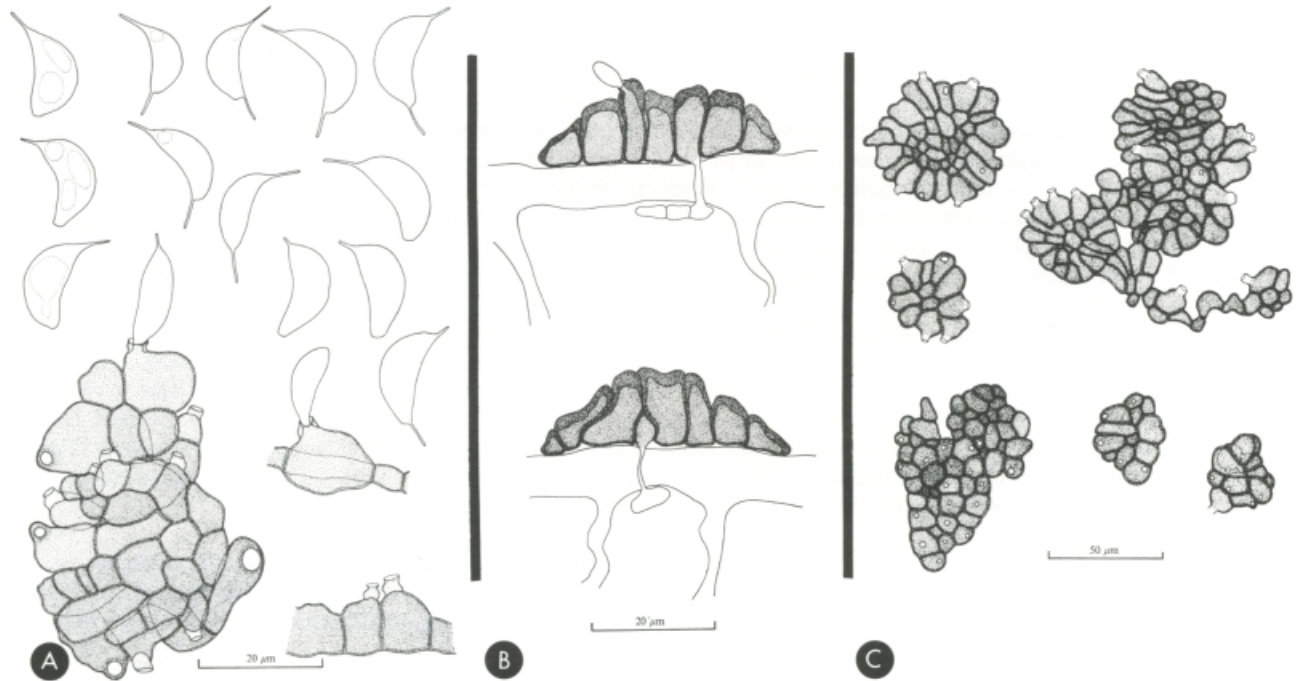
**CONTROL:** No specific disease control recommendations have been established for *Zamia*. Should this leaf necrosis problem become severe, consultation with local county extension agents is recommended.



**Figure 1.** *Mycoleptodiscus indicus*. A) *Zamia pumila* showing from left to right discrete leaf spot, marginal necrosis, and tip necrosis. B) *Zamia furfuracea* showing necrosis at the tips of leaflets and at margin. C) Discrete spots on *Zamia fischeri*.

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**Figure 2.** *Mycoleptodiscus indicus*. A) sporodochium, conidiogenous cells, conidia (greatly enlarged), B) infection process, C) various forms of sporodochia (after Sutton 1973).

#### LITERATURE CITED

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