

### A DISEASE OF AFRICAN VIOLETS CAUSED BY FOLIAR NEMATODES.

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African violets, Saintpaulia ionantha H. Wendl., are among the most popular ornamental plants. Since this plant was first described in 1893, over 100,000 varieties have been named. The production of African violets in the United States is a multimillion dollar industry (6).

Three species of Aphelenchoides are known to infect S. ionantha. Aphelenchoides ritzemabosi (Schwartz) Steiner and Buhner has been reported on this plant in Great Britain (12), Germany (7), Hungary (1), the United States (2,11), and Yugoslavia (5); A. fragariae (Ritzema-Bos) Christie in Canada (4), Germany (7), The Netherlands (3), Switzerland (9), and the United States (6); and A. besseyi Christie has been reported on S. ionantha in the United States (2). A. fragariae has also been reported on Saintpaulia magungensis E. Roberts in the Soviet Union (8).

**SYMPTOMS:** The first symptoms on African violets infected with A. ritzemabosi are small, light tan, sunken areas on the lower surface of leaves (Fig. 1) (9,11,12). About a week later, brown sunken areas appear on the upper surface of leaves. These areas are delimited by the veins. With time, as the number of necrotic areas increases, the leaves have a shiny light brown hue, and they turn downward and inward becoming slightly cupped. Infected plants are stunted and have fewer buds and flowers (1,11,12).

A. fragariae also causes sunken necrotic lesions on African violet leaves. Infection of apical buds by this nematode causes leaf distortion due to the formation of unpigmented thickened tissue that forms at the junction of the petiole and leaf blade (6,10). Infected plants are frequently stunted, and a rosette of small, distorted leaves often appears in the crown of the plant as a result of nematodes feeding ectoparasitically in buds (6,10).

Other organisms may also cause symptoms on African violets similar to those caused by foliar nematodes. Fungi such as Phytophthora nicotianae var. parasitica or Botrytis cinerea may cause shiny brown leaf discoloration, and cyclamen mites (tarsonemids) may also cause discoloration and malformation of leaves (6,11).



Fig. 1. Necrotic lesions on the lower surface of an African violet leaf caused by A. ritzemabosi. (Photo courtesy of D. E. Strider)

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CONTROL: The most economical means to prevent foliar nematode problems on African violets is through the consistent use of effective sanitation practices. Nematode-free potting media, pots, benches, tools, and propagation material should be used. Infected plants or plant debris should be removed from propagation areas, since these may serve as sources of nematode inoculum. Elimination of overhead watering will reduce nematode dissemination by splashing and by their movement in water film on plant surfaces.

It may be necessary to use chemicals to eradicate nematodes from infected stock plants. Systemic nematicides are most effective, but phytotoxic thresholds are difficult to predict due to the great diversity of varieties and environmental conditions used in African violet propagation (6,11). Hot water treatment has also been used to eradicate foliar nematodes from African violet propagation stock (12). Several varieties of African violets appear to be resistant to A. ritzemabosi (11). The long term use and development of resistant varieties, however, is very complicated and difficult because of the diversity of varieties used in the trade, and by the fact that races of A. fragariae and A. ritzemabosi exist (6,7,11).

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