

COMUNICAÇÕES

Natural infection of *Porophyllum ruderale* with a nucleorhabdovirus in Brazil

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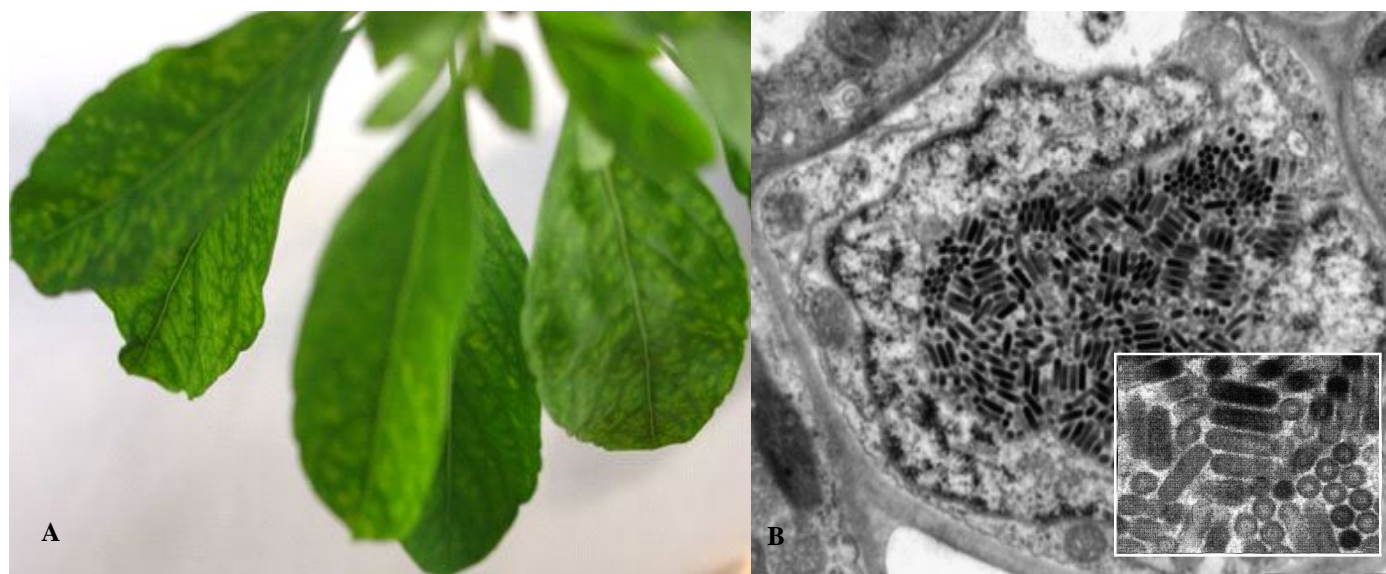


Figure 1. Leaves of *Porophyllum ruderale* exhibiting yellow mottling (A), and bacilliform particles (70-80 nm x 300 nm), typical of rhabdoviruses, associated with the nucleus of infected cell (B). Particles detail in the insert.

Porophyllum ruderale (Asteraceae) is an annual ruderal aromatic herb, which can reach 1.3 m in height and is widely distributed in Brazil. In traditional medicine, a tea made from its leaves is used as an antibacterial and for the treatment of snakebites, stomach ache, wounds and as anti-inflammatory (Lorenzi, H. & Matos, F.J.A. 2002. Plantas medicinais no Brasil: nativas e exóticas cultivadas, Nova Odessa, São Paulo: Instituto Plantarum). Glands present on leaves of *P. ruderale* produce potent allelochemicals that repress insect herbivory (Guillet *et al.*, **Journal of Ecology** 85:647-655, 1997). Plants of this species exhibiting yellow mottling and leaf blade reduction were found in the rural area of Piracicaba County, São Paulo State, Brazil. Preliminary transmission electron microscopy analysis of leaf dip preparations of infected leaves revealed the presence of bacilliform particles (70-80 nm x 300 nm), typical of rhabdoviruses. In thin sections these particles were seen associated with the nucleus, suggesting an infection by a nucleorhabdovirus. Extract from infected plants was mechanically inoculated onto leaves of different species. *Nicotiana benthamiana*, *N. x edwardsonii*, *N. glutinosa*, *P. ruderale*, and *Sonchus oleraceus* were systemically infected and developed yellow mosaic. *N. benthamiana*

also showed yellow spots on the inoculated leaves. *Chenopodium quinoa*, *Datura stramonium* and *Gomphrena globosa* developed only chlorotic local lesions on the inoculated leaves. Electron microscopy confirmed the presence of the nucleorhabdovirus in all these susceptible plants. Healthy plants were obtained from 336 seeds harvested from infected *P. ruderale*. The following species did not show symptoms of infection by this virus upon mechanical inoculation: *Acanthospermum hispidum*, *Ageratum conyzoides*, *Bidens pilosa*, *Cajanus cajan*, *Capsicum annuum*, *Chenopodium amaranticolor*, *Crotalaria breviflora*, *C. juncea*, *C. mucronata*, *C. orchnoleuca*, *Cucurbita pepo* cv. Caserta, *Euphorbia hirta*, *Galinsoga parviflora*, *Glycine max*, *Ipomea sp.*, *Solanum slycopersicum*, *Nicotiana clevelandii*, *N. tabacum* cv Turkish, *Passiflora edulis* f. *flavicarpa*, *Phaseolus vulgaris*, *Pterogyne nitens*, *Rhaphanus sativus*, *Shorgum bicolor*, *Zea mays* and *Zinnia elegans*. The known properties of this nucleorhabdovirus resembles that of the *Gomphrena* virus previously described in Brazil (Kitajima & Costa, **Virology** 29:523-539, 1966), which might represent an isolate of the *Sowthistle yellow net virus*.