Verticillium Wilt of Peperomia in Italy

S. GRASSO and ROSA LA ROSA, Istituto di Patologia Vegetale, Università di Catania, 95123, Italy

ABSTRACT

Grasso, S., and La Rosa, R. 1982. Verticillium wilt of peperomia in Italy. Plant Disease 66: 960.

A new vascular disease of *Peperomia obtusifolia* 'Variegata' observed in Italy is described. The causal agent was identified as *Verticillium dahliae*.

Verticillium wilt is a destructive disease widespread in temperate and subtropical regions. The host range of this pathogen includes a large number of dicotyledonous plants, mostly herbaceous (4). In April 1981 in Sicily (Italy), peperomia plants (*Peperomia obtusifolia* A. Driet. 'Variegata') in pots showing severe wilting and stem and root rot were observed in a greenhouse. In advanced stages of the disease, the plants died. Characteristic brown discoloration of the water-conducting tissues was seen in cross or longitudinal sections of the roots and stems (Fig. 1).

Isolations from affected stems yielded only a fungus identified as *Verticillium dahliae* Kleb. Experiments were undertaken to determine whether peperomia wilt was caused by the isolated fungus.

MATERIALS AND METHODS

Isolates of *V. dahliae* obtained from affected stems of peperomia were grown on potato-dextrose agar in petri dishes until spore masses were differentiated. The cultures were then flooded with sterilized distilled water, and the resulting spore suspensions poured into sterilized flasks. The concentration of spores was adjusted at 1×10^5 spores per milliliter. Twenty young peperomia plants were used for pathogenicity tests. Their roots were rinsed four times with sterile distilled water, cut at the end, dipped in the spore suspension, and transplanted into steam-sterilized soil in pots. Ten control plants treated in the same way received sterile distilled water. After inoculation, all plants were transferred into a climatic chamber at 21 C under fluorescent light with a photoperiod of 12 hr.

RESULTS AND DISCUSSION

Plants inoculated with *V. dahliae* started to show typical symptoms of wilt 1 mo after the inoculation; within 3 mo, all plants were dead or dying (Fig. 2). The root system was always smaller than the control. *V. dahliae* was readily reisolated from 100% of the inoculated plants. All controls remained healthy.

Stem and roots of peperomia are affected by species of *Phytophthora* (3,7,8), *Pythium* (2,5,6), and *Sclerotium* (1), which are widely distributed in the world. No previous records of Verticillium wilt are available, and prophylactic measures have to be adopted.

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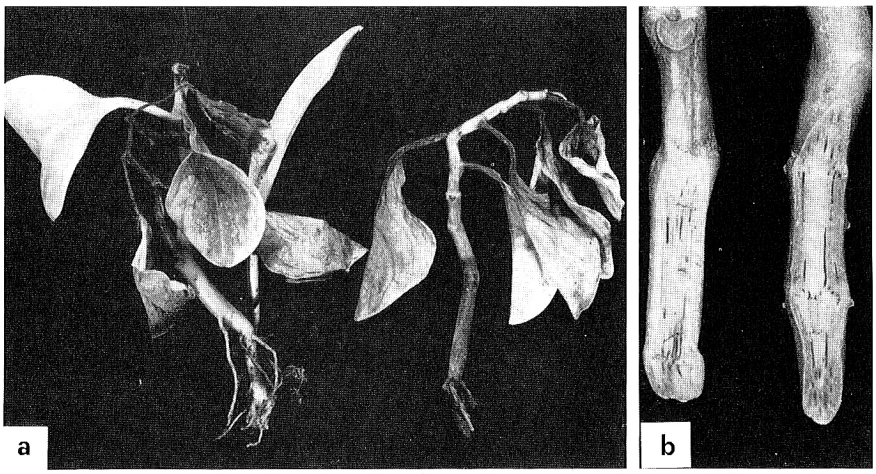

Fig. 1. Plants of *Peperomia obtusifolia* 'Variegata': **(A)** Stem rot and wilting. **(B)** Brown discoloration of the vascular tissues.

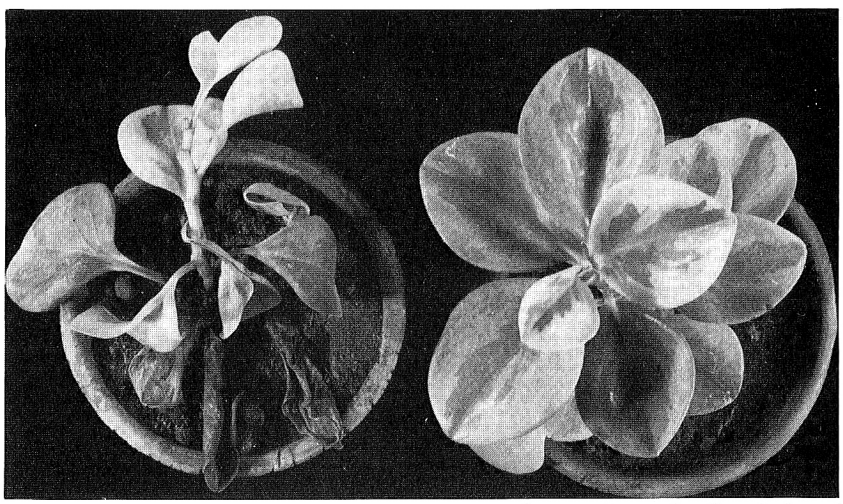

Fig. 2. (Left) Wilting and necrosis of leaves on peperomia plant 2 mo after inoculation with *Verticillium dahliae*. **(Right)** Control.