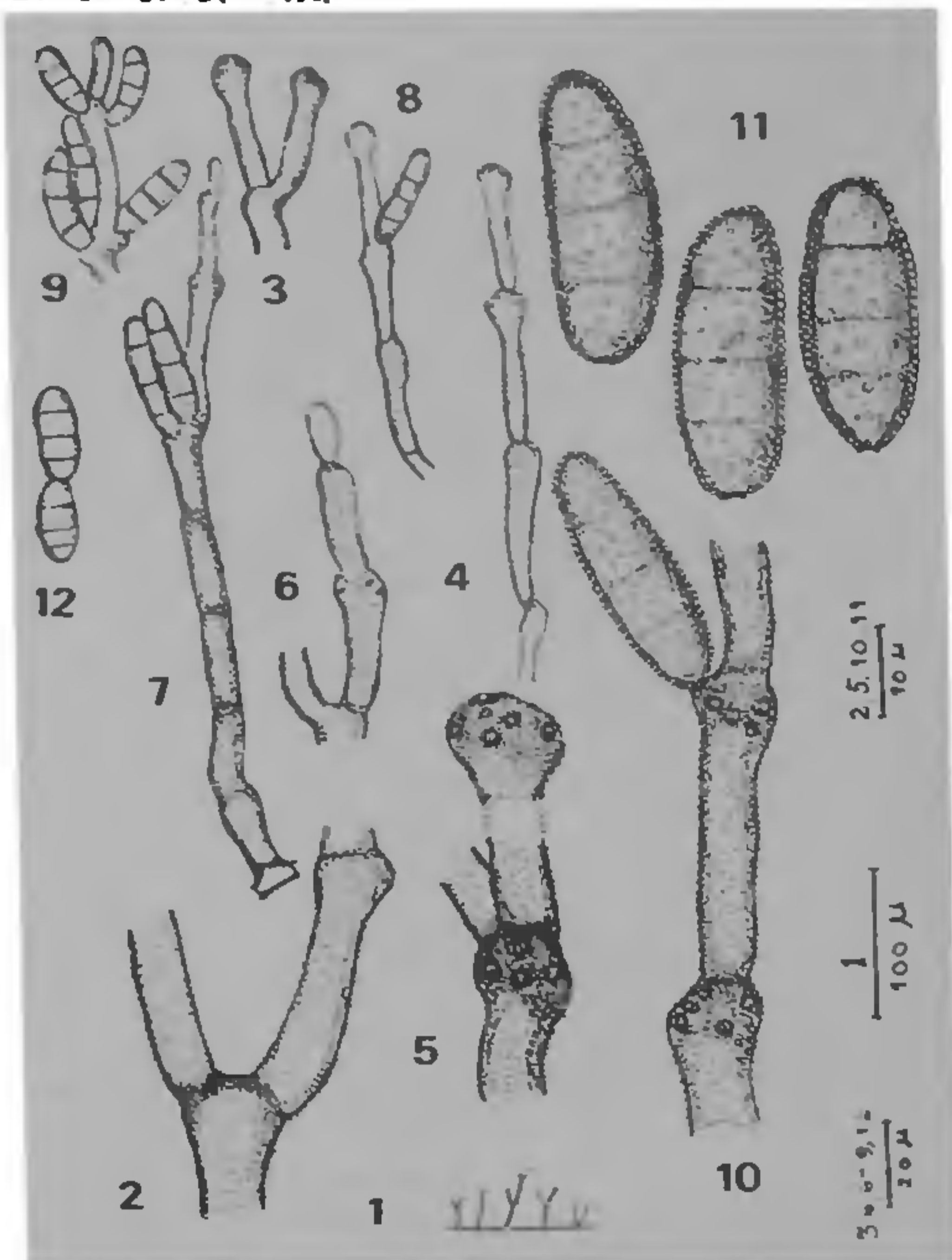


fuscibrunnies, tuberculatus, 15.0-30.0 μ longa, 5.0-9.0 μ lata ad basim et apicem cum poris.

Typus in Herb. V.V.C.B.L. No. 1301 praeservanda in folio emortuo *Aloe* spp. Nehru Zool. Park, Hyd., 20-11-1973, V.R.



FIGS. 1-12.

This fungus is *Dendryphiella* Bub. & Ranoj. Hughes³ considered it as a congeneric form of *Dendryphion* Wallr. But Ellis *et al.*¹, Nicot⁵ and Meyer⁴ treated them as separate taxa. It was Reisinger⁶ who studied them exhaustively and supported the latter workers. Ellis² referred *Dendryphiella*, in the recent context and proposed a key to its species. It is a dematiaceous hyphomycetes taking in taxa which produce effused colonies, macronematous, erect conidiophores, bearing polytretic, terminal or intercalary conidigenous cells producing solitary or catenate phragmoconidia acropleurogenously. The fungus under consideration comes very close to *D. vinosa* (Berk. & Curt.) Reisinger, the type species, in septation of conidia, but differs from the type in conidiophore dimensions and in possessing dark tubercles on the conidial wall. Therefore, it is described as *Dendryphiella indica*.

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HYPERSENSITIVE REACTIONS IN COTTON AND OKRA BY *XANTHOMONAS ORYZAE* (UYEDA & ISHIYAMA) DOWSON

HYPERSENSITIVE reaction (HR) induced by a number of phytopathogenic bacteria in different plants are well documented¹⁻³. HR by *Xanthomonas oryzae*, the causal organism for bacterial blight disease of rice, has not been noted. With a view to find a suitable plant for induction of HR by this organism by the injection-infiltration method of Klement⁴, leaves of the following plants were tested: cotton (*Gossypium herbaceum* L.), cucumber (*Cucumis sativus* L.), okra or lady's finger (*Abelmoschus esculentus* Moench.), bean (*Phaseolus vulgaris* L.), bottle gourd (*Lagenaria vulgaris* L.), and tobacco (*Nicotiana tabacum* L.). Only the cotyledonary leaves of cotton and okra were found suitable for the purpose. These leaves were infiltrated with aqueous suspension of *X. oryzae* at two concentrations, viz., 10⁶ and 10⁸ cells/ml. Symptoms were seen after 36 hours of infiltration. In the beginning, loss of turgor accompanied with loss of colour were evident. Gradually the leaves became thin and chlorotic and started to droop by 48 hr. Later, collapse of the cells were evident, the leaf lamina showing wrinkling and finally complete necrosis (Fig. 1), within 72 hr. The development of symptoms either in cotton or okra were similar with both concentrations of inocula, although a somewhat longer period of incubation was necessary

for symptom development with the lower concentration.

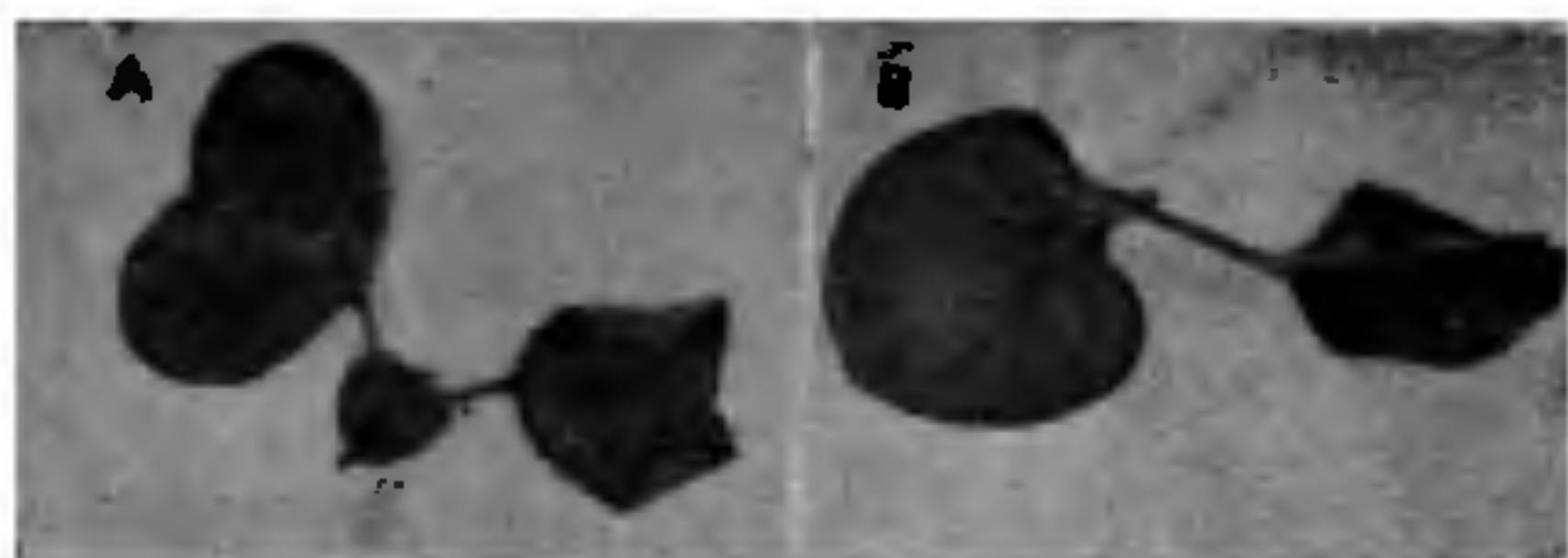


FIG. 1. Hypersensitive reactions induced in the cotyledonary leaves after 72 hr of infiltration with *Xanthomonas oryzae* at 10^8 cells/ml. (A) cotton, left: control (water infiltrated), right: bacteria infiltrated. (B) okra, left: control (water infiltrated), right: bacteria infiltrated.

A large number of strains of *X. oryzae* collected from different parts of India were tested for induction of HR in cotton and okra. All the strains gave positive reactions in both the plants whereas some of the commonly encountered yellow saprophytes on rice leaves were found to be negative.

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STUDIES ON A VIRUS CAUSING MOSAIC DISEASE IN BOUGAINVILLEA

BOUGAINVILLEA (*Bougainvillea glabra* Choisy var. *Sanderiana*, Hort.) is an important ornamental plant popularly grown in public and private gardens. In a survey of virus diseases of ornamental plants, *Bougainvillea* was found to be affected by a mosaic disease in some gardens of Gorakhpur. Preliminary tests showed that the causal organism was a virus. The leaves of affected plants showed mosaic mottling. The size of the leaves of severely affected plants was slightly reduced and distorted (Fig. 1). Diseased plants showed retarded growth with small flowers. The number of flowers produced were much less in number when compared to healthy ones.

The disease was mechanically transmitted to a number of plants which includes *Bougainvillea glabra*, *Capsicum annuum* L., *Cucumis sativus* L., *Cucurbita pepo* L., *Datura metel* L., *D. stramonium* L., *Melilotus alba* Medicus, *Nicotiana tabacum* L. var. White Burley, *Petunia hybrida* Vilm., *Physalis peruviana* L., *Salvia plebeia* R. Br., *S. splendens* Ker. Gand., *Solanum melongena* L., *S. nigrum* L.,

Trifolium repens L., *Vigna sinensis* Savi, *Vinca rosea* L., and *Zinnia elegans* Jacq.

The virus was inactivated at a dilution of 1: 10,000 and temperature between 65–70° C. The

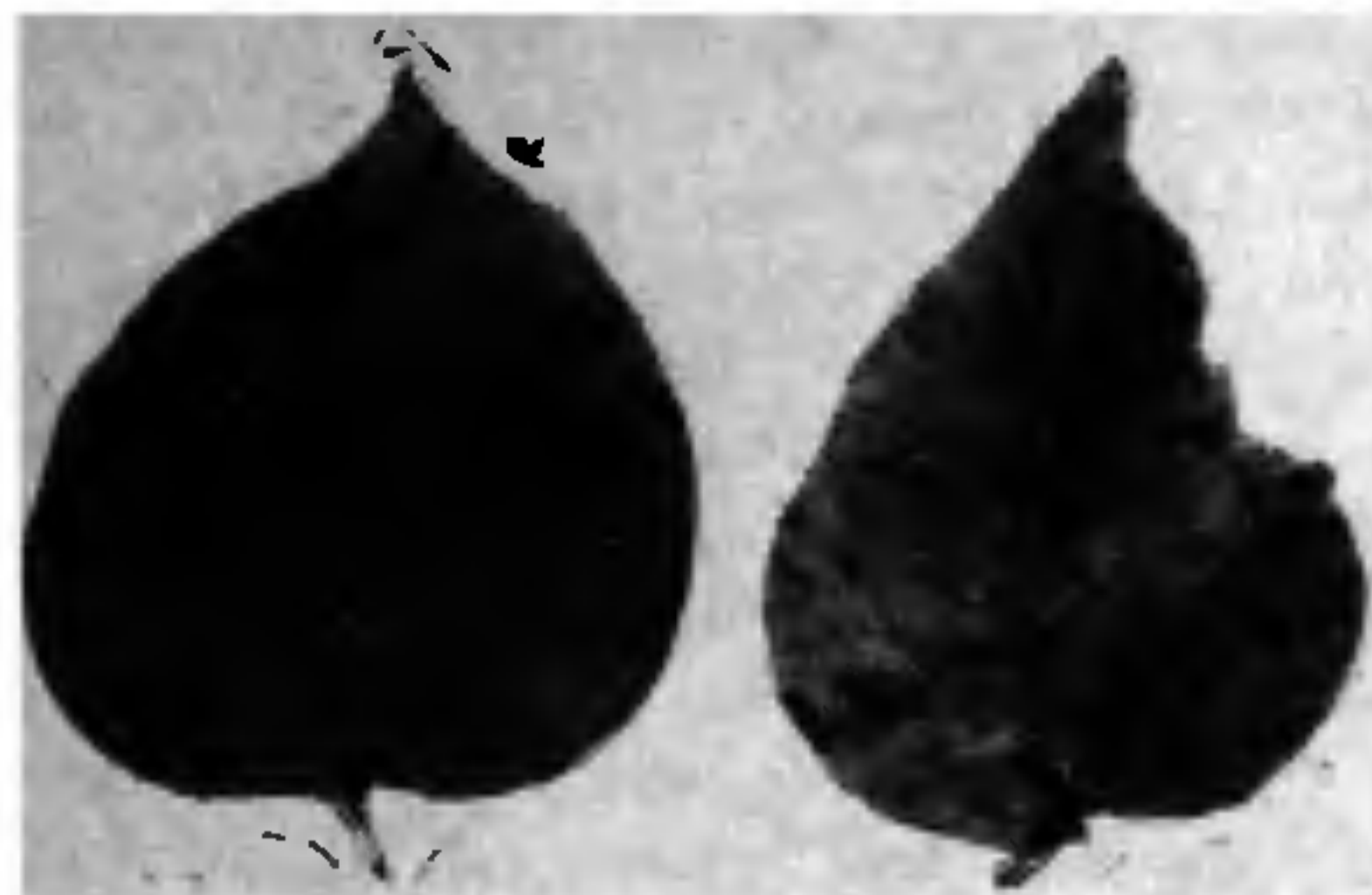


FIG. 1. Leaves of *Bougainvillea glabra*. Left-Healthy; Right-Diseased.

longevity *in vitro* was 2–3 days at room temperature (30–35° C). The virus was easily transmitted by *Myzus persicae* Sulz. and *Aphis gossypii* Glov. and was found to be of non-persistent type.

From Florida Bestagno¹ described a ring spot type virus occurring in *Bougainvillea*. The other record of a mosaic disease is by Ganga². The observations made on the virus disease of *Bougainvillea* in the present studies show that the causal agent has a host range, physical properties, insect vectors similar to that of cucumber mosaic virus as reported by Smith³. Cucumber mosaic virus has been recorded widely on the economic plants from this area (Joshi and Dubey^{4,5}, Dubey⁶). The presence of this virus on a perennial host like *Bougainvillea* will act as a potential source of infection to different economic plants throughout the year. Hence, it is suggested that diseased plants of *Bougainvillea* be eradicated to avoid the further spread of cucumber mosaic virus in nature.

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