DENDROPHTHOE FALCATA, A MENACE TO FRUIT ORCHARDS

THOUGH all the members of the family *Loranthaceae* are considered only semiparasites they often cause marked debilitation of the host.

FIG. 1. Dendrophthoe growing on sapota fruit.

FIG. 2. Dendrophthoe growing on grape vine.

Loranthaceous parasites have been reported from India as early as 1885[1] and nearly 58 parasitic species have so far been recorded from India. Many of these have a host range. For example, *Dendrophthoe falcata* (L.F.) Ettingh. alone has as many as 268 host species[2]. Besides damaging economically important forest trees, this species is known to cause considerable loss to garden and orchard trees. It is a most common parasite on mango and sapota trees[3].

At the Indian Institute of Horticultural Research farm, Hessaraghatta (Bangalore) the authors observed a very unusual and interesting invasion of this parasite on fruits of sapota (*Achras sapota* L.) (Fig. 1) besides the usual parasitization of branches, thus further reducing the yield. The authors also found that this species was growing on the grape vine (*Vitis vinifera* L.) (Fig. 2). A perusal of literature has shown that there has been no previous mention from any part of the world about parasitization by *Dendrophthoe* of sapota fruit and grape vine. There is cause for some alarm as this parasite obviously is getting adapted to new hosts.

No proper control and eradication methods of these parasites are known, except that of cutting off of the affected branches below the point of infection and burning these completely. Biological or other methods of control has not been tried, though the problem has assumed some importance and requires more attention.

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Indian Institute of Horticultural Research,
255, Upper Palace Orchards,
Bangalore 560 006,
April 13, 1978.

T. S. SRIDHAR.
V. RAMA RAO.

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TWO NEW FRUIT ROT DISEASES OF POMEGRANATE (*PUNICA GRANATUM* L.) CAUSED BY *CONIELLA* SPP.

AN undescribed severe fruit rot disease of unripe fruits of pomegranate (*Punica granatum* L.) was observed by the authors in a private graden of Krishi Nagar, Jabalpur, during July–August 1977. The disease spreads rapidly invading the whole fruit. It is characterized by softening of rind and underneath pulp and seed. The affected rind turns light to dark brown. The infected fruits do not shrivel or lose

their shape, but when completely rotted, exude watery droplets and eventually get mummified. Abundant pale coloured, punctiform fruiting bodies of the fungus can be seen on the entire fruit. The isolations revealed the presence of a species of *Coniella* Hohn. The fungus was isolated in pure culture. It is an undescribed species [pycnidia upto 170 μ in diam., conidia 5·5–11 × 2·8–4·2 (–5·5) μ] and very close to a species which Dr. B. C. Sutton of Commonwealth Mycological Institute, Kew, will be describing as *Coniella noviae-zelandiae* (Per. Comm.). Therefore, we are disposing this fungus under *C. noviae-zelandiae* Sutton (Fig. 1).

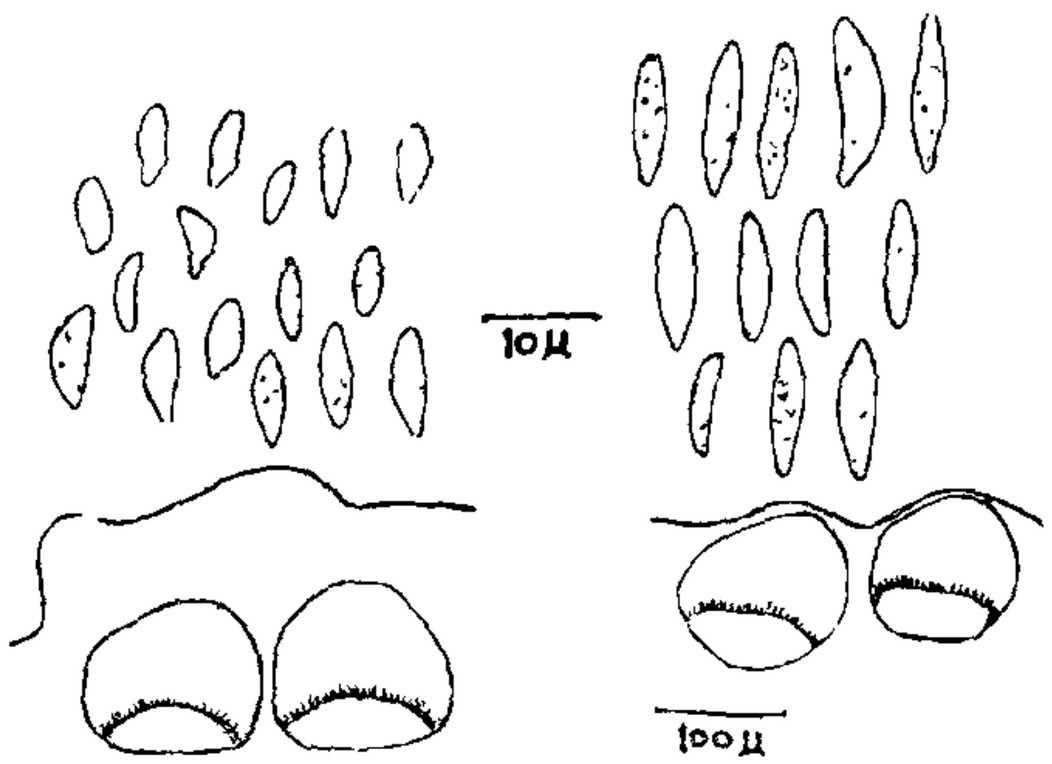

Fig. – 1 Fig. – 2

FIGS. 1–2. Fig. 1. *Coniella noviae-zelandiae* Sutton : pycnidia and Pycnidiospores, Fig. 2. *C. granati* (Sacc.) Sydow and Petrak : Pycnidia and pycnidiospores.

Pathogenicity of the fungus has been tested on fruits under laboratory conditions. The unripe fruits were surface sterilized and inoculated with the organism, under aseptic conditions, by the method of Granger and Horne[2]. Some inoculated fruits as well as healthy ones were incubated in desiccators. The characteristic symptoms appeared on the inoculated fruits in four days. They completely rotted within 6–7 days.

In addition to the fruit rot described above, parasitization of young fruits by another species of *Coniella*[3], *C. granati* (Sacc.) Petrak and Sydow (Pycnidia upto 135 μ in diam., conidia 9–14 × 2·5–3·2 μ Fig. 2) was also observed during late of August 1977 on the same local variety. The species has been described from Italy[3] occurring on calyces, petals and rarely on the leaves of this host. From India it is being reported for the first time causing fruit rot, and raises the number of species of *Coniella* from India to four[1-4].

The specimens have been deposited in Herbarium Commonwealth Mycological Institute, Kew, Surrey, England, under the accession Nos. IMI 217519 and 217520.

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Department of Plant Pathology, N. D. SHARMA.
J.N. Agricultural University, A. C. JAIN.
Jabalpur 482 004, M.P.

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CONTROL OF *CHRYSANTHEMUM ASPERMY* VIRUS BY HEAT THERAPY*

Chrysanthemum [*C. morifolium* (Ram) Hemsl.] is a well adopted ornamental annual due to its large variation in flower colour, type and size. This plant is propagated vegetatively and thus has the advantage of the duplication of desired genetic characters. The vegetative method of propagation poses a complication if the propagule, *viz.*, sucker or cutting is infected with transmissible infectious agent(s). Heat therapy of virus infected plants albeit reported earlier became popular after the work of Hollings and Kassanis[1] and Fenton[2]. Present communication deals with the results obtained by heat therapy of the *Chrysanthemum aspermy* virus[3] (CAV) infected *Chrysanthemum* plants.

Fifteen suckers obtained from infected plants of *Chrysanthemum* of approximately same age (45 days old) were kept in an electrically operated hot air chamber with light and temperature control. The chamber, adjusted at specific temperatures, was set one day before keeping the plants. A tray (30 × 30 cm) filled with water was also kept to maintain the humidity inside the chamber.

The plants were exposed at different temperatures, *viz.*, 35°, 40°, 45°, 50° and 55° C for 2, 4, 6 and 8 hrs. Exposure at 35° C was extended upto one week. Thereafter, the plants were removed from the chamber and kept at room temperature (25–28° C) for 4 hrs. The treated plants were then shifted to a glass house (28–30° C). Observations regarding growth of the plant., time of flowering, size of flowers and number of depressions of florets were recorded.

The results showed that the plants did not resist temperature above 50° C. Exposure at 35° C for 2, 4 and 6 hrs and at 40° C for 2 hrs did not cause any apparent injury to plants. Hot-air treatment of CAV infected plants at 40° C for 2 hrs and 35° C for 6 hrs stimulated growth of plants. Treatment at 50° C for 2 hrs resulted in an early flowering as compared to