1964). The mites are also observed on healthy shoots. Puttarudriah and Channabasavanna (1961) and Nariani and Seth (1962) reported that field collected eriophyid mites caused twig malformation on healthy mango saplings. Rai *et al.* (1966) found that diazinon and phorate emulsion sprays were very effective in killing *A. mangiferæ. in situ.* Summanwar *et al.* (1966) reported an association of a fungus, *Fusarium moniliforme* Sheld, with the malformation in mango.

Experiments were initiated to find whether by killing the mites with pesticides, it would be possible to have normal growth from malformed tissues of a sapling. Saplings showing bunchy top were utilized in the experiments. The terminal buds of shoots from the bunchy top were found to have large numbers of *A. mangiferæ* Healthy shoots if any and all shoots except one from the bunchy top, of the malformed sapling were pruned. Further, a large proportion of axillary buds from the unpruned shoot were also scrapped, thus leaving only a terminal and a few axillary buds (Fig. 2). Five such pruned plants were sprayed upto dripping stage with 0·1% diazinon emulsion, for killing the mites. At different intervals after the treatment, the terminal buds of the shoots on all the diazinon treated saplings showed normal growth (Figs. 3 and 4), while the terminal buds of all the five unsprayed plants did not show any growth.

FIGS 1–4. Fig. 1. Malformed mango sapling Fig. 2. Pruned mango sapling. Fig. 3. Pruned mango sapling showing growth after spraying with diazinon. Fig. 4. Pruned mango sapling showing growth after spraying with diazinon.

Arising of normal shoots from unaffected portions of malformed sapling is of quite common occurrence, but the development of a normal shoot from malformed bud itself, after spraying with diazinon is considered to be of much significance which is likely to throw some light on the causation of and recovery from malformation, by further experimentation.

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Division of Entomology, Indian Agri. Res. Institute, New Delhi-12, *June* 26, 1967.

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A NEW SPECIES OF *PHYLLOSTICTINA* ON *GLYCOSMIS* FROM COORG

THIS paper describes a new species of *Phyllostictina* Sydow collected by the writer on *Glycosmis pentaphylla* Correa from Coorg.

The species has been named as *Phyllostictina murnadensis* after the place where it was first collected. The English and Latin descriptions are given below:

Phyllostictina murnadensis PONNAPPA SPEC. NOV. (FIG. 1).

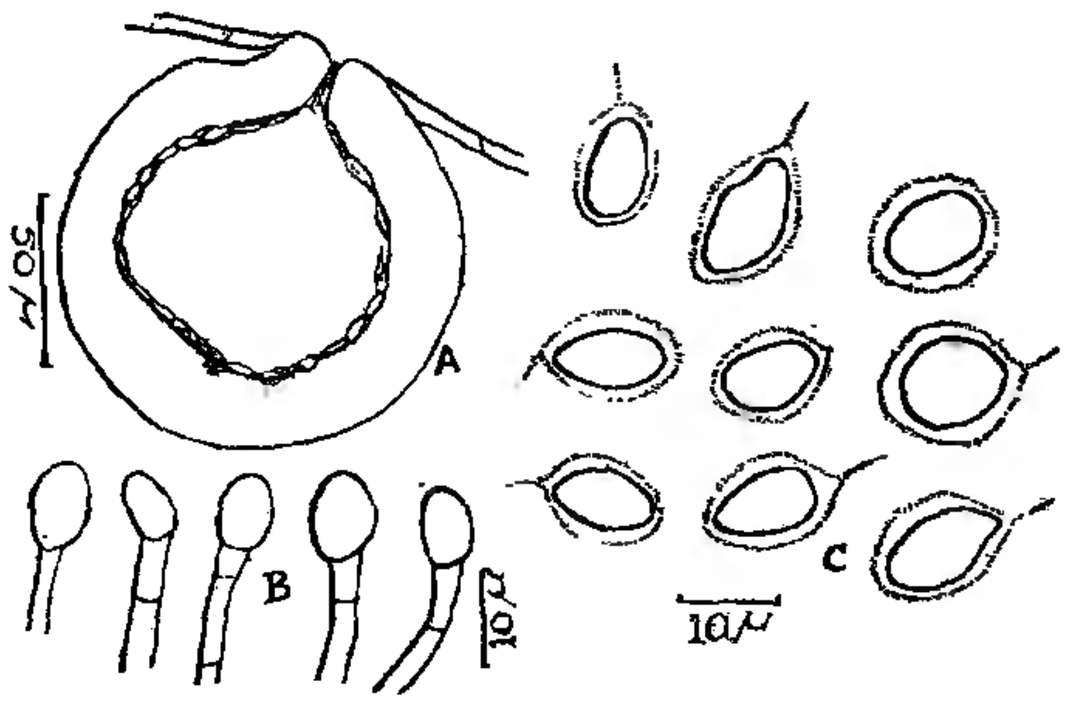

FIG. 1. *Phyllostictina murnadensis* Ponnappa spec. nov. A. Pycnidium; B. Conidiophores with conidia attached; C. Spores.

Leaf spots circular to oval, amphigenous, dirty white or brown in the centre with dark red, raised circular periphery, few to many, adjacent spots tending to coalesce assuring

various shapes. Pycnidia amphigenous, epiphyllous, few to many, scattered, sometimes gregarious, brown to light brown, innate, pseudoparenchymatous, depressed-globose, pycnidial wall consisting of 1–2 layers of light brown cells, with a prominent ostiole, 308–336 μ in diameter. Conidiophores simple, cylindrical, straight or bent, 13·95 × 1·86 (11·16–18·6 × 1·86–2·0) μ. Pycnidiospores hyaline, unicellular, globose, 3·72–11·16 or ellipsoidal 13·39 × 10·40 (14·38–13·02 × 11·16–9·36) μ covered by a mucilaginous envelope, frequently forming a filiform appendage at the apical end in majority of spores.

On living leaves of *Glycosmis pentaphylla* Correa (Rutaceæ) 5-5-1966. Murnad-Coorg (Mysore State), K. M. Ponnappa. Herb. IMI 120705.

Foliorum maculæ circulares vel ovales, amphigenæ, sordide albæ, vel brunneæ in centro, peripheria fusce rubra elevata circulari, maculis paucis vel pluribus adjacentibus ad coalescentiam tendentibus, formas varias adsumentibus. Pycnidia amphigena, epiphylla, pauca vel plura dispersa, interdum gregaria, brunnea vel pallide brunnea, innata, pseudoparenchymatica, depresso-globosa, parietibus constantibus serie unica vel duplici cellularum pallide brunnearum, ostiolo eminenti, 308–336 μ diam. Conidiophora simplicia, cylindrica, recta vel curva, 13·95 × 1·86 (11·16–18·6 × 1·86–2·0) μ. Pycnosporæ hyalinæ, unicellulares, globosæ, 3·72–11·16 vel ellipsoideæ, 13·39 × 10·40 (14·38–13·02 × 11·16–9·36) μ opertæ involucro mucoso, sæpe efformantes appendicem filiformem ad apicem in sporis plurimis.

In foliis viventibus *Glycosmis pentaphyllæ* Correa e familia Rutacearum, 5-5-1966. Murnad-Coorg (Mysore State), K. M. Ponnappa. Herb. IMI 120705.

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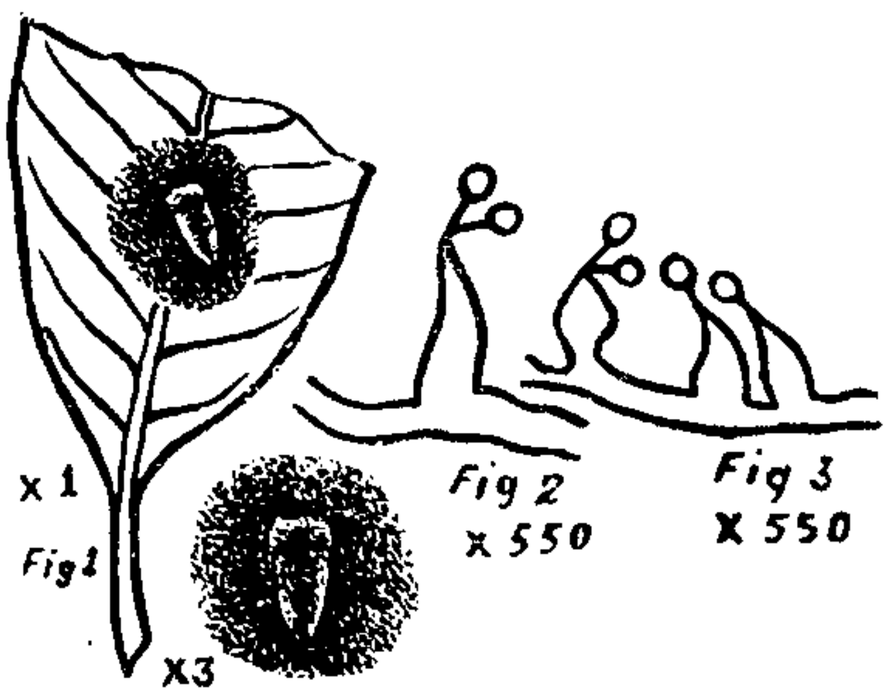
OCCURRENCE OF *HIRSUTELLA VERSICOLOR* PETCH ON MANGO LEAF HOPPER (*IDIOCEROS* SP.) IN INDIA

MANGO leaf hopper (*Idioceros* sp.) is an important pest of young twigs and blossoms of mango throughout the mango growing tracts in India. They damage the young and growing twigs and suck the juice of flowers. In the months of January-February in mango orchards of Bihar they are often observed to die and the dead pests fall on the ground either being detached from the leaves or along with the falling leaves. A large number of such fallen leaves were examined and found to contain dead pests. The presence of a fungus consistently associated with the dead insects proved on examination to be a species of *Hirsutella*.

The affected insects which are killed by the fungus remain attached mostly to the undersurface of the leaves and the mycelia are found to radiate on the sides to form a mat over the leaf surface (Fig. 1). Stromata on the insect is compact exhibiting white, greyish-white, dark ochracious, greyish-brown or orange-yellow colouration at different stages.

The fungus is entomogenous. Synnemata are lacking. Phialides are lateral on the hyphæ, more or less flask-shaped measuring 2·5–3·5 × 4–14 μ attenuated into one to two and rarely three sterigmata measuring 4–9 μ in length (Figs. 2 and 3). A single conidium is borne on each sterigma. Conidia are hyaline, devoid of any gelatenous matrix, globose, measuring 3–4 μ in diameter.



FIGS. 1-3

Hirsutella persicolor Petch has been described on *Idioceros* sp., from Ceylon in 1932 by Petch[1] who has decribed two types of conidia in the same species, the narrow oval type (4·8 μ - ·75 1·5 μ) and the globose type