A NEW SPECIES OF *PHAEOPHLEOSPORA* AFFECTING *ACHRAS SAPOTA* L.

Achras sapota L. as chiku or sapota is an important fruit crop grown widely in coastal regions all over India. During a survey for new diseases several sapota trees growing at the horticultural garden in the campus of the Agricultural College, Dharwar, were found to be severely affected by a leaf-spot disease, which has not so far been reported from other sapota-growing regions of India. Initial infection is in the form of minute, pinkish circular spots scattered over the lamina with a whitish centre and black hemispherical pustular structures representing the fruit bodies of the pathogenic fungus (Fig. 1). Isolations from the infected leaf-spots yielded a species of *Phœophleospora*. It was found to be extremely slow-growing and a shy sporulator.

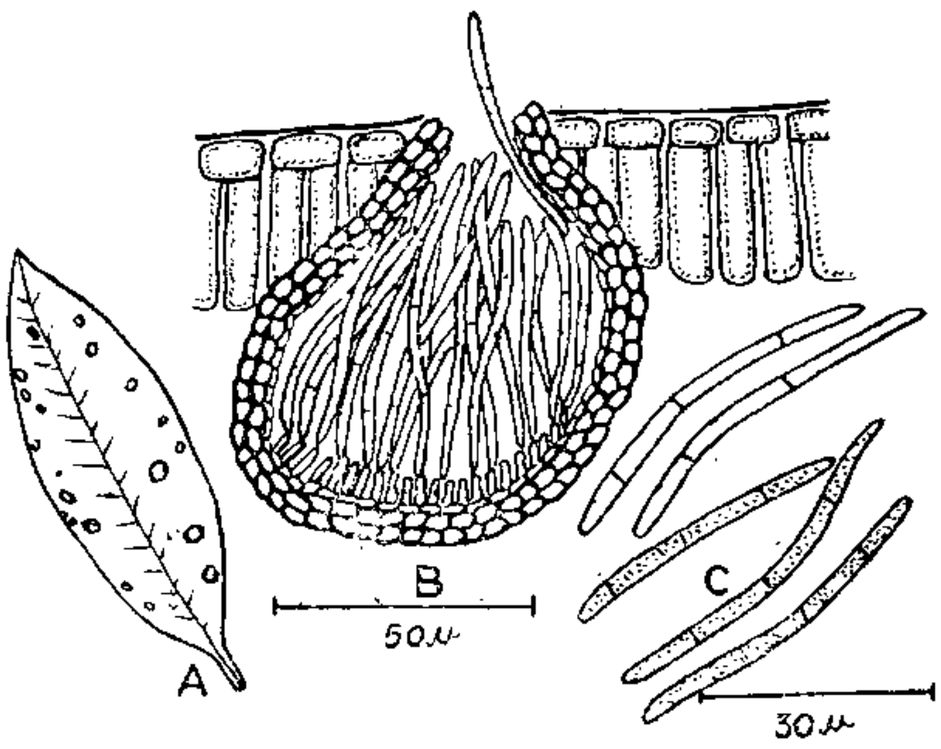

FIG. 1. A—Habit ; B—Section through an infected leaf showing pycnidium ; C—Pycnidiospores.

Causal Organism.—In sections the spots revealed the presence of a pycnidial fungus which was identified as a species of the form-genus *Phœopleospora* Rangel (Fig. 1, B). This genus was established by Rangel with *Phœophleospora euginiæ* as type parasitizing *Euginea uniflora* L., and is represented by only two known species, the other being *Phœophleospora elæocarpi* Bond. There is no report of a *Phœophleospora* on any member of the family "Sapotaceæ" or on *Achras sapota*.

Identity and Diagnosis.—Comparative study between the writer's collection and the type species gave the results as in Table I.

The *Phœophleospora* species on *Achras sapota* is thus significantly distinct from the type, besides being pathogenic to a hitherto unreported host and therefore needs accommodation in a new taxon with the following Latin diagnosis.

Phœophleospora indica Chinnappa sp. nov.

Infectionis maculæ, circulares, amphigenis, sparsis magnit 0·4–1·3 mm. diam. Pycnidiis stromatic, separatus ad aggregatus, innatus, dark brunneus, globosus, ostiolatis epiphyllis, magnit 48–111 × 36–100 μ, conidiophoris simple, brevis, hyalinis in basalis stratum. Pycnidiosporiis filiformibus, brunneus, rotundatus ad ambo extrema, 2-4 septatis non-constrictus ad septa, magnit 33·5–55·5 × 2·5–3·5 μ.

In folliis viventibus, *Achras sapota* L. Leg. V. S. Seshadri ad Dharwar (Mysore State, India, 5-12-1967), M.A.C.S. Mycol. Herb. Subnumero 483 (Typus).

The form-genus *Phœophleospora* is a new addition to Indian fungi.

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M.A.C.S. Biological Labs., Poona-4, *February* 10, 1968. B. CHINNAPPA.

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TABLE I

Comparative studies between species of Phœophleospora

Species	Pycnidia	Pycnidiospores	Authority
Phœophleosporæ uginiæ ..	100–160 μ diam.	Constricted at septa. 60–90 × 3–5 μ	Rangel, E., 1916 (*cf. Syll. Fung.*)
Phœophleospara sp. (on *Achras sapota*)	48–111 × 36–100 μ	Non-constricted at septa. 33·5–55·5 × 2·5–3·5 μ	Author

EFFECTS OF GROWTH RETARDANTS ON FLOWERING AND FRUITING OF *LANGRA* MANGO

CONTROL of flowering in fruit plants by application of chemicals is gradually gaining interest in the field of horticultural research. Recently developed growth retarding chemicals provide the means for suppressing growth and inducing flowering of a wide variety of plants. Of the most commonly used growth retardants

like N-dimethyl amino succinamic acid (B-Nine), (2-chloroethyl) trimethyl ammonium chloride (cycocel) and 2, 4-dichlorobenzyl tributyl phosphonium chloride (Phosfon), B-Nine and cycocel are reported to be most promising in respect of their growth retarding and flower promoting effects on apples, pears and cherries.[1-7]

In the present investigation the effect of B-Nine and cycocel on flowering and fruiting of a biennial mango variety, *Langra*, has been studied with the object of controlling its irregularity of fruiting.

The experiment was conducted during 1967-68. Four replicated *Langra* trees, in their 'off' year, were employed. The growth retardants applied, in aqueous solution, in two concentrations each were (*i*) B-Nine—500 and 1000 ppm. and (*ii*) cycocel—1000 and 2000 ppm. Also a control with application of water alone was provided. Five limbs of uniform size per tree selected at random were used for the five treatments, given three times at fortnightly intervals, starting from the middle of May, when the trees were in active vegetative growth. Tween-20 (0·1% soln.) was used as wetting agent. The effectiveness of the growth retardants was measured by the percentage of treated shoots flowering the following spring and the number of fruits recorded per treated limb at harvest.

Tables I and II show the results obtained with respect to mean percentage of shoots flowering and the mean number of fruits per limb at harvest respectively.

TABLE I

Effect of growth retardants on flowering of Langra *mango as expressed by the percentage of shoots flowering*

Concentration	Control	Low	High
Growth retardants:			
B-Nine	23·60	41·67	55·36
Cycocel	23·60	51·18	71·25

TABLE II

Effect of growth retardants on fruiting of Langra *mango as measured by number of fruits per treated limb at harvest*

Concentration	Control	Low	High
Growth retardants:			
B-Nine	6·75	7·25	6·50
Cycocel	6·75	5·50	16·50

N.B.—Low concentration = 500 ppm. B-Nine and 1000 ppm. cycocel, High concentration = 1000 ppm B-Nine and 2000 ppm. cycocel.

The results indicate beneficial effect of both B-Nine and cycocel on flower induction in *Langra* mango. Between the two chemicals, cycocel is found to be more effective and between the two concentrations used the higher ones have given a greater effect. On harvest of fruit, however, only cycocel in the higher concentration has shown a marked advantage.

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P. K. SEN.

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A SYMPTOMLESS CARRIER OF SANDAL SPIKE DISEASE

REPORTS exist in literature that the undergrowth of sandal forest may have an influence in inducing the spike disease. Among the herbaceous weeds, *Lantana camara* has been particularly mentioned by early workers as having a marked influence on insect population.[1] Venkata Rao[2] and Ranganathan[3] observe that vast stretches of *Lantana* seem to predispose sandal parasitic on roots of *Lantana* and this herb may be the ultimate cause of degradation of sandal forests in North Salem. Sreenivasaya[4] stated that elimination of *Lantana* effects remarkable ecological changes in sandal forests. All authors agree on *Lantana* being partially responsible for the onset of spike disease in sandal. The present study is undertaken to find experimentally if *Lantana* is a symptomless carrier of sandal spike virus.

Materials and Methods.—Plants of *Lantana camara* were collected from areas where there were no sandal trees and were potted in garden loam. At the 4 leaf stage, these plants were inoculated with extracts of healthy and diseased sandal leaves following the methods