

Short Scientific Reports

Sophonia greeni (Distant) (Nirvanidae: Jassoidea) on Leaves of Coconut Palm *Cocos nucifera* L.

Detection by Solomon, Govindankutty and Neinhans, (1983) mycoplasma like organisms (MLOs) in the tissues of coconut root (wilt) disease-affected palms warranted intensive search for all insects feeding on the palm in order to prepare an inventory of putative vectors of the disease and conduct transmission experiment. Visual observation of two to four-year-old coconut seedlings with fronds at eye level from ground in the farm of the Regional Station of Central Plantation Crops Research Institute at Krishnapuram, Kerala, India revealed the tender leaves harbouring pale yellow, depressed, active hopper identified as *Sophonia* (= *Nirvana*) *greeni* (Distant). This is a new record on coconut. A preliminary survey revealed that, apart, from the Institute farm, the leaf hopper was present on seedlings and bearing palms at places included in all the districts forming a contiguous disease-prevalent area of about 250,000 ha, in disease-free tract and isolated pockets of infection as well as in the northern, southern and eastern borders between the disease-affected and healthy gardens of Kerala State. Both imago and immature stages were present on the tendermost two or three opened leaves.

The leafhopper feeds and breeds on coconut foliage. Eggs are inserted singly through oviposition punctures distributed on the abaxial surface of the lamina. The contour of the egg deposited internally can be made out externally as a ridge. Insertion of the egg is almost complete; the eggs can, however be made out as white specks. Egg is elliptical and can be exposed by dissection of the leaf tissue. The incubation period is about 15 days under laboratory conditions. First instar nymph is active, yellow.

Several other auchenorrhynchous Homoptera have been recorded on coconut from Florida, Jamaica, Malaysia, Philippines and Solomon islands (Kurian et al., 1979; Howard and Mead, 1980; Eskafi, 1983). Many leafhoppers are vectors of MLO diseases in plants (Neilson, 1979). Lethal yellowing disease of coconut, a MLO-associated disease in Florida, is transmitted by *Myndus crudus* Van Duzee (Cixiidae) (Howard, Norris and Thomas, 1983). Therefore the infestation of coconut by *Sophonia greeni* gains significance.

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Morphology of the Spike in *Piper nigrum* L.

Morphohistological evidences point out that in black pepper (*Piper nigrum*) the main apex modifies into spike and the axillary bud continues further growth of the plant. As the transition from the vegetative to reproductive growth takes place, the main shoot apex lose its zonation and enhanced cell multiplication ensues.

Morphological and histological aspects of *P. betle* were reported by

Chibber in 1912. Vegetative structure and spike development in *Peperomia hispidula* were also studied around that time (Johnson, 1910; 1914). Murty (1960) concentrated on anatomical studies of vegetative parts of different species of *Peperomia*. Metcalf and Chalk (1972) provided valuable information on anatomical characters of pepper and other Piperaceae plants. Recently Tucker (1982 a, b) studied the inflorescence and