

## Some Minor Pests of Coconut; New Record for Sri Lanka

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### ABSTRACT

Four species of mites, three species of mealybugs and a spike moth were observed for the first time as minor pests of coconut in Sri Lanka.

The mites were *Raoiella indica* Hirst, *Tetranychus fijiensis* Hirst, *Oligonychus* (*Reckiella*) sp. and *Dolichotetranychus* sp. The former three were found on seedling leaves and the last inbetween the calyx and the epicarp in several nuts fallen immaturity. *Stethorus keralicus* Kapur, a coccinellid predator was found associated with the mites on seedlings.

The mealybugs were *Palmicultor* sp. deep within the crown of three to four year old seedlings in the field; *Pseudococcus citriculus* Green on leaves of seedlings and adult palms and *Dysmicoccus* sp. on inflorescences.

Larvae of *Batrachedra* sp., a spike moth caused damage to coconuts in the button stage.

Mites are common pests of a wide variety of crops. Leaves of coconut palms are attacked by three species of mites in Sri Lanka.

*Raoiella indica* Hirst (Tenuipalpidae) a small mite had been recognised as a pest of coconut in India, United Arab Republic and Mauritius. In Sri Lanka it was found to occur in great numbers and to cause damage to the leaves of about one year old coconut seedlings at Dehiwela in April, 1975, Demanhandiya in June 1975 and in the glasshouse of the Coconut Research Institute, Lunuwila in the months of August and September 1975 and during the period May to September 1976, when all (50) the seedlings were found infested. In many seedlings due to the damage caused by heavy infestations of this mite, leaves have turned yellow and dried up prematurely. *Stethorus keralicus* Kapur, (Coccinellidae) a predator was found associated with these mites. It was recorded as a predator of *R. indica* at Kerala, India. (Kapur, 1961). However this predator did not increase in numbers sufficiently early to prevent damage caused by these mites.

Two other mites namely *Tetranychus fijiensis* Hirst (Tetranychidae) and *Oligonychus* (*Reckiella*) sp. (Tetranychidae) were also found along with the above mite in the glasshouse in August 1975. In Fiji, *T. fijiensis* Hirst is found on both seedlings and mature coconut palms. (Simmonds, 1938). It lives in great numbers under a web on the underside of the leaflets and as a result of its mass feeding the leaves are discoloured. *Oligonychus pratensis* Banks was recorded, as a pest of Coconut in Mauritius. (Moutia, 1958) and *O. plegas* in Belgian Congo (Baker and Pritchard, 1960). Predators belonging to *Stethorus* spp. were recorded in many countries as attacking the mites of *Tetranychus* spp. and *Oligonychus* spp.

The three mites on coconut leaves, recorded now in Sri Lanka in the heaviest attacks cause yellowing and early die-back of the leaves of the young palm and can retard growth severely.

*Dolichotetranychus* sp. (Tenuipalpidae) was found inbetween the calyx and the epicarp in several nuts fallen immaturity at Wariyapola. Perhaps the mites were responsible for the immature nut fall. Therefore further investigation on its pest status is necessary.

Mealybugs are a group of insects responsible for considerable damage to agricultural crops. This damage is always associated with the feeding of the insect and may be caused by (a) the depletion of plant nutrients by the sucking up of the plant sap and thereby causing a loss of vigour, stunting and even death of plants, or (b) the injection into the plants of toxins which form part of the salivary secretions of the insects and cause pathological reactions in the plant. Mealybugs are always found associated with various species of ants. These ants are responsible to varying degrees for the protection of the mealybugs against parasites and predators, the consumption of honey dew excreted by the mealybugs and the dissemination of them.

Three different species of mealybugs were found associated with coconut in Sri Lanka. Mealybugs of *Palmiculitor* sp. were found in large aggregations deep within the crown of seventeen 3-4 years old palms at Nawadhoruwatte, Akwatte, Nelundeniya in the Kegalle district in December 1975. About 4-6 of the youngest leaves were severely damaged in each seedling. Some damaged leaves were as small as 30 cms. to 45 cms. in length. Zigzagging of some leaflets were also seen in affected leaves. The infested leaves dried up for a greater part of their length (Figure). Recovery of plants from damage was possible when the mealybugs were controlled by treating with a solution of 28 ml of 100% fenitrothion diluted with 36 litres (1 oz. in 8 gals.) of water. From field observations it appeared that there may be considerable variation in the susceptibility of palms to mealybug damage.



Fig. 1. A young palm with bud damaged by *Palmiculitor* sp.

Mealybugs of *Pseudococcus citriculus* Green were observed on leaves of seedlings in the glasshouse of the Coconut Research Institute, Lunuwila in February 1975. Ants belonging to the species *Tapinoma melanocephalum* F. were found associated with these insects. These mealybugs were also brought under satisfactory control by spraying with a solution of 28 ml of 100% fenitrothion diluted with 36 litres of water. (1 oz. in 8 gals.) However the mealybugs appeared again in large aggregations in the glasshouse in August 1975. Localised chlorotic patches developed on leaves of seedlings at the feeding points. These mealybugs were also found on leaves of adult coconut palms at Kirimetiya estate, Lunuwila in the same month. Ants belonging to the species *Technomyrmex detorquens* walk were found associated with these insects at Kirimetiya.

Inflorescences of more than one hundred tall palms were found heavily infested with mealybugs of *Dysmicoccus* sp. at Kakkapalliya in the Chilaw district in June 1975 and in the inflorescence of a tall palm in the variety block of Coconut Research Institute, Lunuwila in September 1975. Ants belonging to *Crematogaster* sp. were found associated with these mealybugs.

Larvae of *Batrachedra* sp. near *arenosella* Walk (Morphidae, Lepidoptera) were observed to damage female flowers by feeding and to cause their shedding at Kakkapalliya in July 1975. *B. arenosella* Walk has been reported to be an important pest of coconut associated with nut fall in the Malayan region. (Corbett and Gator, 1924 and Corbett, 1932). It has also been recognized as a pest of coconut in the Guianas, Congo, India, Indonesia, New Guinea, Melanesia, Australia and Tasmania (Lever, 1969).

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