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Record of *Dolichotetranychus vandergooti* (Oudemans) (Acarina: Tenuipalpidae) - a perianth mite on coconut*

During the investigations on the possible cause of shedding of immature coconuts in April, 1978, some nuts were observed harbouring the perianth mite inside the prophylls and perianth (Sathiamma, 1981). These mites were later identified as *Dolichotetranychus vandergooti* (Oudemans). The mites were also noted on the white soft portion of the nut covered by the perianth. This species is recorded for the first time on coconut. The orange coloured mites, with a typical elongated body, drain the sap from the tissues resulting in the discolouration of the infested portions.

The buttons, tender and mature nuts host these mites. The infestation commences at the button stage when the perianth tissues are comparatively softer. The outer perianth portions are affected first and the inner ones only subsequently. The prophylls are also sometimes infested. Occasionally these mites are observed on the spathe and on the male flowers.

The mites live in colonies. The colony consists on an average 29.96 eggs (range 2–221) and 50.18 (range 2–149) larvae, nymphs and adults. When the perianth is opened, the mites disperse from the colony and die under exposed conditions.

Observations on nut samples from seven palms at the rate of one nut per bunch per palm during 1978–1979 revealed that 95 out of a total of 116 nuts (79.83%) were infested by *D. vandergooti*. Mites were observed in the field throughout the year with maximum population in July and November, average recorded population being 461 and 457 mites per nut, respectively.

Table I gives the population of the mites counted on sample nuts. Fortynine out of fifty eight nuts were infested by the perianth mites (84.5%). Mean number of mites was 237.16 per nut. The population was fairly high on the outer perianth lobes as compared to the inner lobes. Prophyll no. 1 rarely showed infestation. Prophyll no. 2 rarely showed infestation. Prophyll no. 2, except in one case and all the six perianth lobes were infested. In two cases the soft portion of the nut covered by the perianth was free of mites.

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Table I. *Population of* Dolichotetranychus vandergooti *on nuts of coconut palm*

Number of nuts sampled	Number of nuts infested	Number of mites on									
		Prophyll		Perianth						Attachment portion	Total
		1	2	1	2	3	4	5	6		
10	7	0	80	712	382	737	333	45	16	0	2305
11	9	62	263	491	231	305	500	110	206	0	2171
10	9	0	47	305	337	223	388	396	91	426	2213
11	10	0	20	340	359	154	90	121	97	81	1262
10	9	0	10	417	262	519	463	656	330	317	2974
6	5	0	0	210	10	204	124	54	27	67	696

The damage caused by the mites remaining inside the perianth is not dangerous and the nuts can live with the mites. But the injury to the attachment portion of the nut can lead to invasion by microbes resulting in severe nut fall.

Spraying of dimethoate at 0.05% concentration at fortnightly interval for a period of three months, could reduce the mite population to almost zero level from 1939 of the pretreatment condition. The inhibition in mite population could reduce decaying symptoms at the point of attachment of the nut to the peduncle and subsequent to this there was nut setting in the infested palm, which was totally barren before the treatment. This clearly indicates the role played by perianth mites in nut shedding.

Predacious mites belonging to Phytoseiidae and Cheyletidae were often observed co-existing with the colonies of *D. vandergooti.*

The two species of tenuipalpidae recorded from coconut are *Raoiella indica* Hirst on coconut foliage (Hirst, 1924) and *Brevipalpus phoenicis* Geijskes from coconut (Nagesha Chandra and Channa Basavanna, 1976). (Kanagarathnam, Pinto and Sinnathamby, 1981) observed *Dolichotetranychus* sp. in between calyx and epicarp of fallen immature coconut in Sri Lanka.

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Central Plantation Crops Research Institute,
Regional Station, Kayangulam,
Krishnapuram 690 533, Kerala, India

B. SATHIAMMA

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