

Technical Reviewed

## Addition to the Insect Fauna Associated with Oil Palm in India

K N PONNAMMA AND BIJU BABJAN

Central Plantation Crops Research Institute, Research Centre, Palode, Pacha 695 562, Trivandrum District, Kerala, South India

Survey in the oil palm plantations of Kerala and Tamil Nadu revealed that 11 more species of insects are associated with oil palm in addition to the 60 species of insects already recorded from India.

**Keywords:** Insect fauna, oil palm, India

In India, oil palm is infested by a wide range of fauna which include insects, birds and mammals (Dhileepan, 1991, 1992). Dhileepan and Jacob (1992) reported that about 59 species of insects attack oil palm in various stages of its growth. Jacob and Kochu Babu (1995) recorded the Pink shoot borer, *Sesamia inferens* Walker from the secondary oil palm nursery at Honnali (Karnataka). Casual observations indicated the presence of other insect species. Therefore, it was decided to conduct a survey on insects present.

### METHODOLOGY

A survey was conducted in the oil palm nurseries and plantations of Kerala and Tamil Nadu during 1994-1996. The survey involved direct examination of seedlings and palms. Insects were collected by hand picking and nature of damage was noticed.

### RESULTS

Results of the survey in the oil palm nurseries

and plantations of Kerala and Tamil Nadu revealed that 11 species of insects viz *Nilaparvata lugens* (Stal.), *Sogatella kolophon* Kirkalady, *Sophonia greeni* (Distant), *Cheromettia sumatrensis* Heylaerts, *Thosea* (?) *mediostrigata* Hering, *Thosea vetusta* Walker, *Macroleptra nararia* Moore, *Narosa rosipuncta* Holloway, *Crematopsyche pendula* Joannis, *Turnaca acuta* Walker and *Amsacta transiens* Walker are associated with oil palm causing damage in various intensities (Table 1). These are new additions to the insect fauna associated with oil palm in India.

### DISCUSSION

*Sogatella kolophon* is a vector of dry bud rot in young and newly planted coconut and oil palm in West Africa (Mariau *et al.*, 1981) *Sophonia greeni* is a putative vector of coconut root (wilt) disease (Anon, 1983). *Nilaparvata lugens* is a vector of grassy stunt virus of rice and also causes "hopper burns" in India (Nair, 1986). The limacodids reported are severe defoliators in oil palm

TABLE I  
ADDITION TO THE INSECT FAUNA ASSOCIATED WITH OIL PALM IN INDIA

Order/Sub order	Family	Name of insect	Stage	Nature of damage	Location
Hemiptera/ Homoptera	Delphacidae	<i>Nilaparvata lugens</i> (Stal)	Nymphs & Adults	Sap sucking	Palode
	Delphacidae	<i>Sogatella kolophon</i> Kirkalady	Adults	Sap sucking	Palode
Lepidoptera	Cicadellidae	<i>Sophonia greeni</i> (Distant)	Nymphs & Adults	Sap sucking	Palode
	Limacodidae	<i>Cheromettia sumatrensis</i> Heylaerts	Larva	Defoliator	Pulikuttissery & Palode
	Limacodidae	<i>Thosea (?) mediosirigata</i> Hering	Larva	Defoliator	Palode
	Limacodidae	<i>Thosea vetusta</i> Walker	Larva	Defoliator	Chalakkudy & Palode
	Limacodidae	<i>Narosa rosipuncta</i> Holloway	Larva	Defoliator	Palode
	Limacodidae	<i>Macroplectra nararia</i> Moore	Larva	Defoliator	Aduthurai & Palode
	Psychidae	<i>Crematopsyche pendula</i> Joannis	Larva	Defoliator	Aduthurai, Palode & Pattukottai
	Notodontidae	<i>Turnaca acuta</i> Walker	Larva	Defoliator	Palode
	Arctiidae	<i>Amsacta transiens</i> Walker	Larva	Defoliator	Palode

plantations of South East Asia and West Africa (Cock *et al.*, 1987; Mariau *et al.*, 1991; Wood, B J, 1968; Mallik *et al.*, 1996). *Turnaca acuta* has been reported to cause severe outbreak and defoliation in coconut plantations in Tamil Nadu (India) and Malaysia (Swamiappan & Sundara Babu, 1995; Cook *et al.*, 1987).

*S. kolophon*, *S. greeni* and *N. lugens* belong to the series Auchenorrhyncha, the conventional group of vectors. Phytoplasma diseases of palms, root (wilt) disease of coconut and yellow leaf disease of arecanut are prevalent in Kerala. Compared to the other lepidopterans reported earlier, limacodids recorded are severe defoliators. Although none of these insects has so far caused any serious threat to oil palm in India, the occurrence of the above Homopterans and Lepidopterans are to be viewed seriously in view of the massive oil palm cultivation programme under varied agroclimatic conditions in the country.

#### ACKNOWLEDGEMENT

The authors are indebted to Dr M K Nair, Director, Central Plantation Crops Research Institute and Dr K U K Nampoothiri, Scientist-in-Charge, Central Plantation Crops Research Institute, Research Centre, Palode for the facilities provided for carrying out the work. Facilities provided by the Entomology Division, KFRI, Peechi is gratefully acknowledged.

#### REFERENCES

- ANONYMOUS (1983) Annual Report of Central Plantation Crops Research Institute, Kasaragod, India. pp 249.
- COCK, M J W, GODFRAY, H C J & HOLLOWAY, J D (EDS.) (1987) *Slug and Nettle Caterpillars*. CAB International, Walling Ford, United Kingdom. pp 270.
- DHILEEPAN, K (1991) Insects associated with oil palm in India. *FAO Plant Protection Bulletin*, **39** (213): 94-99.
- DHILEEPAN, K (1992) Insect pests of oil palm (*Elaeis guineensis*) in India. *The Planter*, **68** (793): 183-191.
- DHILEEPAN, K & JACOB, S A (1992) Pests. In *Oil Palm Production Technology*. Central Plantation Crops Research Institute, Kasaragod, India. pp 49-58.
- JACOB, S A & KOCHU BABU, M (1995) *Sesamia inferens* Walker, a new pest of oil palm seedlings in India. *The Planter*, **71** (831): 265-266.
- MARIAU, D, DESMIER DE CHENON, R, JULIA, J F & PHILIPPE, R (1981) Oil palm and coconut pests in West Africa. *Oleagineux*, **35** (4): 170-228.
- MARIAU, D, DESMIER DE CHENON, R & SUDHARTO, P S (1991) Oil palm pests and their enemies in South East Asia. *Oleagineux*, **46** (11): 401-476.
- MALLIK, B, VARAKATAMATH, C A & PUTTASWAMY (1996) Damage by the slug caterpillar, *Macroleptra nararia* (Lepidoptera: Limacodidae) to coconut around Bangalore, South India. *Indian Coconut Journal*, **27** (2): 2-4.
- NAIR, M R G K (1986) *Insect and mite pests of crops in India*. Indian Council of Agricultural Research, New Delhi. pp 408.
- SWAMIAPPAN, M & SUNDARA BABU, P C (1995) Outbreak of a new leaf caterpillar, *Turnaca acuta* Walk. (Notodontidae: Lepidoptera) on coconut in Tamil Nadu. *Indian Coconut Journal*, **25** (1): 2-3.