Damage by coconut defoliator, *Phalacra vidhisara* Walker (Drepanidae: Lepidoptera)

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Coconut, *Cocos nucifera* L. is one of the most important commercial crops in the dIndian coastal states covering an area of 2.07 million hectares and producing nearly 14.9 trillion nuts. Kurien *et al.* (1979) enlisted 830 insects and mites on coconut palms.

As a part of our pest surveillance programme of coconut pests, under the All India Coordinated Research Project (AICRP) on Palms, in Coimbatore, Tamil Nadu, during 2014, the coconut defoliator, *Phalacra vidhisara* Walker was observed in huge numbers at Nadhegoundanur village (10°39’ 53.23”N; 76° 54’ 29.58”E), Pollachi south, Coimbatore. The drepanid was first noticed during August 2014 to an extent of 12.3 larvae/ frond. Later during mid-September 2014 the larval population assumed serious proportions to an extent of 130 larvae/ frond. The larvae were green with a dorsal pinkish band laterally bordered by yellow lines, fusiform and with a broad head. They possessed lateral and dorsal setae along with prolonged setaceous spines.The larva when disturbed do not get dislodged due to the formation of silken webs. It fed extensively on the abaxial surfaces of palm leaves causing defoliation and later scrapping on the leaf surface and feeding on the entire lamina. The pupae were brown with a white bloom and were tightly fastened to the undersurface of the leaves with silken strands. The adults were pale reddish brown, sparsely distributed with black scales and a wing span of 2.6 cm in males and 3.2 cm in females. Forewings possess a faint antimedial black line, post medial and submarginal series of black spots. Hind wings possess subbasal line, and post medial and submarginal series of black spots. The cilia of both fore and hind wings were traversed by black

line which is in confirmation with the descriptions provided by Hampson (1892). The sudden occurrence of *Phalacra* sp. in coconut gardens of east and west Godavari districts, Andhra Pradesh have been documented earlier in 1997 and 2011 (Maheswarappa and Rajakumar, 2014).

The larval and pupal periods were to be 11.4 d (SE± 0.5, n=13) and 7.4 d (SE ± 1.7, n=5), respectively, under laboratory conditions. Samples of pupae along with the fronds were brought to the laboratory to observe emergence of parasitoids. The pupal parasitoid, *Brachymeria lasus* Walker emerged from the pupa of *P. vidhisara* from 6th day of collection and continued till the 9th day. Natural pupal parasitism from the pupal stages collected from the field was observed to an extent of 46.2 per cent. During October 2014, the same garden was surveyed and the pupal stages were observed for natural parasitism. More than 90 per cent of the pupae were parasitized. The pupal parasitoid, *B. lasus* Walker (Hymenoptera: Chalcididae) is a polyphagous, solitary, pupal parasitoid with a wide host range of about 104 species of Lepidopteran, Hymenopteran and Dipterans (Mao and Kunimi, 1994).

Adult of *Phalacra vidhisara*

Larva and pupa of *Phalacra vidhisara*

The identification of *Phalacra vidhisara* under ICAR- Network Project on Insect Biosystematics, Tamil Nadu Agricultural University, Coimbatore and that of parasitoid by NBAIR - National Bureau of Agricultural Insect Resources, Bengaluru is gratefully acknowledged.

References:

Hampson, G.F. (1892) The Fauna of British India including Ceylon and Burma, MOTHS Vol I, Taylor and Francis, London. 560 p.

Kurien, C., Sathiamma, B., Pillai, G.B. and Ponnamma, K.N. (1979) Insects and mites associated with the coconut palm, *Cocosnucifera* L. *In:* Nematodes, fungi, Insects and mites associated with the coconut palm, CPCRI Technical Bulletin - 2, CPCRI, Kasaragod, 36p.

Maheswarappa, H.P. and Rajkumar (2014) Technical Bulletin – 85, Research Accomplishments of AICRP on Palms, CPCRI, Kasaragod, 54 p.

Mao, H. and Kunimi, Y. (1994) Effect of temperature on the development and parasitisation by *Brachymeria lasus*, a pupal parasitoid of *Homona magnanima*. Entomol Exp Appl. **71**: 87-90.