

incorporated with six spray of nimbecidine 300 ppm @ 5 ml/l at 5 days interval followed by Schedule 2 incorporated with six spray of nimbecidine 300 ppm @ 5 ml/l at 5 days interval + yellow sticky trap and Schedule 3 incorporated with spray of nimbecidine 300 ppm @ 5 ml/l altered with triazophos 40EC @ 3 ml/l at 5 days interval + yellow sticky trap. Maximum whitefly population (28.61 adults /leaf) was observed in Schedule 6 (water spray at 5 days interval) followed by Schedule 5 incorporated with spray of dimethoate, imidacloprid, thiamethoxam, dimethoate, imidacloprid and thiamethoxam at 5 days interval.

Keywords: Whitefly, Population Dynamics, Management

Report of *Digama hearseyana* (Noctuidae: Lepidoptera) on Karonda (*Carissa carandus*) Plant in Rajasthan, India: Incidence and Morphological Analysis

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ABSTRACT

For the first time, *D. hearseyana* were observed on Karonda tree in the hot arid region of north-western India, (i.e., Thar Desert) and identified as *D. hearseyana*. During the present study, the average incidence of *D. hearseyana* on trees ranged between 10.00 to 60.00 and 11.67 to 63.33 % during 2014 and 2015, respectively. The incidence and numbers were higher between July-I fortnight and September-I fortnight, and the maximum incidence of 60.00 and 63.33 per cent was recorded in August-II fortnight and the minimum in October-II fortnight (16.67 and 18.33%) during 2014 and 2015. Thus the highest mean number of this *D. hearseyana* per tree was recorded in August-II fortnight (5.77 and 5.97/plant) followed by August-I fortnight (4.80 and 4.83/plant) and the lowest was in October-II fortnight (16.67 and 18.33/plant). During a survey of the natural vegetation, the population of this pest was found to be higher on young trees than the old trees. The larvae damage the fresh emerging leaves and flowers, which led to the suppression of growth of the karonda tree through scraping of leaves and flowers. The females laid single egg on leaves. Eggs were blackish brown light colour. The female was distinctly large than the male in respect to all body parts. The mean body lengths of males and females were 11.28 mm and 12.07 mm, respectively. To our knowledge this is the first

report of *D. hearseyana* on Karonda. This *D. hearseyana* is damaging economically important parts of tree, such as leaves and flowers. Therefore, management practices needs to be developed and implemented to minimize the losses caused by this pest.

Keywords: *D. hearseyana*, Report, Morphometric Analysis, Karonda

New Insect Pest Records of *Anogeissus pendula* (Edgew.) from Western Rajasthan

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ABSTRACT

Anogeissus pendula belonging to family Combretaceae, commonly known as dhok or kardhai which often forms pure stands in the rocky ridges of the Aravalli ranges. *A. pendula* is a most dominant species constitutes more than 80% of the vegetation cover in Aravalli range. It represents the edaphic climate generally found in hilly areas and maintains luxuriant growth on the gentle slope of hills due to better soil formation and water holding capacity. The timber is very hard, tough and strong, and is equal in transverse strength to that of teak. Consequently, it is being used for making a variety of domestic and agricultural uses that demand strength. The small timber is used for making furniture, door and window panels, house construction, agricultural implements, poles for fencing, roofing etc. Besides timber, the tree is also a valuable source of fodder, firewood and charcoal. It is an important tree species of Rajasthan, but the causative factors diminishing the growth due to severe defoliation. During the field survey in the Guda range of Bundi forest department of Rajasthan it was found that the natural stands of *A. pendula* were suffered with a severe defoliation. It was found that *A. pendula* is affected by a number of insect pests infesting the whole lot of plantation in forest areas. Review of literature reveals that many insect pests had been recorded on *Anogeissus latifolia*, *A. acuminata*, *A. leiocarpus*, *A. sericea* and *Anogeissus* sp. Till now, six insect pest belonging to two orders of three families have been recorded on *A. pendula* in the form of pests. In the present investigation the four insect species were observed for the first time to cause the mild to severe damages to natural plantations of Dhok in Rajasthan. These four new insect pest records viz., *Hyblaea puer* Cramer, *Acosmeryx shervillii* Boisduval, *Achaea janata* (L.) and *Ophiusa triphaenoides* Walker are defoliators belonging to three families of order Lepidoptera. They have been recorded to cause minor to severe levels of damage to the leaves of *A. pendula* plantations. A check-list of 33 insect pests of