

records in Cock *et al.* 1987).

*Thosea andamanica* has so far been recorded only on coconut and oil palm in the Andaman islands (Isaac 1925, Bhumannavar *et al.* 1991). Both these species were introduced to the Andaman islands for cultivation. While the latter was introduced as recently as in 1975 (Prashanth *et al.*, in press) the former which is native to the Nicobars was introduced to the Andamans by the early British settlers (Temple 1901). Therefore, if coconut is the original host plant of this species, from which it has diversified to include other plants in its diet, then *T. andamanica* must be native to the Nicobar group of islands from where it has extended its range northward to the Andamans.

It is, however, likely that the original food plant of the species was *Areca* (Ansari *et al.* 1992), *Barringtonia* (Holloway *et al.* 1987), *Atrabotrys*, or

*G. hirusutum* (cf. above); in which case *T. andamanica* could have spread/dispersed from the Andamans to the Nicobars or vice versa across the ten degree channel. In such a situation *T. andamanica* would be a native of the Andaman and Nicobar archipelago.

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## 28. STRANGE BEHAVIOUR OF MOTTLED EMIGRANT MALES

It was almost the end of July 1992 and the heavy showers of monsoon had made everything turn lush - green. Walking along the grass, near Malwadi, the western outskirts of Pune, my attention was attracted by two males of the Mottled Emigrant (*Catopsilla pyranthe*). The two males were hovering around a *Lantana* twig. I could see the wings of a

female Emigrant on the underside of a leaf. Emigrants generally mate on the ground. The female sits with her wings wide open and projects the abdominal tip outwards. The male lands on her back and clasps her abdomen with the claspers adapted for the purpose. Then he immediately takes off. The female remains suspended.

But on this occasion, the female was sitting on the underside of the leaf and the two males were fluttering around her. On a closer look I realised that the female was dead and a crab spider was clutching her firmly in its legs. These anxious males were probably trying to mate with a dead female. But as she was on the underside of the leaf, they were not able to land on her. Finally they gave up and flew away. A few more males also came later and exhibited similar behaviour.

When I twisted the twig to get a photograph, a male landed on the female and started rubbing his proboscis on her thorax. He was trying to suck something. The spider was trying to push him off the female's body. I could easily document this moment on film. The photograph clearly shows the male sitting on the spider and the dead female, and apparently sucking something from her thorax. The spider also can be

seen pushing the male. After a few seconds the male flew away.

The males were probably attracted towards the female and were unable to differentiate between a dead and a live female. The last male, which actually landed on the female's body probably also did not notice the well camouflaged spider. The more surprising facts, however, were that the spider that had just killed a female, did not attempt to kill the male and that the male also was not deterred even after the spider started pushing it off. Finally what was the male sucking from the female's body?

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## 29. PREVENTION OF RHINOCEROS BEETLE (*ORYCTES RHINOCEROS*) IN COCONUT PALM USING RED ANTS

Rhinoceros beetle (*Oryctes rhinoceros*) has been one of the most important and major pests of coconut palms in almost all coconut growing regions of the World. The adult beetle is stout with dark dorsal surface and reddish - brown ventral surface. It is 35.50 mm in length and 14 - 21 mm in width, and has a slightly tapering horn on its head. The female beetle lays eggs singly in any decaying organic matter in the field. The eggs hatch in 8-14 days and produce larvae. After completing larval and pupation stages adult beetles emerge from the organic matter and then cause severe damages to coconut palms. Besides, it also damages palmyra palm (*Borassus flabellifer*), toddy Palm (*Phoenix sylvestris*), oil palms (*Elaeis quianensis*), aloe, sugarcane, pineapple and screw-pine (Seshagiri Rao 1972). BHC, Oil cakes and Chlordane dust are used for controlling the beetles.

Red ants (*Oecophylla smaragdina* Fb.) has been known for their pest control activity. In Arabia

caterpillars and large boring beetles were destroyed in date palms using the red ants in 1775 (Debach 1974). Coconut moth (*Levuana irridenscens*) in Fiji was killed using the red ants (Tothill *et al.* 1930). Citrus shield bugs (*Rhynchoris* sp.) in citrus farms in China have been killed using the red ants (Hill 1983). This pest eating property is used to prevent rhinoceros beetle in coconut palms.

25 young (5-9 years old) coconut palms severely attacked by rhinoceros beetle were selected in seven plantations in different parts of Kanyakumari District, Tamil Nadu. Red ants were collected along with their nests from *Thespesia populnea* tree and introduced into the crown of the affected coconut palms. Killed insects were added into the crown to feed the ants. After a month the pest damage was tested in the palms. All the test palms were cured by the ants. The young leaves were quite normal and did not have symptoms of the beetle attack. 25 adult beetles were collected from compost pit and introduced into the crown of