

20. BOTANY AND ENTOMOLOGY AS SUPPLEMENTARY SCIENCES

In my paper "Moth Migration in Mombasa—1955/1977" (1979, *J. Bombay na. Hist. Soc.*, 75 (3): 618-624) I wrote that larvae of the suspected Lymantriid migrant, *Sapelia tavetensis* Holl., had once been found on an unidentified tree belonging to the Bombacaceae. This is wrong, and the tree has now been positively identified as *Sterculia foetida* L. (Sterculiaceae), a native of southern India and Sri Lanka.

The final identification of this tree is an interesting example of how the two sciences, botany and entomology, can supplement each other.

The tree, obtained as a seedling from a local nursery garden was unnamed and for many years a keen botanist friend and myself have puzzled over its identification. The fruit, form of growth and digitate leaves all pointed to the Bombacaceae, the flower was *Sterculia*-like, but no East African Sterculiaceae has

digitate leaves. Finally, one of the two recorded food-plants, *Ochromus lagopus* belongs to the Bombacaceae, and there was no record of any Sterculiaceae food-plant.

A recent paper by M. Edmunds "Contrasting methods of survival of two sympatric cotton stainer bugs (Hem., Pyrrhocoridae) in Ghana during food shortage" (1979, *Entomologist's mon. Mag.*, 114: 241-244) recorded that both *Dysdorcus veelkeri* Schmidt and *Odontopus sexpunctatus* Castelnau fed on fallen fruits of *Sterculia foetida* (presumably introduced) in Ghana. In my garden a number of Pyrrhocorids feed on the seeds of *Calotropis procera* (Asclepiadaceae) and, when these are not available, feed on the fruits of the mystery tree. This suggested that it might, after all, belong to the Sterculiaceae, and a detailed and intensive search in available botanical literature finally produced the definite identification of *Sterculia foetida* L.

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21. NOTES ON THE CARPENTER ANT *CAMPONOTUS IRRITANS* (SMITH)

The Carpenter Ant (*Camponotus irritans*) is fairly common in the Indian desert, being extra-ordinarily tolerant of heat. This highly predaceous insect is of considerable ecological and biological interest. The observations made on this insect from March 1978 to October 1979 in the Indian desert are reported here.

Its nest colonies are largely found on calcareous soils, preferably small mounds of such soil in sandy biotopes and so also in stony and

rocky areas. The nest colony is usually solitary but at favourable sites three or more nests colonies were observed three metres apart. The opening of the nest measures about 0.5 cm × 4.0 cm. The ant is an active predator, capturing insects even five times larger than itself. As soon as it comes across a prey it at once catches it and begins to drag it to its colony, the prey unsuccessfully struggles to escape but dies on the way while being taken to the nest

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colony. The Common Black carpenter ant (*Camponotus compressus*) is the most common prey, the next are termites, small beetles (largely *Protactia cuprea*) and caterpillars of moths and larvae of several insects. It was noted that cannibalism is also prevalent, injured or weak ants are caught and taken into the nest colony.

Its daily activity is paradoxical to normal practices of other animals. It begins to move out after sunrise and becomes more active with rising of temperature up to 50°C, whereas most of animals in the desert take shelter when temperature rises above 35°C and solar radiation above 40 cal/cm<sup>2</sup> hr. It is further noteworthy that it ceases to be active and goes underground when solar radiation is below 30 cal/cm<sup>2</sup> hr. In the winter it remains active during the mid-day when temperature

rises above 28°C or solar radiation above 40 cal/cm<sup>2</sup> hr.

It takes out excavated soil in wet pellet form and drop these out of the mouth of the nest as does other ants. Co-operation for dragging of a large sized prey was lacking.

It was noted that it dislikes rain and plugs the mouth of the nest with sand during rain. When accumulated water level rises to the mouth of the nest another opening is made at a higher level nearby and if necessary the nest colony is shifted to a nearby elevated site.

Its eggs and young were observed largely in the premonsoon season, i.e. late in June.

Babblers (*Turdoides caudatus* and *T. striatus*), crows (*Corvus splendens* and *C. macrorhynchos*), *Calotes versicolor* and *Varanus* spp. etc. were observed preying on the carpenter ant.

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## 22. ACTIVITY AND ABUNDANCE OF FLOWER VISITING INSECTS OF ALMOND (*PRUNUS AMYGDALUS* BATSCH) AT LUDHIANA (PUNJAB)

Almond is an important fruit crop of hill regions of India. In the Punjab plains also this crop gave encouraging results at the almond orchard of the Punjab Agricultural University, Ludhiana. Due to this, the area under this crop is increasing in the Punjab. The almond flowers are 2.5 to 3.8 cm in diameter and have a single pistil with two ovules. The flower is self incompatible and, thus, the cross pollination of the flowers is a must for obtaining the almond crop. Secondly the pollen is also not wind blown, which leads to more dependence on insect pollinators.

Taking this in view, the flower visiting in-

sects of almond at the almond orchard of the Punjab Agricultural University at Ludhiana were recorded from 9.00 a.m. to 5.30 p.m. at hourly intervals. There were 5 replications and each tree served as one replication. The observations were recorded for 5 minutes on each tree. The observations were repeated thrice at weekly interval in March 1979, which was a peak flowering season of the year under study.

The honeybees, i.e. *Apis mellifera* Linn., *A. dorsata* Fabr. and *A. florea* Fabr. were the dominant flower visitors. The maximum population was that of *A. dorsata* (Table 1). Some dipterous flies also visited the flowers but their