

garden used to cause a display of the liveliest interest, the younger members of the family rushing out to get a nearer view and possibly secure a good specimen (JBNHS 1889).

The next recorded instance in Bombay of the butterfly is by A. E. G. Best in 1951 when he saw two individuals at Tulsi Lake and again came across an individual on 6.xi in 1955. J. I. Alfrey, a knowledgeable lepidopterist editorially referred to Mr. Best's note of having seen an individual in the garden of 'Silver End', Strand Road, Colaba (Bombay) traveling across the harbour.

The concensus of opinion among lepidopterists was that the butterfly was a 'very scarce' migrant in Bombay until D. E. Reuben studied the butterfly (1960-62) in his garden in Pali Hill, Bandra, and suggested that Pali Hill is not merely a point on the local migration of the butterfly and that there is a seasonal appearance on Pali Hill, which he hoped might be tested by extended observations.

An opportunity of studying the butterfly at Pali Hill came my way when my services were put at the disposal of Dr. Salim Ali to work on the ten volumes of HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN. The garden around his study was ideally suited for the purpose. I first saw the butterfly on 23rd September

1970, a solo flying *purposefully* in an east-west direction, and never even alighting to feed on the crossandra bloom in the garden, the nectar of which is its favourite food in the south. From 23rd September till 27th October, a number of individuals were seen in the same steady purposeful flight, always east to west, and hardly higher than about 2 m above the ground, and never even alighting on the blooms in the garden. An exception to the above behaviour was one individual seen on 4th October 1970 at Tulsi Lake, leisurely flying from bush to bush and alighting on blossoms to feed. Observations from mid November 1970 to mid March 1971 showed that the butterfly was no more engaged in the purposeful flight as in September-October, and were flying aimlessly from one flowering plant to another to feed.

Since March 1971 I have not come across a single specimen in the Bombay area, though I have looked particularly for it, and it is intriguing why a butterfly so commonly met during certain years is completely absent in others.

After writing the above Mr. Salman Abdulali informs me of a *Papilio polymnestor* he saw at Bandra Station (Bombay) on 10th June 1977.

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c/o. BOMBAY NATURAL HISTORY SOCIETY,  
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June 14, 1977.

## 25. NEW RECORD OF MYRMECINE ANTS AS PESTS OF BHENDI, *ABELMOSCHUS ESCULENTUS* MOENCH.

*Myrmecaria brunnea* Saunders, *Phidologiton diversus* (Jerdon) and *Tetramorium smithi* (Mayr.) (Myrmecinae); Formicidae; Hyme-

noptera) were recorded as serious pests of the bhendi crop in the Instructional Farm attached to the College of Horticulture, Mannuthy,



Kerala during December 1976—January 1977, for the first time. Among the three species, *T. smithi* was relatively more abundant.

The feeding habits of all the forms are quite similar. They cut and feed on the petals, the ovarian tissues and the pollen grains. The buds as well as the flowers are equally preferred for feeding. The infested flower buds and flowers do not develop further and are quite often shed.

The ants also cause serious damage to the developing fruits by scraping the epidermal layer in irregular patches and later by internal burrowing inside the pulp through tortuous tunnels. The development of the infested fruits is arrested and these are often badly malformed. On each plant 80-90 per cent of the developing fruits are thus damaged. Infestation by the ants was brought under rapid control by spot dusting of flower buds, flowers and fruits with phosalone 4% DP. As a prophylactic measure, ringing around the base of plants with either BHC 10% DP or phosalone 4% DP was found to be quite effective.

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Bingham (1903) reported the distribution of *M. brunnea* throughout India, of *P. diversus* in W. India, Poona, Kanara and *T. smithi* in Bengal West and south India, without mentioning their host range. *M. brunnea*, which occurs almost every where on the plains of India occasionally feeds on the foliage of the garden plant *Arctotis grandis* (Fletcher 1920). According to Ayyar (1963) *M. brunnea* is of common occurrence in households in South India.

The other species of *Myrmicaria* reported as crop pests include *M. eumenoides* Gerst. on citrus in Nyasaland (Smee 1931) and *M. natalensis* F. on flowering plants and vegetable crops in Tanganyika (Ritchie 1935). *T. caespitum* L. is recorded to feed on cruciferous vegetables and brinjal in Virginia (Smith 1916) and on sugar beets in California (Lange 1961).

We are grateful to Dr. M. G. Ram Das Menon, Emeritus Scientist, Kerala Agricultural University, Mannuthy for identification of the insects.

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K. S. REMAMONY

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