

**NOTES ON THE DACINE FRUIT FLIES  
(DIPTERA: TEPHRITIDAE)  
OF ANDAMAN AND NICOBAR ISLANDS - II**

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**ABSTRACT.** - In the second part of the ongoing survey of fruit fly fauna of Andaman and Nicobar islands (June 1993 to January 1996), six species of dacines belonging to the genus *Bactrocera* Macquart are added. Of the two undescribed species recorded, one was reared from *Momordica cochinchinensis* (Lour) Spreng and *Trichosanthes tricuspidata* Lour. (Cucurbitaceae) and the other was caught in methyl eugenol traps. Additional host records of *Bactrocera* (*Bactrocera*) *carambolae* Drew & Hancock and *Bactrocera* (*Bactrocera*) *albistrigata* (de Meijere) are included in this paper.

**KEY WORDS.** - *Dacinae*, *Bactrocera*, Andamans, Nicobars, attractant traps, endemic.

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**INTRODUCTION**

Genus *Bactrocera* Macquart of Dacinae includes many destructive fruit fly species which attack a wide range of fruits in the tropical and warm temperate regions of the old world. Most of them are found in tropical Asia, the South Pacific and Australia (White and Elson - Harris, 1992)

Indian Dacinae are represented by 42 species with 32 species placed in genus *Bactrocera* and ten species placed in genus *Dacus* Fabricius. This includes *B. andamanensis* Kapoor, a lone endemic described from collections made as early as 1927 by Ferrar in the Andaman Islands (Kapoor, 1993). For nearly two and half decades this species stood as the only representative of the Andaman's fauna until Ranganath & Veenakumari (1995) added 12 species (including three undescribed ones) to the dacine fauna of the Andaman and Nicobar groups of islands. This paper, which forms the second part of the ongoing survey conducted between June 1993 and January 1996 in the Andaman and Nicobar islands, includes an additional 6 species of dacines and also new host records for *Bactrocera* (*Bactrocera*) *carambolae* Drew and Hancock and *B. (B.) albistrigata* (de Meijere) reported earlier from these islands.

## MATERIAL AND METHODS

The survey was mainly conducted in the Nicobars (namely Car Nicobar and Great Nicobar islands) with a few visits to Little Andaman and some pockets of South Andaman. The survey included the collection of infested host fruits in cultivated and forest areas and also the deployment of attractant (methyl eugenol and cue lure) baited Steiner traps. Traps were hung about 1.5 m above ground level. Care was taken to see that sunlight did not fall directly on the traps. Traps were charged once in ten days.

## RESULTS

Six species of dacine fruit flies were recovered, in addition to the 12 species recorded earlier from the South Andaman, Car Nicobar and Great Nicobar islands. Of the six species, two were reared, one each from *Gnetum gnemon* L. (Gnetaceae) collected on Car Nicobar and *Calophyllum inophyllum* L. (Guttiferae) collected on Car Nicobar, South Andaman and Little Andaman. The third species was reared from *Momordica cochinchinensis* and *Trichosanthes tricuspidata* (Cucurbitaceae) collected on Little Andaman, South Andaman and Ritchie's Archipelago. Two species out of the remaining three were trapped one each on Car Nicobar and Great Nicobar in methyl eugenol traps, whereas the last was trapped in the cue lure trap on South Andaman.

During the visits to different localities in South Andaman, Little Andaman, Car Nicobar and Great Nicobar islands a few additional hosts were recorded for *B. carambolae* and *B. albistrigata*. The details of the distribution of fruit flies and their host records are provided below :

### *Bactrocera (Bulladacus) mcgregori* (Bezzi)

**Remarks.** - Reared from *Gnetum gnemon* L. collected on Car Nicobar island. Known to be distributed in Singapore and the Philippines (Hardy, 1974). Does not respond to lures.

### *Bactrocera (Gymnodacus) calophylli* (Perkins & May)

**Remarks.** - Reared from *Calophyllum inophyllum* L. (Guttiferae) collected on Car Nicobar, South Andaman and Little Andaman. Known to be distributed in Belau, eastern Australia and Malaysia (Drew, 1989). Does not respond to lures.

### *Bactrocera (Paradacus) sp.*

**Remarks.** - Reared from *Momordica cochinchinensis* and *Trichosanthes tricuspidata* (Cucurbitaceae) on South Andaman, Little Andaman and Ritchie's Archipelago. The *Momordica cochinchinensis* collected was larger and with stiff hairs on the surface of the fruits, unlike those generally imported for human consumption from the Indian mainland.

***Bactrocera (Zeugodacus) incisa (Walker)***

**Remarks.** - Earlier regarded as a species under *Dacus (Strumeta)* (Hardy, 1959). Known to be distributed in Myanmar. Host records include jack fruit (*Artocarpus heterophyllus* Lam.) guava (*Psidium guajava* L.) and mango (*Mangifera indica* L.) in India (Fletcher, 1920). These host records undoubtedly belong to *B. (B) caryae* Kapoor as the identity of *B. incisa* has been much confused in the past. The true identity of *B. incisa* has been discussed by Hardy (1959, 1973) and White & Elson - Harris (1992). Trapped in cue lure traps on South Andaman.

***Bactrocera (Bactrocera) sp. nr. latilineola Drew & Hancock***

**Remarks.** - Trapped in methyl eugenol traps on Car Nicobar island.

***Bactrocera (Bactrocera) sp.***

**Remarks.** - Collected in methyl eugenol traps set up at Great Nicobar island.

*Bactrocera (Bactrocera) carambolae* was bred from *Polyalthia longifolia* (Sonn.) Thw., (Annonaceae) and *Fagraea racemosa* Jack.ex. Wall (Loganiaceae) in South Andaman. Earlier records include a wide range of forest and cultivated fruits (Ranganath & Veenakumari, 1995) and papaya (*Carica papaya* L.: Caricaceae) (Ranganath et al., 1997).

*Bactrocera (Bactrocera) albistrigata* was found to attack seriously *Syzigium* spp. (Myrtaceae), *Scolopia spinosa* (Roxb.) Warb. (Flacourtiaceae) in the Car Nicobar island ; the hosts seriously attacked in the Great Nicobar Island are guava, *Syzigium* spp., other hosts bred includes *Polyalthia longifolia*, *Calophyllum inophyllum*, *Guettarda speciosa* L. (Rubiaceae), *Aglaiia argentea* Blume (Meliaceae) and *Syzigium aromaticum* Merr. and Perry. Earlier records from Great Nicobar island include *Terminalia procera* Roxb. (Combretaceae), *Neisosperma oppositifolium* (Lam.) Fosb. & Sach. (Apocynaceae). This species is reported also to be a pest of guava in Car Nicobar island (Ranganath & Veenakumari, 1995).

**DISCUSSION**

It is interesting that of the 18 species of dacines (including those recorded earlier from the Andaman and Nicobar islands (Ranganath & Veenakumari, 1995) only two species, *Bactrocera (Zeugodacus) cucurbitae* (Coq.) and *B. (Z) tau* (Walker) are common to both mainland India and these islands. The rest are so far not known to be present on the Indian mainland. The Andaman group, in which North, Middle, South and Little Andaman islands were covered under the present survey, was represented by 15 species of dacines as against eight species in the Nicobar group, wherein Car Nicobar and Great Nicobar islands are surveyed. The composition of these two groups of islands is strikingly different, with only four out of 15 species namely *B. cucurbitae*, *B. tau*, *B. albistrigata* and *B. limbifera* (Bezzi) being common to both groups. However, *B. calophylli* though found in the Andaman group and Car Nicobar island, was absent from Great Nicobar island. Its principal host *C. inophyllum* was found to be attacked by *B. albistrigata* on this island.

*Bactrocera carambolae* was dominant on the Andaman group, attacking a very wide range of forest fruits in addition to cultivated ones (Ranganath & Veenakumari, 1995, Ranganath et al., 1997). The present survey revealed a few hitherto unknown hosts of this species. However, *B. albistrigata* was dominant in the Nicobar group, targeting hosts such as *Syzigium* spp. and guava which are otherwise known to be attacked exclusively by *B. carambolae* in the Andaman group. Though *B. albistrigata* appears to be established in the Andaman group (Ranganath & Veenakumari, 1996) its hosts are yet to be identified.

Except *B. cucurbitae* and *B. tau* which are present on the Indian mainland and also on these islands, the rest of the species occurring on these islands are known to be distributed in Indonesia, Malaysia, Singapore, Thailand and the Philippines. Their distribution would now extend into the Nicobars and Andamans in the Indian Ocean. Five undescribed species of dacines encountered during the survey could be endemic to these islands.

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