Bull. zool. Surv. India, 6 (1-3) : 95-98, 1984

A NOTE ON THE MARINE BORERS OF MANGROVES OF LITTLE ANDAMAN, INDIA

*A. K. Das and M. K. Dev Roy
Andaman and Nicobar Regional Station,
Zoological Survey of India, Port Blair 744101

ABSTRACT

Four species of teredinid borers, namely, *Bactronophorus thoracites* (Gould), *Lyrodus pedicellatus* (Quatrefages), *Nausitora dunlopei* Wright and *Nausitora hedleyi* Schepman and one species of isopod borer, *Sphaeroma terebrans* Bate, collected from the mangrove zone of Little Andaman are dealt with in this paper. All these borers constitute new records for the island. In addition to this, one species of amphipod, *Melita zeylanica* Stebbing and three species of isopods, namely, *Sphaeroma triste* Heller, *Cirolana parva* Hanson and *C. elongata* H. M. Edward have been collected from the same habitat as that of the said isopod borer. These crustaceans are also recorded for the first time in Andaman and Nicobar islands.

Introduction

A number of papers have been published on marine bores of Andaman and Nicobar islands particularly in recent years (*see* Ganapati and Rao, 1960 ; Rajagopal and Danial, 1972 ; Kalyansundram and Granti, 1975 ; Karande. 1978 ; Das and Dev Roy, 1980, 1981 and in press and Tiwari *et al*, 1980). But, uptil now, no information is available on this group from Little Andaman which is topographically unique in the sense that it is the southernmost island of the Andaman group and is separated from the Great Andamans (collective name for main stretch of Andaman group consisting of North, Middle and South Andaman) by the Duncan passage and from Nicobar group by the Ten Degree Channel.

In order to fill up this lacunae a survey was undertaken in the mangrove zone of of Little Andaman during February-March, 1982 giving emphasis on the collections and study of the marine borers of the mangrove ecosystem. As a result, four species of teredinid borers (Mollusca : Bivalvia), namely, *Bactronophorus thoracites* (Gould), *Lyrodus pedicellatus* (Quatrefages), *Nausitora hedleyi* Schepman and *Nausitora dunlopei* Wright and one species of isopod borer (Crustacea), namely. *Sphaeroma terebrans* Bate have been collected. Incidentally all these borers constitute new records for the island.

No teredinid borer was found in the living mangroves. These were collected from the logs and dead stumps of the following mangrove trees.

Local name	Scientific name	Family
Goran	*Rhizophora stylosa*	Rhizophoraceae
Goran	*Rhizophora mucronata*	-do-

*Present Address : Zoological Survey of India, Calcutta.

Local name	Scientific name	Family
Kankara	*Bruguiera gymnorhiza*	Rhizophoraceae
Passur	*Xylocarpus granatum*	Meliaceae
Sundri	*Heritiera littoralis*	Sterculiaceae

Sphaeroma terebrans was found to inhabit the logs of *Rhizophora* sp. in large numbers. Moreover, one species of amphipod, *Melita zeylanica* Stebbing (Family Gammaridae) and three species of isopod, namely, *Sphaeroma triste* Heller (Family Sphaeromidae), *Cirolana parva* Hanson and *C. elongata* H. M. Edward (Family Cirolanidae) have also been collected from the logs of *Rhizophoa* spp. These species are recorded for the first time in Andaman and Nicobar islands. But these are not dealt with in the present communication as wood borers (Pillai, 1967).

Systematic Account

A. Teredinid borers

Family Teredinidae

Bactronophorus thoracites (Gould)

Material examined : 10 exs., South Bay, Little Andaman, 4.iii.1982, coll. *M. K. Dev Roy.*

Distribution : India : Sundarbans, Mahanadi estuary, Visakhapatnam, Vellar-Coleroom estuary (Poto Novo), Bombay, South Andaman, Ritchie's Archepelage, Little Andaman (present record) and Camota Is. (Nicobar).

Outside India : Indian oceanic Islands, Burma, Malaya, Indonesia, Australia and New Zealand.

Remarks : This is a common mangrove borer of South Andaman and Ritchie's Archepelago. In Little Andaman this was extracted from the logs of Kankara tree where salinity was 16‰ at the time of collection.

Lyrodus pedicellatus (Quatrefages)

Material examined : 4 exs., Hut Bay, Little Andaman, 24. ii. 1932, M. K. Dev Roy ; 16 exs., South Little Andaman, 4.iii.1982, coll. *M. K. Dev Roy.*

Distribution : India : Mahanadi estuary, Visakhapatnam, Madras, Pamban, Tondi and Adirampatnam, Tuticorin, Kayamkulam, Cochin, Magalore, Karwar, Panaji, Ratnagiri, Bombay, Daman, Veraval, Okha, Kandla, South Andaman, Ritchie's Archepelago, Little Andaman (present record) and Camorta Is. (Nicobar). Outside India : Widely distributed in tropical and temperate seas.

Remarks : This species was collected from logs and dead stumps of Goran and Passur trees lying in salinity ranging from 16.7‰ to 32‰.

Nausitora dunlopei Wright

Material examined : 12 exs., 22 km from Hut Bay, Little Andaman, 20.ii.1982, coll. *M. K. Dev Roy.*

Distribution : India : Sundarbans, Mahanadi estuary, Madras, Cochin Harbour, Great Nicobar, Car Nicobar and Little Andaman (present record).

Outside India : Bangladesh, Siam, Bismark Archepelago, Madagascar, Australia.

Remarks : This species is reported for the first time in Andaman waters. This borer was extracted from the dead stumps of Kankara tree lying in salinity of 5.15‰.

Nausitors hedleyi Shepmann

Material examined : 1 ex., Hut Bay, Little Andaman, 24.ii.1982, coll. *M. K. Dev Roy* ; 1 ex., South Bay, Little Andaman, 4.iii.1982, coll. *M. K. Dev Roy.*

Distribution : India : Mahanadi estuary, Madras harbour, Cochin, Middle Andaman, Ritchie's Archepelago, South Andaman and Little Andaman (present record).

Remarks : This borer was collected from the same locality and habitat as in the case of *Lyrodus pedicellatus.*

B. Isopod borers

Family SPHAEROMIDAE

Sphaeroma terebrans Bate

Material examined : 3 exs., 22 km from Hut Bay, Little Andaman, 20.ii.1982, coll. *M. K. Dev Roy* ; 25 exs., Hut Bay, Little Andaman, 23.ii.1982 and 26.ii.1982, coll. *M. K. Dev Roy* : 10 exs., 13 km from Hut Bay, Little Andaman, 1.iii.1982, coll. *M. K. Dev Roy.*

Distribution : India : Kerala, Karnataka, South Andaman, Ritchie's Archepelago, Little Andaman (present record).

Outside India : California, Florida, Brazil, Congo, South Africa, Mozambique, Zanzibar, Mediterraneum, Shri Lanka, Australia, New Zealand.

Remarks : *S. terebrans* which is known as the most destructive borers of all the species of *Sphaeroma* recorded so far from India, was found to inhabit the logs of *Rhizophora* sp in large numbers in the mangrove areas of Little Andaman. Diameter and depth of the holes of these borers were found to vary from 5 to 5.5 mm and 2.5 to 8.5 mm respectively. Within the log of 5 mm sq area selected at random 37 holes and 400 nymphs and adults on average were found. This species of borer was found in the logs lying in different salinity varying from 5.15‰ to 32‰. This is very noteworthy because *S. terebrans* usually occurs in brackish water.

GENERAL REMARKS

In the course of present investigation it is revealed that members of the family Rhizophoraceae are more susceptible to the attack of teredinid borers than the mangroves belonging to the other families. This may be due to the fact that these mangroves, more particularly *Rhizophora* spp, occupy most outer seaward fringe in this island.

As mentioned earlier, out of five species of crustacea collected from the logs of *Rhizophora* spp, only one species, *Sphaeroma terebrans*, is known as true wood borer (Pillai, 1967). Of course, in one occasion *Melita zeylanica* was observed to scrape the surface of the submerged timber in the Kerala back water (*see* Pillai, *op. cit.*). In the present case *M. zeylanica*, *Cirolana parva* and *C. elongata* were collected from the logs lying in the brackish water having salinity 5.15‰ whereas *Sphaeroma triste* was found in the logs placed in salinity 32‰. Unfortunately, the present authors were not able to study the habit of these organisms.

ACKNOWLEDGEMENTS

The authors are thankful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta for extending necessary facilities to carry out this work and to Shri G. Ramakrishna, Emaretus Scientist, Zoological Survey of India for identifying the amphipod and isopod species.

References

Das, A. K. and Dev Roy, M. K. 1980. On the wood-boring molluscs of South Andamans, India. *Rec. zool. Surv. India*, **77** : 179-187.

Das, A. K. and Dev Roy, M. K. 1981. On the teredinid borers of mangroves of Kamorta Island, Nicobar, India. *Bull. zool. Surv. India.*, **4** (3) : 391-393.

Das, A. K. and Dev Roy, M. K. (in press). Report on the marine wood borers from the mangroves of Nail, Havelock and Peel islands, Ritchie's Archepelago, Andaman, India. *Bull. zool. Surv. India.*

Ganapati, P. N. and Lakshmana Rao, M. V. 1960. On some crustacean wood borers of Andamans. *Curr. Sci.*, **29** (7): 275-276.

Kalyansundaram, N. and Granti, S. S. 1975. The intensity and distribution of marine wood borers of various parts of India. *Bull. Dept. mar. sci. Univ. Cochin*, **7** (3) : 637-644.

Karande, A. A. 1978. Marine fouling and timber deteriotion in sub-oceanic islands of Andamans. *Indian J. mar. Sci.*, *7* : 39-43.

Pillai, N. K. 1967. The role of crustacea in the destruction of submerged timber. *Proc. Symposium on Crustacea IV. Mar. biol. Assoc. India* : 1274-1283.

Rajagopal, A. S. and Daniel, A. 1972. Boring organisms of the Great Nicobar islands. Molluca : Teredinidae. *J. Bombay nat. Hist. Soc.*, **69** : 676-678.

Tiwari, K. K., Das, A. K. Dev Roy, M. K. and Khan, T. N. 1980. On the wood borers of mangroves of Andaman and Nicobar islands, India with a note on the gallery pattern of some insect borers. *Rec. zool. Surv. India*, **77** : 357-362.