

TRAPPING OF INSECTS IN THE ARABIAN SEA

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ABSTRACT

Some insects caught on RV *Gaveshani*, while on a cruise in the Arabian Sea in May-June 1986 is reported. Of the 23 insects caught, 16 were lepidopterans. An interesting flight behaviour of *Psychota* sp. is described.

Key-words: Insects, lepidopterans, Arabian Sea.

Insects have been trapped mainly over the Pacific (Yoshimoto, Gressitt and Mitchell, 1962; Yoshimoto, Gressitt and Wolff, 1962; Harrell and Yoshimoto, 1964; Harrell and Holzapfel, 1966). To a lesser extent, insect-trapping on an open sea has also been carried out in the Antarctic (Gressitt, Leech and O'Brien, 1960; Gressitt, Leech, Sadlacek and Wise, 1961), North Sea (Hardy and Milne, 1937; Hardy and Cheng, 1986), and Atlantic and Indian Oceans (Scudder, 1968). Insect flotsam has also been studied from pleuston samples from the English channel (U.K.), off the Oregon coast (U.S.A.) and the Gulf of California (Mexico) by Cheng and Birch (1977, 1978). However, no attempts have so far been made to trap insects, either air borne or as flotsam, in the Arabian Sea. The present report is the first in which insects were trapped in open waters off the west coast of India.

The insects (Table I) were collected during cruise 169 of RV *Gaveshani* (May 27-June 10, 1986) at stations 4002, 4024 and 4032 (Fig.1). Insects were sighted only on these stations and were caught using make shift nets. All insects were preserved in 75% ethanol in separate tubes. Each insect was caught separately and not by common netting, between 0830 and 1200 hrs at station 4002, 1730 and 1830 hrs at station 4024 and 0800 and 1200 hrs at station 4032.

The chances of these insects having reached the open sea on various fishing boats and barges do exist for station 4032 (25 km from land) as a number of such boats and barges were present in the vicinity of the station. But for stations 4002 and 4024 (150 km and 185 km from land respectively), only wind appears to have brought these insects so far out over the sea as no barges or boats were noticed in the area at the time of collection. Hardy and Cheng (1986) have reported trapping of various air borne insects including Homoptera (mainly Aphididae), Diptera (Chironomidae predominating), Microlepidoptera, Hymenoptera and Neuroptera

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Table I – Insects caught aboard RV *Gaveshani* during cruise 169 in the Arabian Sea.

Species	Family	Order
<i>Danais</i> sp. (3)	Nymphalidae	Lepidoptera
<i>Pieris</i> sp. (1)	Pieridae	-do-
<i>Psychota</i> sp. (3)	Syntomidae	-do-
<i>Pericallia</i> sp. (1)	Arctidae	-do-
<i>Cosmophila</i> sp. (1)	Noctuidae	-do-
<i>Pyralis</i> sp. (2)	Pyralidae	-do-
<i>Chlorogamphus</i> sp. (5)	Cordulegasteriae	Odonata
<i>Ammophila</i> sp. (4)	Sphécidae	Hymenoptera
Unidentified (5)	Ichneumonidae	-do-

Number of insects caught is given in parentheses.

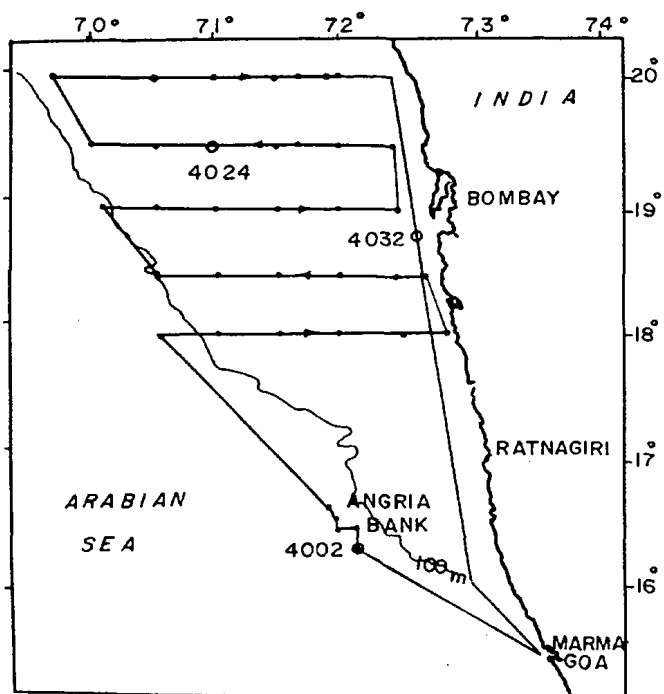


Fig.1. Positions of the stations where insects were collected.

etc. upto and beyond 160 km from the nearest land in the North Sea.

Of the lepidopterans caught, *Psychota* sp. exhibited an interesting flying behaviour. The butterfly was first observed to fly from the sea-surface to the ship, hovering over the upper deck, on the port side and then flying back to the sea-surface, making a figure of "8" (Fig.2). It gained a height of about 10 m in the course of its flight from the sea-surface to the upper deck, each time. Despite the strong wind (the wind speed was however, not monitored) it never strayed off its flight path by more than a metre. Over the sea-surface, it flew for about 60-100 cm, keeping a distance of 8-16 cm from the water, before turning. This behaviour continued uninterrupted for about an hour.

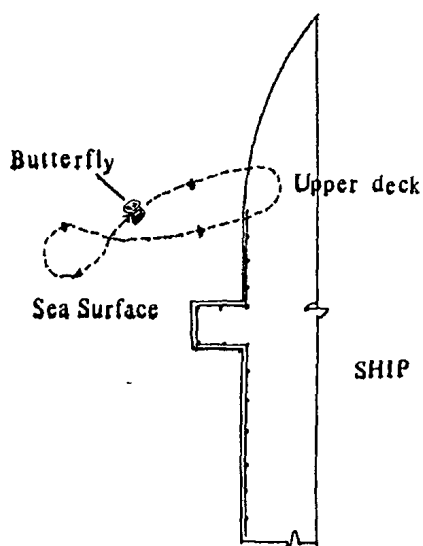


Fig.2. The flying path (making a figure of "8") of the butterfly *Psychota* sp.

It is interesting to note that Hardy and Milne (1937) found a very high number of dipterans, fairly large number of hemipterans and only a very minute percentage of lepidopterans over the North Sea. Similarly Diptera and Hemiptera were found to dominate the insect population, with a very small percentage of lepidopterans over the Pacific (Bowden and Johnson, 1976). Odonata whenever found were in small numbers. In the present case, however, of the 23 insects captured, in as many nettings, 16 belonged to Lepidoptera. This higher percentage of lepidopterans in the trappings may be due to the fact that no suction-traps or high-hoisted nets were used in the present case to trap all the air borne insects. Three species of cockroaches and the housefly seen occasionally in the interior of the vessel are believed to have originated in the ship at the ports.

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