

Note

Observations on the moulting behaviour of the spiny lobster *Panulirus homarus* (Linnaeus)

E. V. RADHAKRISHNAN¹ AND M. VIJAYAKUMARAN

Madras Research Centre of CMFRI, Chennai - 600 006, India

ABSTRACT

The moulting process of the spiny lobster *Panulirus homarus* in the laboratory was observed and described. In this species, a lobster approaching ecdysis can be identified, almost 48 hours before, by the presence of a longitudinal decalcified resorptive line along the branchiostegites. Under normal conditions, the lobster completes ecdysis within 8-10 hours after the initiation of the moulting process. The active phase of ecdysis is completed within 3-4 minutes. Initially, the lobster withdraws the thorax gradually from the old exoskeleton and finally sheds the abdominal part of it by strong flapping of the tail. The lobster moulting on a rough substratum completes ecdysis in the upright position, whereas those moulting on a soft substratum rolls on to one side while withdrawing the walking legs. The newly moulted lobster regains mobility within a few seconds and avoids contact with other lobsters until the new exoskeleton is sufficiently hardened.

The physical and the behavioural aspects of moulting have been studied only in a few species of spiny lobsters such as *Panulirus japonicus* (Schwabe *et al*, 1952), *P. argus* (Travis, 1954), *P. interruptus* (Lindberg, 1955), *P. cygnus* (Thomas, 1966) and *Jasus lalandii* (Paterson, 1968). A short description of the moulting process in *P. homarus* of east coast of southern Africa has been given by Berry (1971). Comprehensive descriptions of ecdysis have also been published for the American lobster, *Homarus americanus* (Aiken, 1980), the Norwegian lobster *Nephrops norvegicus* (Figueirido and Thomas, 1967) and the scyllarid, *Thenus orientalis* (Kaleemur Rahman and Subramoniam, 1989). The

present study deals with laboratory observations on the moulting process in the spiny lobster. *P. homarus* which differs in certain aspects from the description given by Berry (1971).

The moulting process was observed in sixteen adult lobsters measuring 55-60 mm in carapace length. The premoult lobsters nearing moulting can be identified by the presence of a longitudinal decalcified ecdysial line (Fig. 1) along the branchiostegite area, which is absent in the intermoult stage (Fig. 2). The lobsters were carefully removed and placed individually in 60 cm diameter plastic tanks containing fresh filtered well aerated seawater. The

Present Address :¹Calicut Research Centre of CMFEI, Calicut - 673 004, India.

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