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## Introduction

e crab shery in India is fast developing and there is a vast scope for crab meat in both national and international markets [1].

e male a er making contact with the female ultimately moved towards her and catch the female with the use of his chelae and embraces in a short while using his walking legs hold her beneath him to form a position called cradle-carrying position. During this position both animals are facing in the same direction. In general the male is active and aggressive but the female is defunct. e male crabs are generally in attacking mood but the female is not so when they were disturbed. Sometimes the pair is broken when disturbed but again reunited immediately in the same position. Both animals were eating during this period and movement also noticed (Figure 1a).

## Moulting (M)

At the time of female's moulting, the pair was separated from the cradle carrying position and subsequently the female start to moult. During this crucial juncture the male crab moves around the female crab and helps her to moult by removing the shell and also protect her from others still she attain normal hardness of the exoskeleton (Figure 1b and 1c).

## Pre-Copulatory Guarding (PCG)

A er moulting the male and female crabs were form the cradle carrying position as earlier for sometimes until the starting of mating process (Figure 1d).

## Copulation (C)

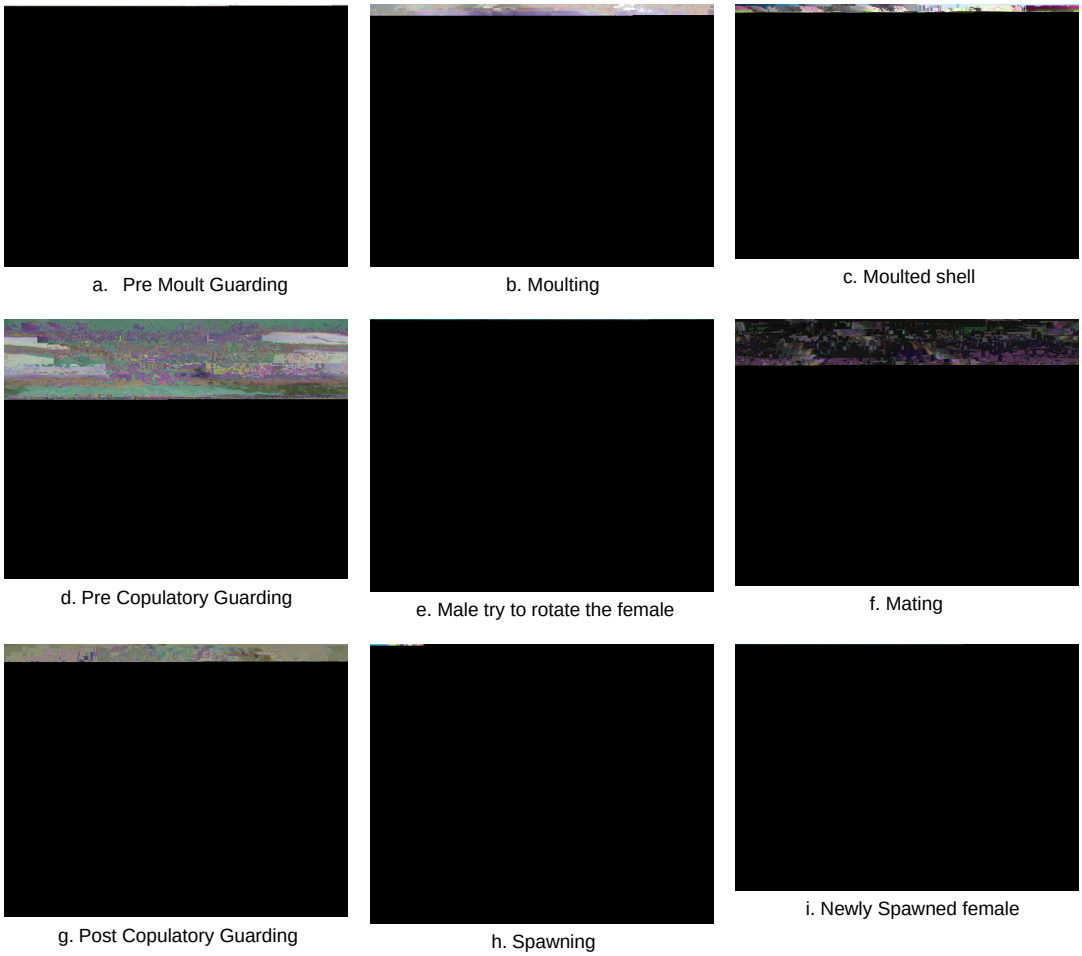
Mating was initiated when the female's exoskeleton is so . e male crab became very active and rotates the female by using his waking leg and by using chelate he turned over her. e assistance rendered by the male crab, she positioned herself upside down beneath him and extends her abdomen exposing gonophores allowing the male to insert his paired gonopods into her genital pores. By this time male and female crabs are facing in opposite direction. e female is in reverse position, her lower side is directed towards the males ventral side and the abdomen of both are ung backwards. During copulation the male o en walked around with the female attached to its ventral surface, holding her with third and fourth walking legs (Figure 1e and 1f).

## Post-Copulatory Guarding (POCG)

A er the completion of copulation the male crabs liberate the female from mating position and embraces in a short while to form the cradle carrying position continued for only few hrs. e female is inactive until she attains normal hardness of her exoskeleton (Figure 1g).

## Spawning (S)

e male crabs deposited spermatophores in the female's spermatheca during mating was stored until the female is ready for



a. Pre Moult Guarding
b. Moulting
c. Moulted shell
d. Pre Copulatory Guarding
e. Male try to rotate the female
f. Mating
g. Post Copulatory Guarding
h. Spawning
i. Newly Spawned female

Figure 1: Various Positions of Mating Behaviour.

extrusion. During the process of spawning or extrusion, the eggs are liberated from the ovaries passing through the seminal receptacles. In seminal receptacles the stored sperms are liberated from the spermatophores to fertilize the eggs and fertilized eggs are extruded through the gonophores present in the sternites of the sixth thoracic segments of third pair of legs and these eggs become attached to the smooth setae present in the endopodites of the four pairs of pleopods in the abdominal ab. e egg mass seggregated and carried on the abdominal ab is called as berry or sponge. e females carrying eggs is also called as berried crabs. e freshly extruded eggs are initially orange in colour and become black before hatched into zoeae (Figure 1h and 1i).

## Experimental setup I

A hard shelled male stocked with a hard shelled female. e Pre-moult guarding lasted for 92.66 ± 1.74 hrs. Moulting lasted for 4 ±

sanguinolentus [1] but it's observed in the present study. Mating was reported when the females were in hard shelled condition in Portunus pelagicus product

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