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## First Record of Red Frog Crab *Ranina ranina* (Linnaeus, 1758) (Brachyura: Raninidae) from South West Coast of India

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**ABSTRACT:** The present report is the first record of the *Ranina ranina* (Linnaeus, 1758) from vizhinjam, Thiruvananthapuram, Kerala located along the south-west coast of India. A specimen of *Ranina ranina* measuring 108 mm in carapace width were caught by a bottom set gill net operated along the Vizhinjam coastal waters in February 2018. Identification and description of the recorded crab, photographs and measurements of the single specimen. This is the first record of the Red frog crab *Ranina ranina* from the south west coast of India. Earlier it is reported from the South East coast, Gulf of Mannar, India.

**Keywords:** First record, Spannercrab, *Ranina ranina*, South west coast of India, Vizhinjam.

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### INTRODUCTION

*Ranina ranina* is a marine crab belongs to the Family Raninidae and Order Decapoda. The only extant species of its genus *Ranina ranina* is commonly called as the frog crab or spanner crab. The systematic position of the family Raninidae, of which *R. ranina* is the type genus, was recently reviewed by Stevcic (1973). The species is extensively dispersed all over the Indo-Pacific, Mauritius, South and East Africa, Sandwich Islands and Reunion. They are found in depths of 10-100 m on sandy-smooth substrata in which they bury (Tahil, 1983; Kennelly, 1992). They aggregate to spawn during the warmer months and mate at any stage in the moult cycle (Brown, 1986) and females store the sperm until the eggs are extruded. During spawning the females often bury themselves to incubate and protect the eggs. Large females produce at least 2 batches of eggs, each season with an average number of 1,20,000 per batch. The eggs remain attached to the female

for 4–5 weeks before hatching (Brown, 1986). Spanner crab larvae spend several weeks as planktonic larvae which is their primary mechanism for dispersal (Brown, 1985). The first molt, when the larvae develop into a zoeal stage, is typically 7-8 days after the larvae hatch (Fielding, 1974). They will attain maximum size within 8 to 9 years. Spanner crabs are sexually dimorphic with larger males than females (Fielding and Haley 1976; Minagawa 1993). To feed, they ambush small fish and other organisms from their hiding places in the sand (Kennelly and Watkins, 1994). Spanner crabs are opportunistic feeders with their diet consisting of urchins, bivalvemolluscs, crustaceans, polychaete worms and fish. It is often fished for its meat, and is only known species in its genus. The largest commercial fishery of this crab is on the eastern coast of Australia (Queensland Fisheries, 2010). Populations of *Ranina ranina* have been exploited commercially in Hawaii, Japan, The Philippines,

The Seychelles and most recently along the east coast of Australia using baited traps made of tangle-nets suspended over flate frames (Kennelly & Craig 1989). In the Indian subcontinent *Ranina ranina* was previously recorded from the Gulf of Mannar along south-east coast of India (Kasinathan, 2007).

In the present paper, the first record of *Ranina ranina* (Linnaeus, 1758) from the south west coast of India is highlighted.

## MATERIAL AND METHODS

One live specimens of a male spanner crab (124 mm Carapace length, 108 mm Carapace width) *Ranina ranina* (Linnaeus, 1758) collected from vizhinjam (08822 N 76859 E), coastal waters on February 2018. It was caught in Bottom set gill net operated at a depth of 25 m, 20 km, away from the coastal waters of vizhinjam, Kerala. The collected live specimen of the crab is immediately brought in to the hatchery for identification and observation. All measurements of the present specimen is given in Table 1.

## RESULTS

### Systematics

**Order:** Decapoda

**Suborder:** Pleocyemata

**Infraorder:** Brachyura

**Super family:** Raninoidea

**Family:** Raninidae

**Genus:** *Ranina*

*Ranina ranina* (Linnaeus, 1758).

### DESCRIPTION AND DISCUSSION

Morphometric measurements of *Ranina ranina* is given (Table 1). Crabs of large size. Carapace very elongate, much longer than broad; anterior part much broader than narrow, posterior waist-like. Body with 124 mm carapace length, 108 mm carapace width and 430 gm weight. Carapace completely covered by low rounded scale like spines in large or small numbers, are broader anteriorly. The ratio between length and width being 6:5. The entire frontal and lateral margin of the crab are lined with short setae. A pattern of 10 uneven size white spots line across the upper third part of the dorsal carapace with two inferior but prominent parallel white spots centrally located (Fig. 1 and 2). The dorsal carapace has a rough texture due to the presence of spine-like structures called tubercles. Eye stalks three segmented, set vertical and longer. Strong cheliped bears seven or eight teeth. Paddle-shaped walking legs, anterior and posterior borders hairy.

**Table 1: Morphometric measurements of *Ranina ranina* from south west coast of India.**

Character	Measurements
Carapacelength(mm)	124
Carapacewidth(mm)	108
Abdomen length (mm)	65
Abdomen width (mm)	46
Chelatelegspines (RightSide) AnteriorPortion	10
Chelatelegspines (RightSide) PosteriorPortion	05
Chelatelegspines (Leftside) AnteriorPortion	14
Chelatelegspines (Leftside) Posterior portion	08
Abdominalsegments	06
Carapacespines	21
White spots onthe anteriorsideofcarapace	10
Weight(gm)	430
Sex	Male



**Fig. 1.** Live specimen of *Ranina ranina* (Linnaeus, 1758) collected from the south-west coast of India.

The orbit of frontal margin of the crab is characterized by an acute triangular rostrum bounded by symmetrical lateral rostral teeth. The maxilla of *R. ranina* are both small and thin. Abdominal terga narrow and is clearly visible from the dorsal view. Buccal cavity elongate completely closed by third maxillipeds. Chelae greatly oversized; chelae and legs laterally flattened, spade-like. Chelipeds robust, hand usually broad and flat, the finger and thumb nearly at right angles to the long axis of hand.

Inhalent branchial canals between the 1<sup>st</sup> abdominal tergum and the coxae of 5<sup>th</sup> pair of legs. The sexually dimorphic abdomen of *R. ranina* are composed of 6 unflexed abdominal segments called pleomeres and the small ovate shaped terminal segment telson which contains the anus.



**Fig. 2.** Dead specimen of *Ranina ranina* (Linnaeus, 1758) collected from the south-west coast of India.



**Fig. 3.** Red frog crab, *Ranina ranina*– Posterior region.

**Colour:** Unlike any other Decapod crustaceans, the carapace of *Ranina ranina* is characterised by its unique red-orange colour.

**Distribution:** The species is widely distributed in the Indo-Pacific regions: From East Africa, Japan to Australia and Hawaii.

**Remarks:** This crab is very palatable and is eaten wherever it is caught in gill net or crab trap.

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Zamboanga is well noted for this very tasty crab. Carapace covered by numerous spine like structure (Tubercles) along with hair. Easily can be identified.

## CONCLUSION

The present report on *Ranina ranina* is a new record from the south-west coast of India. Earlier it is reported from the South East coast, Gulf of Mannar, India.

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