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**RE-DESCRIPTION OF *LUPOCYCLUS PHILIPPINENSIS*  
(CRUSTACEA: DECAPODA: BRACHYURA: PORTUNIDAE)  
SEMPER IN NAUCK, 1880 FROM THE COASTAL WATERS OF  
KARACHI, PAKISTAN**

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**ABSTRACT:** A specimen of the *Lupocyclus philippinensis* Semper in Nauck, 1880 commonly known as scissor swimming crab, was recently found in by catch of shrimp trawling and included as part of continuous taxonomic studies on crabs found in the coastal waters of Pakistan. The discovery is significant because it found after a long time. Redescription of *L. philippinensis* following the discovery of a female caught at Karachi fish harbor, Pakistan by Leene and Buitendijk (1952).

**KEYWORDS:** *Lupocyclus philippinensis*; Scissor crab; Re description; Karachi; Pakistan

### INTRODUCTION

*Lupocyclus philippinensis* Semper in Nauck, 1880 commonly known as scissor swimming crab distributed throughout the Indo-West Pacific region. *L. philippinensis* belongs to the Superfamily Portunoidea, family Portunidae, sub Family Lupocyclusinae and genus *Lupocyclus*. Genus *Lupocyclus* contain six species: *L. inaequalis* (Walker, 1887) *L. mauriciensis* (Ward, 1942) *L. philippinensis* (Semper, 1880) *L. quinquedentatus* (Rathbun, 1906) *L. rotundatus* (Adams and White, 1849) and *L. tugelae* (Barnard, 1950). Leene and Buitendijk (1952) previously reported one of the representative of genus *Lupocyclus*; *L. philippinensis* from Karachi, Pakistan after that there was no record of *L. philippinensis* from Pakistan although taxonomic investigations on family Portunidae, from the coastal waters of Bombay (India) initiated and briefly described by Chapgar (1957). Tirmizi and Kazmi (1996) briefly described Portunid fauna from the coastal waters of Pakistan in the monograph and provide detailed account of information about twenty-two species, pertaining to three subfamilies: Podophthalminae, Carcininae and Portuninae included six genera: *Podophthalmus*, *Carcinus*, *Scylla*, *Portunus*, *Charybdis* and *Thalamita*. According to new classification by Ng *et al.*, (2008) Portunid fauna of Pakistan comprised of four subfamilies: Podophthalminae, Carcininae, Portuninae, and Thalamitinae. Recently Saher *et al.*, (2018) and Naz, (2018) reported twenty species of Portunid crabs from coastal waters of Pakistan, pertaining to four genera (*Scylla*, *Portunus*, *Charybdis* and *Thalamita*) on the basis of morphological and molecular analysis. The current study provides the evidence for the presence of *L. philippinensis* from the coastal waters of Pakistan.

**Distribution range:**

The reported range of *L. philippinensis* includes Thailand, Philippines (Semper, 1880); India (Alcock, 1899); Andaman Sea (Alcock, 1899); Japan (Sakai, 1935); Manazuru and Tosa Bay (Sakai, 1939; 1976); Indonesia- Madura Strait, Tanahjampea, and Saleh Bay (Leene, 1938); Taiwan (Lin, 1949); Madagascar (Crosnier, 1962); Bay of Bengal (Stephenson, 1972b); Seychelles Country in East Africa; Thailand (Stephenson, 1972a); China (Dai and Yang, 1991), (Dai and Xu, 1991) and P'eng-hu and Tung-chiang (Huang and Yu, 1997)(Fig. 1).

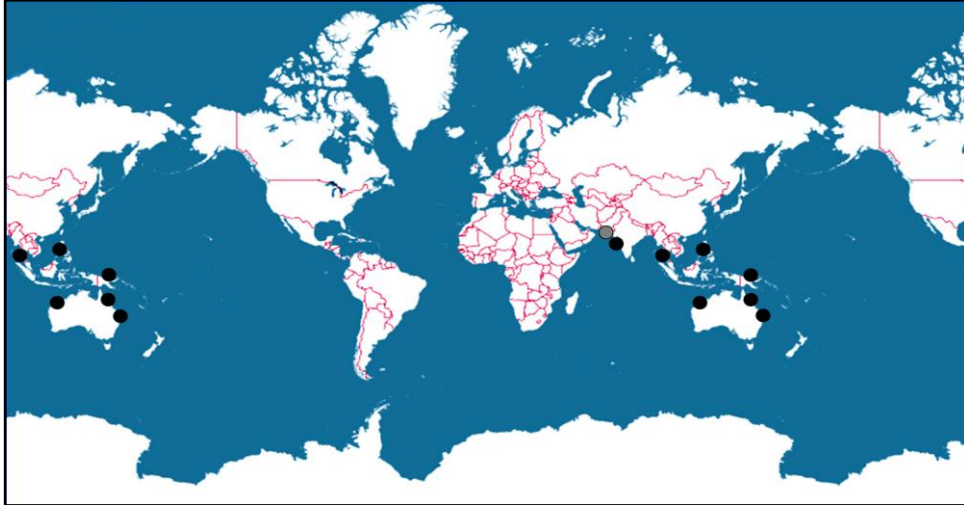


Fig. 1. Distribution map of *L. philippinensis* with some modification (gray dot show current location of *L. philippinensis* from coastal waters of Pakistan. (Ref.: Crab data base 2016).

**MATERIALS AND METHOD**

*L. philippinensis* was collected on 29<sup>th</sup> October 2019 from the Karachi fish Harbor as a bycatch along with other deep sea species during bottom shrimp trawling from sandy, muddy or shelly bottom. The *L. philippinensis* is immediately frozen, before shifted to the laboratory, preserved in 10% formalin and transferred to 70% ethanol for morphological examination and long-term storage for museum record. The specimen identified based on morphological characteristics (Fig. 2) according to the recognized available taxonomic keys (Dai and Yang 1991; Apel and Spiridonov, 1998). The specimen will be also subjected to ongoing molecular (DNA barcode) study.

**Systematics:**

Portunoidea (Superfamily)

Portunidae (Family)

Lupocyclusinae (Subfamily)

*Lupocyclus* (Genus)

*Lupocyclus philippinensis* (Species)



Fig. 2. Complete specimen of *L. philippinensis*.

(Ref: **A**, Collectables Encyclopedia (T. Poppe and Philippe Poppe since 1994; **B**, SEAFDEC/Training Department and Faculty of Fisheries of Kasetsart University in Collaboration with the Department of Fisheries of Brunei Darussalam. Funded by Japanese Trust Fund Project 2011-2012.)

#### **Taxonomic History of Genus *Lupocyclus* Adams and White, 1849**

*Lupocyclus* Adams and White, 1849: 46-47.

*Lupocyclus* A. Milne Edwards, (1860): 228; A. Milne Edwards (1861): 387; Leene, (1938): 10, 11 (key); Leene, (1940): 168-169; Stephenson and Campbell, (1960): 107; Crosnier, (1962): 37; Stephenson, (1972b): 9 (key), 37; Dai and Yang, (1991): 210.

#### ***Lupocyclus philippinensis* Semper in Nauck, 1880**

##### **Systematic History:**

*Lupocyclus philippinensis* Semper in Nauck, 1880 Leene (1938): 11-12; Sakai (1939): 383, pl. 80 fig. 3, text-figs 3 a-b; Leene (1940): 174-176, fig. 5, pl. 3; Leene and Buitendijk, (1952): 214; Stephenson and Campbell (1960): 109 (key); Crosnier (1962): 40, figs 49, 51, 53, 56, 57, pl. 11 fig. 1; Sakai (1976): 352-353, text-fig. 191; Dai and Yang, (1991): 210-211, fig. 111 (2), pl. 25 (6); Apel and Spiridonov, (1998): 277; Ng *et al.*, (2001): 16; Nguyen (2013): 72, Plate 2C.

##### **Size:**

*L. philippinensis* one berried female: Carapace length (19mm); Carapace Width (21mm), Anterolateral boarder (20 mm), Posterolateral boarder (12mm), Posterior Margin (8mm), Natatory leg dactylus length (9mm), Natatory leg dactylus width (7mm), Weight (1.25 g).

##### **Color:**

Carapace bright orange in color with yellowish orange bands on legs.

##### **Taxonomic characters:**

Carapace only slightly broader than long or uniform sub-circular, convex with faintly designated regions and covered with a well dense pile and protuberant patches of granules on frontal, protogastric, mesogastric, metagastric, cardiac, and mesobranchial regions laterally granular ridges. Antero-lateral borders cut into 5-6 teeth (sometimes with small or minute denticles at the interdental spaces), moderately oblique, curved and about equal in length to postero-laterals, walking legs slender, fifth leg paddle-shaped

with propodus and dactylus flattened, merus bearing a spine posteriorly. Four frontal triangular teeth, medians teeth smaller more produced than laterals teeth. The present specimen found with no chelipede as lost during catching and handling. Swimming legs armed with one sub distal spine on posterior border of merus, posterior border of propodus smooth. Eggs reddish in color (Fig. 3: A, B and C).

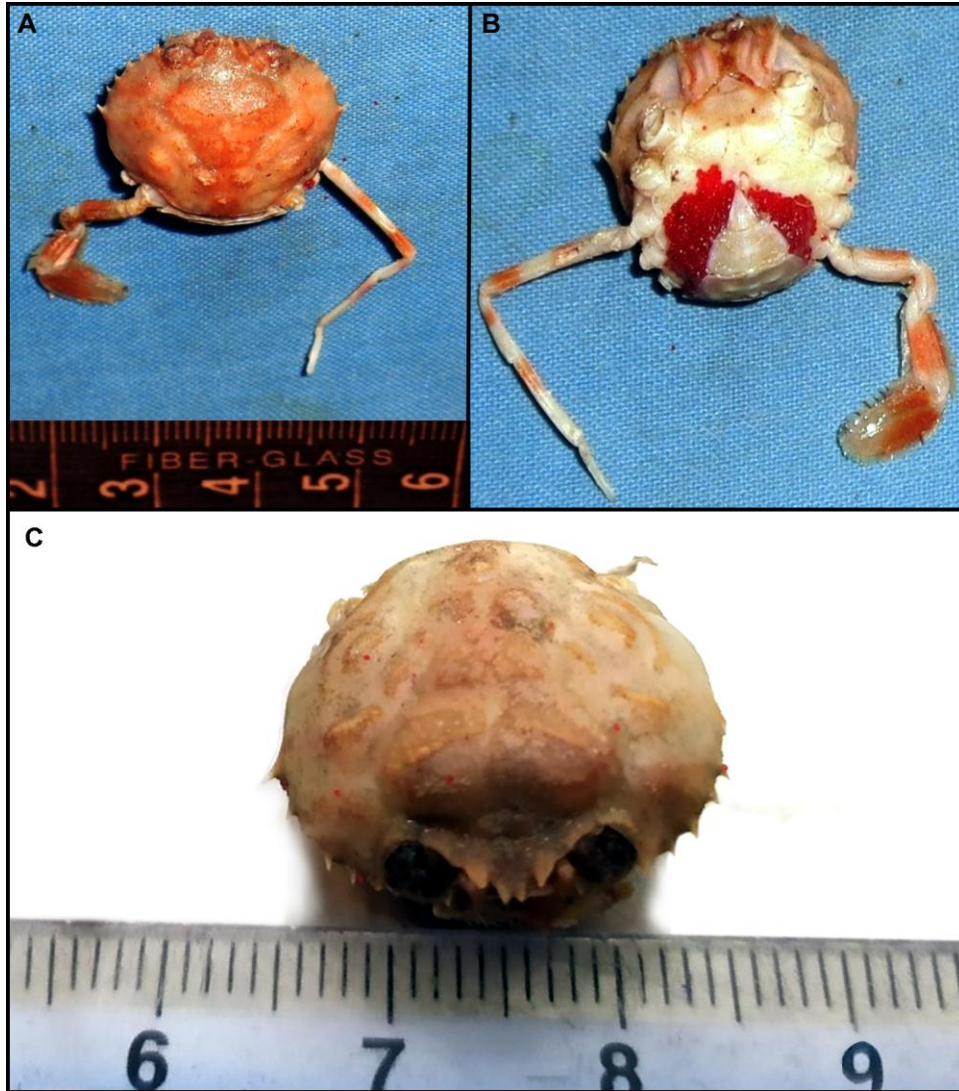


Fig. 3. *L. philippinensis* (berried female) collected from the Karachi Fish Harbor as a by catch during shrimp trawling: A, Dorsal view; B, Ventral view; C, Frontal margin.

**Taxonomic remarks:**

Leene and Buitendijk (1952) previously given a remarks on the *Lupocyclus philippinensis* Semper, in Nauck, 1880, and compare the *L. philippinensis* from Karachi to the deposited specimen (1 Female) in British Museum (Nat. Hist.) dated May 29, 1906 from Siboga Expedition, Stat. 2. X 2. as describe by the Leene, 1940, Temminckia vol. 5, p. 174, text fig. 5, pi. 3.

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