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New record of the monotypic genus *Proclates* (Decapoda: Pandalidae) from the West coast of India

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ABSTRACT:

Significant work has been done on the diversity and distribution of pandalid shrimps in Indian waters but reports did not include the presence of this species. The objective was to list the marine shrimps of Gujarat. Samples were collected from trawl catch. *Proclates levicarina* is reported for first time from the coastal area of Gujarat, including a detailed morphological description and photographs. This species is previously reported from the east coast of India. *Proclates levicarina* occurs in the west coast of India.

KEYWORDS: Pandalid shrimp, *Proclates* Spence Bate, new record, Gujarat.

RESUMEN:

“NOTA. Nuevo registro del género monotípico *Proclates* (Decapoda:Pandalidae) de la costa oeste de la India”. Se ha realizado un importante trabajo sobre la diversidad y distribución de camarones pandálidos acuáticos de la India, pero los registros no incluyen la presencia de esta especie. El objetivo fue generar una lista de los camarones marinos de Gujarat. **Métodos:** Se recolectaron muestras de capturas de arrastre. *Proclates levicarina* se reporta por primera vez en el área costera de Gujarat, incluyendo descripciones morfológicas detalladas y fotografías. Esta especie ha sido reportada previamente de la costa este de la India. *Proclates levicarina* está presente en la costa oeste de la India.

PALABRAS CLAVE: Camarón pandálido, *Proclates*, Spence Bate, nuevo registro, Gujarat.

The genus *Proclates* Spence Bate, 1888 is a monotypic genus in the family Pandalidae Haworth, 1825. It contains only the single species *Proclates levicarina*, also known as carid prawn or Pandalid shrimp. *P. levicarina* was originally described as *Dorodotes levicarina* by Bate, 1888 on the basis of two male specimens, from the Arafura Sea, West of Torres Strait and South of Papua collected by H.M.S Challenger during the years 1873-76. The genus is distinguished from the other genera of Pandalid family by the presence of longitudinal carina on the lateral surface of the carapace and postrostral carina extends nearly to the posterior margin of carapace (Kim, Choi, Oh, Choi, & Lee, 2011). In a previous study we reported total 37 species of prawn and shrimps belonging to 16 genera and 6 families from Gujarat (Trivedi, Trivedi, Soni, Purohit, & Vachhrajani, 2015; Purohit & Vachhrajani, 2017). In the present study, *P. levicarina* is first time reported from Gujarat state which is the only species representing the Pandalid shrimp fauna of Gujarat.

The specimens were collected from the trawl catch Subhashnagar, Porbandar (Fig. 1) during the survey of shrimp fauna of Gujarat. All the specimens were preserved in 70% ethanol and brought to the laboratory. At the laboratory, morphological characters of the shrimp were photographed using stereo-microscope

equipped with micro-cam and morphometric parameters were measured using vernier caliper (0,01mm accuracy). The taxonomy was confirmed to species level using various keys and references (Bate, 1888; Chace, 1985; Kim, Choi, Oh, Choi, & Lee, 2011). Specimens were deposited in the museum of Department of Zoology, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara assigning a code (ZL-AR-PR-23). The following abbreviations are used: TL, Total length; CL, carapace length; mm, millimeter; Ovig., ovigerous.

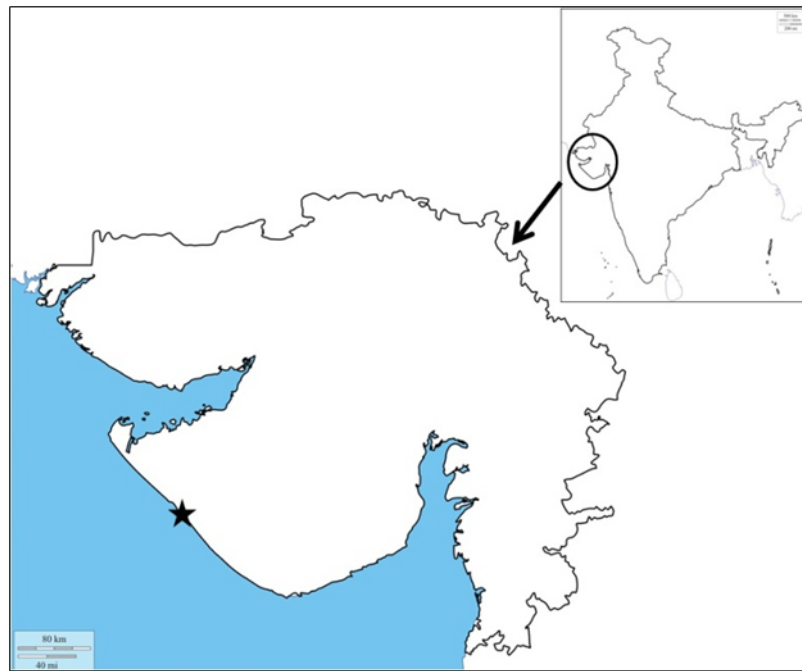


Fig.1. Study area showing Porbandar (*) from where the specimens were collected.

Proclestes levicarina (Spence Bate, 1888) (Fig. 2)

Suborder Pleocyemata Burkenroad, 1963

Infraorder Caridea Dana, 1852

Superfamily Pandalioidea Haworth, 1825

Family Pandalidae Haworth, 1825

Genus *Proclestes* Spence Bate, 1888

Synonymus

Dorodotes levicarina Bate, 1888: 680

Heterocarpus (*Heterocarpoides*) *levicarina* – De Man, 1920: 110, 178, pl. 15, fig. 44-44f.

Heterocarpoides levicarina – Calman, 1939: 207; Liu, 1963: 231; Chace, 1985: 16, figs. 11, 12.

Heterocarpus (*Heterocarpoides* [sic]) *glabrus* Zarenkov, 1971: 193, fig. 4 (16-27).

Heterocarpus (*Proclestes*) *levicarina* – Menon, 1972: 382-390.

Proclestes levicarina – Holthuis, 1993: 278, fig. 277; Miyake, 1998: 187; Li and Komai, 2003: 271.

Materials examined: Three ovig. female (TL- 43,60mm, CL-22,09mm; TL-53,36mm, CL-22,09mm; TL-55,33mm, CL-22,75mm), trawl catch at 27m depth, Subhashagar (21°38'39"N, 69°35'28"E), Porbandar, March 2016, collected by Barkha Purohit.

Description: Rostrum smooth, 0,8 times as long as carapace, overreaching antennal scale, somewhat upward distally; armed dorsally with eleven-thirteen. teeth, including four-five teeth on posterior margin to level of orbital margin of carapace, posteriormost tooth with distinct basal suture; ventral margin with five teeth; carapace carinated dorsally nearly posterior margin; posterior end of dorsomedian carina bears small papilla; strong antennal and branchiostegal spines present; distinct lateral carinae present; eye with

papilla on ventromedian surface of eyestalk proximal to cornea; antennular peduncle reaching up to half of antennal scale; stylocerite acute, basal segment overreaching; antennal scale with distolateral tooth overreaching distal margin of blade; third maxilliped with epipod and exopod; dorsomedian carina present on all abdomen somites; third to fifth abdominal somites with strong posteromedian spine; a small postero-ventral spine present on fourth to sixth abdominal pleura; tergum of fourth and fifth abdominal somites with numerous tegumental scales; epiopod present on first to fourth pereopods; both second pereopod similar and subequal, carpus subdivide into six segments; dactylus of third pereopod about 2/5 times as long as propodus; carpus armed with two sharp spines, merus with 11 small spines, one small spine present on ischium; fourth pereopod more slender than third pereopod, carpus with one small spine, merus with 10-11 small spines, ischium with one small spines; fifth pereopod more slender than fourth pereopod, carpus with one small spine, merus armed with six small spines, ischium without spine; appendix interna of second pleopod distally broad; telson 3,3 times longer than interior width, four pairs of small dorsolateral spines present, posterior pair superimposed above bases of lateral pair of posterior spines, posterior part acutely triangular, with pair of long, stout, lateral spines and median pair of neighboring spines covered under triangular margin.



Fig. 2. *Proclites levicarina* (Bate, 1888), ovigerous female.

Distribution: This species is previously reported from Indo-West pacific, Red Sea to Indonesia and Japan, South China Sea, Philippines, (Lalitha, 1980; Li & Komai, 2003); Australia (Poore, McCallum, & Taylor, 2008; McCallum, 2011), and Korea (Kim et al., 2011). In India the species is reported only from Andhra Pradesh, Bay of Bengal (Lalitha, 1980; Shanis, Akhilesh, Manjebrayakath, Ganga, & Pillai, 2012) and now from Gujarat.

Remarks: The specimens agree well with the description and illustration provided by Chace (1985) and Kim et al. (2011). The specimen examined in the present study bears six spines on merus of fifth pereopod whereas the Korean specimens examined by Kim et al. (2011) have seven-eight spines. The color pattern of specimens examined in the present study also showed similarity with Lalitha (1980) and Kim et al. (2011).

Ethical, conflict of interest and financial statements: The authors declare that they have fully complied with all pertinent ethical and legal requirements, both during the study and in the production of the manuscript; that there are no conflicts of interest of any kind; that all financial sources are fully and clearly stated in the acknowledgements section; and that they fully agree with the final edited version of the article. A signed document has been filed in the journal archives.

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