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SHORT COMMUNICATION

FIRST RECORD OF THE RARE FURRY LOBSTER *PALINURELLUS WIENECKII* (DE MAN, 1881) (DECAPODA: PALINURIDAE) FROM THE ARABIAN SEA

K.K. Idreesbabu, C.P. Rajool Shanis & S. Sureshkumar

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FIRST RECORD OF THE RARE FURRY LOBSTER *PALINURELLUS WIENECKII* (DE MAN, 1881) (DECAPODA: PALINURIDAE) FROM THE ARABIAN SEA

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Abstract: Two female specimens of the Furry Lobster *Palinurellus wieneckii* (De Man, 1881) with a total length of 118mm and 114mm, respectively, were obtained from the coral reefs off Kavaratti Island, Laccadive Islands, west of India. Only two species are currently recognized in this genus, which were described from a small number of specimens. As *P. wieneckii* is very rare, the present report from the Lakshadweep Archipelago provides a valuable new distribution point, which is the first record for the Arabian Sea. Illustrations and photographs are provided for this rare lobster.

Keywords: Distribution, taxonomy, Indian Ocean, Lakshadweep, Laccadive Islands.

Furry Lobster or Coral Lobster of the genus *Palinurellus* Von Martens, 1878 belonging to the family Palinuridae Latreille, 1802 was recorded from the Indo-West Pacific and the western Atlantic. It is rare throughout its range and descriptions were typically based on only a few specimens. The numerous short setae covering its body give the animal its common name, Furry Lobster. It is comparatively smaller in size than other palinurids and

its systematic placement was uncertain until recently. Due to its peculiar appearance, the genus *Palinurellus* was previously regarded as belonging to a separate family, the Synaxidae Bate, 1888. Recent phylogenetic analyses using molecular tools, however, showed Synaxidae to be an invalid family and, subsequently, the genus *Palinurellus* was placed in the family Palinuridae (Holthuis 1966; Palero et al. 2009; Tsang et al. 2009; Chan 2010; Chien et al. 2013).

Only two species are currently recognized in the genus *Palinurellus*, *P. gundlachi* (Von Martens, 1878) from the western Atlantic and *P. wieneckii* (De Man, 1881) from the Indo-West Pacific (Chan 2010). The definitions of these two species, however, remain somewhat unclear because of the limited number of specimens available (Holthuis 1966). We report *P. wieneckii* for the first time from the Arabian Sea and the entire Indian coastline, providing an intermediate report of the species in the wider Indo-West Pacific.

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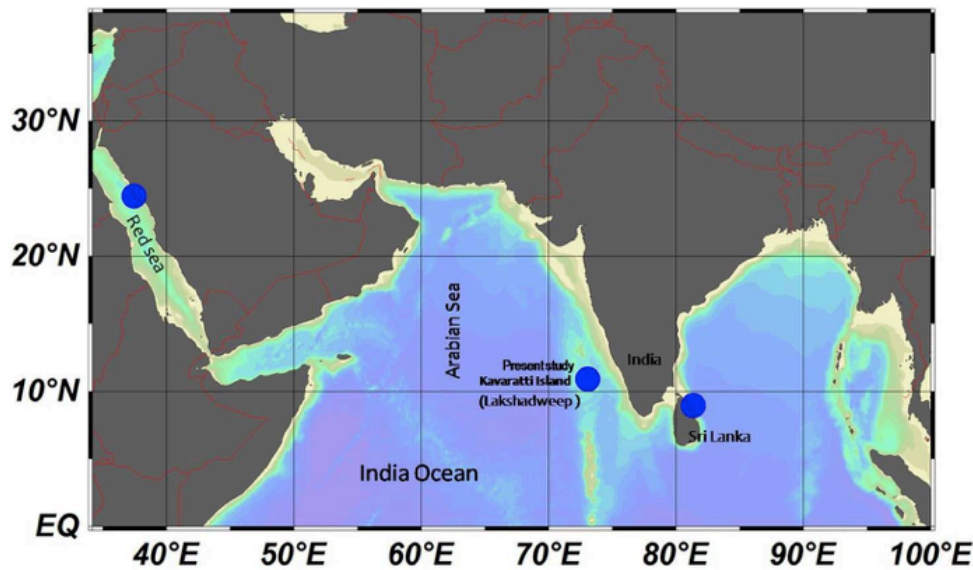


Figure 1. Map showing previous records of *Palinurellus wieneckii* from the Red Sea (Holthuis 1991) and the Bay of Bengal (Ng 1994) and the new record from the Arabian Sea

MATERIALS AND METHODS

Lakshadweep forms a group of islands in the northernmost segment of the Chagos-Maldives-Laccadive oceanic ridge in the central Indian Ocean (Fig. 1). In December 2017, two specimens of *P. wieneckii* were collected from a rocky crevice in the Kavaratti Atoll of the Lakshadweep Archipelago in the eastern outer reef slope at a depth of 25m using a fishing rod and scoop net on scuba (Image 1). The specimens were preserved in 5% formaldehyde for further morphometric analysis. The specimens were identified as *P. wieneckii* based on morphological characters following Holthuis (1991), Ng (1994), Chan (1998), and Lin et al. (2012). The carapace length (CL) was measured dorsally from the tip of the rostrum to the posterior margin of the carapace. The total length (TL) was measured dorsally from the tip of the rostrum to the posterior tip of the telson and the length of the abdomen (AL) was measured from the posterior margin of the carapace to the tip of the telson.

The voucher specimens were deposited in the Museum of Marine Taxonomy Reference Laboratory, Department of Science and Technology (MTRLDST), Lakshadweep, India.

RESULTS AND DISCUSSION

Systematics

Family Palinuridae Latreille, 1802

Genus *Palinurellus* Von Martens, 1878

Palinurellus wieneckii (De Man, 1881)

Araeosternus wieneckii De Man, 1881:131 (type locality: Sumatra, Indonesia).

Araeosternus wieneckii - De Man, 1882: 1, pls. 1, 2.

Palinurellus wieneckii -Bouvier, 1915: 186, pl. 7 fig. 2; De Man, 1916: 34. Holthuis, 1966: 261; Baba & Shokita, 1984: 117, fig. 1; Titgen & Fielding, 1986; Devaney & Bruce, 1987: 228, table 1; Davie, 1990: 689, figs.2, 3B, D, 4B, 5B; Holthuis, 1991: 170, fig. 315; Ng, 1994: 118, fig. 1; Chan, 1998: 1004, unnumbered fig., 2010: 159, fig. 4A; Lin, Chan & Lin, 2012; Ng & Naruse, 2014: 308, fig. 5, 6.

Palinurellus gundlachi var. *wieneckii* - Gruvel, 1911: 9, pl.1, fig. 1, 2.

Palinurellus gundlachi var. *wieneckii* - Holthuis, 1946: 109, pl. 11 fig. O.

Palinurellus gundlachi wieneckii Sakai, 1971:152, fig. 3.

Material examined: MTRLDST 0564 & MTRLDST 0565, 2 females, 27.xii.2017, east coast of Kavaratti Island, Lakshadweep Archipelago, India, 10°33.832'N & 72°39.067'E from a depth of 25m, coll. K.K. Idreesbabu.

Diagnosis

Small to moderate size. Body somewhat flattened ventro-dorsally, with a dense cover of fur-like short setae. Carapace sub-cylindrical without enlarged spines but with evenly distributed small, rounded granules with setae. Rostrum broadly triangular, reaching beyond anterolateral angles of carapace to about the middle of the second segment of antennal peduncle; mid-dorsal spinules absent; lateral margin with small tooth. Eyes small but distinct. Antennae thick and whip-like; antennal flagella densely setose, flagella and peduncle slightly shorter than carapace. Antennule with flagellum shorter than peduncle; antennular plate without

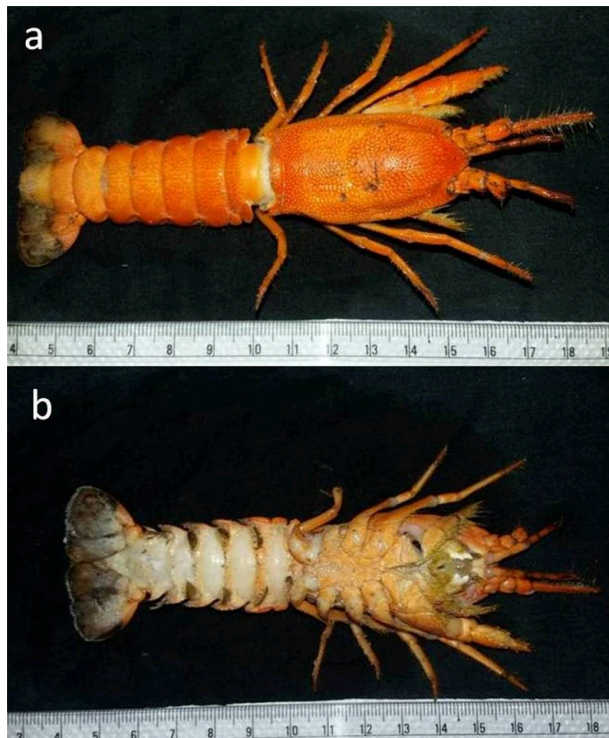


Image 1. Female specimen of *Palinurellus wieneckii* (De Man, 1881) collected off Kavaratti Island (MTRLDST 0564).
a - dorsal view, b - ventral view

stridulating organ. All walking legs without pincers; first pair setose and much more massive than others. First pleopod present. Abdomen and tail fan robust; posterior half of tail fan soft, flexible; dorsal surface of abdomen setose with rounded tubercles, lined with a longitudinal low smooth keel along dorsal midline; transverse groove absent.

Size: TL about 200mm, corresponding to CL of about 80mm (Holthuis 1991; Chan 1998). The TL of specimens collected from Lakshadweep were 118mm and 114mm, CL were 53mm and 47.8mm, and AL were 62mm and 61mm. Carapace was partially damaged in one specimen.

Colouration: Uniformly bright orange or orange-red. Eyes dark brown as reported by Ng & Naruse (2014) (Fig. 2).

Distribution: Widely distributed in the Indo-West Pacific. The species was reported from Natal in South Africa, Mauritius, Thailand, Vietnam, Malaysia, Indonesia, Papua New Guinea, the Solomon Islands, the Ryukyu Islands in Japan, the Caroline Islands, Guam, the Marshall Islands, New Caledonia, Hawaii, the Tuamotu Islands in French Polynesia, and Australia (Devaney & Bruce 1987; Holthuis 1991; Ng 1994; Nguyen & Pham 1995; Chan 1998; Debelius 1999; Paulay et al. 2003; Ng & Naruse 2014). It was also reported from Sri Lanka and the Red

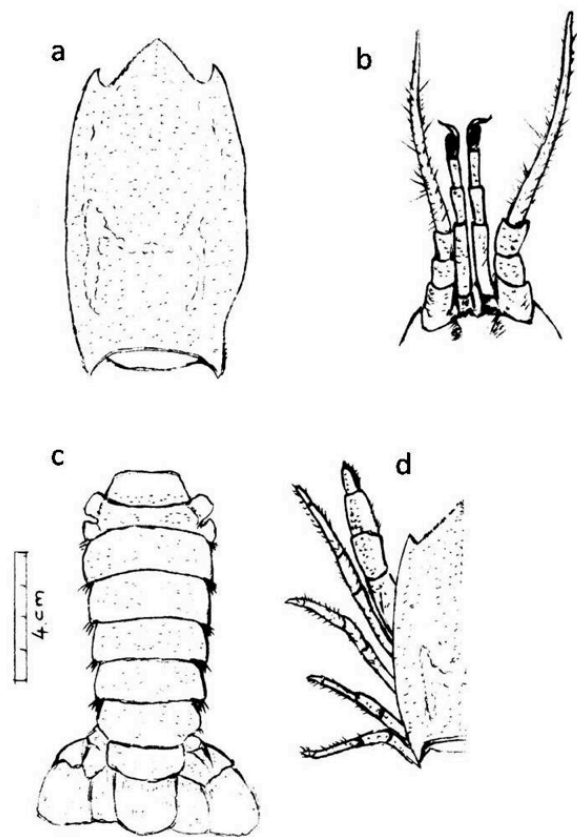


Figure 2. *Palinurellus wieneckii* (De Man, 1881), female (MTRLDST 0564).

a - dorsal view of carapace, b - ventral view of antenna, antennules with peduncles, c - dorsal view of abdominal segments d - dorsal view of lateral carapace and pereopods

Sea (Holthuis 1991; Ng 1994; Chan 2010). Usually, it is associated with coral reefs at depth ranges of 9–27 m and is probably nocturnal, inhabiting deep caves (Holthuis 1991; Chan 1998).

Remarks

The diagnostic characters to differentiate between the two species of *Palinurellus* are not well-defined, partly due to the rarity of these lobsters (Holthuis 1991). Biogeographically, the two species are separated as *Palinurellus wieneckii* is found in the Indo-West Pacific while *P. gundlachi* occurs in the western Atlantic. Several carcinologists (Gruvel 1911; Holthuis 1946; Sakai 1971) treated *P. wieneckii* as a subspecies. The carapace is sub-cylindrical with evenly distributed, small, and rounded granules with setae in *P. wieneckii* but is long and rounded with short setae and rounded nodules in *P. gundlachi*. In *P. wieneckii*, the rostrum is described as broadly triangular (Lin et al. 2012), reaching beyond the anterolateral angles of the carapace and while same is described as a small, triangular rostrum between

the eyes in *P. gundlachi* (Williams & Williams 2010). The supra-orbital spine is prominent and pointed in *P. gundlachi* but is inconspicuous in *P. wieneckii* (De Man 1916; Holthuis 1946). According to these characters, the material examined here matches the diagnosis of *P. wieneckii* (Fig. 2).

Holthuis (1966) observed that the pleopods on the first abdominal somite are generally present in females but absent in males, though this character appears to be variable. In the present study, the specimens collected from the Arabian Sea were females and had pleopods on the first abdominal somite. The transverse groove is absent in the abdominal somites, which is prominent in the genus *Palinurus* as reported by Groeneveld et al. (2006).

There were no previous records of this species from the Arabian Sea. The record provided here fills a gap in the known distribution range of *P. wieneckii* based on collections in the atolls of the Lakshadweep Archipelago in the, north-central Indian Ocean, documenting the occurrence and distribution of the genus *Palinurellus* from the Indian waters and the Arabian Sea. The present observation confirms its intermediary distribution of the species between the eastern Indian Ocean and the Red Sea.

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