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Telson abnormality in *Metapenaeus kutchensis* (Dendrobranchiata, Penaeidae) from Gulf of Kachchh, India

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Abstract
Metapenaeus kutchensis George, George and Rao 1963 is an endemic species distributed in the northwest coast of India. In this study, we documented the telson bifurcation in one male specimen collected from the Little Rann of Kachchh (LRK). Normally the telson in *M. kutchensis* is straight, triangular and elongated. Apart of this the specimen has identical characteristics of *Metapenaeus kutchensis.*

Keywords: Morphological abnormality, *Metapenaeus kutchensis*, endemic species, Gulf of Kachchh, telson bifurcation

1. Introduction
Metapenaeus kutchensis George, George and Rao 1963, is one of the endemic species of marine prawns known from the Gulf of Kachchh, distributed along the northwest coast of India [1]. The Little Rann of Kachchh (LRK) supports the fisheries of juvenile *M. kutchensis* in shallow estuarine water, while adults support fisheries in coastal areas of Gujarat and Maharashtra [2, 3].
External morphological variation or abnormality in decapoda crustaceans is well documented phenomena [4-8]. These external modifications are natural (during molting) or may be caused by biological and chemical agents [9, 10]. In prawns and shrimps, deformities have been observed by many researchers which include abnormal number of spines on rostrum, dentition, undeveloped eye, telson setation, bifurcation of the rostrum and telson etc. [11-14]. In penaeid prawn, the telson shape is stable within a species. The bifurcation of telson in penaeid prawn is previously reported by Aravindakshan and Pillai from Indian water [15]. The purpose of this study is to present the information about telson abnormality in *Metapenaeus kutchensis.*

2. Material and methods
During the survey of crustacean fauna under project "Crustacean Biodiversity of Gujarat state", one male specimen showed the bifurcated telson, amongst a total collection of 38 specimens of *M. kutchensis*, which is collected from Chervari (Lat. 23°09'55" N Long. 70°53'54" E) located in Little Rann of Kachchh, Gujarat state, India on 26 September, 2014. The specimen were photographed after collection, preserved in 70% alcohol and brought to the laboratory. The male specimen measured 7.18 cm (Total Length) and was deposited in the museum of the Department of Zoology, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India under the registration number ZL-AR-PR-50.

3. Result and discussion
The abnormal telson length is 10.47 mm, with a bifurcation started at less than ¼ from the proximal margin (Fig. 1b). The left branch is 1.29 times longer than right branch. The branches form an angle of ca. 86.99°. In the normal specimen, telson is triangular, elongated and tapers into a sharp point. It is grooved on the dorsal side and with very minute dorso-lateral spinules (Fig. 1c). No other abnormality was recorded in this specimen.
In prawn and shrimps, the rostrum abnormality is more frequently reported than the telson abnormality [11, 13, 15-18]. In *Parapenaeopsis stylifera,* from Mumbai coast, the telson bifurcation and presence of spines on the inner margins of telson were noted, where two spines

were present on left side and three on the right [15]. A similar pattern was also observed in *Litopenaeus vannamei* (Boone, 1931) by Aguirre and Hendrickx [16]. The reasons for occurrence of such abnormality are not discussed in these cases. In present study, any type of pollution or anthropogenic impact was not recorded at fishing sites. The male specimen examined in this study did not show any parasitic infection. So it might be possible that the abnormal telson is due to the molting process or regeneration after injury.

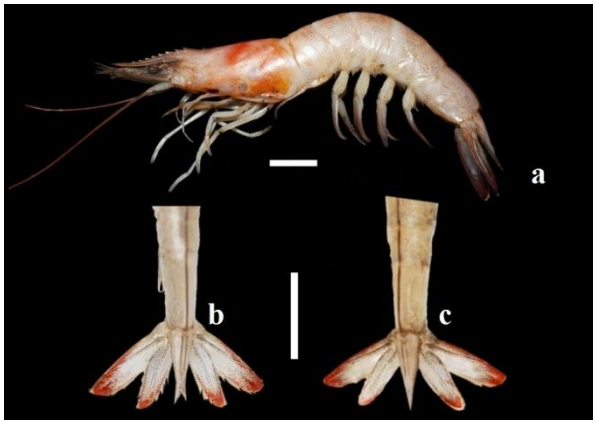

Fig 1: (a) *Metapenaeus kutchensis* George, George and Rao 1963 (b) Abnormal telson (c) Normal telson. Scale bar- 10mm.

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