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SAILFIN VELIFER, *VELIFER HYPSELOPTERUS* BLEEKER, 1879 (PERCIFORMES, VELIFERIDAE) IN OMAN WATERS: A NEW SUBSTANTIATED RECORD FROM THE ARABIAN SEA COAST OF OMAN

SUMMARY

The first substantiated records of Sailfin velifer, *Velifer hypselopterus* Bleeker, 1879 in Omani waters are reported based on 10 specimens ranging in total length 300-430 mm, which have been collected by gill net on the coast of Al-Ashkharah City, 319 km south of Muscat City, Arabian Sea, Oman. Morphometric and meristic data are provided and compared with those of several specimens of this species from other parts of the world. This study reports on the largest specimen of this species ever being collected.

INTRODUCTION

The family Veliferidae contains two genera, *Metavelifer* Walters 1960 and *Velifer* Temminck and Schlegel, 1850 both of which are monotypic, *Metavelifer multiradiatus* (REGAN, 1907) and *V. hypselopterus* Bleeker, 1879 (ESCHMEYER, 2015). Individuals of this species are distributed in the Indian and western and mid-Pacific Oceans. They are characterised in having deep and compressed body, long dorsal fin and anal fins and long swim bladder reaching far past the anus. In the Omani waters, family Veliferidae is composed of one genus, *Velifer* and contains one species *V. hypselopterus*.

This species is distributed from the Indo-West Pacific region off southern Madagascar, India, Viet Nam, Japan, Indonesia, the Arafura Sea (RUSSELL and HOUSTON, 1989), northwestern Australia (GLOERFELT-TARP and KAILOLA, 1984), New Zealand (PAULIN, 1984) and Lord Howe Island (ALLEN *et al.*, 1976).

The only records of *V. hypselopterus* from the North West Indian Ocean are

those from Arabian Sea coasts of Somalia, where one specimen was collected and preserved in the fish collection of the National Museum of Natural History, Smithsonian Institution (GBIF, 2018) and Oman (RANDALL, 1995). The record of RANDALL (1995) of *V. hypselopterus* was underwater observation done by J.E. Randall and J. P. Hoover and no specimen was collected. Therefore, the present record is important and substantial, and confirms the presence of *V. hypselopterus* in the Arabian Sea coast of Oman, northern Indian Ocean region; it reports on the presence of a sustained population of *V. hypselopterus*; and it reports on the largest specimen of this species ever being collected.

MATERIAL AND METHODS

On 28 September 2017, 10 Sailfin velifer, *V. hypselopterus* ranging in total length between 300 and 430 mm were collected from the coast of Al-Ashkharah City, 319 km south of Muscat City, Oman ($21^{\circ} 50' 56.95''$ N $59^{\circ} 34' 48.31''$ E)(Fig. 1). The specimens were caught by fishermen using 30 x 10 m

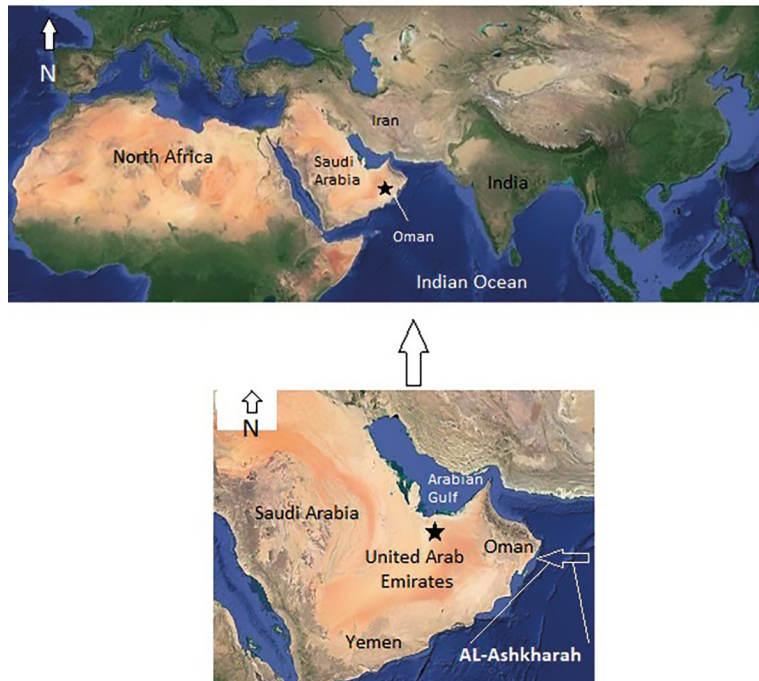


Fig. 1 - Map showing the collection location.

drifting gill nets of 25 mm mesh size, and measured with dial callipers to the nearest 0.1 mm. Fish weight was taken using an electronic balance (Sartorius ED6202S). The fish specimens were dissected for sex and for gonad stage determinations, ordinary dissecting microscope was used. The fishermen usually make two to three hauls per hour. The morphometric and meristic details of the two species were recorded according to RANDALL (1995) (Table 1). ESCHMEYER (2015) and FRICKE (2015) were used for the taxonomic status of the species, spelling of species name, and taxonomic reference, respectively. The specimen was then fixed in 10% formaldehyde solution and preserved in 70% ethanol and deposited in the fish collection of the Marine Science and Fisheries Centre, Muscat, Oman, Catalogue no. OMMSFC 1350.

Tab. 1. Morphometric and meristic characters of *Velifer hypselopterus* collected from the coast of Al-Askhara City, Arabian Sea coast of Oman.

Characters	Present study (n = 10)	Paulin (1984) (n = 2)
Morphometric (mm)		
Total length (TL)	300-430	-
Standard length (%TL)	224-424 (74.7-98.6)	205, 235
Fork length (%SL)	228-427 (76-99.3)	-
Head length (%SL)	80-86 (26.7-26.8)	27.7, 28.1 %SL
Eye diameter (%SL)	20-22 (6.7-5.1)	8.8, 9.8 %SL
Predorsal fin length (%SL)	118-125 (29.3-29.1)	40.5, 42.9 %SL
Postdorsal fin length (%SL)	332-335	-
Body depth (%TL)	130-150	62.9, 65.8 %SL
Caudal peduncle length (%SL)	30-35	-
Caudal peduncle depth (%TL)	23-25	8.0, 8.5 %SL
Meristic		
Number of dorsal fin spines	21	21
Number of dorsal fin ray	21	21
Number of anal fin ray spines	18	18
Number of anal fin ray	17	17
Number of pectoral fin spines	1	1
Number of pectoral fin ray	15	15
Number of the lateral line scales	43-44	43-44

RESULTS

The specimen of *V. hypselopterus* is identical based on the description of this species given by RANDALL (1995) and HOESE *et al.* (2006) (Fig. 2).



Fig. 2 - *Velifer hypselopterus*, 430 mm total length collected from the coast of Al-Askhara City, Arabian Sea coast of Oman.

The Sailfin velifer, *V. hypselopterus* is identified from the combination of the following characters: body oblong in shape, with moderate preorbital distance that lacks a notch for mandible to fit in. Dorsal side of nostril with a cranial crest formed by the frontal bones. The maxilla terminate beneath the anterior edge of the eye, with broad posterior end. The ascending limb of the preopercular pore canal is perpendicular to the horizontal limb. Dorsal fin covered entirely with scaly sheath. Dorsal and anal fin are raised at the anterior end. The 1st dorsal fin ray long and equal to body depth. Forked caudal fin. The pelvic axillary process is long and free from the body. Body silvery in colour, with 8 dark bars the 1st is across the eye and the last across the caudal peduncle. Curved yellow bands on dorsal fin. Abdomen white. There were 6 mature females, 380–430 mm TL and 4 mature males, 300–400 mm TL. Morphometric and meristic characters are summarised in Table 1.

DISCUSSION AND CONCLUSIONS

The range of the total length of present specimens (300-430 mm TL) exceeding the maximum length given for this species (400 mm TL) (HEEMSTRA 1986). Therefore, this is a new maximum size reached by this species in specimens from Omani waters.

Sex determination allowed to find 6 females and 4 males, with gonads of all individuals in ripping stage.

GBIF (2018) has shown that only one specimen has been collected from Somali coasts of the North West Indian Ocean. The results on the distribution of this species in the Omani waters given by FishBase (FROESE and PAULY, 2018) are based on those stated by RANDALL, (1995), who did not collect any specimens from southern Oman. The present finding is the first substantiated record of *Velifer hypselopterus* from the North West Indian Ocean.

It seems that individuals of this species are living in the Omani waters, but the lack of ichthyological studies and fishery surveys do not offer the opportunity to assess its real status from its new habitat. Thus, there is a need to investigate further the frequency of occurrence and study the biological characteristics of this species to determine whether or not it has established a viable population the Omani waters.

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