

Short Communication

Rare occurrence of Brassy chub, *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) (Family: Kyphosidae) from Ratnagiri, west coast of India

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The Brassy chub, *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) is reported for the first time from the Ratnagiri coast along the central part of the Arabian Sea, based on a single specimen collected from Mirkarwada fishing harbour (Ratnagiri, Maharashtra, India). The morphology of the caught specimen, as well as its chromatic and meristic characteristics, confirms that it represents *K. vaigiensis*.

[**Keywords:** Arabian sea, Brassy chub, Occurrence, Ratnagiri]

Introduction

Sea chubs (Perciformes, Kyphosidae) are widely distributed in tropical and temperate marine environments, typically inhabiting rocky substrates and coral reef ecosystems^{1,2}. This family comprises six subfamilies, fourteen genera, and approximately fifty three species³. The kyphosid species *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) is broadly distributed in the Indo-Pacific region, including the Red Sea and South African waters, Eastern Pacific; New Zealand⁴; Samoa, Tahiti^{5,6} east to the Hawaiian, Tuamotu, and Rapa islands⁶; and Mediterranean Sea⁷. In India, it was reported from Andaman and Nicobar Islands⁸; Laccadive Islands⁹; Tamil Nadu¹⁰; and Digha Mohona¹¹ (Fig. 1). *Kyphosus vaigiensis* belongs to the subfamily Kyphosinae (rudderfishes) and is considered commercially important only occasionally in India¹. Several studies have documented the ichthyofaunal diversity along the west coast of India; however, detailed investigations on *K. vaigiensis*, remain limited^{12,13}. This note reports *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) from the central west coast, specifically the Maharashtra coast, for the first time, based on a single specimen collected in Ratnagiri.

Materials and Methods

On 31 May 2024, a single specimen of *Kyphosus vaigiensis* was collected from the Mirkarwada fishing harbour, Ratnagiri (6°59'48" N, 73°16'48" E), Maharashtra, India. The specimen was captured using a gill net (mesh size 70 mm) operated at depth 2 – 12 m by local fishers in the nearshore region. Upon collection, the fish specimen was photographed in fresh condition, and standard procedures were followed for its morphometric and meristic analysis. The specimen was weighed using a digital balance, and morphological identification was carried out based on established taxonomic keys and diagnostic characters described in literature¹⁴⁻¹⁶. The preserved specimen is deposited in the museum collection of the College of Fisheries, Ratnagiri, for future reference and verification (Accession No: MFB/COFRTN/135).

Result and Discussion

Taxonomic classification

Phylum: Chordata Haeckel, 1874
Class: Actinopterygii Klein, 1885
Order: Perciformes Bleeker, 1863
Family: Kyphosidae Jordan, 1887
Genus: *Kyphosus* Lacepede, 1801
Kyphosus vaigiensis Quoy & Gaimard, 1825

Material examined

Single specimen; SL 194 mm (Table 1); location: Mirkarwada fishing harbour, Ratnagiri (6°59'48" N, 73°16'48" E), depth: 2 – 12 m; collection method: gill net; collection date: May 31, 2024.

The meristic and morphometric data of the examined *K. vaigiensis* specimen (Fig. 2) are presented in Table 1. The specimen observed exhibits the morphological, meristic and chromatic traits that align with *Kyphosus vaigiensis*, as described in previous studies^{1,2,7,11}. Morphologically, its body is oval-shaped and moderately deep. The head is short with a small and horizontal mouth whose maxilla is slipping under the edge of the preorbital bone. Head profile in front of the eye is gently convex. Each jaw is provided with a regular row of close-set incisor-like, round-tipped teeth. Scales are ctenoid, small and rough to touch, covering most of the head. Colour is dorsally grey to silvery on the belly. A series of

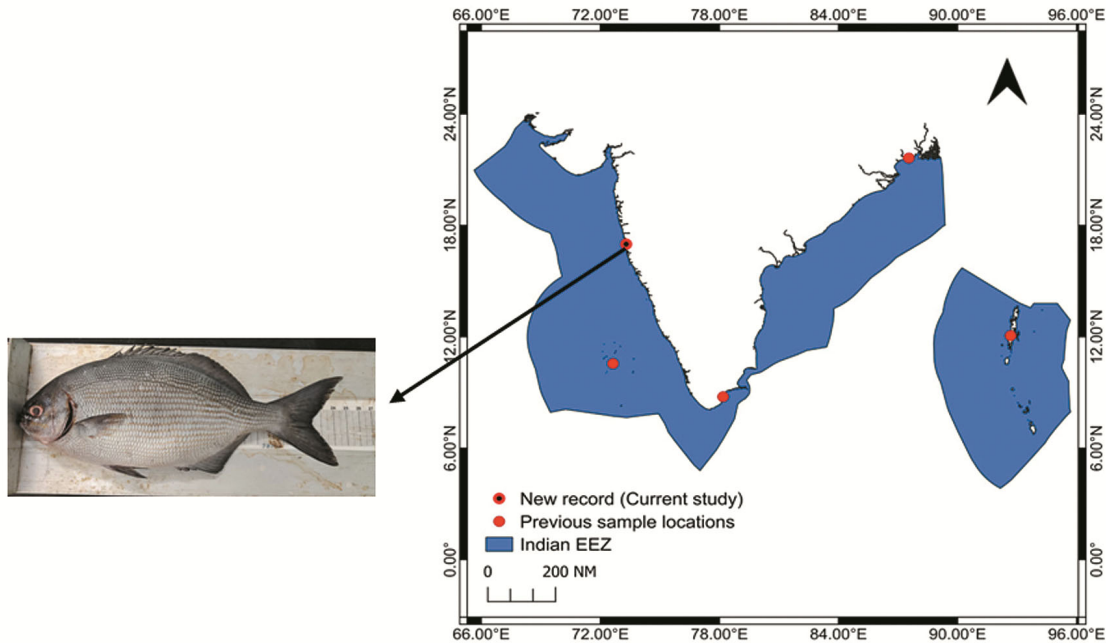


Fig. 1 — Map showing the recorded distribution of *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) along the Indian coast

Table 1 — Morphometric and meristic characters of *Kyphosus vaigiensis* captured off Ratnagiri coast (West coast, India)

Morphometric characters (cm)		Morphometric characters (cm)	
Total length	25.2	Anal fin base length	6
Fork length	23.8	Caudal fin height	10
Standard length	19.4	Caudal fin length	5.6
Head length	5.8	Upper jaw length	1.9
Head width at operculum	3.8	Lower jaw length	1.1
Eye diameter	1.2	6th dorsal fin spine (longest)	2.3
Pre-orbital length	1.8	4th dorsal fin ray (longest)	1.8
Post-orbital length	2.6		
Body width	3.8	Meristic characters	
Body height	9.6	Dorsal fin spines and soft rays	XI + 14
Pre-dorsal length	7	Anal fin spines and soft rays	III + 13
Pre-anal length	13.1	Pectoral fin rays	18
Caudal peduncle depth	2.1	Pelvic fin spines and soft rays	I + 5
Caudal peduncle length	2.5	Caudal fin rays	17
Dorsal fin base length	10	Scales in lateral line	62
Pectoral fin length	4	Scales rows above lateral line	11
Pectoral fin base length	1.2	Scales rows below lateral line	17
Pelvic fin length	3.7	Gill rakers on first arch (upper limb + lower limb)	10 + 19
Pelvic fin base length	1.2	Incisor-like teeth on upper and lower jaws	32
		Total weight (g)	590

longitudinal yellow-golden stripes is present across the body. On head, there are two brassy horizontal bands separated by a silver stripe under the eye^{7,11}. Fins and opercular membrane are dark. The only recorded species of this family from adjacent regions includes *Kyphosus cinerascens* (Forskål, 1775), which has been reported from the coastal waters of Odisha¹⁷ and Andhra Pradesh¹⁸.

The morphology of most of the *Kyphosus* species is quite similar, thus having a complex taxonomy with numerous synonyms and misidentifications. The morphological characters which differentiate *K. vaigiensis* from its congener *K. sectatrix*, two very similar species which cohabit in the Mediterranean include the presence of 12 or 13 soft rays in anal fin (vs. 11, rarely 10 or 12 in *K. sectatrix*), 19 to 22 gill



Fig. 2 — *Kyphosus vaigiensis* (25.1 cm TL, 590 g TW) caught along the Ratnagiri coast, Maharashtra

rakers on the lower limb of first gill arch (vs. 16 to 19, rarely 19 in *K. sectatrix*), and the gently convex head profile in front of eye which is not available in *K. sectatrix*¹⁶. In the Mediterranean, the species was also recorded under synonymous names, like *K. incisor*^{15,19,20,24}. The introduction or occurrence of *K. vaigiensis* could be attributed to its natural expansion of its range or through anthropogenic activities like shipping. Adults are capable of travelling long distances^{21,22}, while the juvenile fish are pelagic, often found near floating objects²³.

This first confirmed report from the Ratnagiri coast indicates that *K. vaigiensis* may have a broader distribution along the Arabian Sea than previously understood. *Kyphosus vaigiensis* has likely appeared along the Ratnagiri coast of Maharashtra due to favourable tropical conditions, rising sea temperatures, and the region's rich marine habitats. Moreover, several biological and ecological aspects of *K. vaigiensis* remain largely unknown; hence, the urgent need to orient further research in aspects such as the life span and larval planktonic phases of the species, especially in response to changing ocean temperatures, is inevitable. The adaptation of invading species to the new habitats usually involves many species-specific ecological and genetic processes^{22,24}. Therefore, understanding these and other life history traits of this thermophilic species is crucial to know and predict its distribution and possible ecological impacts on invading ecosystem.

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Conflict of Interest

There is no competing or conflict of interest for this research.

Ethical statement

This study follows all ethical research practices.

Author Contributions

MBS: Specimen collection, identification and preparation of the manuscript; SAM: Identification, improvisation of manuscript and species confirmation; and VHN: Reviewing and editing.

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