

# First Record of the Midwater Grenadier, *Odontomacrus murrayi* (Actinopterygii: Gadiformes: Macrouridae), from the Northwestern Pacific off Japan

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(Received 6 August 2015; Accepted 26 October 2015)

A single specimen of the midwater grenadier *Odontomacrus murrayi* Norman, 1939 was collected from off the Pacific coast of Miyagi Prefecture, Tohoku region, northern Japan, at a depth of 168–204 m (bottom depth 2641 m). It represents the first record of *O. murrayi* from Japanese waters and the northernmost record of this species in the Pacific. Previous records of *O. murrayi* are summarized and collection data for these records suggest that the species is generally confined to the mesopelagic layer of the open ocean. New Japanese names “Kurobouzudara-zoku” and “Kurobouzudara” are proposed for *Odontomacrus* and *O. murrayi* respectively.

**Key Words:** Deep-sea fish, range extension, midwater, Miyagi Prefecture, northern Japan.

## Introduction

The grenadier genus *Odontomacrus* Norman, 1939 is represented only by its type species, *Odontomacrus murrayi* Norman, 1939, which is widely distributed in the Atlantic and the Indo-West Pacific Oceans. This genus is highly distinctive within the family Macrouridae in having the combination of large, fang-like teeth arranged in one distinct row in each jaw, a short lateral line ending at about the level of the second dorsal-fin origin, the anus situated well before the anal-fin origin, a small light organ between the pelvic-fin bases, and no chin barbel. *Odontomacrus murrayi* is also one of the few grenadiers that is primarily confined to the midwater of the open ocean instead of the deep demersal habitat (Marshall 1964, 1965, 1973; Iwamoto 1990; Iwamoto and Graham 2001).

During a cruise in 2009 of the R/V *Kaiyo-maru No. 7* of Nippon Kaiyo Co., Ltd., a single specimen of *O. murrayi* was captured from the northwestern Pacific off Miyagi Prefecture, Tohoku region, northern Honshu, Japan. It represents the first record of *O. murrayi* from Japan and the northernmost record of the species in the Pacific. We provide herein a full description of the Japanese specimen, with comments on the vertical distribution of this species.

## Materials and Methods

Methods for counts and measurements follow Iwamoto (1970) and Iwamoto and Sazonov (1988). Head and total lengths are expressed as HL and TL, respectively. Fine structure of the body scales was examined by means of scanning

electron microscopy (SEM) at the Center for Advanced Marine Core Research, Kochi University. Methods for SEM preparation follow Roberts (1993). Institutional codes follow Fricke and Eschmeyer (2015). The specimen examined here is deposited in the Laboratory of Marine Biology, Faculty of Science, Kochi University (BSKU).

### *Odontomacrus* Norman, 1939

[New Japanese name: Kurobouzudara-zoku]

*Odontomacrus* Norman, 1939: 49 (type species: *Odontomacrus murrayi* Norman, 1939, by original designation).

*Phalacromacrus* Maul and Koefoed, 1950: 971 (type species: *Phalacromacrus pantherinus* Maul and Koefoed, 1950, by original designation).

**Diagnosis.** [Modified from Marshall (1973) and Iwamoto and Graham (2001)]. Anus midway between pelvic-fin bases and anal-fin origin, preceded by small dermal window of light organ. Second spinous ray of first dorsal fin smooth along its leading edge. Body deep, well compressed laterally. Snout broadly rounded, barely protruding beyond upper jaw. Mouth large, terminal; posterior end of premaxilla extending beyond vertical drawn through hind rim of orbit. Chin barbel absent. Teeth large, fang-like, arranged in one distinct row in both jaws. Lateral line short, ending at about level of second dorsal-fin origin. Cephalic sensory pores large, prominent. Swim bladder reduced. Pelvic-fin rays 8–11. Branchiostegal rays six. Color uniformly blackish.