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## Short Communication

# First Record of *Triacanthus nieuhofii* Bleeker, 1852 (Tetraodontiformes: Triacanthidae) from Northern East Coast of India

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## Abstract

The Silver tripodfish, *Triacanthus nieuhofii* Bleeker, 1852, is reported for the first time from the West Bengal coast along the northern part of the Bay of Bengal, based on two specimens collected from Shankarpur fishing harbour and Digha Mohana, Digha, West Bengal, India. This species might co-exist in the entire Bay of Bengal coast and but often confused as *Triacanthus biaculeatus* due to very similar external morphology.

**Keywords**: Fish, new record, West Bengal Coast

## Introduction

Fishes of the order Tetraodontiformes are represented by about 436 valid species, within ten families (Eschmeyer and Fong, 2017). Phylogenetically, the Tetraodontiformes is one of the major end-lines of teleost radiation and shows extreme reductive evolution (Lauder and Liem, 1983). However, the phylogenetic relationship of tetradntiforms with other teleosts do not have consensus at present and of considerable uncertainty (Nelson 2006). Similarly, intrarelationship of tetraontidforms also remained inconclusive for long. However, Santini et al., (2013) treated the family Triacanthidae along with Triodonidae, Triacanthodidae and Ostraciidae in a single interrelated group within the order. The family Triacanthidae is represented by seven species and four genera worldwide (Tylor, 1968; Matsuura, 2015). The genus *Triacanthus* of the family Triacanthidae contains only two species, viz., *T. biaculeatus* (Bloch, 1786) and *T. nieuhofii* Bleeker, 1852. Both the species are known to have wide distribution in Indo-west Pacific region. Jones and Kumaran (1968) was first to recognise occurrence of *T. nieuhofii* Bleeker in Indian waters of Lakshadweep.

The present paper reports *Triacanthus nieuhofii* Bleeker, 1852 from the Northern part of the east coast of India for the first time from the West Bengal coast based on two specimens collected from Sankarpur and Digha Mohana.

## Material and Methods

During local survey two fish samples of family Triacanthidae were collected from Shankarpur fishing harbour and Digha Mohana, West Bengal (One from each place). The specimens were collected from the discarded fish by catch, thus the exact location of the collection is not known. After collection, the specimens were photographed and the detail morphometric measurements taken in fresh condition, then preserved in 10% formaldehyde solution. All measurement was made by digital callipers. The collected specimens were subsequently identified as *Triacanthus nieuhofii* Bleeker, 1852 following Matsuura (2001). The specimens were deposited with Marine Aquarium and Regional Centre, Zoological Survey of India, Digha, West Bengal (MARC/ ZSI).

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## Results

The two specimens, collected from the Shankarpur and Digha coast, have been identified as *Triacanthus nieuhofii* Bleeker, 1852. The details of systemtics, morphology, colour in details is presented in this paper.

## Systematic Account

Class Actinopterygii
Order Tetraodontiformes
Family Triacanthidae

***Triacanthus nieuhofii*** Bleeker, 1852 (Silver tripodfish)

1852. *Triacanthus nieuhofii* Bleeker, *Natuurk. Tijdschr. Ned. Indië,* 3(3): 459 (Siboga, Sumatra, Indonesia).

*Material examined:* MARC/ZSI/F4932, 1 ex., 122 mm TL, Shankarpur fishing harbour, West Bengal, coll. by. Swarup R. Mohanty, Date of Collection. 08.07.2017; MARC/ZSI/F5010, 1 ex., 62 mm SL, Digha Mohana, West Bengal, coll. by. Swarup R. Mohanty, Date of Collection. 10.07.2017.

*Diagnostic characters:* Body moderately elongate and strongly compressed. Mouth relatively small, terminal in *position.* Body supported by a thick skin with small scales that can be visible clearly under magnifying glass. Head compressed as body, about 3.2-3.3 in standard length. Large eye about 2.7-3.0 in head length. Ventral surface of pelvis almost as wide anteriorly as posteriorly, not distinctly tapered to a point and basal one-fourth to one half of first dorsal fin spine much darker than the distal part directly indicate that genus is *Triacanthus*. In front of pectoral fin base a small slit like gill opening present. First dorsal fin has 5 dorsal spines, where 1st dorsal spine larger and stronger than the other and second dorsal fin have 24 rays. Pelvic fin is having only single large spine like 1st dorsal spine. Pectoral fin contains 14 branched rays. Caudal fin is deeply forked. Lateral line inconspicuous. Caudal peduncle gradually becomes narrow towards the caudal fin. Outline of head between base of first dorsal-fin spine and eyes somewhat convex in front of spine and then straight or slightly concave over eye.

*Colour:* Colour of the body silvery on lower half and dusky in upper half. Caudal fin, 2nd dorsal fin and pectoral fins are yellowish in colour (Figure 1). Basal part of the dorsal spine is darker than that of distal part. Spiny dorsal-fin membrane very dark between first and third spines and pale between third and fifth spines.

**Figure 1.** *Triacanthus nieuhofii* Bleeker, 1852 collected from Shankarpur fishing harbour.

*Distribution:* Matsuura (2015) noted distribution of *Triacanthus nieuhofii* from Arabian Sea, Bay of Bengal, Andaman Sea, Indonesia, South China Sea, and northern Australia. However, its record from Bay of Bengal along east coast of India is reported from Tamil Nadu only recently (Jeyasanta and Patterson, 2017). Present study extends the distributional range of the species to the Northern part of the east coast of India, from West Bengal coast.

## Discussion

*Triacanthus biaculeatus* (Bloch, 1786) and *Triacanthus nieuhofii* Bleeker, 1852 can be distinguished from each other by its 1st dorsal fin colour. *T. biaculeatus* have the spiny dorsal-fin membrane very dark between first and third spines, and usually equally dark between third and fifth spines, whereas in *T. nieuhofii,* dorsal-fin membrane very dark between first and second spines, slightly to less dark between second and third spines, and pale between third and fifth spines (Matsuura, 2015). Outline of head from base of first dorsal-fin spine to above eye an even slightly convex curve or almost a straight line in case of *T. biaculeatus* and convex in front of spine and then straight or slightly concave over eye in case of *T. nieuhofii* (Matsuura, 2015). However, distinguishing both the species require keen observation.

Day (1878) recognised only two species in the family Triacanhidae from Indian waters, *Triacanthus strigilifer* Cantor [=*Pseudotiacanthus strigilifer*] and *Triacanhus brevirosris* Temminck and Schlegel [= synonym of *T. biaculeatus*]. In much of the ecological and diversity studies from India, these two names usually appeared. Moreover, Hutchins and Tyler (1984) also listed these two species only as occurring in western Indian Ocean. Jones and Kumaran (1980) provided information on both *Triacanthus breviotris* [= *T. biacleatus*] and *Triacanthus nieuhofii* from Lakshadweep. Gopalakrishnan et al., (2009) published the distinction of both the species with photographs as detailed in Matsuura (2001). Naomi et al., (2011) and Bijukumar and Raghavan (2015) listed both the species from Kerala coast.

A definitive record of *Triacanthus nieuhofii* in the Bay of Bengal came only through Jeyasanta and Patterson (2017) from trash fishes of Tuticorin [Thoothukudi], Tamil Nadu. Although, *T. biaculeatus* is known to have distributed along West Bengal (Das et al., 2007), Odisha (Barman *et al.,* 2007) and Andhra Pradesh (Barman *et al.,* 2004) coast, *T. nieuhofii* was not recorded earlier. The present report forms its first record from northern east coast of India. Both the species possibly co-exist in the entire Bay of Bengal coast and might have been often confused as *T. biaculeatus* due to very similar external morphology.

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