



GOBIOID FISH OF PASCHIM MEDINIPUR AND JHARGRAM DISTRICT WEST BENGAL, INDIA

GODHULI SIT¹, ARUN JANA¹ AND ANGSUMAN CHANDA^{1*}

¹Department of Zoology, Raja Narendra Lal Khan Women's College, Paschim Medinipur - 721102,
West Bengal, India.

AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration among all authors. Authors AJ and GS involved in field work, species identification and photography and author AC also involved in field work, overall supervision of work and manuscript preparation. All authors read and approved the final manuscript.

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ABSTRACT

Present study reveals the existence of six species of small, indigenous fish under five genera of family Gobiidae and suborder Gobioidae from freshwater aquatic systems of Paschim Medinipur and Jhargram District of West Bengal. Taxonomy of the species as well as their geographical distribution and diversity is the prime interest of the work. A comprehensive zoogeography of the species in different revenue blocks of the districts has been recorded in details. Hence, the work is a documentation of macro faunal diversity at regional level for freshwater ecosystem of the study area which will be helpful for future researchers and policy planners.

Keywords: Regional; diversity; small; fish; Gobioidae; Gobiidae.

1. INTRODUCTION

Gobioidae is a large and diverse suborder, containing about 2,000 species worldwide, arranged in as many as eight families (or subfamilies). Gobioids occur in a wide variety of habitats, but in the western Atlantic Ocean, they are much more diverse in tropical waters [1,2]. General characters present in the larvae of the suborder and their families as well as Phylogenetic relationships of the Gobioidae have been elucidated using molecular data [3]. Gobioids are generally small fish and are mostly marine (saltwater) inhabitants, but roughly 10% of the population inhabit fresh waters [4]. This suborder is made up of mainly benthic or sand-burrowing fish [5,6]. Benthic fish live on the bottom of a water body. Like in most benthic organisms, gobioids do not have a gas bladder or swim bladder which keeps them suspending in the water column, so they must stay on the bottom [7,8].

During the present study a number of six species has been recorded from the study area under family Gobiidae Cuvier, 1816 of suborder Gobioidae.

2. MATERIALS AND METHODS

Present study is mainly based on the specimen collected from different river, pond, bills applying different commercial fishing method throughout all the blocks of undivided Paschim Medinipur (22°25'N 87°19'E) during May 2013 to October 2017. Collection of fish fauna was done at early morning and specimens were immediately preserved in 2-4% formaldehyde and were brought to laboratory in preserved condition. Then fish specimen were washed and finally preserved in 4-6% formaldehyde. Body parts of all the specimen have been dissected and studied for identification under stereoscopic binocular

*Corresponding author: Email: angsumanchanda@yahoo.in;

Taxonomic consideration and distributional range extension of *Osteochilichthys thomassi* up to Subarnarekha basin of West Bengal, India

Arun Jana, Godhuli Sit and Angsuman Chanda*

PG Department of Zoology, Raja N. L. Khan Women's College (Autonomous), Midnapur, Paschim Medinipur, West Bengal, India

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ABSTRACT

Osteochilichthys thomassi is a small endemic freshwater fish of Western Ghats region found in Krishna and Kaveri river of south India. Currently the species has been reported by Ali and his co-workers from Tami Nadu, Kerala, Karnataka and Andhra Pradesh. Present work reveals that the species is available in the Subarnarekha basin of West Bengal (Silda under Binpur-II). Therefore, *O. thomassi* is a widely distributed species, supporting Dahanukar observation and extends its distribution up to south-eastern part of India

Key words: *Osteochilichthys thomassi*, Extend, Distribution, West Bengal.

Introduction

Osteochilichthys thomassi is a small endemic freshwater fish of Western Ghats region (Talwar and Jhingran, 1991) originally described by Day (1877) as *Scaphiodon thomassi*. Hora (1942) revised the generic status of the fish species and considered it as *Osteochilus (Osteochilichthys) thomassi*. Pethiyagoda and Kottelat (1994) and Jayaram (2010) considered the species as *Osteochilichthys thomassi*. Regarding the distribution of the species, Ali *et al.* (2013) reported it from Tami Nadu, Kerala, Karnataka and Andhra Pradesh. Therefore, the species is no longer endemic to the Western Ghats. Present study reveals the existence of the species in the Subarnarekha basin of West Bengal but in very few numbers. Present report is the extension of distributional range for the species up to South-Western part of Bengal as well as addition in faunal richness of West Bengal Biodiversity.

Methods

The specimens were collected from different rivers, ponds, bills, markets of different blocks of Paschim Medinipur and Jhargram district, West Bengal. After collection, the specimens were immediately preserved by 4% formaldehyde and brought to laboratory of the department of Zoology (UG & PG) of Raja N. L. Khan Women's College (Autonomous). Finally specimens were washed and preserved 4-6% formaldehyde in a labelling container. The specimens was studied morphologically such as size, colour, colour band, fin number, fin shape, fin rays, scale number etc. All measurement of fish was made in metric system followed by Tawar Jhingran, 1991; Jayaram, K.C, 1999, Jayagram, K. C. 2010 & www. Fishbase.org. Distribution of this species had recorded.

Systematics

Osteochilichthys thomassi (Day, 1877)

*Corresponding author's email: angsumanchanda@yahoo.in

Diversity of Small Indigenous Freshwater Ornamental Fish under Genus *Puntius* from Purba Medinipur, Paschim Medinipur and Jhargram Districts of West Bengal, India

Godhuli Sit, Arun Jana, Angsuman Chanda*

Natural Science Research Centre, Raja N.L. Khan Women's College (Autonomous), Vidyanagar University, India

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Abstract The main objective of the present study is the investigation of small indigenous freshwater ornamental fish diversity of Purba Medinipur, Paschim Medinipur and Jhargram districts of West Bengal, India and emphasis has been given to their ornamental value and local abundance. Present study is restricted only on the fish species belonging to the genus *Puntius*. During the study, small freshwater fish species has been surveyed covering all blocks of the three districts under study. Specimens have been collected from different freshwater ecosystems like rivers, ponds, beels etc. and are preserved and identified. It has been observed that the study area represents the existence of nine species of indigenous freshwater small fishes under genus *Puntius*. Among the recorded nine species, two species, namely *Puntius guganio* (Hamilton-Buchanan, 1822) and *Puntius gelius* (Hamilton-Buchanan, 1822) are being found for the first time from the study site. All the nine species are potential to be regarded as ornamental fish. A detail distributional data has been provided for all the species of the genus from the study area. Therefore, present study will highlight the local macro-faunal diversity of the freshwater fish species under genus *Puntius* as well as ability to become ornamental fish for aquarium keeping. Record of two small fish species from the freshwater ecosystem of the study area is the new addition to the local fish faunal diversity.

Keywords *Puntius*, Record, Ornamental, Fish

1. Introduction

The genus *Puntius* Hamilton-Buchanan (1822) is a large group of small fishes. It is a complex genus, which

exhibit high degree of variability in colour pattern, size and habitat such as ditches, pond, rivers and hill stream. The status of *Puntius* is controversial; the delimitation and nomenclature validity of the genus have remained unsettled (Hora & Mukerji, 1934; Smith, 1945; Mayers, 1960). The genus *Puntius* has long been recognized as a "catchall" genus for a variety of small tropical Asian cyprinids whose inter-relationships (Kottelat, 1999). They have a good food and ornamental value due to presence of definite amount of carbohydrates, protein, minerals, etc., and different color, spot, band and behavior are attracted aquarist.

The genus *Puntius* is represented by a large number of species in the Asian tropics (Hamilton, Buchanan, 1822). The cyprinids species *Puntius* are small indigenous species (SIS) used to be abundantly available in rivers, streams, ponds, beels, ditches, and floodplains in the part in the South Asian countries (Shanta kumar and Viswanath, 2006). Abundant diversity of *Puntius* having 53 species is distributed throughout India, Nepal, Bangladesh, Sri Lanka, Myanmar, Thailand, Malaya Archipelago and Southern China (Jayaram, 1991).

Moglekar, et al, (2017), enlisted 6 species of genus *Puntius*, namely *Puntius ticto* (Hamilton, 1822), *Puntius chola* (Hamilton, 1822), *Puntius sophore* (Hamilton, 1822), *Puntius puntio* (Hamilton, 1822), *Puntius terio* (Hamilton, 1822), *Puntius sunitatus* (Day, 1865) by the help of previous existing fish species checklist (2003-2015) from different districts and rivers of West Bengal. Paul and Chanda (2017), and Kisku et al., (2017) enlisted 3 species of genus *Puntius*, namely *Puntius ticto* (Hamilton, 1822), *Puntius chola* (Hamilton, 1822), *Puntius sophore* (Hamilton, 1822) from Paschim Medinipur district. Different scientists reported different fish diversity from the study area but none reported the species of the genus *Puntius* separately from the study area. Therefore, the