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Range extension of *Hydrobasileus croceus* (Brauer, 1867): First photographic report from Gangetic plain of West Bengal, India

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Abstract
The first ever report of *Hydrobasileus croceus* (Brauer, 1867) commonly known as Amber Winged Marsh Glider, from Hooghly District of West Bengal, India. This is the first record of this specimen from the Gangetic Plain region of West Bengal covering Howrah, Hooghly Nadia, Purba Burdwan and Murshidabad districts. It is a large sized dragonfly of Family Libellulidae, photographed on 14th March 2021 morning. The photographed specimen was a female one flying in association with *Pantala* and *Tramea*. Further detailed investigation is required for assessing the population structure of *Hydrobasileus croceus* in this region.

Keywords: amber winged marsh glider, first report, gangetic plain

Introduction

The most abundant species on Earth are the Insects occupying about three-fourths of the total animal kingdom [13]. Among them order Odonata (dragonflies and damselflies) are most primitive winged carnivore insects originated on Earth some 250 million Years Ego [9]. Worldwide nearly 6000 different Odonata species have been identified so far of which India contributes 488 odd species [11; 12]. They show complex lifecycle; eggs and naid are aquatic while adults are terrestrial. They are excellent bio indicators of wetlands and plays important role in trophic network [7]. Historically in 1867, Brauer first recorded it for the first time from India and named *Tramea croceus*. Later, Karsch in 1890 renamed it as *Hydrobasileus croceus* [4]. According to Fraser, it is one of the largest and finest Libellulines and a magnificent insect when seen in flight. This paper adds photographic record of one dragonfly species to the checklist of Odonata from Gangetic plain of West Bengal, the Amber Winged Marsh Glider, *Hydrobasileus croceus* (Brauer, 1867) of which there is no previous published records.

Materials and methods and study area

The specimen was photographed during a survey of Odonata fauna in Gangetic plains of West Bengal. This is the first photographic record of this specimen from this locality. This specimen was photographed on 14th March 2021 morning at 9 a.m. hovering over a field. It was photographed in a village named Jagannathbati, under Chinsurah police station with following coordinates, N22.901288/E88.351709 (Fig.1).

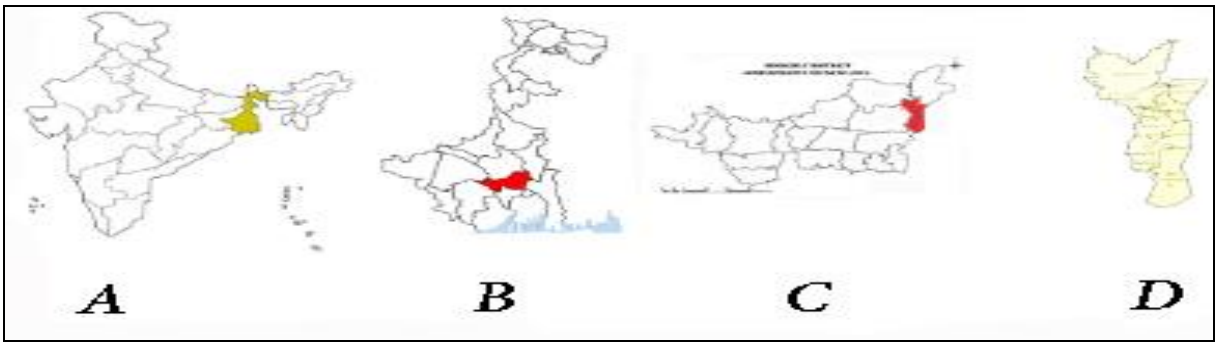

Fig 1: A; Map of India, B; Political map of West Bengal, C; Map of Hooghly District, D; Map of Hooghly-Mogra Block

There was solitary specimen of this species but it was in flight with several other specimens of Genus *Tramea* and

Pantala. They were continuously hovering restlessly at a height of at least 20 feet. As the specimen didn't sit at all during the observation period of nearly 2 hours, so it was photographed while flying over the head showing only the underside of the specimen. The specimen was photographed with NIKON Coolpix B700. The species was identified in the field by consulting available literature and field guide books [4, 9, 11] and also from the online resources (http://indianodonata.org).

Species Description

The recorded species was female. It was a large brownish dragonfly with reddish amber hind wings with a characteristics "W" shaped patch on the lower margin of the hind wing (Fig 2). Presence of wedge shaped spots on the dorsal surface of 4th to 9th abdominal segments and segment 10 is totally black. From the literature it is obvious that the abdominal segments are slightly narrower in case of males than the females. The size of the abdomen was nearly 30 mm long and the wings were nearly 45 mm in length. As reported in the literature, they generally live in marshes and weedy ponds. The distribution is very patchy and very few reports are available from this part of the country.

Fig 2: Under side picture of Female *Hydrobasileus croceus*, showing characteristics hind wing patch.

Earlier records from India and West Bengal

The species is very locally distributed and very few scientific reports are available from India and from West Bengal. In his study to update the Odonata fauna of Rajasthan, Akhlaq Hussain reported the presence of *Hydrobasileus croceus* from the Thar Desert region [6]. Some reports are available of this species from Assam and Meghalaya where it is not so uncommon [3, 2, 1]. One report is also available from Kerala [10]. This specimen was documented from Dhamapur Lake, Maharashtra during the 6th Dragonfly South Asia meet conducted during 10-13th October, 2019 [8].

From West Bengal also, the previous reports are very petite. In 2016, Utpal Singha Roy and others documented this species from Gandheswari riverbank, Bankura district [14]. Some secondary data is also available stating its presence from West Burdwan District by Aram Kumar Nayek [5]. But till date no scientific evidence is available of its presence from the districts of Gangetic Plain such as Howrah, Hooghly, Nadia, Murshidabad etc.

Systematic Position of *Hydrobasileus croceus* (Brauer, 1867)

Class: Insecta
Order: Odonata
Sub Order: Anisoptera
Family: Libellulidae
Genus: *Hydrobasileus*
Species: *Hydrobasileus croceus* (Brauer, 1867)

Habitat Structure of new locality

The species was documented from a region, where there are plenty of mango and bamboo vegetation. The canopy cover lies beside a weedy pond measuring 380 square meters (Fig 3).

Fig 3: Habitats exploited by the specimen

The elevation of the place is 16 meter and at the time of documentation the temperature was 26°Celsius. The summer is hot and dry with maximum temperature generally touches mid 40's and in winter the minimum temperature ranges from 8-10° Celsius. Annual precipitation ranges around 1500 mm.

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Declaration: The authors declare that there is no conflict of interest regarding the publication of this article. The photographs of *Hydrobasileus croceus* used in this article are copyrighted to the first author.

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