



## First confirm report of *Macromia cingulata* Rambur, 1842 from West Bengal, India

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### Abstract

The first confirm photographic record of *Macromia cingulata* Rambur, 1842 from West Bengal, India is presented in this paper. During the biodiversity survey of Purulia district of West Bengal this genus photographed and identified first time for the state West Bengal. Previously its distribution was ambiguous in West Bengal. *Macromia cingulata* Rambur, 1842, commonly known as Torrent Hawk recorded in March, 2017. A medium sized black and yellow dragonfly documented from forest area of Joychandi hill of district Purulia, West Bengal, India.

**Keywords:** photographic record, *Macromia*, torrent hawk, Joychandi, Purulia, West Bengal

### Introduction

Insect is the major group of animal kingdom and occupy three-fourths of all documented species of animals on the planet [1]. Among the insects order odonata, the dragonflies and damselflies are an extensively distributed group [2]. They are amphibious in nature; adults are terrestrial and the larvae aquatic. Majority of them are highly specific to their habitats and are highly responsive to alteration in habitat feature [3, 4]. In the world approximately 600 genera and 6000 species of 29 families have been documented [5]. From British India almost 536 species of odonates recorded by [6, 7, 8]. In recent studies reported 499 species [9] and 463 species from present India [10]. The observations on odonates in West Bengal were happening by [11] who documented nearly 22 species from Kolkata. Then 178 species recorded from West Bengal [12]. Finally a researcher recorded 65 species from Kolkata and its surroundings Howrah [13]. In another current studies on odonates 80 species listed from Kolkata and surrounding Howrah [14]. We present here the first confirm photographic record of the *Macromia cingulata* Rambur, 1842 from West Bengal, India. *Macromia cingulata* Rambur, 1842 is previously recorded from Peninsular India [8], Chhattisgarh [15], Maharastra [16] and Tamilnadu [17]. The main confusion of distribution of *Macromia cingulata* Rambur, 1842 in west Bengal arose when a researcher said *Macromia cingulata* Rambur, 1842 recorded from unknown place of West Bengal [13] on the basis of observation of another researcher [18], whereas he said again it is unknown from Bengal [8]. Later in State Fauna Series 3: Fauna of West Bengal, part 4 exclude *Macromia cingulata* Rambur, 1842 from Odonata list of west Bengal though in this study other four species of *Macromia* mentioned from West Bengal [12]. *Macromia cingulata* Rambur, 1842 is also absent in some other recent studies of different places of West Bengal [14, 19, 20, 21]. *Macromia cingulata* Rambur, 1842 is a Least Concern species (ver 3.1) according to International Union for Conservation of Nature (IUCN). According to State Fauna Series 3: Fauna of West

Bengal, part 4 four species of *Macromia* found in West Bengal namely *Macromia moorei* Selys, *Macromia pallid* Fraser, *Macromia flavicincta* Selys, *Macromia flavovittata* Fraser, among them three from North Bengal [12].

### Material Methods and Study Area

At some stage in documentation of odonates of Purulia district; West Bengal, India through Pollard Walk Method [22, 23] sample was photographed. This is the first photographic record of *Macromia cingulata* Rambur, 1842 from the state West Bengal. On the day of 2015 (17.03.15) at around 08.10 hrs (08:09:38 AM) during the field surveys at the hills of this district of West Bengal we photographed one individuals of large sized dragonfly resting on small branches, which is situated near Raghunathpur town of Purulia district; West Bengal (extends between 23.55 North latitude and 86.7 East longitude) (Figure 1 and 2). Information on this species is based on observation from 09.10 AM to 09.40 AM. Specimen was photographed for further identification process with the help of High Resolution Digital Camera (Cannon 550 D with EOS 18- 55mm lens) and the identification was identified using previous document [8] and then confirmed by experts.

### Results

#### Species description

Dragonfly was large sized, blackish with broader yellowish stripes throughout the body, abdomen distinctly compressed. On thorax a beautiful metallic bluish - violet mark was present. Eyes were brownish. Wings were hyaline to pale, evenly tinted throughout. Legs were blackish in colour. Anal appendages were longer than segment 10, black and conical (Figure 3).

#### Systematic position of *Macromia cingulata* Rambur, 1842

**Class:** Insecta

**Order:** Odonata

**Infra Order:** Anisoptera

**Family:** Macromiidae

**Genus:** *Macromia* Rambur, 1842

**Species:** *Macromia cingulata* Rambur, 1842

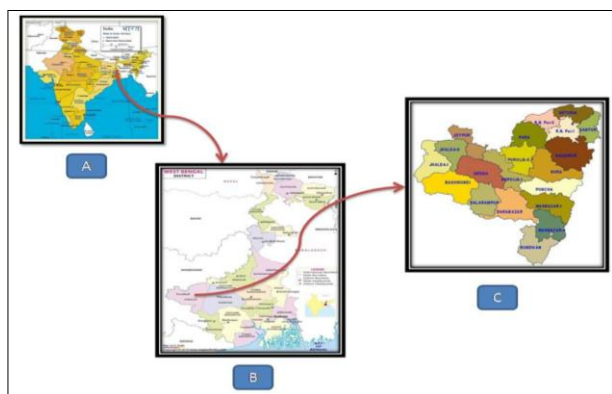
**Discussion**

**Early distributional range**

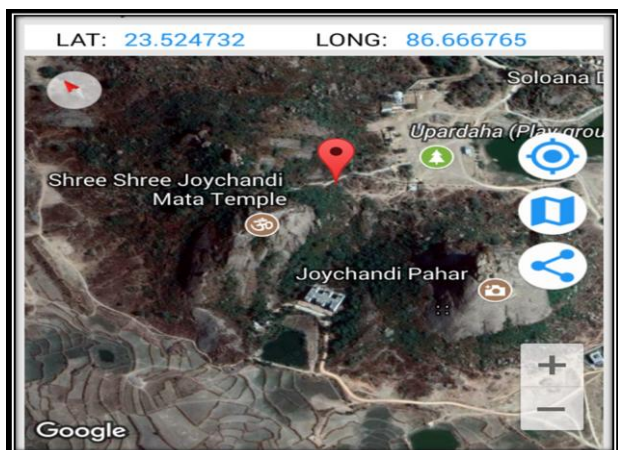
*Macromia cingulata* Rambur, 1842 previously recorded from Peninsular India [8]. He recorded it from Pune, Khandala, Mahabaleswar of Maharashtra, Coorg, Mysore of Karnataka and Coimbatore of Tamilnadu. Fraser also said it appears to be unknown from North India, Bengal and Assam [8]. Later it recoded from Chhattisgarh [15], captured from Maharashtra [16] and documented from Tamilnadu [17].

**Habitat structure of new locality**

West Bengal is eastern most state of India, neighbor states are Odisha, Jharkhand, Bihar, Sikkim and Assam. On the eastern side the country Bangladesh is situated. Purulia is one of 23 districts of West Bengal and situated west part of it. The Area of Purulia is 6259 km<sup>2</sup>. The Purulia district lies between 22°60' N and 23°50' N latitudes and between 85°75' E and 86°65' E longitudes. The specimen actually photographed in Raghunathpur 1 block of Raghunathpur Sub-division. The place of record lays 23.524732 North latitude and 86.666765 East longitudes. The place is nearer to Joychandi hill. Annual normal rainfall in this district is 1436 millimeter per year. Annual maximum temperature varies between 35-45°C, whereas minimum temperature varies between 10-12°C.



**Fig 1:** Study area [India (A), West Bengal (B), Purulia District (C)]



**Fig 2:** Study area of Purulia (District of record), West Bengal, India through Google map with Latitude and longitude



**Fig 3:** A. Lateral view of *Macromia cingulata* Rambur, 1842; B. Top view of *Macromia cingulata* Rambur, 1842 in its typical posture; C. Ventral view of *Macromia cingulata* Rambur, 1842 with anal appendages

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