

# New Report of *Zyxomma petiolatum* (Rambur, 1842) Odonates from Daund Tehsil, MS : India

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## ABSTRACT

Morphological similarity often complicates field identification in insects, leading to data analysis on the basis of geographic distribution over planet. Still working on morphometrical data analysis on some endemic or rare species it's really challenging job with conservation status, that's the reason for taxonomical analysis done in August to October 2017 on *Zyxomma petiolatum* (Rambur, 1842). The Indian dragonfly genus *Zyxomma* is a difficult group to identify on field due to their extreme occurrence during mild sunny evening time with higher flier conditions, and shortest information on identification keys, geographical distribution and natural history. *Zyxomma petiolatum* (Rambur, 1842) is belonging from order: Odonata and suborder: Anisoptera commonly known as brown dusk hawk. Primarily based upon the hypothesis that collected specimen may be dragonfly or damselfly as due to showing both characteristic such as, slender abdomen looks like damselfly and spreading of wings, compound eyes, bulgy thorax shown in case of dragonfly. After carefully observing the specimen it showed 8 abdominal segments which were characteristic features of dragonfly.

**Keywords:** Taxonomy, Morphometry, Diversity, Daund, Dragonfly.

## I. INTRODUCTION

The Odonata is one of the primitive and ancient insect orders with beautiful creature on planet. It is highly diverse and is the second largest aquatic insect order. Dragonflies are predaceous and hemimetabolous, which inhabits all kinds of freshwater habitats either permanent or temporary. According to the Silsby in 2001 stated that Odonata were experiences two totally different life styles. In almost all cases, the egg and larval stages are aquatic where as the adults are terrestrial. Generally play an important role in the ecological way in which they are vanishes mostly the harmful insects of crops, orchards and forests and thus has a regulatory impact on the agro forestry. According to Subramanian, 2009 there were 470 species under 139 genera and 19 families were

reported in India, (Fraser, 1933, 1934 & 1936; Chhotani *et al.*, 1983; Lahiri and Mitra, 1993). Recently, Mitra (2002) reported 32 species from Nicobar Group of Islands. The diagnosis, distribution and systematic position of each species are presented in this paper. Sivaperuman *et al.*, (2011) reported new record of the odonates where they describe studied specimen with three different species from Andaman and Nicobar Iceland. On the basis of hypotheses on natural history, we carefully examined several specimens of same the species and performed quantitative morphometric analysis. In addition, we used citizen science approach to collect spatial data on distribution.

## SCIENTIFIC CLASSIFICATION

Kingdom: Animalia

Phylum: Arthropoda  
Class: Insecta.  
Order: Odonata  
Suborder: Anisoptera  
Family: Libellulidae  
Genus: Zyxomma  
Species: petiolatum

#### SKIMMERS

Family: Libellulidae

The skimmers also report perches and their relatives were belonging from family: Libellulidae, the largest dragonfly family in the world. It is sometimes considered to contain the Corduliidae (Silsby 2001); there still remains a family of over 1000 species. They were worldwide distributed. Many of the members of this genus are brightly colored or have banded wings. The genus Celithemis contains several brightly marked species in the southern United States. Members of the genus Sympetrum are called darters (or meadow hawks in North America) and are found throughout most of the world, except Australia. Several Southern Hemisphere species in the genera Trithemis and Zenithoptera are especially beautiful.

Other common genera include Tramea and Pantala. The libellulids have stout-bodied larvae with the lower lip or labium developed into a mask over the lower part of the face.

## II. MATERIAL AND METHODOLOGY

The materials studied in this paper were collected by various areas from Daund taluka and collected specimens are submitted to Zoological Survey of India, Kolkata and Western Regional Station, Z.S.1., Pune. Presently in the National collections of Zoological Survey of India, Kolkata have some species of the *Zyxomma*, based on the morphology they are identified.

## III. RESULT AND DISCUSSION

### Taxonomical features

Eyes metallic green, face olivaceous, thorax chocolate brown, legs ferruginous, wings hyaline with brown tips, abdomen red brown with black circle at each segment and swollen at upper half then abruptly thin.

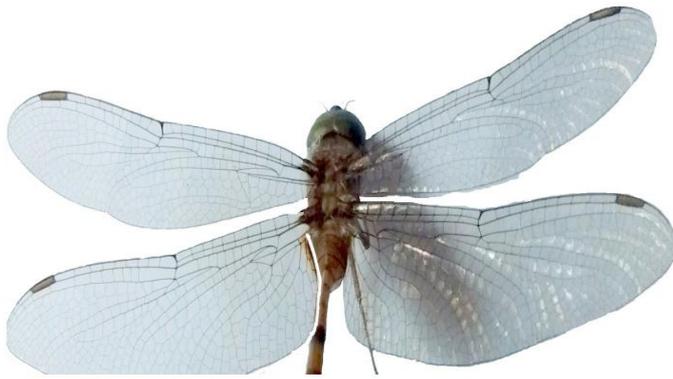
### BROWN DUSK HAWK



Figure 1. *Zyxomma petiolatum* (♂)



Figure 2. *Zyxomma petiolatum* head (♂)



**Figure 3.** *Zyxomma petiolatum* wings (♂)



**Figure 4.** *Zyxomma petiolatum* lateral (♂)

**Table 1.** Morphometry of *Zyxomma petiolatum* (Rambur, 1842)

(♂)/(♀)	Abdomen Length	Hindwing	Wings spot	Eyes	Nodal index			
					Left Fore wing (mm)	Right fore wing (mm)	Left hind wing (mm)	Right hind wing (mm)
Male (♂)	36- 42mm	32-35 mm	Blackish Emerald Green	Emerald Olive green color	13-8	11-8	10-9	9-9
Female (♀)	37- 42mm	32-38 mm	Blackish Dull green.	Olive dull green color	13-9	11-7	9-9	8-9

**Taxonomic keys to the species of *Zyxomma petiolatum* (Rambur, 1842)**

**1. Male (♂):**

Large brown dragonfly with extremely thin abdomen and brown-tipped wings. Head: labium pale yellow; labium pale ochreous ; face and frons pale olivaceous. and usually dark reddish-brown margined with bright golden yellow below in front ; eyes are emerald-green in day time. occiput very small. Prothorax and thorax chocolate-brown, paling at sides, unmarked. Legs: pale reddish-brown or ochreous. The base of wings is variably dark reddish brown. The first antenodal nervure except in the basal space which is hyaline. Abdomen: Reddish brown of variable shades, darkening to black at end of segments sides of segments 1 to 3 pale brown with sutures finely outlined in dark brown to black. Anal appendages:

Reddish-brown in color. Superiors anal appendages changing from brown to black at apices end.

**2. Female (♀):**

Head: Labrum- Small black point over labrum. Other part of the head is palest brown. Prothorax & thorax are Olivaceous brown on dorsum side with bronzed black colour markings. Sexual characters wings usually more broadly dark reddish-brown at apices. Habit/ Habitats: Around shrubby plants, near pools. Distribution: Barkuda Island, Debrigarh, Fraser (1934). Behaviour: Largely crepuscular, but also active during overcast days, in extremely rapid flight low over water bodies, hawking midges.

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