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Cover: A female Javan Leopard *Panthera pardus melas* in rehabilitation phase at Cikananga Wildlife Center. © Yayasan Cikananga Konservasi Terpadu.



Illustrated description of the mantis *Mesopteryx platycephala* (Mantodea: Mantidae) collected from West Bengal, India

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Abstract: The mantis, *Mesopteryx platycephala*, is redescribed with digital images. Although known from Assam, West Bengal and other areas, the mantis is not recently collected or illustrated from India so far and is perhaps a rare species. This short note aims to fill up the lacuna.

Keywords: Dictyoptera, Mantini, Paramantinae, praying mantis.

A mantis collected in Alipurduar, West Bengal, was identified as *Mesopteryx platycephala* (Stål, 1877) based on keys in Mukherjee et al. (1995). According to Giglio-Tos (1927) and Ehrmann (2002), there are only three species under this genus, namely *Mesopteryx alata* Saussure, 1870, *Mesopteryx platycephala* (Stål, 1877), and *Mesopteryx robusta* Wood-Mason, 1882. All these three mantids are large, elongate (more than 90 mm total length), and all are very similar to the members of the genus *Tenodera* but possess longer body and broader head. Stål (1877), in fact, had described this species as *Tenodera platycephala*.

The keys in Mukherjee et al. (1995) include only two species which were differentiated on the presence of transverse black lines on lamellar portion of prosternum

under metazona (*platycephala*) or absence of such lines (*robusta*). Giglio-Tos (1927) briefly redescribed all the three species and separated different species by a key; in the same key *Mesopteryx alata* and *Mesopteryx platycephala* are separated on the basis of length of forewing in female: forewing longer than pronotum (*alata*) and forewing very short than pronotum (*platycephala*). But the characters of wings for males were not given. In recent years, Ehrmann (2002) also gave detailed diagnosis of the genus *Mesopteryx* and our specimen fits well in this genus.

Our specimen was diagnosed as *Mesopteryx platycephala* using the keys in Mukherjee et al. (1995) which considered only *platycephala* and *robusta* to be found in India at that time. Of these two, *robusta* is much elongate form, in excess of 115 mm in total length. The specimen being briefly redescribed here is shorter in body length and has distinct, complete and incomplete transverse lines on the lamellar portion of prosternum under metazona.

Editor: Anonymity requested.

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Redescription

Classification according to Ehrmann (2002):

Dictyoptera, Mantodea, Mantidae, Paramantinae, Mantini.

Genus *Mesopteryx* Saussure, 1870

Coloration: Overall uniformly pale brown dorsally. Ventrally also pale brown but there is a tinge of greenish coloration on prosternum and anterior side of femora and tibia. In forewings costal margin is distinctly light green and is bordered below by dark reddish-brown line (Image A 1,2 & Image B 3).

Spines: Fore femur with antero-ventral series blackish-brown with black tips (Image B1) with postero-ventral series pale brown with black tips (Image B2); of these longer spines are darker; discoidal spines internally (anteriorly) black; externally (posteriorly) pale brown. Prosternal expansion with many transverse blackish lines, some of which are complete end to end, some are incomplete while some are like dots (Image C1,2).

General: Large, elongate, brown colored, and relatively robust mantis (Image A).

Head: Triangular. Vertex slightly convex, smooth with distinct juxtaocular lobes. Eyes oblong, slightly globular, projecting and widely separated. Ocelli small. Antennae thin, filliform. Frontal sclerite (lower frons) transverse, more than three times wider than high, its superior border arched (Image B4).

Pronotum: long, depressed (dorsoventrally flattened), lateral borders of metazona lamellar; prozona with serrated margin, only anterior half of the metazonal margin feebly serrated; lateral edges of metazona almost parallel, supracoxal dilation indistinct; prozona with a longitudinal median sulcus in posterior half whereas metazona with smooth and round median carina, which is prominent in posterior half; prosternum with four distinct denticulate carinae (Image C2) whereas disc of metasternum smooth and flat. Metazona longer than fore coxae.

Legs: Fore legs: coxae: anterior edge with many tubercles and spinules, hence appearing rough; preapical lobes (fore coxal lobes) convergent. Fore femur: Elongate, slightly narrowed apically. Dorsal margin straight and smooth external (postero-ventral) spines – four, internal spines (antero-ventral) – 15, all black at tip only, discoidal spines – four, all discoidal spines black on anterior side; claw groove (tibial spur groove) near middle. Fore tibia: Internal (antero ventral) spines – 15; external (postero-ventral) spines – 11, all black at tips only, their lengths increasing from base to apex (Image B1,2).

Spine formula: F=4DS/15AvS/4PvS; T=15AvS/11PvS

Mid and Hind legs: Long and slender; mid legs moderately long while hind legs longer; legs covered with short, fine setae. Femora without apical spine. Tibial spur prominent. Tarsus long; basitarsus longer than rest of the segments taken together.

Wings: Both wings shorter than body, costal area of fore wing green, opaque, rest of the wing highly reticulated and translucent (Image B3).

Abdomen: Abdominal segments longer than broad, genital segments and genitalia damaged. The slender body and long wings suggest it to be a male.

Material examined: Regn. No. MCZM 55, 10.v.2006, 1 male, genital region mutilated, Alipurduar, West Bengal, coll. Sachin Ranade. This mantis was collected as a dead specimen killed under a vehicle, later presumably partly eaten by ants.

DISCUSSION

As mentioned earlier, based on keys / descriptions in Giglio-Tos (1927) and Mukherjee et al. (1995) our specimen is *Mesopteryx platycephala*. The third species *Mesopteryx alata* of Saussure was differentiated from *platycephala* on the basis of comparative length of elytra (forewings) and pronotum of female (see Giglio-Tos 1927) but our specimen is a male, on the basis of the shape of abdomen. In the specimen with us, the forewings are much longer than pronotum. The other character to distinguish these two species can be total length based on Giglio-Tos's (1927) data: male of *platycephala* is about 90 mm and female 110 mm long and in *alata*, length of the body in female is 106 mm. Giglio-Tos (1927) also gave other measurements such as length pronotum, metazona and length of fore wings, in males as well as females, of *M. platycephala* and these are comparable with similar measurement in our specimen, leaving no doubt that our specimen is *M. platycephala*. Male genitalia of none of these species have been studied and in our specimen also the genitalia are damaged.

Subsequent to Mukherjee et al. (1995), Ehrmann (2002) gives distribution of *alata* as southern China, northern India, and the Philippines. Latest checklist by Mukherjee et al. (2014) gives distribution as "India: (Assam, Sikkim, West Bengal); Elsewhere: Cambodia, Myanmar and Nepal". Thus all the three species are present in India. As there are a very few records or new collections of this insect, this appears to be a rare mantis. The only other recent record of the same species is of Ehrmann & Borer (2015) from Nepal wherein the male is said to be 89–103 mm long while the female is 110–113 mm; the same paper gives the distribution



Image A. *Mesopteryx platycephala* habitus: 1—dorsal view | 2—ventral view. © Hemant V. Ghatе.

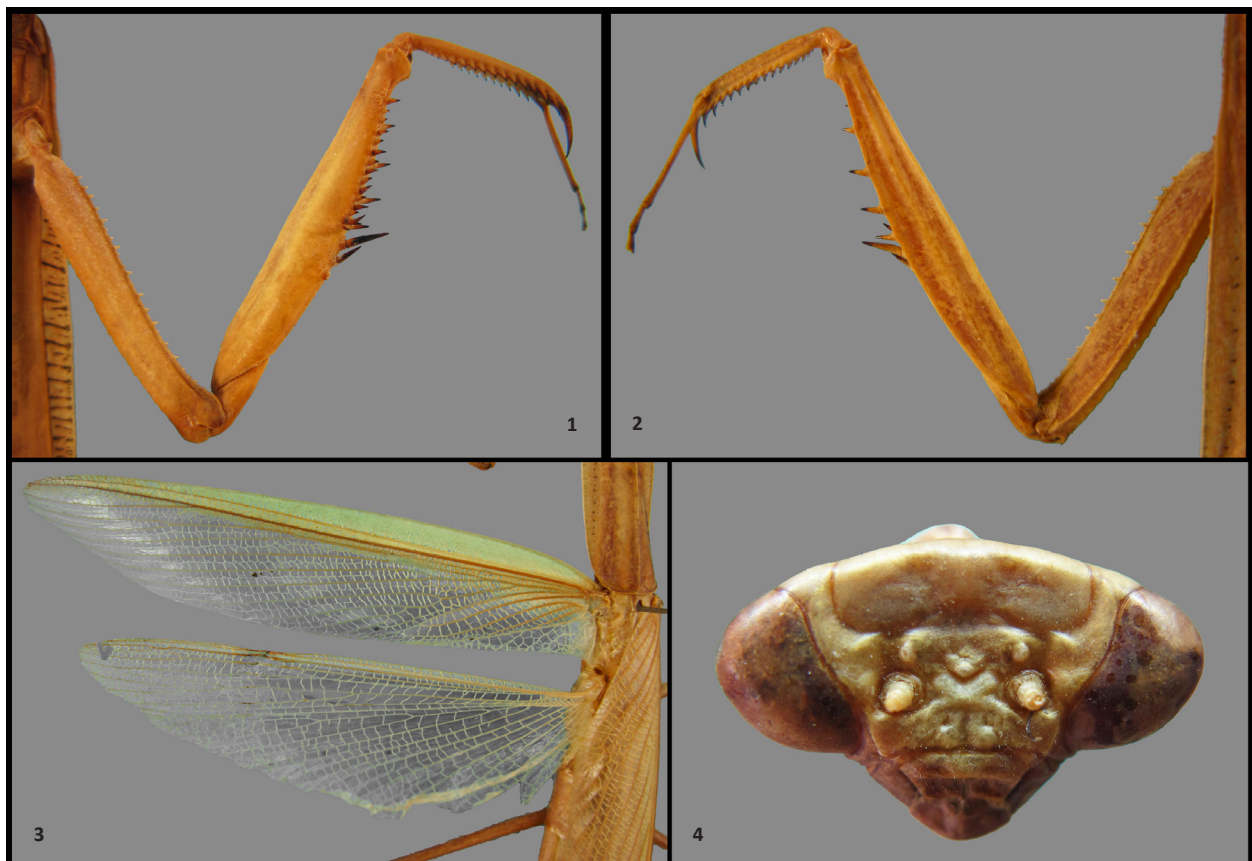


Image B. *Mesopteryx platycephala* structure details: 1—femoral spines antero-ventral | 2—femoral spines postero-ventral | 3—wings in dorsal view | 4—head, frontal view. © Hemant V. Ghatе.



Image C. *Mesopteryx platycephala* close up: 1—pronotum dorsal view | 2—pronotum ventral view. © Hemant V. Ghatе.

of *M. platycephala* as present in northeastern India, Cambodia, Myanmar, and Nepal. So our specimen is male even when size is compared. Future studies on genitalia will throw more light on this genus.

Measurements in (mm):

Total length 95; tip of the abdomen damaged. Pronotum 35 (Prozona 7 and Metazona 28); fore wings 50; hind wings 42.

Fore leg—Coxa 17; Femur 20; Tibia 8; Tarsus 8; (Basitarsus 5).

Mid leg—Coxa 5; Femur 18; Tibia 16; Tarsus 7; (Basitarsus 4).

Hind leg—Coxa 6; Femur 26; Tibia 27; Tarsus 10; (Basitarsus 5).

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