

# NEW RECORD OF *HIERODULA DOVERI* CHOPARD, 1924 (INSECTA: MANTODEA) FROM WEST BENGAL AND MORPHOLOGY OF PHALLIC COMPLEX

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## web supplement

Recently there is increasing interest in the search for the actual distribution of mantids in India. As a result more information on this peculiar group of insect of immense biological importance are published so often. This paper deals with the discovery of the species *Hierodula doveri* Chopard from West Bengal, India, for the first time. Morphologically this species is very similar to *Hierodula unimaculata* (Olivier) except for blackish spines on fore femora and transverse band on prosternum (Mukherjee *et al.*, 1995). This is an attempt to describe the structure of the genitalia of the species *Hierodula doveri* Chopard. Taxonomy based on surface structures often becomes confusing for many species. Hence stress is given on genitalia for better understanding of species status.

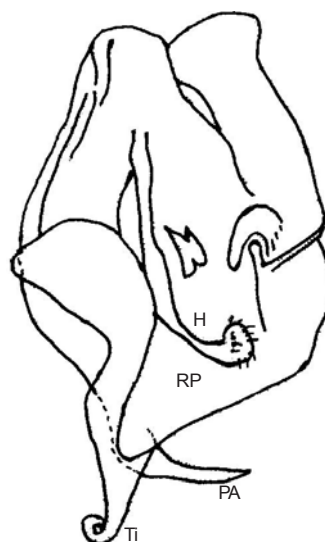
**Material examined:** 1 male, 13.ix.2004, Bakhrahat, near Thakurpukur, Kolkata, West Bengal, India, coll. Probhas Saha.

**Distribution:** India: Karnataka, Kerala, Orissa, Maharashtra (BNHS specimen), Tamil Nadu, West Bengal.

**Measurements:** (male) - total length 58.5; antenna 30.0; pronotum 19.0; metazona 14.0; coxa 11.5; femur 15.0; tibia 7.0; fore wing 45.0; hind wing 40.0.

**General morphology:** Eyes round, ocelli big. Frontal sclerite pentagonal, bicarinated, almost as wide as high, upper margin widely angular. Pronotum narrow and longer than anterior coxa, with smooth lateral edges (prozona has lateral unevenness), supracoxal area widely oval; metazona (dorsally) with deep brownish to black lateral streak near posterior edges. Prosternum with two basal pairs of oval brown spot separated by almost transverse patch.

In anterior leg, all parts are uniformly green and all spines are black at tips; coxae with contiguous internal apical lobes, armed with six tubercular premarginal spines; femur with seven long and seven short spines, shorter spines are black at tips, longer spines are deep brownish of which four long spines with basal brown patch or at least brown sockets; 4<sup>th</sup> and 1<sup>st</sup> discoidal spines more brownish. In fore wings, costal area yellow-green and densely reticulate; anterior margin deep green followed by a narrow yellow area along length; anal area with five veins; stigma pale yellow green; 1<sup>st</sup> branch of cubitus passes singly above the stigma; among the next



**Figure 1. Phallic complex of *Hierodula doveri* Chopard (dorsal view). H - Hypophallus; PA - Phalloid apophysis; RP - Right Plate; Ti - Titillator**

two branches of cubitus, the upper one divides and passes through the stigma; lower branch divides into three branches and reaches the periphery.

**Phallic complex (in dorsal view<sup>w</sup>):** Titillator (Ti) shows one complete clock-wise turn and its tip is directed upwards. Phalloid apophysis (PA) strong at base and, as usual, curved to the right. The right plate (dorsal lobe of the complex, RP) bears a strong chitination that is bent on the left and its tip is directed posteriorly. The most characteristic is the hypophallus (H) that bears a lobe at posterior end beset with spines that are directed leftwards; the anterior end has strong chitinous, antero-posteriorly aligned structure (appears bifid at apex).

**Conclusion:** Comparison of male genitalia is important in the context of taxonomic studies particularly species that are very similar except for a few morphological differences. As expected, the hypophallus developed into a spectacular bulb-like spiny structure that seems to be specific for this species. This species was treated as *Hierodula* (*Hierodula*) *doveri* and now treated as *Hierodula doveri* Chopard (Ehrmann, 2002).

## REFERENCES

- Chopard, L (1924). The fauna of an island in the Chilka Lake. The Dermaptera and Orthoptera of Barkuda Island. *Records of Indian Museum Calcutta* 26(2): 175.  
Ehrmann, R. (2002). *Mantodea: Gottesanbeterinnen der Welt*. Natur und Tier-Verlag, Munster, Germany (Praying Mantids of the World, in German Language), 177pp.  
Mukherjee, T.K., A.K. Hazra, A.K. Ghosh (1995). The Mantid Fauna of India (Insecta: Mantodea). *Oriental Insects* 29: 292.

<sup>w</sup> See Image of phallic complex on the web at [www.zoosprint.org](http://www.zoosprint.org)

