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On some variation in *Gimantis authaemon* (WOOD-MASON, 1882)  
collected from Kerala, India  
(Dictyoptera: Mantodea: Mantidae)

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ABSTRACT. Differences in the disposition of external spines of fore legs are important characters in classifying mantodea. This paper explains variation in position of those spines along with other notable characters in *Gimantis authaemon* from Kerala, India and its relatedness with *Elmantis* through a comparison of examples from other countries.

Key words: entomology, taxonomy, morphology, Dictyoptera, Mantodea, *Gimantis authaemon*, Kerala, India, variation.

#### INTRODUCTION

A female of *Gimantis authaemon* (WOOD-MASON, 1882) collected recently from Arippa forest, Thiruvananthapuram, Kerala and another female from Kerala, Poormudi Range Thiruvananthapuram, collected in 1971, exhibits certain characteristics, which require a re-description of the species on the basis of comparison of same and related species present in some museums.

This study shows that there is a variation in the disposition of external spines (figs 3-6) among specimens from different parts of Oriental region. The disposition also suggests that *Gimantis* is very close to *Elmantis* GIGLIO-TOS, 1915.

In the newest publication, the Catalog of the Mantids of the World by Otte & SPEARMAN (2005), the genus *Gimantis* GIGLIO-TOS, 1915 (Mantidae, Amelinae) contains four species: *assamica* GIGLIO-TOS, 1915, *authaemon* (WOOD-MASON, 1882), *insularis* BEIER,

1937 and *marmorata* (BRUNNER VON WATTENWYL, 1893). In the catalog of EHRMANN (2002) the species *marmorata* is a synonym of *authaemon*.

***Gimantis authaemon* (WOOD-MASON, 1882)**

REDESCRIPTION

Female: Body light brown with black patches and spots. Head triangular, broader than high, in frontal view, head width 1.6x higher than its median length. Antennae shorter than body, not ciliated, antennal scape and pedicel pale brown.

Eyes large, rounded laterally and little above level of vertex; ocelli minute. Vertex light brown with faint dark dots, with one median (with a faint median vertical carina)



1. *Gimantis authaemon* (WOOD-MASON, 1882); female, India, Kerala, Arippa forest, dorsal view. Total length 32 mm (photo MUKHERJEE)

and two lateral lobes of which lateral two are more prominent and separated by distinct grooves (other ridges are separated by simple wide depressions).

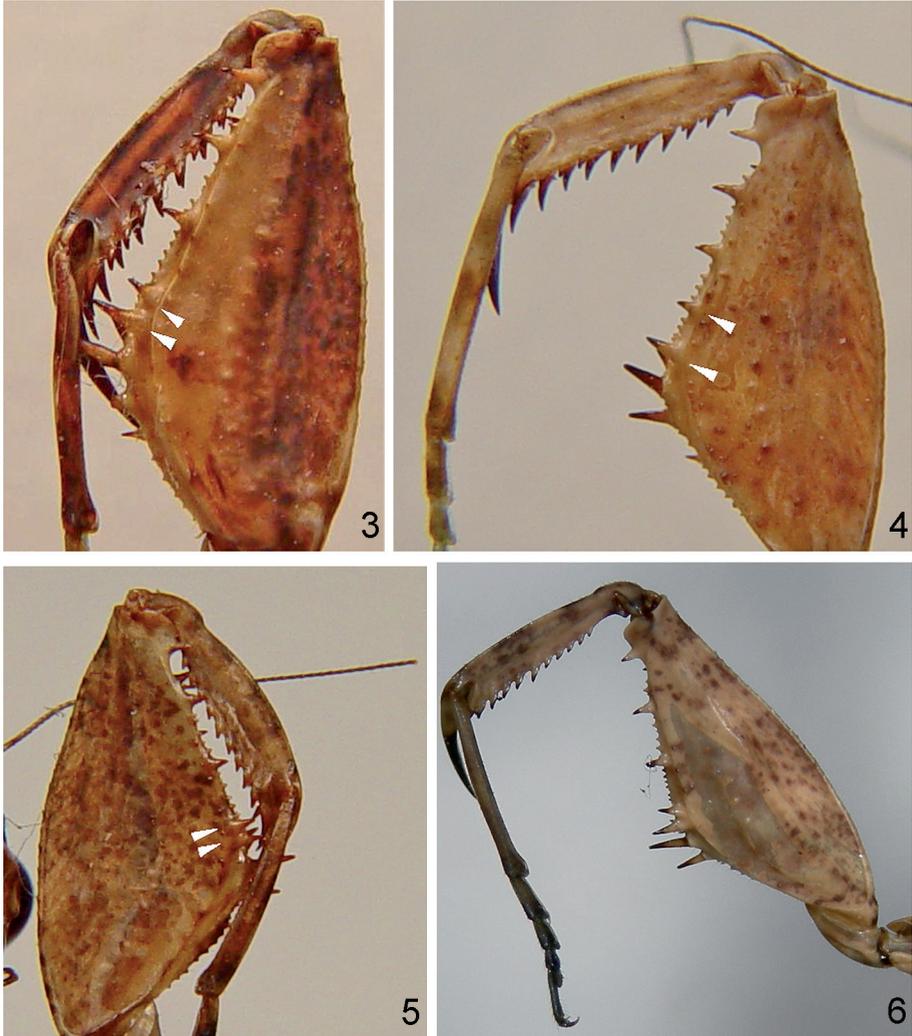
Frontal sclerite black in the form a wide transverse patch, upper margin pale brown and widely arched; clypeus concolorous with vertex.



2. *Gimantis authaemon* (WOOD-MASON, 1882), female from Poormudi Range Kerala, India, habitus, dorsal view. Scale bar = 8.0 mm (photo STIEWE)

Pronotum, a little longer than broad, prozona shorter than metazona, margins hardly denticulated; pale brown with scattered dark brown spots and some such spots are on lateral edges; supracoxal dilation prominent, metazona constricted in posterior half, with a faint dorso-median carina, with less raised tubercular areas whose posterior two are close apposed.

Fore coxa with 8-9 minute spinules embedded in reddish-brown spots at margins, internal apical lobes divergent; internally uniform pale brown, with a dark brown stripe



3-6. Variation of the external spines of fore femur (see arrows): 3 – *Gimantis authaemon* (WOOD-MASON, 1882) female from Poormudi Range Kerala, India, left fore leg, dorsal view; 4 – *Gimantis authaemon* (WOOD-MASON, 1882) female from Malaysia, left fore leg, dorsal view. 5 – *Elmantis lata* GIGLIO-TOS, 1915 female from Sri Lanka (ZMB), right fore leg, dorsal view (photos STIEWE). 6 – *Gimantis authaemon* (WOOD-MASON, 1882), Aripa female, left femur

extending from proximal end to middle at lower margin. Fore femur testaceous, triangular, stout and outer surface a little arched, distinctly denticulated with four external spines (edge distinct with minute spinules), of these proximal two are closely situated and appears to share a common wide base (fig. 6), and a well developed genicularlobe-spine, four discoidal spines (not in a row and gradually increasing in size from base), external and discoidal spines black at tip only, internal spines thirteen (six longer) and all completely black; claw groove towards base from middle; internally with three transverse black patches, median patch widest. Fore tibia with internally distinct and externally indistinct triannulation by brown marks, 11 external spines (black at apices) and 10 internal spines (entirely black); tarsal segments dark brown with green tinge.

The middle and hind legs are testaceous; femora with apical spine; tibiae at apices with two ventral spines and a dorsal minute triangular lobe, middle tibia with two dark brown patches distally, three such patches on hind tibia; tarsal segments blackish brown; hind metatarsus longer than the remaining segments together.

Fore wings long, reaching near base of cerci, opaque, anterior margin smooth, veins with dark brown dots. Hind wings opaque except costal area; remaining surface brick red, with a dark reddish-brown border (containing few black spot) along lateral and posterior portions, veins light orange.

Abdomen testaceous with dark brown patches and dots; supra-anal plate transverse, triangular apex widely rounded. Cerci cylindrical, beset with bristles, 11 segmented.

#### Measurements (mm):

Female (from Arippa forest): Total length 32, Pronotum 7.9. In fore leg coxa 5.6, femur 8.2, tibia 4.9; in middle leg coxa 2.9, femur 7.7, tibia 5.4; in hind leg coxa 2.7, femur 9.1, tibia 9.5; Fore wing 20, hind wing 15.

#### MATERIAL EXAMINED

1 female, India, Kerala, Thiruvananthapuram, Arippa forest, 16.x.2005, coll. Rajeesh.R.S., (deposited to Orthoptera section of Zoological Survey of India, Kolkata); 1 female, India, Kerala, Trivandrum Distt. (Thiruvananthapuram), Poormudi Range 3000 ft., V.-1971, leg. P. S. Nathan, deposited in the collection of the Manchester Museum, UK.

#### COMMENTS

The examined specimens are clearly *Gimantis authaemon* on the account of the following characters:

1. Transverse frontal sclerite with black disc in the form a wide transverse patch, upper margin pale brown and widely arched (exactly that of *Gimantis authaemon* of Vienna Museum).

2. Pronotum nearly longer than fore coxa (as long as in *Elmantis*), margins hardly denticulated (as *Gimantis*; in *Elmantis* there are tooth at lateral corners and the bosselles are well marked).

3. Tibia with eleven external spines, like *Gimantis*.

4. In fore femur external margin distinctly denticulated with completely black four external spines (these characters are absent in *Elmantis*); proximal two are closely situated (figs 3-6) (similar to *Elmantis* fig. 5), but this also happens in *Gimantis* as seen in the *Gimantis authaemon* from Malaysia in British Museum (fig. 4), of which the external spines can also be said to lie slightly closer.

5. Fore femur internally with three transverse black patches, median patch widest.

6. Entire wing characters match perfectly with *Gimantis authaemon*, particularly its length and brown border in hind wing. But in female of *Elmantis lata* GIGLIO-TOS, 1915, the wings are much reduced.

7. Hind metatarsus much longer than other tarsal segments together, as *Gimantis*; in *Elmantis* this is as long as or shorter.

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