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## *Parahestiasula obscura*, gen. nov., spec. nov. from Nepal

(Insecta, Mantodea, Hymenopodidae)

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*Parahestiasula obscura*, a new species of a new genus belonging to the family Hymenopodidae is described. It is characterized by the presence of three strong processes on the fastigium of the vertex and has markedly lobed median and especially posterior femurs.

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### Introduction

Continuing the study of Mantodea of the Zoologische Staatssammlung München I have identified a small series of Mantodea, formed by one ♂ and five ♀♀, belonging to the family Hymenopodidae, which, due to their peculiar features, are to be ascribed to a new species of a new genus.

### *Parahestiasula*, gen. nov.

A small-sized genus in which both sexes are winged. Head big, the forehead has three strong tubercles, a sinuous carina is present between them and the basis of the ocelli. The fastigium of the vertex bents forward, with a bulky cone-shaped pointed tubercle placed in the middle of each eye. A transverse frontal pentagonal scutellum with a tiny tooth on its apex can be observed.

The pronotum is short, its length and width are identical, and it is strongly compressed posteriorly; the prozone has two big humps, a large supracoxal dilatation and a medially carinated metazone.

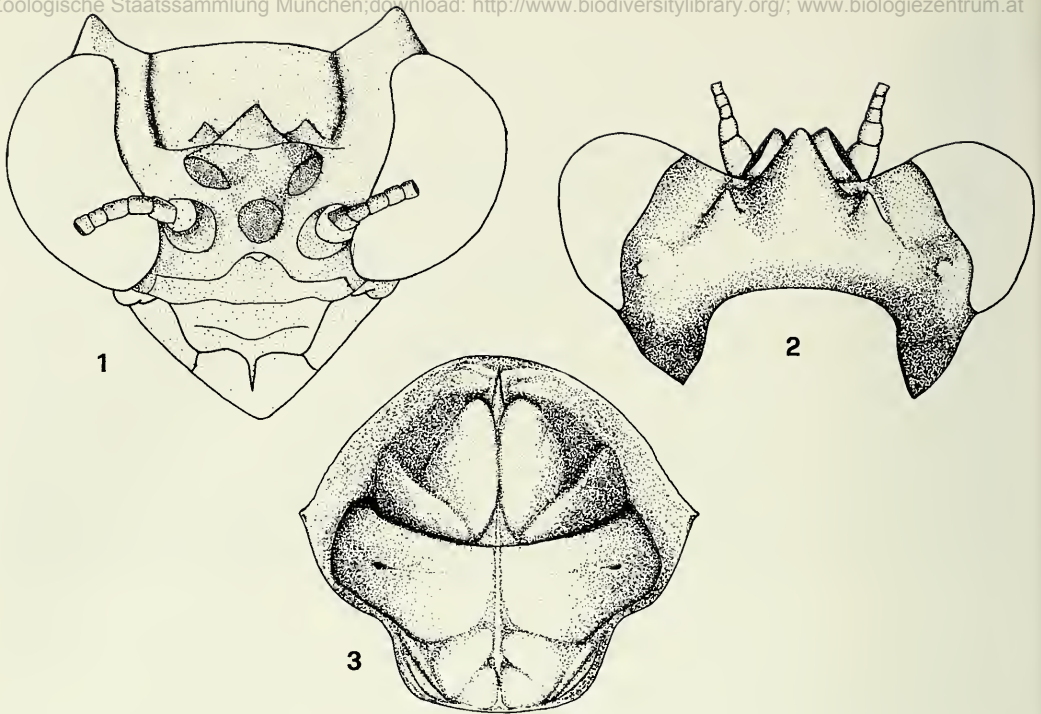
The hind legs have strongly dilated femurs provided with 4 external spines, with the two basal ones closer to each other, and 4 discoidal spines. The mid femurs are short, their external margin is slightly lobed at the basis; the posterior femurs are longer than the median ones, with a small but clearly distinguished lobe placed at the basis of the lower margin.

The flight organs are well developed and extend well beyond the apex of the abdomen.

The abdomen is moderately dilated, the supragenital lamina has a markedly rounded apex.

This genus is very similar to *Hestiasula*, but it differs from it in 1. the presence of the three big tubercles on the forehead (in *Hestiasula* the forehead is either muticate or it has only one more or less developed tubercle); 2. the presence of two big cone-shaped tubercles on the fastigium of the vertex, medially placed vis-a-vis the eyes (in *Hestiasula* these tubercles are never so much developed); and also in that the hind legs have a clearly distinguishable lobe on their lower margin (in *Hestiasula* this character has never been observed).

The copulatory apparatus, though maintaining the same morphological model, shows as well substantial differences as shown in figs. 6-11.



Figs 1-3. *Parahestiasula obscura*, spec. nov. 1. Anterior view of head; 2. posterior view of head; 3. pronotum.

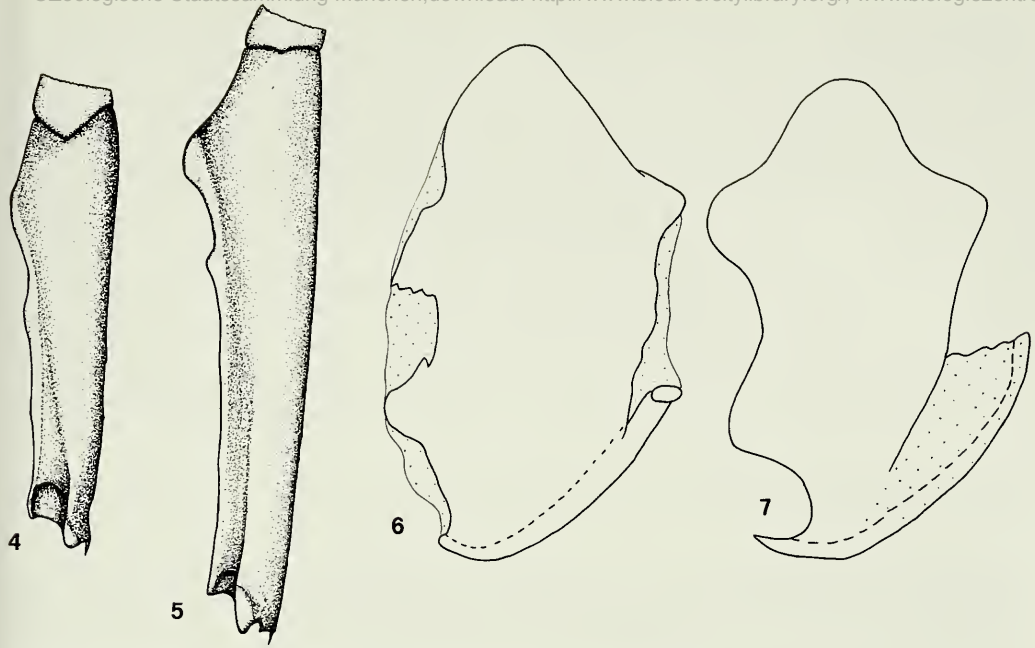
*Parahestiasula obscura*, spec. nov.

Types. Holotype: Nepal, 1♂, Rapti Tal Monahari Kola, Belwa 350 m, 7-12.5.1967 (ZSM) (leg. Dierl-Forster-Schacht). - Paratypes: 5♀, same data (ZSM).

Description

Male. Head (fig. 1) 1.44 times larger than the pronotum, brown with small black spots which tend to merge, forming wide blackish areas. The eyes big, subspherical and protruding; the forehead, along the medial margin of the eyes, is markedly grooved and bears three strong processes, the middle one is clearly more developed and has a pyramidal shape (fig. 2). The fastigium of the vertex is bent forward, with two big cone-shaped pointed tubercules placed close to the medial margin of the eyes. Ocelli wide, fairly sharp and placed on a prominent basis. A sinuous carina is placed above them, this carina fades away and becomes undistinguishable as it approaches the median margin of the eyes. The antennae are long with a brown scape and the flagellum is initially ochre and then becomes darker. One can observe a transverse frontal pentagonal scutellum with a concave upper margin at the basis of the antennae, while the apex is slightly bent forward to form a tiny tooth, the discoidal area shows a fossette delimited by two lateral carinae.

Pronotum (fig. 3) short, almost as long as large, brown, scattered with thin and long hairs, markedly constrained posteriorly and with a well-visible longitudinal median carina; the front margin is markedly rounded, while the lateral margins are finely denticulate. One can observe a wide sharp-cornered supercoxal dilatation with a small marginal tooth. Prozone almost as long as the metazone and separated from it by a deep supercoxal groove. Two big humps protrude on the two sides of the median carina. The metazone bears a median carina, with 4 scarcely protruding humps, 2 of which are placed in front of the posterior margin of the pronotum, while the other two are placed on the two sides of the supercoxal groove.



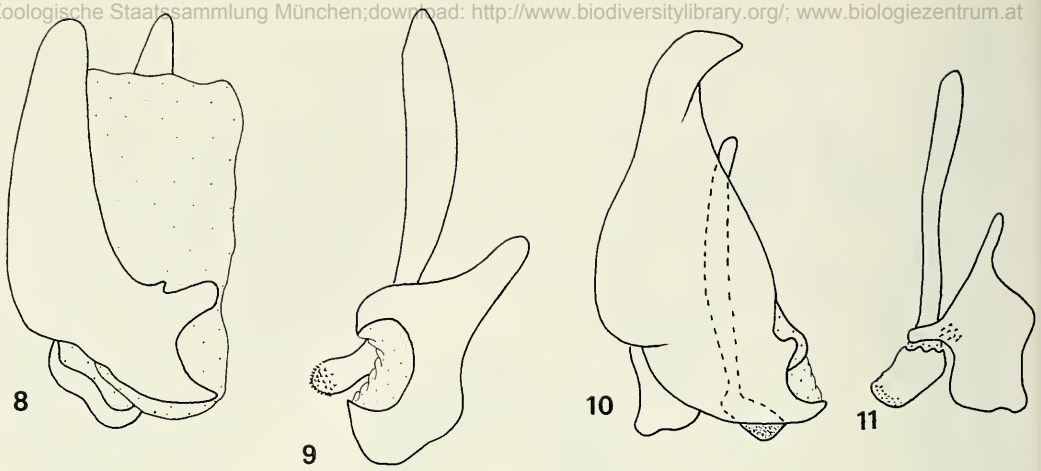
Figs 4-5. *Parahestiasula obscura*, spec. nov. 4. Middle femur; 5. posterior femur.  
Figs 6-7. Ventral phallomere. 6. *Parahestiasula obscura*, nov. spec.; 7. *Hestiasula pictipes* (Wood-Mason).

Fore legs strong, coxae extend well beyond the posterior margin of the pronotum; they are prism-shaped with a triangular section, they are all brown but for the inner face which is reddish-brown. Out of the three margins, the mid and the external ones have a series of small black tubercles that become visible only under high magnification and from which a setula arises; the internal genital lobes diverge. The femurs are markedly dilated, their length is twice their width; the outer face is brown with many black spots tending to merge. A series of lined black tubercles are observed in the non-dilated portion; they are bright black inside, but for a yellowish round spot placed in front of the talon groove and many small black spots on an ochre background placed at the apex of the tubercles; the upper margin is irregularly rounded and provided with small black tubercles. Both the external and the discoidal spines have only a black apex, while the internal ones are totally black. Tibias darkish on the outside and black on the inside; they are provided with 12 ochre-coloured external spines with black apex and 10 internal black spines. Tarsi brown with black spots on the outside, and black on the inside. Mid and posterior legs rather short, their colour is ochre with dark veins; both mid and posterior coxae have a pyramidal shape. Mid femurs cylindrical, they are slightly larger at their basis and bear many hairs of different lengths; a carina follows the lateral margin throughout its length, with two undistinguished lobes at the basis of the femur (fig. 4). The posterior femurs have an expanded basis as well, a longitudinal carina is placed on the lower margin and expands into a small but clearly visible lobe just before the basis (fig. 5). Mid and posterior tibiae pubescent, expanded for  $\frac{2}{3}$  of their basal portion. Posterior tarsi short with the metatarsal joint shorter than the others taken together.

Abdomen dilated with shiny black tergites, with the exception of the lateral portions where they are light brown. Sterna brown with black spots; a carina is placed medially and it protrudes in the posterior portion of each segment.

Supranal plate small, trapezoidal, it leaves most of the underlying genital lamina uncovered. Cerci short and pubescent; all joints cylindrical with the exception of the last one which is cone-shaped.

Flight organs well developed; tegmens narrow and with a rounded apex; the costal area is opaque and brown, the discoidal and anal areas are transparent; both in the main venations and in the secondary ones darker areas alternate with lighter ones.



Figs 8-11. Left phallomere. 8-9. *Parahestiasula obscura*. spec. nov.; 10-11. *Hestiasula pictipes* (Wood-Mason).

The ventral phallomere of the copulatory apparatus is twice as long as large and the distal process is limited to a tiny tooth (fig. 6). The left phallomere has a well developed dorsal lamina (fig. 8) with a large groove at the apex of the right margin; the ventral lamina (fig. 9) is smaller than the former one, it has the shape of a stumpy club deeply grooved on its left margin; the phalloid apophysis is well developed and has a rod-like appearance, with a markedly rounded and knurled distal margin (fig. 9).

Measurements. Width of head 3.8 mm; length of pronotum 2.8 mm; length of metazone 1.4 mm; width of supra-coxal dilatation 1.4 mm; length of anterior coxa 3.6 mm; length of anterior femur 5.3 mm; width of anterior femur 2.7 mm; length of tegmina 16 mm.

Female. Both shape and chromatic model are very similar to those of the male. The only differences worth noticing concern the size, which is slightly larger; in one specimen the tooth of the frontal scutellum shows a shallow groove in the middle.

Measurements. Width of head 4.3 mm; length of pronotum 3.4-3.6 mm; length of metazone 1.6-1.7 mm; width of supra-coxal dilatation 3.4-3.5 mm; length of anterior coxae 4.7-4.9 mm; length of anterior femora 6.3-6.8 mm; width of anterior femora 2.9-3.5 mm; length of tegminae 18-19 mm.

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