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# REDESCRIPTION OF THE CAYSTRINE GENUS *PRAETEXTATUS* DISTANT ALONG WITH ITS TYPE SPECIES *P. TYPICUS* DISTANT (HEMIPTERA: PENTATOMIDAE) WITH REFERANCE TO THEIR UNKNOWN CHARACTERS OF METATHORACIC SCENT AURICLE AND GENITALIA AND KEY TO ITS KNOWN SPECIES AND THEIR RELATIONSHIPS

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## ABSTRACT

The caystrine stink bug genus *Praetextatus* Distant along with its type species *P. typicus* Distant is redescribed with reference to its unknown characters of metathoracic scent auricles and genitalia with a key to its known species and in this light and in the light of their Zoogeography the relationships of the included taxa are also briefly discussed.

**Key words**: Heteroptera, Pentatominae, Caystrini, *Praetextatus*, *P. typicus*, Redescription, key, relationships.

## INTRODUCTION

Distant (1901) described his then monotypic genus *Praetextatus* with type species *P. typicus* form Burma mostly based on colouration and measurements. Next year he (1902) redescribed the above taxa, palcing them in his new division Dorpiaria with his new type genus *Dorpius* along with *Aednus* Dallas and *Laprius* Stål which actually belongs to the tribe Myrocheini while for some of the remaining four genera i.e. *Neodius* Bergroth (Presently known as *Caystrus* Stål) *Hippota* Bergroth (Presently known as *Hippotiscus* Bergroth), *Valescus* Distant and presently included genus Stål (1876) for the first time used the phrase "*Odius et* affinia" and Atkinson (1888) after Stål (op cit) used the family group name "Odiaria" for this assemblage based on generic Junior homonym *Odius* Stål (*Caystrus* Stål, being senior homonym for this taxon) which can not serve as the stem for a family group name.

Ahmad and Afzal (1979) for the first time used the correct family group name Caystrini for this assemblage with *Caystrus* as its type genus followed by Ahmad (1980) (with misspelling as Caystriini), Ahmad (1981), Ahmad and Kamaluddin (1989), Ahmad *et al*. (1997) and as *Caystrus* group by Linnavuori (1982). The first redescription, in the recent years, of the present genus *Praetextatus* was made by Ahmad and Kamaluddin (1989) without any mention of the genitalia and there has never been any redescription of the type species *P. typicus* in the recent years. Hsiao and Cheng (1977) in Hsiao *et al*. (1977) described *P. chinensis* in Chinese and illustrated the dorsal view and differentiated it from *P. typicus* on the basis of the body size and general body colour (in English). Zhang *et al*. (1992) illustrated the dorsal view and described in Chinese *P. chinensis*. Rider *et al*. (2002) gave the Chinese distribution of the above two species.There does not exist any key to the known species. To fill these gaps the genus *Praetextatus* is presently redescribed along with type species *P. typicus* with reference to its unknown characters of metathoracic scent auricles and genitalia with a key to its known species and in the light of their Zoogeography the relationships of the included taxa are also briefly discussed.

## MATERIALS AND METHODS

Distant's holotype of *P. typicus* was examined during the visit of the first author of the present paper to the Natural History Museum, London (BMNH), in the months of June and July 2005 by the courtesy of Mr. Mick Webb Incharge, Hemiptera section of the department of Entomology of that Museum. We follwed the techniques of Ahmad and Afzal (1979) and Ahmad and Kamaluddin (1989) for measurements, illustrations and description and for examination, dissections and illustrations of female genitalia those of Ahmad and Kamaluddin (1989) and Ahmad and McPherson (1990) were followed.

## RESULTS

### *Praetextatus* Distant

*Praetextatus* Distant 1901: 583; 1902: 134; Kirkaldy1909: 208; Hsiao et al. 1977: 100, 155; Ahmad and Afzal 1979:

2; Ahmad and Kamaluddin 1989: 170, 174,180
*Praetestatus* Gross 1975: 220

Body oblongate; head broader than long, lateral margins laminate, angulate in front of eyes, distinctly sinuate, paraclypei longer than clypeus but not distinctly enclosing the latter; antennae with basal segment shorter than head apex, second segment shorter than third, fifth longest; labium distinctly reaching mesocoxae; pronotum with lateral margins sub straight, anterior angles sub acute, anterior margin medially concave or v-shaped, humeral angles prominent, posterior margin medially weakly or distinctly concave; scutellum with apical margin sub rounded, much shorter than corium; meso- and metasterna medially obscurely furrowed; metathoracic scent auricle transversely thumb-like, limited to one third distance of well developed evaporatoria; abdomen somewhat ovate, with sides more or less parallel, posteriorly narrowed and somewhat rounded.

**Female genitalia:**
Ninth paratergites only slightly passing beyond fused posterior margins of eight paratergites; first gonocoxae overlapping each other, with posterior margins convex.

**Type species:** *P. typicus* Distant 1901

**Comparative note:**
*Praetextatus* is most closely related to *valescus* in having metathoracic scent auricles somewhat reduced but can easily be separated from the same in having posterior margin of ninth paratergites only slightly passing beyond fused posterior margins of eighth paratergites in contrast to well passing beyond in the species of *Valescus*.

**Key to the species**

1. Body dark brown, much longer (13.0 mm) than *chinensis* in length, anteocular region about one third longer than reminder of head, paraclypei distinctly produced in front of clypeus, anterior margin of pronotum boat-shaped, humeral angles round, scutellum with apical process short and broad, membrane of hemelytra hardly reaching posterior margin of abdomen beyond in the species of *Valescus*.....(Burma:Myanmar and Taiwan)……*P. typicus*

- Body light coloured, much shorter (9.0-10.5 mm) than *typicus* in length, anteocular region equal to remainder of head, paraclypei only slightly produced in front of clypeus, anterior margin of pronotum almost v-shaped, humeral angles subacute, scutellum with apical process much long and narrow, membrane of hemelytra distinctly reaching beyond posterior margin of abdomen…(China: Hainan, Hunan, Sichuan and Zhejiang) ……*P. chinensis*

***Praetextatus typicus* Distant**
**(Figs.1-4)**

*Praetextatus typicus* Distant 1901: 584; 1902: 134; Kirkaldy 1909: 208; Rider et al. 2002: 144

**Colouration:**
Body above with legs and labium dark brown, of chocolate colour; corium a little paler in hue, membrane fuliginous; antennae piceous with apical segment stramineous; body beneath black; pronotum with two small central pale spots on anterior disc; dorsally thickly punctuate; scutellum transversely wrinkled.

**Head:**
Anteocular region longer than posterior of head including eyes; length of antennal segments I 0.6mm, II 0.9mm, III 1.3mm, IV 1.7mm, V 1.8mm, antennal formula 1>2>3>4>5; labium reaching mesocoxae (**Fig. 2**); length of anteocular region 1.1mm; length of remainder of head 0.9mm; width of head including eyes 3.1mm.

**Thorax:**
Pronotum distinctly more than 2x broader than its length, anterior margin distinctly wider than head width, lateral margins slightly sinutate, length 2.7mm width 7.2mm; scutellum slightly longer than broad with sub rounded apical lobe, length 4.7mm, width 4.4mm; metathoracic scent ostiole round, auricle thumb-like (**Fig. 3**); distance base scutellum-apex clavus 3.8mm; apex clavus-apex corium 2.3mm; apex corium-apex abdomen including membrane

2.2mm; apex scutellum- apex abdomen including membrane 3.4mm.

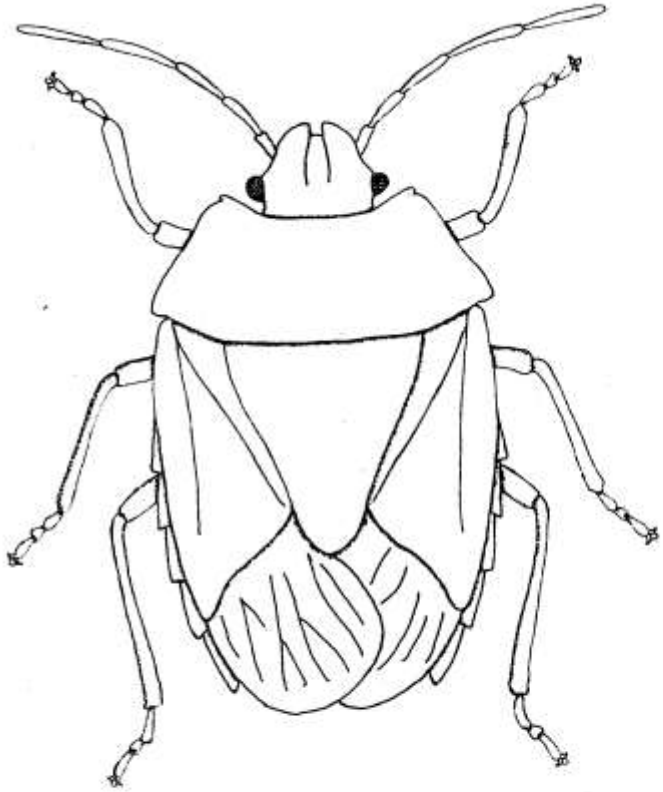

Fig. 1

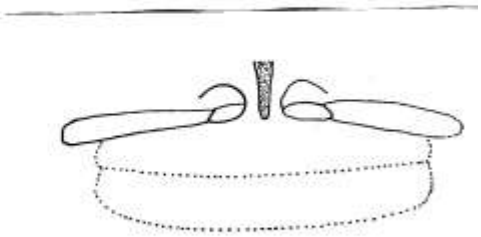

Fig. 2

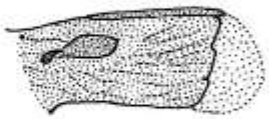

Fig. 3

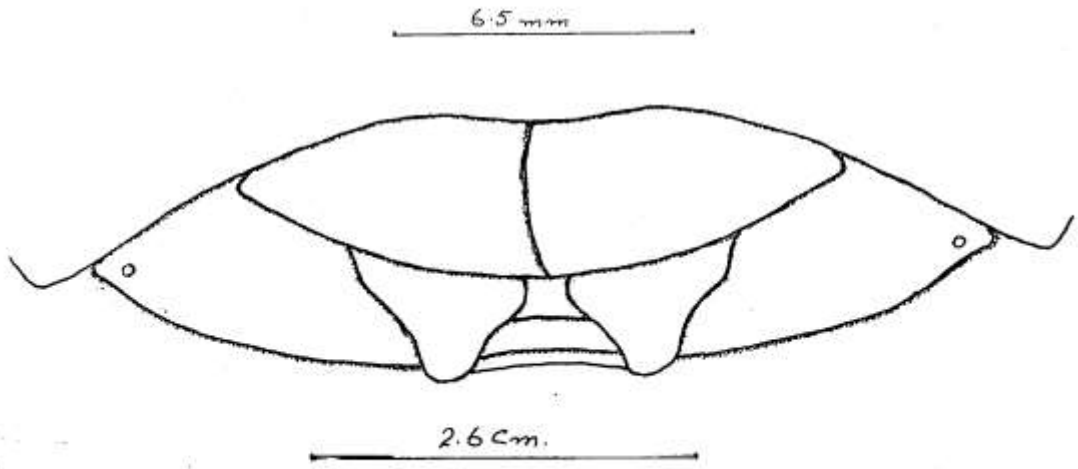


Fig. 4

Fig. 1-4, *Praetextatus typicus*; 1. Dorsal view ; 2.. Meso- and metasternum with coxae showing the labium reaching; 3. Metathoracic scent auricle, ventral view; 4. Female terminalia, ventral view.

**Abdomen:**

Convex beneath, connexiva distinctly exposed at repose; total length 13.0mm.

**Female genitalia:**

Posterior margin of 7th abdominal sternum concave laterally, medially weakly convex; posterior margin of first gonocoxae convex, overlapping each other; 9th paratergites with lateral margin distinctly sinuate and passing beyond posterior margin of fused 8th paratergites; posterior margin of proctiger weakly concave.

**Material examined:**

Holotype female, Burma, Distant coll., "type" at BMNH, London

**Comparative note:**

*P. typicus* could easily be separated from *P. chinensis* in having much longer body measuring 13.0mm and of dark brown colour in contrast to much shorter body measuring 9.0-10.5mm and body light coloured in *P. chinensis.*

## DISCUSSION

*Praetextatus* species have smooth fore femora, which are quite uncommon in myrocheine species but are encounterd in most of the caystrine taxa as illustrated by Ahmad and Afzal (1979) and Ahmad and Kamaluddin (1989). Ahmad and Afzal (1989) have shown that in myrocheines, the metathoracic scent auricle and evaporative area are either entirely absent or if a short auricle is present either the evaporative area is absent or poorly developed but in caystrines not only the scent auricle but the evaporatoria are also well developed. In *Praetextatus* and *Valescus* the scent auricle is some what reduced which appear their synapomorphy. Similarly the ninth paratergites are also usually well developed in caystrines and pass beyond the posterior margins of fused eighth paratergites. In the *Praetextatus* species these distinctly pass beyond posterior margin of eighth although not quite as much as those in the species of *Hippotiscus* and *Valescus* which was considerd reduction and therefore autapomorphy of *Praetextatus* species by Ahmad and Kamaluddin (1989). In primitive Pentatomoidea as in most of the lower Pentatomoidea mesosternum is sulcate as also in sciocorines and myrocheines which Ahmad *et al*. (1996) have also considered their sympleisomorphy. In most of the caystrines the mesosternum is carinate which was considered by Ahmad and Kamaluddin (1989) the synapomorphy of caystrines. In *Praetextatus* and *Valescus* the mesosternum is furrowed which appears further derived.These characters not only distinctly relate *Praetextatus* species with other caystrines but also group *Hippotiscus, Praetextatus* and *Valescus*. Among the species of *P. chinensis* appears more advanced in having small body size (9.0-10.5mm in contrast to 13.0mm), much elongated apical lobe of scutellum with sub acute apex and connexiva more exposed laterad. These characters distinctly appear derived and therefore apomorphic. Rider *et al*. (2002) has given complete distribution of the two species of *Praetextatus* which shows *P. typicus* much more widely distributed in Burma and in Taiwan but *P. chinensis* appears endemic to China which also supports the above conclusion.

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