

**REDESCRIPTION OF SQUASH BUG GONOCERINE GENUS *BRUNSELLIUS* DISTANT ALONGWITH ITS TYPE SPECIES *B.SMECTICUS* DISTANT (HEMIPTERA :COREIDAE) WITH REFERENCE TO METATHORACIC SCENT AURICLES AND GENITALIA, KEY TO ITS KNOWN SPECIES AND THEIR RELATIONSHIPS.**

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**ABSTRACT**

The Gonocerine squash bug genus *Brunsellius* Distant alongwith its type species *B.smecticus* Distant is redescribed with special reference to its unknown characters i.e. metaathoracic scent auricles and genitalia, a key is given to its known species and in the light of the above characters the relationships of the included taxa are also briefly discussed.

**Key words:** Heteroptera, Coreinae, *Brunsellius smecticus*, *B.elongatus*, description, key, relationships.

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**INTRODUCTION**

Distant (1902) described his new genus *Brunsellius* to accommodate his earlier (1901) described new species *Homoeocerus smecticus* mostly on the basis of colours and measurements and this became the type species by monotypy. Distant (1918) newly described under his above genus another species *B.elongatus* but again on the basis of external features. The characters of their metathoracic scent auricles and genitalia remained unknown. Similarly no key existed in the literature to separate the above species. To fill these gaps the present work was carried out. In the light of the above characters and their zoogeography, the relationships of the included taxa are also briefly discussed.

**MATERIALS AND METHODS**

The male holotype of *B.smecticus* was examined during the visit of the first author to natural History Museum London (BMNH) in June-July, 2005 by the courtesy of Mr. Mick Webb incharge Hemipter section of department of Entomology of that Museum. For the description, measurements and for the illustrations and for the dissection of the male genitalia the techniques of Ahmad and McPherson (1990 and 1998) and Ahmad *et al.* (2000) were followed.

**RESULTS**

***Brunsellius* Distant  
*Brunsellius* Distant 1902: 391; 1918: 157**

Head projecting in front of the antenniferous tubercles; antennae with the first and fourth segments incrassated, first, second and third segments, almost subequal in length, fourth shortest; labium passing beyond the intermediate coxae with first segment about reaching base of head; Pronotum with lateral margins moderately produced and spinous, metathoracic scent auricle ovate, prominent, directed anteriorly, limited to less than one third distance of evaporatoria, abdominal spiracles much nearer to the lateral than to the apical margin and much close to lateral margins and about equidistance to apical and basal margins; posterior margin of abdomen some what truncate, marginally exposed.

**Male genitalia:**

Pygophore ventrally convex, posteriorly depressed.

**Comparative note:**

It is most closely related to *Plinachtus* Stal, in having head distinctly produced in front of antenniferous tubercle but can easily be separated from that taxon in having apical antennal segment distinctly shorter than third.

**Key to the species of *Brunsellius***

1. Body shorter than that and wider than that in *elongatus* (i.e. 13.0 mm x 4.0 mm), with head, pronotum, scutellum, corium and membrane body beneath and legs ochraceous, coarsely and darkly punctuate, pronotum with a central pale levigate line with extreme margins and angles piceous, antennae fuscous with apical segment luteous, abdomen with a series of black segmental spots on each lateral area -----*smecticus*.
- ---Body longer than that and narrower than that in *smecticus* (i.e. 14.0mm x 3.50 mm in length), with head, pronotum, scutellum and corium pale reddish ochraceous with membrane pale bronzy-brown, body beneath and legs pale ochraceous, more or less coarsely punctuate, pronotum without a central pale, levigate line, with extreme margins and angles not as above, antennae pale carmine red, abdomen with a sublateral series of small black segmental spots on each side.-----*elongatus*

***Brunsellius smecticus* Distant  
(Fig. 1)**

*Homeocerus smecticus* 1901 : 392; *Brunsellius smecticus* Distant: 1902: 391-392.

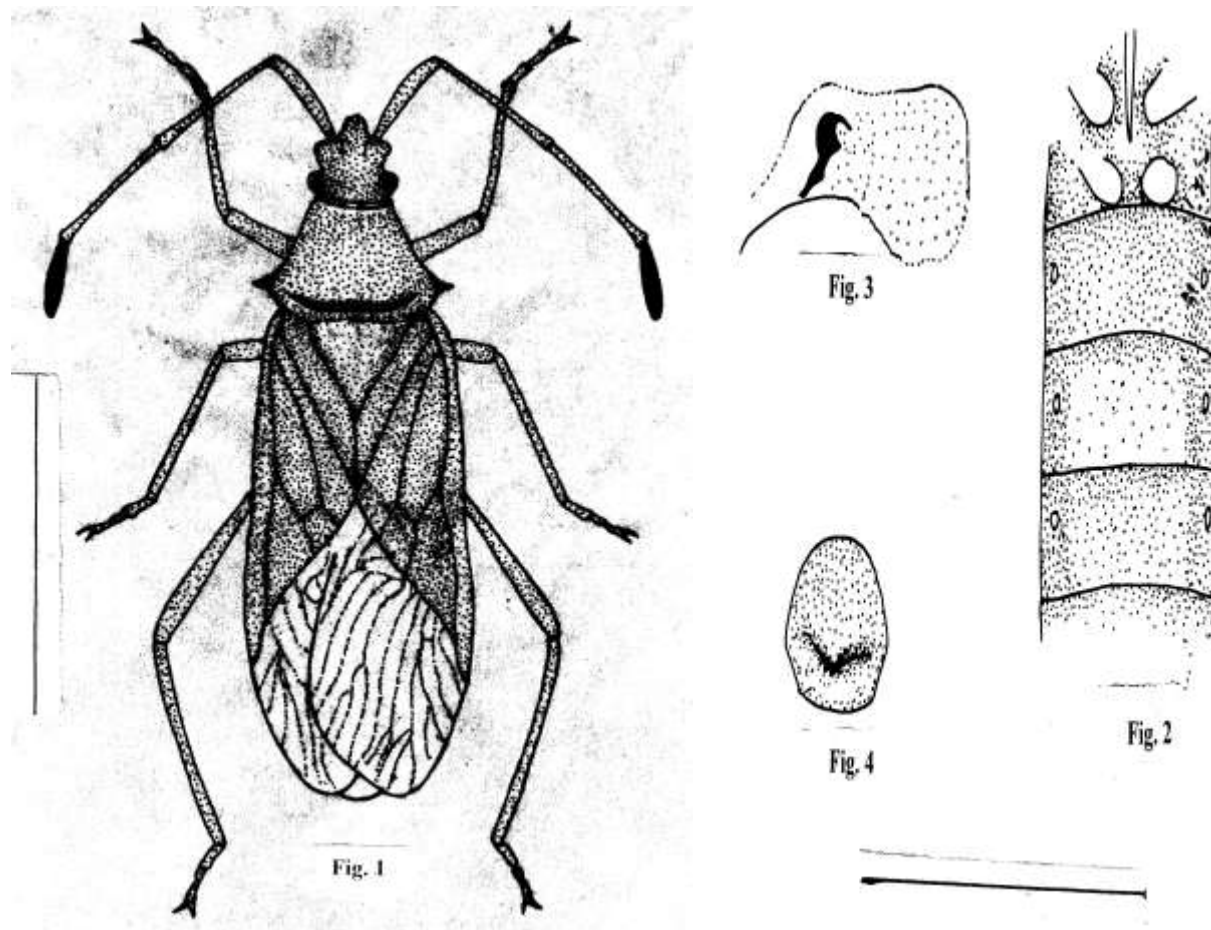


Fig. 1-4, *Brunsellius smecticus* ; 1. Dorsal view diagram of male; 2. Metathoracic scent auricle, ventral view; 3. Meso and metasternum with coxae showing the labium reaching; 4. Pygophore ventral view.

**Colouration:**

Head, pronotum, Scutellum, Corium, membrane, body beneath and legs ochraceous; antennae fuscous with apical segment luteous; pronotum with a central pale levigate line with extreme margins and angles piceous; abdomen with a series of black segmental spots on each lateral area; coarsely and darkly punctuate.

**Head:**

Head distinctly produced in front of antenniferous tubercles, antecular distance larger than remainder of head, antecular distance 0.9, length remainder of head 0.6; width of head 1.8; fourth antennal segment much shorter than the basal antennal segment, latter and fourth segments moderately incrassated, latter distinctly shorter than the third; first second and third segments subequal in length; length of antennal segment I 1.8, II 1.7, III 1.75, IV 1.4, antennal formula 1=2=3<4; labium passing beyond intermediate coxae (**Fig. 2**); with third segment shorter than fourth.

**Thorax and Abdomen:**

Pronotum much broader than long and distinctly longer than head length, length of pronotum 2.2, width 3.5, lateral angles of scutellum 1.8, width 1.6; distance base scutellum apex 3.25; apex clavus-apex corium 2.0; apex scutellum-apex abdomen including membrane 7.21; metathoracic scent auricle round (**Fig. 3**) ear-like with prominent, thick borders; abdomen elongate and narrow, connexiva without prominent angles and sides concealed by the hemelytra, posteriorly marginally uncovered by the membrane of hemelytra. Total length 3.0 mm.

**Male genitalia:**

Pygophore round, Ventroposterior depression prominently marked, ventroposterior margin convexly round. (**Fig. 4**)

Material examined: Male Holotype, Burma: Ruby mines, leg Doherty, Distant coll., "type" at BMNH, London.

**Comparative note:**

*Brunsellius smecticus* can easily be separated from *B. elongatus* in having shorter body length, i.e. 13.0 mm as compared to wider maximum width of pronotum (between humeral angles) 4.0mm in contrast to longer body length i.e. 14.0 mm with narrower maximum width of pronotum (between humeral angles ) 3.50 mm in *B. elongatus* Distant.

**DISCUSSION**

*Brunsellius* belongs to the tribe Gonocerini Stal with apomorphy of location of abdominal spiracles much nearer to the lateral than to the apical margin of the segment. It appears much closer to the genus *Plinactus* Stål, and much distant to the genera *Cletomorpha* Mayer and *Cletus* Stal in having the apomorphy of head distinctly produced in front of antenniferous tubercles (**Fig. 1**) *Brunsellius* appears more advanced than *Plinactus* in the apomorphies of abdominal spiracles not only nearer but much close to the lateral margins and fourth antennal segment shorter than the third. Its incrassated basal and apical segments also support the above conclusion and speak of its another autapomorphy. *B. smecticus* appears more advanced than *B. elongatus* in having the apomorphy of shorter body length (13.0 mm) and wider body width between the humeral angles (4.00 mm) than in *B. elongatus* having longer body length (14.0 mm) and narrower body width between humeral angles (3.50 mm).

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