

DESCRIPTION OF HITHERTO UNKNOWN MALES OF THREE SPECIES OF  
SCOLYTID BEETLES (SCOLYTIDAE : COLEOPTERA) FROM INDIA

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ABSTRACT

Hitherto unknown males of three species of scolytid beetles namely, *Xyleborus concinnus* Beeson from Nagrakata, *Microperus mus* (Eggers) from Samsing, North Bengal and Sikkim and *Xyleboricus subspinosus* (Eggers) from Lepchajagat, all from North Bengal and Sikkim, have been described here for the first time. The first species, so far only known from Java and Burma is also recorded for the first time from India occurring in North Bengal. Further, the species *Xyleborus mus* Eggers and *Xyleborus subspinosus* Eggers have been transferred to the genera *Microperus* Wood and *Xyleboricus* Reitter respectively, according to the new concept of generic classification of the group.

(*Key words* : taxonomy, morphology of undescribed males from North-east Himalaya, India.)

Running Title : Males of Indian scolytid beetles

INTRODUCTION

The members of the family Scolytidae, popularly known as the pin-hole borers, are of considerable economic importance, since they cause damage to dead and dying trees in the forest stand, felled logs in the extraction centres, timbers in storage and wood in human use. The majority of the Indian known species, particularly belonging

to the advanced genera under the tribe Xyleborini, refer to females only, since the males are in general rarely represented in the collection. Such males, when available unassociated with females, are very difficult to recognise due to their great morphological variations as compared to those of the females.

However, while studying the scolytid beetles of the eastern India, some unknown males of three species have been discovered from North Bengal, which have been described in details and illustrated for the first time in the present paper. Further, each species is provided with the synonymy distribution, taxonomic remarks, etc.

## DESCRIPTION

1. *Microperus mus* (Eggers)

*Xyleborus mus* Eggers, H. 1930. *Indian Forest Rec.*, 14 (9): 203-204, Female, Type-locality: Chittagong hill tracts, Bangladesh.

## (a) Material

(i) 1 male from Samsing (540 m.), Darjeeling District, West Bengal, C. F. C.

Beeson coll., 2. x, 1933, ex. "dead *Michelia champaca*"; (ii) 2 males from Fatak near Mamring, North Sikkim, 925 m. alt., R. K. Varshney COLL., 12.iv.1981, ex. "under soft wood of unknown broken branch".

## (b) Morphological characters.

Male (Fig. 1, 1-4): Body somewhat cylindrical, strongly narrowing posteriorly,

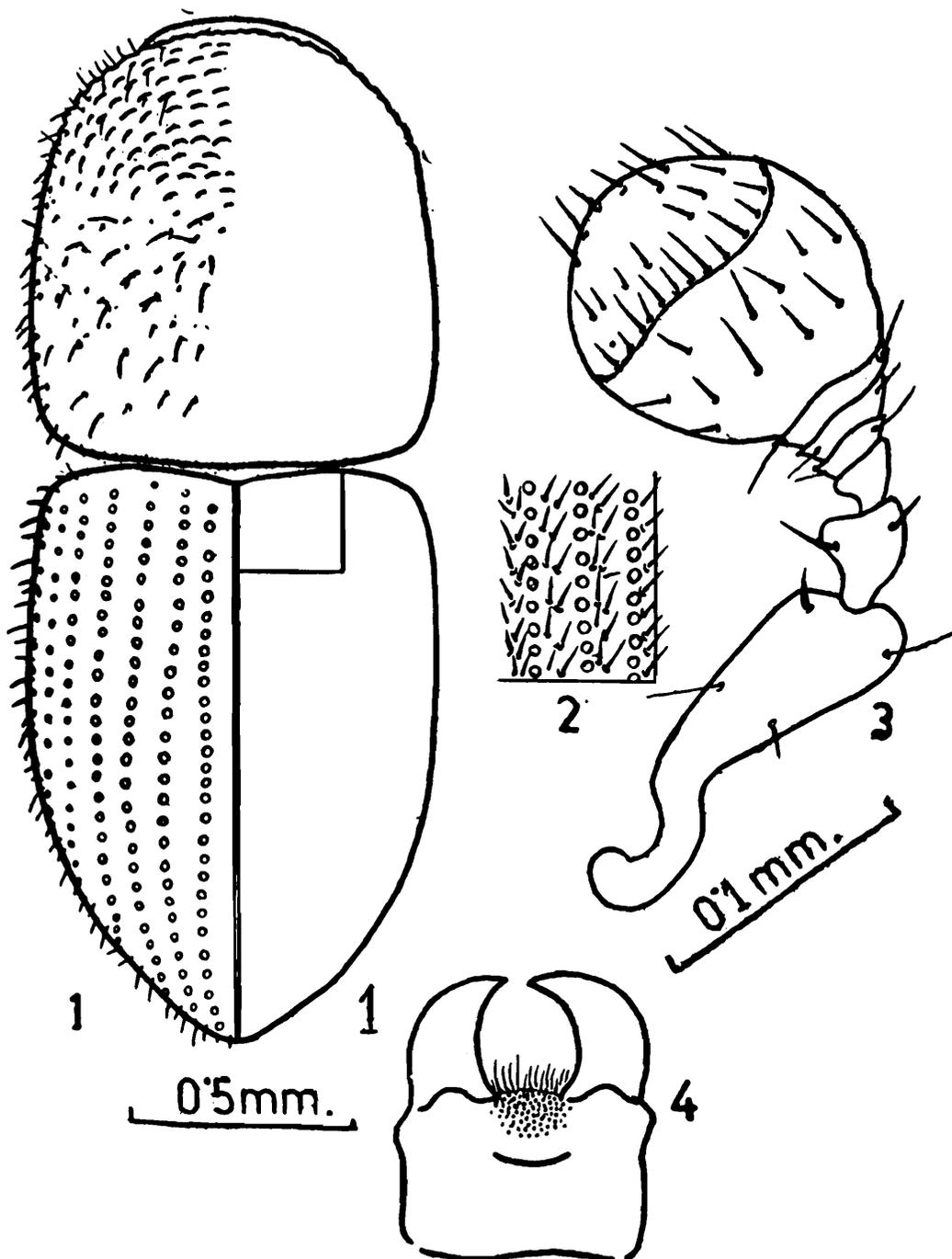


Fig. 1. 1-4. *Microperus mus* (Eggers) 1. Dorsal view; 2. enlarged portion of elytra; 3. Antennae; 4. anterior part of head with mandible.

yellowish brown to dark brown in colour, head and pronotum much darker, legs and antennae comparatively paler. Body length, 2.30 mm., 2.6 times as long as wide.

Head not concealed from above by pronotum ; frons convex, anterior part of frons and epistomal area arcuately depressed, either side of which on lateral margins with two rounded swellings amongst numerous long erect hairs, surface weakly roughened. Mandibles fairly large, sickle-shaped, inner margin without any dentition. Eyes small and reduced like a transverse strip. Antennae small, funicle with 5 segments, club comparatively large and obliquely truncate, anterior margin of basal corneous portion well marked, but not costate.

Pronotum slightly longer than broad, lateral sides substraight, very weakly diverging anteriorly and with broadly rounded apex, basal margin substraight ; in profile, dorsal surface very weakly convex without any distinct summit, very weak asperities at anterior one-third and rest of the surface opaque and granulate, with scattered punctures throughout ; a faint longitudinal narrow median depression on the posterior half ; fairly densely pubescent throughout, increasing towards basal margin at the middle.

Scutellum not visible.

Elytra 1.4 times as long as pronotum and 1.5 times as long as its width ; each elytral basal margin weakly outcurved, without any scutellar emargination in between ; elytral base narrower than pronotal base, lateral margins very weakly divergent posteriorly up to middle, thence narrowing posteriorly with somewhat pointed apex ; striae indistinct, marked with very minute shallow punctures ;

interstriae plano-convex, much wider than striae and marked with a row of fine pubescence, increasing in length towards apex.

Declivity gradual and declivital face weakly convex, with striae and interstriae as on disc. Procoxae contiguous ; metafemur with ventral margin acutely carinate ; protibia with 8 and mid- and hind-tibia with 9 socketed teeth.

(c) *Remarks* : The species has been originally described by Eggers (1930) as *Xyleborus mus* from Chittagong Hills, Bangladesh, based on only females. With the discovery of males, the species has been re-examined in the present study, for its generic assignment and is put under the genus *Microperus* Wood in having the following characters : Scutellum not visible, posterior face of antennal club with one suture, apical margin of corneous area well marked, but not costate, body rather slender. In all essential characters, all the males are very much identical, except the smaller size of the specimens from North Bengal than those from Sikkim.

## 2. *Xyleborinus subspinosus* (Eggers)

*Xyleborus subspinosus* Eggers, H. 1930. *Indian Forest Rec.*, 14 (9) : 27, Female, *Type-locality* : Shillong, Meghalaya, India.

### (a) *Material* :

- (i) 2 males from Lepchsjagat, Darjeeling District, West Bengal, *J. C. M. Gardner coll.*, 20. x. 1929 (R. R. D. 22, B. C. R. 474, Cage-206), ex. *Juglans regia*.
- (ii) 1 male from Lepchajagat, Darjeeling District, West Bengal, *J. C. M. Gardner coll.*, 20. xi. 1929 (R. R. D. 22, B. C. R. 466, Cage-451), ex. "*Symplocos theaefolia*".

(b) *Morphological characters :*

*Male* (Fig. 2, 1-2): Body long and cylindrical, yellowish brown in colour. Body length. 2.20 mm.

Head concealed from above, frons much narrower than pronotum, frons plano-convex, surface finely reticulate with large distinct irregular punctures and a few scattered hairs throughout. Eyes of moderate size, weakly emarginate. Antennae well developed, funicle with 5 segments, club obliquely truncate,

anterior margin of the corneous portion distinctly recurved.

Pronotum 1.1 times as long as broad, surface very shiny, basal margin substraight with obtuse postero-lateral angles; lateral sides substraight, very weakly divergent anteriorly with broadly rounded apex; in profile, very weakly convex, anterior one-third with granule-like weak asperities and rest of the posterior surface with small sparse punctures, with short and long erect hairs mostly on anterior third and on sides.

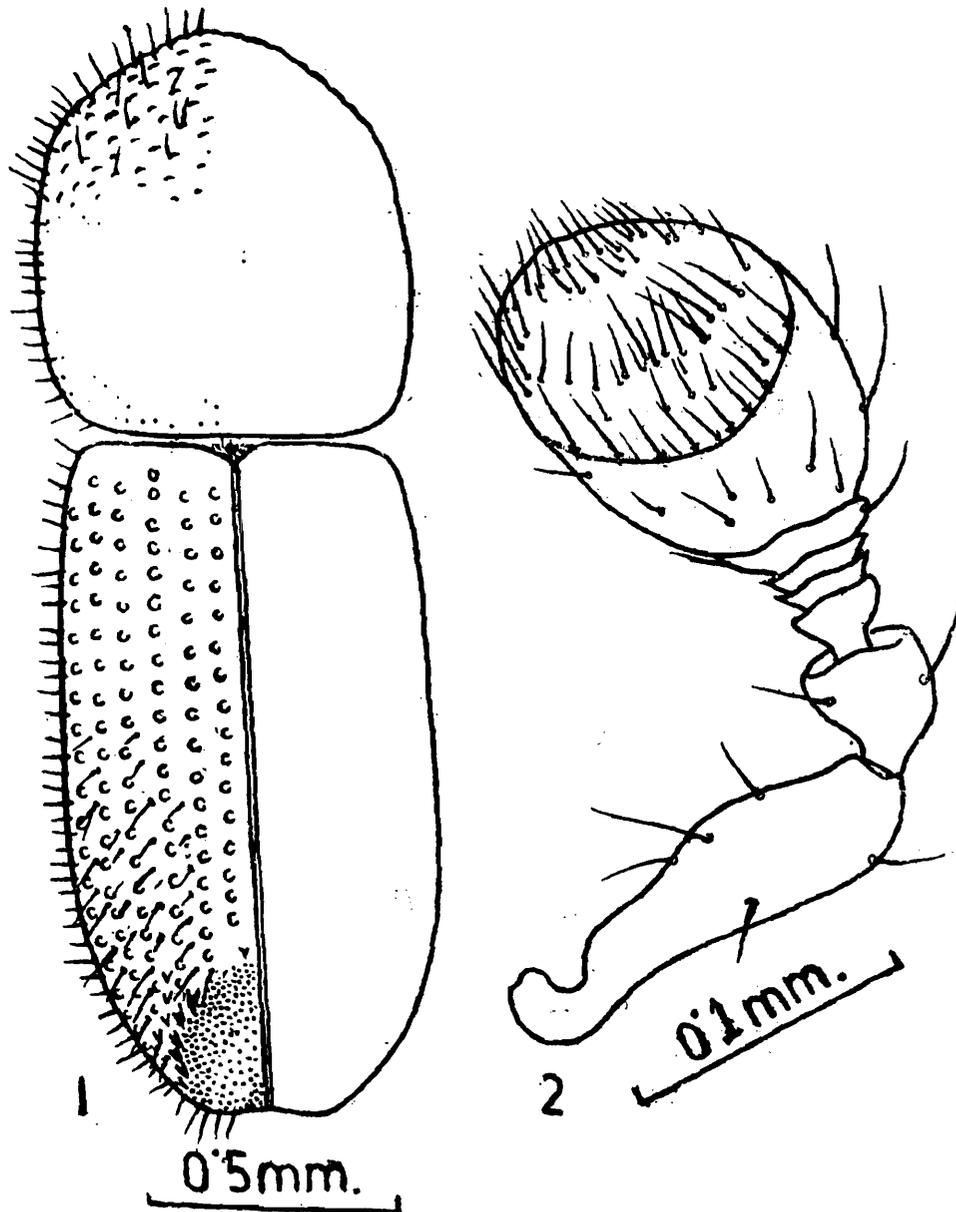


Fig. 2. 1-2. *Xyleborinus subspinosus* (Eggers). 1. Dorsal view; 2. Antennae.

Scutellum tubercle-like, raised beyond the level of elytra, scutellar space with close hairs.

Elytra 1.6 times as long as pronotum and 1.8 times as long as its width; basal margin with scutellar emargination, otherwise substraight; sides subparallel up to posterior three-fourths, whence converging posteriorly with narrowly rounded apex, sometimes appearing somewhat weakly emarginate in dorsal view; striae with uniseriate row of indistinct and shallow punctures, interstriae slightly wider than striae, smooth, rather flat, with uniseriate row of long hairs.

Declivity steep, commencing slightly beyond the posterior one-fourth of elytra, striae and interstriae 1 and 2 comparatively much depressed with small hairs, both striae and interstriae 3 onwards weakly convex with long erect hairs, interstria 3 forming an excavital margin bearing 4 to 5 distinct tubercles almost in row, interstria 4 with three smaller tubercles, each sutural interstria with one smaller granule at commencement of declivity. Procoxae contiguous, protibiae with 7 and mid and hind-tibiae with 9 socketed teeth.

(c) *Remarks*: The species has originally been described on females only, as *Xyleborus subspinosus* by Eggers (1930) from Shillong, Meghalaya. Since then, it was unknown until the description of the males from North Bengal was made in the present paper. Following a detailed study, the species has been transferred here to the genus *Xyleborinus* Reitter on the basis of the characters, such as, tubercle-like scutellum surrounded by closely set of setae in the wide scutellar space, anterior margin of pronotum unarmed,

antennal club with posterior face unmarked by any suture, etc.

### 3. *Xyleborus concinnus* Beeson

*Xyleborus concinnus* Beeson, C. F. C. 1930. *Indian Forest Rec.*, 14 (10): 214, Female, *Type-locality*: Burma and Java, Indonesia.

#### (a) *Material*:

I male from Nagrakata, Jalpaiguri District, West Bengal, S. C. Das coll., ex., "dead stump of a tea plant".

#### (b) *Morphological characters*:

*Male*: (Fig. 3,1.): Body small and stout, pale yellow in colour, head and pronotum comparatively darker. Body length 1.60 mm.

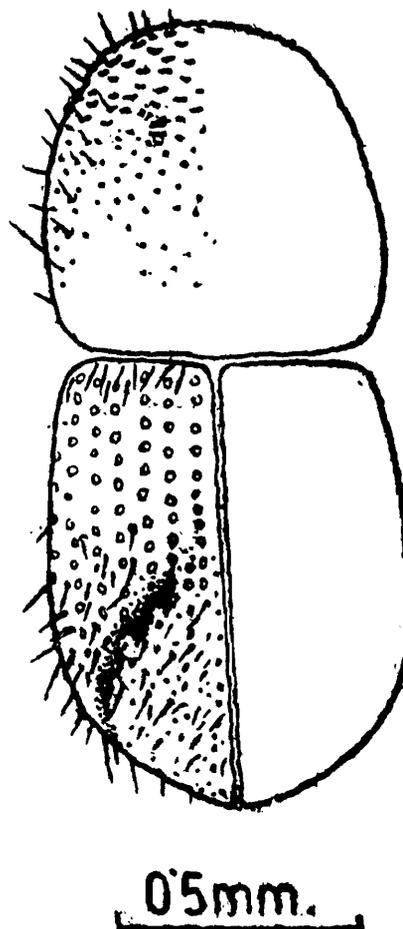


Fig. 3. *Xyleborus concinnus* Beeson, Dorsal view.

Head almost concealed from above; frons plano-convex, surface finely reticulate with a few scattered minute granules and

long erect hairs; epistomal margin with distinct fringe of hairs. Eyes of moderate size with weak emargination. Antennae well developed, funicle with 5 segments, club obliquely truncate, anterior margin of basal corneus poriton distinctly marked.

Pronotum subquadrate, slightly wider than long; basal margin substraight, sides weakly out-curved, postero-lateral angles broadly and antero-lateral angles comparatively narrowly rounded, with anterior margin substraight; in profile, dorsal margin very weakly convex, weak asperities on anterior one-third and a few extending laterally, posterior two-thirds with sparse fine granules on reticulate surface; postero-median area with comparatively dense pubescence, above which with a short longitudinal median depression.

Elytra 1.33 times as long as pronotum and 1.25 times as long as its width; each basal margin weakly outcurved at the level of 3rd and 4th interstriae and fringed with stout hairs; sides nearly straight and subparallel up to anterior two-thirds, thence gradually converging posteriorly up to feebly produced apex; disc with weakly impressed striae marked with indistinct punctures; interstriae weakly convex with uniseriate row of fine hairs.

Declivity gradual, commencing just before the middle; interstria 1 weakly ridged and widened towards apex with a few minute granules in row, interstriae 2 obsolete at commencement of declivity, 3, 4 and 5 acutely raised at summit of declivity and with a few uniseriate and minute granules more distinct on interstriae 3 and 4, whence becoming flat and obsolete but marked by indistinct

granules; declivital face with indistinct striae or interstriae, roughened with minute granules intermingled with fine hairs; postero-lateral margin without any distinct carina as in females, but broadly elevated. Procoxae slightly separated from each other.

(c) *Remarks*: The species has originally been described by Beeson, (1930) from Burma and Java based on females only. Since then the species has been unknown until now, when it has been collected from Nagrakata Tea Estate, North Bengal, infesting tea bushes in association with another tea infesting species *Xyleborus fornicatus* Eichhoff. However, the species *X. concinnus* Beeson seems to be a potentially important pest of tea plantations in the eastern India.

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