

TAXONOMIC REMARKS ON THE INDOMALAYAN *MICROTERMES*
WASMANN (ISOPTERA : TERMITIDAE : MACROTERTITINAE)

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ABSTRACT

Position in respect of the type of genus *Microtermes* and the Indomalayan species of the genus is discussed.

INTRODUCTION

The genus *Microtermes* (Isoptera : Termitidae : Macrotermitinae) was described by Wasmann (1902) who created it for the smaller forms of the genus *Termes* s. str. relegated to the section with *Termes incertus* Hagen for type. He included the species *Termes incertus* from Africa and "Ostindien", *Termes pallidus* Haviland from "Ostindien" and his new species *Microtermes globicola* from Sri Lanka, basing the genus on the characters of imago and soldier and also gave the differentiating characters of the soldiers by which these three species could be separated. We discuss here certain aspects of controversy in literature in respect of oriental *Microtermes*.

TAXONOMIC REMARKS

Type of Microtermes :

There is some confusion about the type of *Microtermes*. Chatterjee and Thakur (1964) mentioned *M. globicola* Wasmann as the type stating that "The generic name *Microtermes* was first introduced in literature by Wasmann

in 1902, who included under it only one species *Microtermes globicola* from Ceylon, without designating it as generitype. Later workers like Fuller (1922), Sjöstedt (1926), Snyder (1949) and Ahmad (1955) also did not designate any generitype. However by virtue of its being a monotypic species, it is designated as a generitype." This statement is not correct since Wasmann (1902, p. 115) clearly states : "Ich gründe diese Gattung auf einige sehr kleine, der Gattung *Termes* s. str. nahe stehende Arten, deren Typus *Termes incertus* Hag. ist." Evidently the original reference of Wasmann, (1902) was not available to Chatterjee and Thakur (1964). Bose (1984) has clarified the position and designated *Termes incertus* Hagen as the type of the genus.

The Oriental Microtermes :

Microtermes incertus (Hagen) occurs only in Mozambique and South Africa and not in "Ostindien" as mentioned by Wasmann (1902). Snyder (1949) records *globicola* Wasmann, *incertoides* Holmgren, *insperatus* Kemner, *jacobsoni* Holmgren, *macronotus* Holmgren, *mycophagus* (Desneux), *obesi* Holmgren,

pallidus Haviland, *sindensis* (Desneux), *tenuis* Oshima and *unicolor* Snyder from the Indomalayan region. Later, the species *dimorphus* Tsai & Chen from southern China and *imphalensis* Roonwal & Chhotani, *pakistanicus* Ahmad and *umsae* Roonwal & Chhotani, from the Indian region, were described, bringing the total to 15 species from the Indomalayan region. The species *umsae* and *pallidus* were treated as synonymous with *pakistanicus* by Krishna (1965). Thus, till the species *pakistanicus* was transferred to the genus *Ancistrotermes* by Akhtar and Hussain (1980),

13 species of *Microtermes* were known to occur from the Indomalayan region. Since the soldier of the species *dimorphus*, *insperatus* and *jacobsoni* have a subsquarish to rounded and sparsely hairy head and strongly incurved mandibles, which are the characters of genus *Ancistrotermes*, Chhotani (in press) stated that they probably belong to *Ancistrotermes*, thus keeping the remaining species, of which the soldier has an oval head and weakly incurved mandibles, in the genus *Microtermes*. The soldier of all the species in the genus *Microtermes* have an oval and densely hairy head,

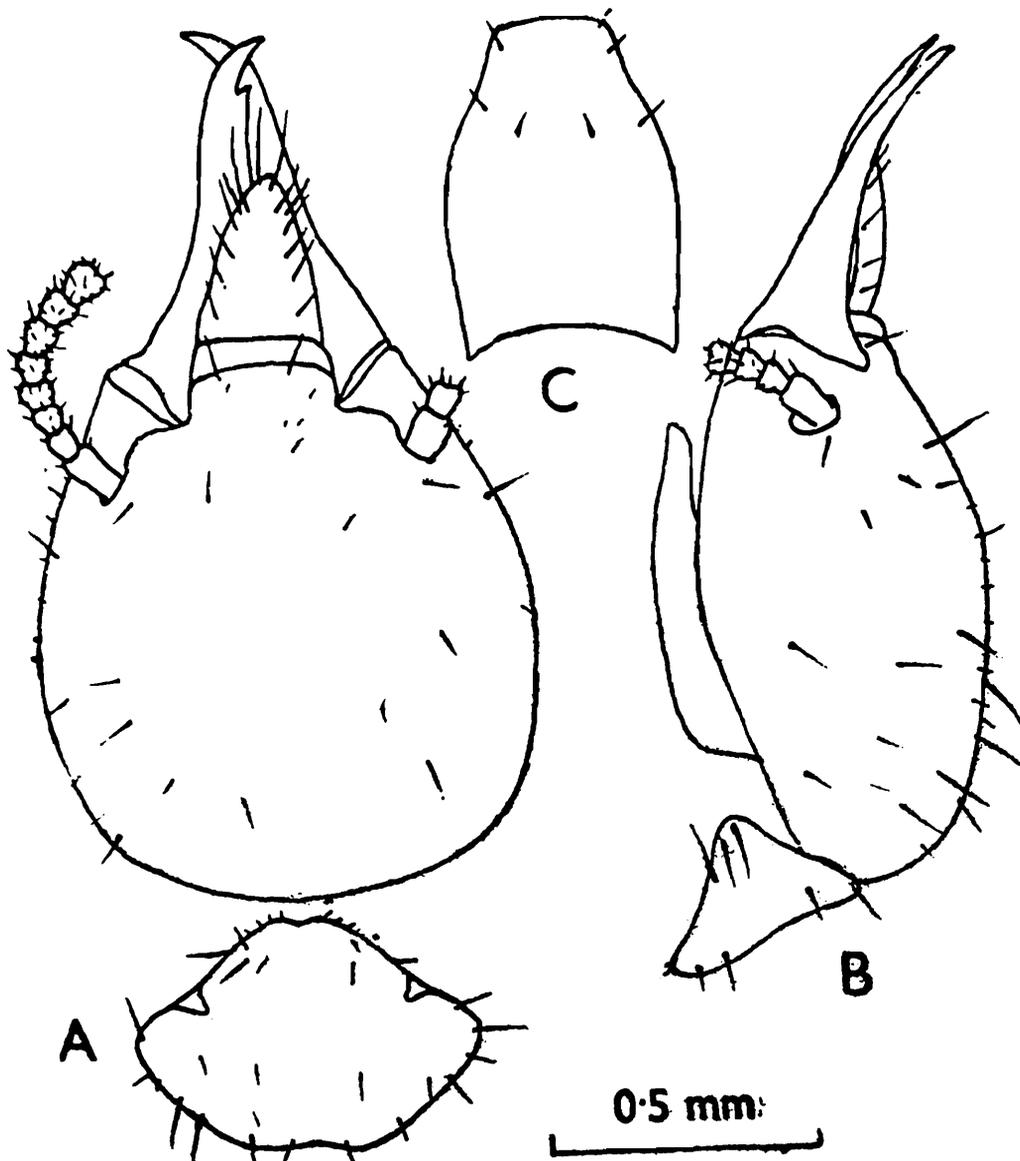


Fig. 1. *Odontotermes mycophagus* (Wasmann). Type Soldier. A, Head in dorsal view ; B, Head in side view ; C, Postmentum in ventral view.

delicate and weakly curved mandibles and either toothless or faintly toothed left mandible, except in *M. globicola* the soldier of which has a prominent tooth on left mandible, weakly hairy head and stronger mandibles.

Remarks on Microtermes globicola Wasmann :

Holmgren (1913) had some doubts about

the assignment of *globicola* to *Microtermes* but left the question open till the types of *globicola* could be examined. The present authors have examined the type soldier and are of the view that it belongs to the genus *Odontotermes*.

Bose (1975) described the species *Odontotermes roonwali* from soldier and worker from southern India and Thakur

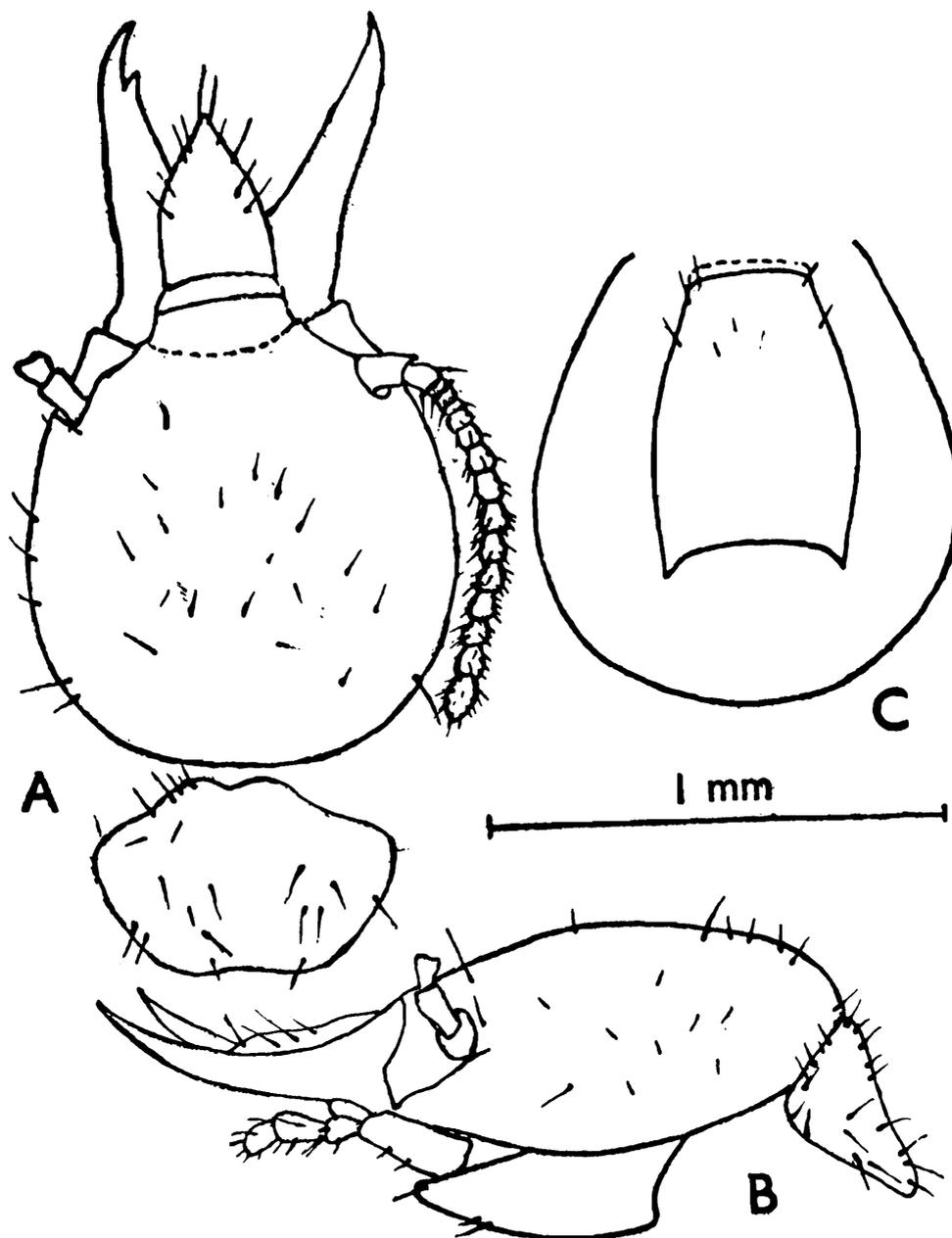


Fig. 2. *Odontotermes roonwali* Bose, Paratype Soldier. A, Head and pronotum, in dorsal view ; B, Ditto, side view ; C, Head, ventral view, showing postmentum (ex. Bose, 1975).

(1981) has treated it as a valid species. On comparison of type soldiers of *roonwali* and *globoicola* it is found that they cannot be differentiated from each other, as such *O. roonwali* Bose is treated as a synonym of *O. globoicola* (Wasmann). For comparison, the figures and measurements of the type soldier of *globoicola* and those given by Bose (1975) for *roonwali* are included here. However, a point which creates some doubts about this assignment is that Wasmann (1902) gave a photograph of the fungus comb of *globoicola* which is small and much like that of other *Microtermes*, but we feel that this fungus comb probably did not belong to *globoicola*.

Some soldier measurements (in mm) of types of *globoicola* and *roonwali* for comparison :

	<i>globoicola</i>	<i>roonwali</i>	
	Type	(ex Bose, 1975)	
	(=Holotype)	Holotype	Paratype
Length of head to base of mandibles	1.00	0.95	0.90-1.03
Max. width of head	0.90	0.89	0.83-0.95
Length of mandibles :			
a) Left	0.65	0.60	0.60-0.69
b) Right	0.65	0.60	0.60-0.65
Left mandibular tooth from tip	0.14	0.13	0.13-0.15
Width of pronotum	0.60	0.64	0.63-0.76

Chatterjee and Thakur (1964) state that holotype of *globoicola* was not selected by the author. But a pin holding a soldier and four workers on card bears a label marked "Type" in the Wasmann Collection at Naturhistorisches Museum, Maastricht (Nether-

lands). Boven (1969) has also mentioned 'Type soldier, labelled E. Wasmann'. The so called 'cotypes' examined by Chatterjee and Thakur and which are present in the Forest Research Institute, Dehra Dun, should, therefore, be treated as paratypes.

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REFERENCES

- AKHTER, M.S. and HUSSAIN, M. 1980. Enteric valve armature of some termite species belonging to the genera *Hypoterme*, *Microtermes* and *Ancistrotermes* (Isoptera). *Sociobiology*, 5 : 261-271.
- BOSE, G. 1975. Two new species of *Odontotermes* (Isoptera : Termitidae) from southern India. *Oriental Ins.*, 9(2) : 157-164.
- BOSE, G. 1984. Termite fauna of southern India. *Rec. zool. Surv. India, Occ. Paper*, No. 49 : ix+270+1.
- BOVEN, J. K. A. van 1969. The termite types of the Wasmann Collection in the Naturhistorisch Museum of Maastricht. *Publ. Natuurh. Genoot. Limburg*, 19 : 37-61.

- CHATTERJEE, P. N. and THAKUR, M. L. 1964. Revision of the termite genus *Microtermes* Wasmann (Isoptera : Termitidae : Macrotermitinae) from the Indian region. *Indian For. Rec.* (N.S.) *Ent.*, **10**(11) : 219-260.
- HOLMGREN, N. 1913. Termitenstudien 4. Versuch einer systematischen Monographie der Termiten der orientalischen Region. *K. svenska Vetensk-Akad. Handl.*, **50**(2) : 1-276, 8 pls.
- KRISHNA, K. 1965. Termites (Isoptera) of Burma. *Am. Mus. Novit.*, No. 2210 : 1-34.
- SNYDER, T. E. 1949. Catalog of termites (Isoptera) of the world. *Smithson. misc. Collns*, **112** : 1-490.
- THAKUR, M.L. 1981. Revision of the termite genus *Odontotermes* Holmgren (Isoptera : Termitidae : Macrotermitinae) from India. *Indian For Rec.*, (N.S.) *Ent.*, **14**(2) : vi + 1-183.
- WASMANN, E. 1902. Termiten, Termitophilen und Myrmekophilen, Gessammelt auf Ceylon von Dr. W. Horn 1899, mit anderm ostindischen Material bearbeitet. *Zool. Jb.*, **17**(1) : 99-164.

