

TERMITES OF MANIPUR, INDIA, WITH NEW RECORDS (INSECTA : ISOPTERA)

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INTRODUCTION

Roonwal and Chhotani (1962) described and recorded only two termite species from Manipur state of eastern India, viz. *Odontotermes horni* (Wasmann) and *Microtermes imphalensis* Roonwal and Chhotani. The present study, based on surveys during March, 1974, and January, 1976, reveals the existence of nine more species, including one species hitherto unknown from India. These are reported here. Many species have common distribution with Meghalaya (Lahiri *et al.*, 1977).

SYSTEMATIC ACCOUNT

(*denotes new record from Manipur)

Abbreviations used in the text : I. B., Inspection Bungalow ; S, Soldier ; S m, Soldier major ; S min, Soldier minor ; W, Worker.

KEY TO GENERA (*Soldier caste*)

- | | | |
|---------|---|----------------------------------|
| 1 (4) | Mandibles asymmetrical | |
| 2 (3) | Tip of left mandible hooked. | <i>Procapritermes</i> Holmgren |
| 3 (2) | Tip of left mandible not hooked. | <i>Pericapritermes</i> Silvestri |
| 4 (1) | Mandibles symmetrical. | |
| 5 (6) | Mandibles with inner margin serrate. | <i>Microcerotermes</i> Silvestri |
| 6 (5) | Mandibles with inner margin not serrate. | |
| 7 (8) | Labrum with a hyaline tip. Soldier caste dimorphic. | <i>Macrotermes</i> Holmgren |
| 8 (7) | Labrum without a hyaline tip. Soldier caste monomorphic. | |
| 9 (10) | Mandibles thin and delicate, concave basally. | <i>Microtermes</i> Wasmann |
| 10 (9) | Mandibles thick and stout, not concave basally. | |
| 11 (12) | Left mandible with a prominent tooth on inner margin. Basal half of mandible smooth. | <i>Odontotermes</i> Holmgren |
| 12 (11) | Left mandible without a tooth. Basal half of mandible crenulate. | <i>Hypotermes</i> Holmgren |

Family TERMITIDAE

Subfamily AMITERMITINAE

***1. Microcerotermes crassus Snyder**

1934. *Microcerotermes crassus* Snyder, *Indian For. Rec.*, **20** (11) : 22.

Material : Two lots, Moreh Reserve forest, ca 8 km. from Moreh I. B., 20. i. 76, ex. "logs of wood" (i) 7 S, 11 W (ii) 4 S, 20 W, Coll. A.K. Ghosh.

Distribution : India : Manipur (Moreh Reserve forest, Eastern Manipur). Burma (Earlier record is from Burma).

Remarks : This is the first record from India.

Subfamily TERMITINAE

***2. Pericapritermes durga (Roonwal and Chhotani)**

Capritermes latignathus durga Roonwal and Chhotani, 1962, p. 325.

Pericapritermes durga (Roonwal and Chhotani) : Roonwal and Chhotani, 1977, p. 60.

Material : Two lots, Moreh Reserve forest, ca 8 km. from Moreh I. B., ex. "logs of wood" (i) 7 S, 96 W, 20. i. 76 (ii) 3 S, 17 W, 21. i. 76, Coll. A. K. Ghosh.

Distribution : India : Manipur (Moreh Reserve forest, Eastern Manipur), Meghalaya, Bhutan.

***3. Procapritermes tikadari (Roonwal and Chhotani)**

Pseudocapritermes tikadari Roonwal and Chhotani, 1962, p. 319.

Procapritermes tikadari (Roonwal and Chhotani) : Krishna, 1968, p. 304.

Material : One lot comprising 2 S, 15 W, ca 2 km. from Kongpokpi I. B., 16. i. 76, ex. "logs of wood", Coll. A. K. Ghosh.

Distribution : India ; Manipur (near Kongpokpi I. B., Central Manipur) ; Meghalaya.

Subfamily MACROTERMITINAE

***4. Macrotermes annandalei Silvestri**

1914. *Macrotermes annandalei* Silvestri, *Rec. Indian Mus.*, **8** : 427.

Material : One lot comprising 2' S m, 2 S min, 15 W, Moreh Reserve forest, ca 8 km. from Moreh I. B., 20. i. 76, ex. "under cowdung" ; Coll. A. K. Ghosh.

Distribution : India : Manipur (Moreh Reserve forest, Eastern Manipur) ; Meghalaya. Burma, Thailand, South China.

KEY TO THE SPECIES OF *Odontotermes* (Soldier caste)

- | | | |
|-------|---|---|
| 1 (2) | Smaller species (head-length to base of mandibles less than 1.60 mm). Tooth of left mandible placed in distal third. | <i>O. obesus</i> (Rambur) |
| 2 (1) | Larger species (head-length to base of mandibles more than 1.60 mm). Tooth of left mandible placed in basal half. | |
| 3 (4) | Tooth of left mandible situated in basal third. | <i>O. parvidens</i> Holmgren & Holmgren |
| 4 (3) | Tooth of left mandible situated near middle. | |
| 5 (6) | Head rectangular, not converging in front. | <i>O. horni</i> (Wasmann) |
| 6 (5) | Head suboval, converging in front. | <i>O. feae</i> (Wasmann) |

***5. *Odontotermes feae* (Wasmann)**

1896. *Termes feae* Wasmann, *Ann. Mus. Stor. nat. Genova*, (2), **16** : 625.

Odontotermes feae (Wasmann) : Roonwal and Chhotani, 1962, p. 337.

Material : Three lots, ex. "logs of wood" (i) 1 S, 9 W, ca 2 km. from Kongpokpi I. B., 16. i. 76 (ii) 7 S, 18 W, Khuigairok Reserve forest, ca 3 km. from Moreh I. B., 18. i. 76 (iii) 5 S, 8 W, Moreh Reserve forest, near Moreh I. B., 19. i. 76, Coll. *A. K. Ghosh*.

Distribution : India : Manipur (near Kongpokpi, Khuigairok and Moreh Reserve, Central and Eastern Manipur). It is a widely distributed species in India, Bangladesh, Bhutan and Burma.

6. *Odontotermes horni* (Wasmann)

1902. *Termes horni* Wasmann, *Zool. Jahrb: (Syst.)*, **17** (1) : 111.

Odontotermes horni (Wasmann) : Roonwal and Chhotani, 1962, p. 349.

Material : Three lots, ex. "logs of wood" (i) 3 S, 10 W, ca 2 km. south of Singnat I. B., 25. iii. 74 (ii) 14 S, 9 W, ca 7 km. south of Singnat I. B., 27. iii. 74 (iii) 15 S, 50 W, ca 5 km. north of Singnat I. B., 28. iii. 74, Coll. *K. R. Rao*.

Distribution : India : Manipur (around Singnat I. B., Imphal and Kanglatongbi, Central and Southern Manipur). It is a widely distributed species in India and Sri Lanka.

Remarks : Reported earlier from Manipur by Roonwal (1949) and Roonwal and Chhotani (1962) ; recorded here from further south.

***7. *Odontotermes obesus* (Rambur)**

1842. *Termes obesus* Rambur, *Hist. nat. Insectes, Neuropteres* : 304.

Odontotermes obesus (Rambur) : Krishna, 1965, p. 24.

Material : Two lots, Moreh Reserve forest, ex. "logs of wood" (i) 4 S, 12 W, near Moreh I. B., 19. i. 76 (ii) 2 S, 5 W, ca 8 km. from Moreh I. B., 20. i. 76, Coll. A. K. Ghosh.

Distribution : India ; Manipur (Moreh Reserve forest, Eastern Manipur) ; Meghalaya, Assam. Bhutan.

*8. *Odontotermes parvidens* Holmgren and Holmgren

1917. *Odontotermes parvidens* Holmgren, K and Holmgren, N, *Mem. Dept. Agric. (Ent.)*, 5 : 154.

Material : Two lots, ex. "logs of wood" (i) 7 S, 2 W, ca 7 km. south of Singnat, 27. iii. 74, Coll. K. R. Rao, (ii) 2 S, 5 W, Moreh Reserve forest, near Moreh I. B., 20. i. 76, Coll. A. K. Ghosh.

Distribution : India : Manipur (near Singnat and Moreh Reserve forest, Southern and Eastern Manipur). It is a widely distributed species in India, Pakistan, Bangladesh and Bhutan.

KEY TO SPECIES OF *Hypotermes* (Soldier caste)

- | | | | |
|-------|---|--------|--|
| 1 (2) | Larger species (head length to base of mandibles more than 1.30 mm). | | <i>H. nongpriangi</i> Roonwal and Sensarma |
| 2 (1) | Smaller species (head length to base of mandibles less than 1.30 mm). | | <i>H. obscuriceps</i> (Wasmann) |

*9. *Hypotermes nongpriangi* Roonwal and Sen-Sarma

1956. *Hypotermes nongpriangi*, Roonwal and Sen-Sarma, *Indian J. agric. Sci.*, 26 (1) : 21.

Material : Three lots, ex. "from cowdung" (i) 2 S, 42 W, Kongpokpi I. B. compound, 13. i. 76 (ii) 2 S, 5 W, ca 13 km. from Kongpokpi towards Imphal, on road side, 14. i. 76 (iii) 3 S, 16 W, Moreh Reserve forest, ca 8 km. from Moreh I. B., 20. i. 76, Coll. A. K. Ghosh.

Distribution : India : Manipur (near Kongpokpi, Central Manipur) ; Meghalaya.

*10. *Hypotermes obscuriceps* (Wasmann)

1902. *Termes obscuriceps* Wasmann, *Zool Jahrb. (Syst.)* 17 : 113.

1962. *Hypotermes obscuriceps* (Wasmann) : Roonwal and Chhotani, p. 360.

Material : Two lots, ex. "logs of wood", (i) 15 S, 50 W, ca 5 km. north of Singnat, 28. iii. 74, Coll. K. R. Rao. (ii) 5 S, 10 W, Moreh Reserve forest, ca 8 km. from Moreh I. B., 20. i. 76, Coll. A. K. Ghosh.

Distribution : India : Manipur (around Singnat and Moreh Reserve forest, Southern and Eastern Manipur); West Bengal, Meghalaya, Sri Lanka.

11. *Microtermes imphalensis* Roonwal and Chhotani

Microtermes imphalensis Roonwal and Chhotani, 1962, p. 364.

Distribution : India : Manipur (Imphal valley, Central Manipur).

Remarks : Known only from imago ; was described by Roonwal and Chhotani (1962) from Manipur.

SUMMARY

Microcerotermes crassus Snyder has been recorded for the first time from India. Eight other species, are first records from Manipur, viz. *Pericepritermes durga* (Roonwal and Chhotani), *Procepritermes tikadari* (Roonwal and Chhotani) *Macrotermes annandalei* Silvestri, *Odontotermes feae* (Wasmann), *Odontotermes obesus* (Rambur), *Odontotermes parvidens* Holmgren and Holmgren, *Hypotermes nongpriangi* Roonwal and Sen Sarma and *Hypotermes obscuriceps* (Wasmann). Keys for identification of the genera and species are given.

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