

TERMITES FROM MADHYA PRADESH, INDIA, WITH NEW
DISTRIBUTIONAL RECORDS (INSECTA : ISOPTERA)

By

S. C. VERMA AND R. K. THAKUR

Zoological Survey of India, Northern Regional Station, Dehra Dun

INTRODUCTION

This report is based on the study of 74 vials of termites (Insecta : Isoptera) received from Central Regional Station, Zoological Survey of India, Jabalpur, collected by parties of Zoological Survey of India, from Madhya Pradesh, during the period 1968 to 1975. We are reporting here 18 species of termites of two families, Rhinotermitidae and Termitidae. The following 6 species of termites namely *Coptotermes kishori* Roonwal & Chhotani ; *Speculitermes goesswaldi* Roonwal & Chhotani ; *Microcerotermes sakesarensis* Ahmad ; *Odontotermes boveni* Thakur ; *Odontotermes wallonensis* (Wasmann) and *Trinervitermes nigrirostris* Mathur & Sen Sarma are recorded first time from Madhya Pradesh.

Measurements are given for those species which were not earlier reported from Madhya Pradesh.

The following are the abbreviations used in this paper : Dist., District ; Im., Imago ; S., Soldier ; Sev., Several ; Syn., Synonym ; Type-loc., Type-locality ; W., Worker.

SYSTEMATIC ACCOUNT

Family RHINOTERMITIDAE

Subfamily COPTOTERMITINAE

1. *Coptotermes kishori* Roonwal & Chhotani

1962. *Coptotermes kishori* Roonwal & Chhotani, *Indian Counc. Agric. Res. Ent. Monogr.* No. 2, : 57-61. S. & W. Type-loc. INDIA : West Bengal : Berhampur.

Material : A vial with 10 S. & 2W. Jabalpur, Devtal on Nagpur Road (Jabalpur Dist.) ; L. P. Dubey coll, ; 7. 12. 1973.

Measurements (in mm. of 1 S. from Jabalpur) : Total body length with mandibles 4.46 ; Head length with mandibles 2.02 ; Head length without mandibles 1.25 ; Max. width of head 1.03 ; Max. length of

mandibles 0.78 ; Min. (median) length of postmentum 0.67 ; Max. width of postmentum 0.39 ; Pronotum length 0.44, width 0.75 ; Antennal segments 14.

Distributions : (i) *Previous records* : INDIA : West Bengal ; Assam ; Tripura ; Rajasthan. (ii) *Present record* : Madhya Pradesh : Jabalpur (Devtal on Nagpur Road).

Family TERMITIDAE

Subfamily AMITERMITINAE

2. *Speculitermes chadaensis* Mathur & Thapa

1964. *Speculitermes chadaensis* Mathur & Thapa, *Indian Forester*, Dehra Dun, **90** (8) : 514-516. W. *Type-loc.* : INDIA : Madhya Pradesh : Chada, Karanjia Forest Range.

Material : (i) Two vials with 20 W. ; 4 & 8 Km. E. from S. S. S. Club Shivpuri (Shivpuri Dist.) ; R. K. Singh coll. ; 13, 21. 9. 75.

Distributions : (i) *Previous record* ; INDIA : Madhya Pradesh : Chada. (ii) *Present record* : Madhya Pradesh : Shivpuri as above.

3. *Speculitermes cyclops cyclops* Wasmann

1902. *Speculitermes cyclops cyclops* Wasmann, *Zool. Jb. (Syst.) Jena*, **17** (1) : 160-162. Im., W. *Type-loc.* : Khandala near Bombay.

Material : (i) A vial with 5W., Budhaghat tank, Jabalpur ; V. V. Rao coll. ; 17. 9. 69. (ii) A vial with 6W. ; Ghat area on Nagpur Road, Jabalpur ; H. S. Sharma coll, 23. 6. 1970. (iii) A vial with 3 W. ; Jabalpur (Z. S. I. Office campus) ; H. Khajuria coll. ; 18. 8. 70. (iv) 3 vials with 13 W. ; Shivpuri (Shivpuri Dist.) ; R. K. Singh coll ; 13, 20. 9. 75.

Distributions : (i) *Previous records* : INDIA : Maharashtra ; Madhya Pradesh ; Uttar Pradesh ; Rajasthan ; Jammu and Kashmir ; Coorg. (ii) *Present records* : Madhya Pradesh : Jabalpur and vicinity (Jabalpur Dist.) and Shivpuri (Shivpuri Dist.).

4. *Speculitermes goesswaldi* Roonwal & Chhotani

1964. *Speculitermes goesswaldi* Roonwal & Chhotani, *Indian J. agric. Sci.* Delhi, **34** (2), pp. 126-130. W. *Type-loc.* : INDIA : Karnataka state : Dharwar.

Materials : (i) Two vials with 10 W. ; Jabalpur, on Nagpur Road near Bargi ; N. K. Sinha coll. ; 3, 11. 5. 1973. (ii) A vial with 5 W. ; Budhaghat, Jabalpur ; D. K. Ghosal coll. ; 20. 7. 1973.

Measurements (in mm. of 2W. from Jabalpur) : Total body length with mandibles 6.12-6.31 ; Head length with mandibles 1.75-1.83 ; without mandibles 1.08-1.16 ; Max. width of head 1.36 ; Pronotum length 0.42, width 0.86 ; Max. diameter of mid-dorsal spot 0.08 ; Antennal segments 14.

Distributions : (i) *Previous records* : INDIA : Karnataka state : Dharwar. (ii) *Present record* : Madhya Pradesh : Jabalpur and vicinity.

5. *Microcerotermes sakesarensis* Ahmad

1955. *Microcerotermes sakesarensis* Ahmad, *Biologia*, Lahore, 1 (2) : 247-248. S. & W.
Type-loc. : PAKISTAN : Sakesar (Sargodha Dist.).

Material : A vial with 1S. & 5W. ; 3 Km. from Mainpat FRH (Sarguja Dist.) ; *R. K. Singh* coll. ; 24. 1. 1975.

Measurements (in mm. of 1S. from Mainpat, Madhya Pradesh) : Total body length with mandibles 4.3 ; Head length with mandibles 2.4 ; without mandibles 1.53 ; Max. width of head 0.86 ; length of mandibles 0.89 ; Min. (median) length of postmentum 0.89 ; Max. width of postmentum 0.31 ; Pronotum length 0.28, Width 0.58 ; Antennal segments 13.

Distributions : (i) *Previous records* : INDIA : Rajasthan. PAKISTAN : Punjab ; N. W. F. P. (ii) *Present record* : INDIA : Madhya Pradesh : Mainpat (Sarguja Dist.).

Subfamily TERMITINAE

6. *Dicuspiditermes obtusus* (Silvestri)

1923. *Capritermes obtusus* Silvestri, *Rec. Indian Mus.*, Calcutta, 25 (2) : 229-231.
Type-loc. : INDIA : Orissa : Barkuda Island, Chilikalake.

Material : A vial with 5S. and 12W. ; 3 Km. from Mainpat FRH (Sarguja Dist.) ; *R. K. Singh* coll. ; 24.1.1975.

Distributions : (i) *Previous records* : INDIA : Orissa : Barkuda Island, Chilikalake. *Madhya Pradesh* : Kanha National Park. (ii) *Present record* : Madhya Pradesh : 3Km. from Mainpat FRH (Sarguja Dist.).

Subfamily MACROTERMITINAE

7. *Odontotermes assmuthi* Holmgren

1913. *Odontotermes (Odontotermes) assmuthi* Holmgren, *J. Bombay nat. His. Soc.*, Bombay, 22 (1) : 112-113. S. & W. ; *Type-loc.* : INDIA : Bombay (Borivilli Jungles).

Materials : Two vials with 2S. & 5W. ; Jabalpur (Madan Mahal & Z. S. I. Office campus) : *H. Khajuria* coll. ; 18.7.69 and 11.6.70.

Distributions : Previous records : INDIA : Jammu & Kashmir ; Himachal Pradesh ; Punjab ; Maharashtra ; Bihar : Uttar Pradesh ; Madhya Pradesh ; Tamil Nadu, Karnataka ; West Bengal. PAKISTAN : Hanges (Kohat Dist.) ; BANGLADESH : Dinajpur & Rajshahi (ii) *Present record* : Madhya Pradesh : Jabalpur.

8. *Odontotermes boveni* Thakur

In press. *Odontotermes boveni* Thakur, *Indian Forest Rec.*, Dehra Dun.

Material : A vial with sev. S. & W. ; 4 Km. W. from Konta Motor stand (Bastar Dist.) ; R. K. Singh coll. ; 19.1.1974.

Measurements (in mm. of 1S. from Konta, Bastar District) : Total body length with mandibles 4.32 ; Head length with mandibles 1.92, without mandibles 1.22 ; Max. width of head 1.16 ; Max. length of mandibles 0.72 , Tooth distance from tip 0.22 ; Min. (median) length of postmentum 0.53 ; Max. width of postmentum 0.75 ; Pronotum length 0.53, width 0.83 ; Antennal segments 16.

Distributions : (i) *Previous records* : INDIA : Uttar Pradesh : Garhwal : Gwaldam ; Jakhkandar, Syumpaitham, Kumaon Hills : Kandadhar Forest, Askot. (ii) *Present record* : Madhya Pradesh : 4 Km. W. from Konta motor stand (Bastar Dist.).

9. *Odontotermes feae* (Wasmann)

1896. *Termes feae* Wasmann, *Annali. Mus. civ. Stor. nat.* Giacomo Doria, (2) 16 (96) : 625-626. S. & W. *Type-loc.* BURMA : Carin Cheba.

Material : (i) A vial with 3S. & 5W. ; Sihora Rd., Garjtal (Jabalpur Dist.) ; H. Khajuria coll. ; 4.5.73. (ii) 2 vials with 4S. & Sev. W. ; Barhai nallah (4 Km. S. from Mainpat FRH) and Haratickeri village (8 Km. from Ambikapur (Sarguja Dist.) ; H. Khajuria coll. ; 3, 4.1.75.

Distributions : Widespread in INDIA ; BANGLA DESH ; NEPAL : BURMA and THAILAND. *Present record* : Madhya Pradesh : Garjtal (Jabalpur Dist.), Mainpat and Ambikapur (Sarguja Dist.).

10. *Odontotermes guptai* Roonwal & Bose

(*Synonym* : *O. lokanandii* Chatterjee & Thakur)

1962. *Odontotermes bellahunisensis guptai* Roonwal & Bose, *J. Bombay nat. Hist. Soc.* Bombay, 58 (3) : 588-593. S. & W. *Type-loc.* : INDIA : Rajasthan : Near Gudha village (Nagaur Dist.).

Material : (i) 3 vials with 4S. & 20W. ; Jabalpur (King garden, Paritnala, Tilwaraghat) ; V. S. Durve & V. V. Rao coll. ; 17. 12. 68, 25. 7. 69. & 6. 8. 69. (ii) A vial with 10S. & 5W. ; Khudera village

(Bastar Dist.); *R. K. Singh* coll.; 20. 1. 74. (ii) 2 vials with 7S. & 10 W.; Ambikapur & Bhanghgacha village (Sarguja Dist.). *H. Khajuria* coll.; 6, 7. 1. 75.

Distributions : (i) *Previous records* : INDIA ; Jammu & Kashmir ; Himachal Pradesh ; Uttar Pradesh ; Rajasthan ; Maharashtra ; Madhya Pradesh ; Orissa. BANGLADESH and PAKISTAN. (ii) *Present records* : Madhya Pradesh : Jabalpur & vicinity ; Khudera village (Bastar Dist.) ; Ambikapur and Bhanghgacha village (Sarguja District).

11. *Odontotermes gurdaspurensis* Holmgren & Holmgren

1917. *Odontotermes (Cyclotermes) obesus f. gurdaspurensis* Holmgren & Holmgren, *Mem. Dept. Agric. India (Ent.)* Calcutta, 5 (3) : 149-150. Im., S. & W. *Type-loc* : INDIA : Punjab : Gurdaspur.

Material : (i) A vial with 2S. & 10 W ; Kantangi village, *D. K. Ghosal* coll. ; 8. 8. 1969. (ii) Two vials with sev. S. & W. ; Konta Motor stand (Bastar Dist.) ; *R. K. Singh* coll. ; 20, 21. 1. 1974.

Distributions : (i) *Previous records* : INDIA : Jammu & Kashmir ; Himachal Pradesh ; Punjab ; Uttar Pradesh ; Madhya Pradesh ; Rajasthan. PAKISTAN : Punjab ; N. W. F. P. ; Baluchistan ; Lahore ; Jhelum ; Rawalpindi ; Islamabad ; Campbellpur ; Peshwar ; Kohat and Lovali. (ii) *Present records* : INDIA : Madhya Pradesh : Konta (Bastar Dist.) and Katongi village.

12. *Odontotermes microdentatus* Roonwal & Sen-Sarma

1960. *Odontotermes microdentatus* Roonwal & Sen-Sarma, *Indian Counc. Agric. Res. (Ent. Monogr, No. 1)* New Delhi, pp. 33-39. Im., S. & W. *Type-loc* : INDIA : Uttar Pradesh : Dehra Dun.

Material : A vial with 5S. & Sev. W. ; 1 Km. N. from Mainpat FRH (Sarguja Dist.) ; *R. K. Singh* coll. ; 30. 1. 1975.

Distributions : (i) *Previous records* : INDIA : Uttar Pradesh ; Himachal Pradesh ; Punjab ; Madhya Pradesh ; Bihar ; Karnataka and Andhra Pradesh. (ii) *Present record* : INDIA : Madhya Pradesh : Mainpat (Sarguja Dist.).

13. *Odontotermes obesus* (Rambur)

1842. *Termes obesus* Rambur, *Hist. Natur. Insectes Ne'urop'te' res.* Paris, p. 304, Im. *Type-loc.* : INDIA : Bombay.

Material : (i) A vial with sev. S. & W. ; Jabalpur (Pali Pather on Gwarighat Rd.) ; *H. Khajuria* coll. ; 23. 4. 66. (ii) Two vials with 2S. & 10 W. ; Jabalpur (Sita Pahad & Rani Durgavati Samadhi) ; *V. S. Durve*

coll. ; 2. 12. 68 & 20. 1. 69. (iii) A vial with 3S. & 10 W. ; Amkhas ; V. V. Rao coll. ; 4. 7. 69. (iv) A vial with 5S. and 10 W. ; Jabalpur (Nagpur Road) ; N. K. Sinha coll. ; 11. 5. 73 (v) 3 vials with sev. S. & W. ; Konta Motor Stand (Bastar Dist.) ; R. K. Singh coll. ; 16, 18. 1. 74. (vi) A vial with 2S & 15 W. ; 48 Km. E. Kantu Galapalli (Bastar Dist.) ; H. Khajuria coll. ; 25. 1. 74. (vii) A vial with sev. S & W. ; Jabalpur (Bheraghat) ; H. Khajuria coll. ; 9. 8. 74. (viii) A vial with 2S. & 5W. ; Jabalpur (Madan Mahal) ; D. K. Harshey coll. ; 4. 9. 74.

Distributions : This species is common all over INDIA, PAKISTAN and BANGLA DESH. *Present records* : Madhya Pradesh : Jabalpur and vicinity ; Amkhas ; Konta Motor stand and vicinity and Kantu Galapalli (Bastar District).

14. *Odontotermes redemanni* (Wasmann)

1893. *Termes redemanni* Wasmann, *Wien. ent. Ztg.*, 12 (7) : 239. Im., Q., S., & W.
Type-loc. SRI LANKA : Commobo.

Material : (i) A vial with 1S. & 5W ; Jabalpur (Saopatal) ; L. P. Dubey coll. ; 9. 10. 73. (ii) A vial with 1S. & 5W. ; Jabalpur (Madan Mahal) ; H. Khajuria coll. ; 18. 7. 69.

Distributions : (i) *Previous records* : INDIA : Himachal Pradesh ; Andhra Pradesh ; Uttar Pradesh ; Rajasthan ; Madhya Pradesh ; Maharashtra ; Karnataka ; Tamil Nadu ; Kerala ; Orissa ; West Bengal and Bihar. SRI LANKA : Whole of the Sri Lanka. (ii) *Present record* : INDIA : Madhya Pradesh : Jabalpur.

15. *Odonotermes wallonensis* (Wasmann)

1902. *Termes obesus* subsp. *wallonensis* Wasmann, *Zool. Jahrb. Abt. Syst.*, Jena, 17 (i), p. 106. *Type-loc.* ; INDIA : Wallon (Ahmadnagar Dist.).

Material : A vial with 5 Im ; Jabalpur (Madan Mahal) ; B. S. Gurm coll. ; 21. 6. 75.

Measurements (in mm. of 2 Im. from Jabalpur). Total body length without wings 11.5.-12.0 ; Head length to base of mandibles 1.80-1.83 ; Max. width of head with eyes 2.22-2.24 ; Labrum length 0.53 ; width 0.78 ; Max. diameter of eyes 0.64 ; Min. diameter 0.53 ; Max. diameter of ocellus 0.28 ; Min. diameter 0.23 ; Min. eye ocellus distance 0.83 ; Antennal segments 19.

Distributions : (i) *Previous records* : INDIA : Andhra Pradesh ; Bihar ; Gujarat ; Maharashtra ; Uttar Pradesh ; Rajasthan ; Orissa and Tamil Nadu. (ii) *Present record* ; INDIA : Madhya Pradesh : Jabalpur.

ACKNOWLEDGEMENT

We are thankful to Dr. T. N. Ananthakrishnan, Director, Zoological Survey of India, Calcutta, for encouragement in termite work, to Dr. B. S. Lamba, Deputy Director, Zoological Survey of India, Dehra Dun, for facilities and procuring this material for our study. We are also grateful to Dr. M. L. Roonwal, Emeritus Scientist, Zoological Survey of India, Jodhpur and Dr. O. B. Chhotani, Superintending Zoologist, Zoological Survey of India, Calcutta, for useful suggestions. Finally we are thankful to Dr. H. Khajuria, Deputy Director (now at Solan), Zoological Survey of India, Jabalpur, for placing this material for our study.

SUMMARY

Eighteen species of termites (Insecta : Isoptera) are reported from Madhya Pradesh. The six species of termites, i. e., *Coptotermes kishori* Roonwal & Chhotani, *Speculitermes goesswaldi* Roonwal & Chhotani; *Microcerotermes sakesarensis* Ahmad; *Odontotermes boveni* Thakur; *Odontotermes wallonensis* (Wasmann); and *Trinervitermes nigrirostris* Mathur & Sen Sarma, are reported first time from Madhya Pradesh.