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Three new records of *Microcerotermes* Silvestri (Blattodea: Isoptera: Termitidae) from Telangana, India

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Abstract
Termites, widely recognized as ecosystem engineers, play a vital role in maintaining ecosystem functioning, particularly in tropical ecosystems. The genus *Microcerotermes* Silvestri, 1901 comprises several species, some of which are considered minor pests of economic importance. Three species of *Microcerotermes* are recorded for the first time from the state: *Microcerotermes cameroni* Snyder, 1933; *Microcerotermes fletcheri* Holmgren and Holmgren, 1917 and *Microcerotermes labioangulatus* Sen Sarma and Thakur, 1975. These species were previously known from adjacent states, and the present records extend their known distribution range to Telangana.
The study provides detailed diagnostic characters for the identified species and presents an updated checklist of the termite fauna currently known from Telangana.

Keywords: *Microcerotermes*, termites, distribution, diversity

Introduction
Termites are social insects, capable of digesting lignocellulose and are abundant throughout the tropical and sub-tropical region. Their biomass can make up 40-60 % of the total biomass of small soil organisms and are known to provide different ecological services (Tuma *et al*., 2020 and Buragohain *et al*. 2025) [25, 4]. As eusocial insects, they live in colonies with either single nest or several interconnected nests (Ningthoujam *et al*., 2024) [10]. There are 3176 known species (2976 living and 200 fossils) (Constantino, 2021 and Basak *et al*., 2026) [6, 3] of which India harbours 330 species classified under 53 genera and 8 families (Pullikal *et al*. 2026, Sengupta *et al*. 2026, Amina and Rajmohana, 2025, Baraik *et al*. 2025 and Roy *et al*. 2025 a) [13, 23, 12, 2, 19]. The family Termitidae is the largest and most dominant group of termites worldwide. It comprises of 2,072 species under 238 genera, making it the most diverse termite family (Krishna *et al*., 2013) [9]. In India, Termitidae is represented by 212 species under 35 genera (Baraik *et al*., 2025) [2]. This family also dominates the termite diversity in Telangana, where, out of 22 termite species, 19 species belonging to 6 genera are placed under the family Termitidae.
Microcerotermes Silvestri, 1901 (Blattodea: Isoptera: Termitidae) is a widespread genus occurring in all the zoogeographical regions except Nearctic region. They are moderately diverse with around 148 living species, of which 50 are reported from the Oriental region (Sengupta and Rajmohana, 2020) [21]. Twenty-seven species of *Microcerotermes* are reported from India (Baraik *et al*., 2025, Roy *et al*. 2025 a) [2, 19], and among them more than 50% are endemic to the country (Sengupta and Rajmohana, 2020) [21].
The present study documents three species of *Microcerotermes* from the Telangana State for the first time, unveiling the expanded range.

Materials and Methods
Termite specimens were collected during faunal surveys by Zoological Survey of India (ZSI), between 2022 to 2025. The study follows the revised termite classification, by Hellemans *et al*., 2024 [8]. Species identification and description are after Chhotani, 1997 [5]. All the specimens collected were preserved in absolute alcohol. Measurements of attributes were made under Leica EZ4 microscope. All the measurements are in mm except the indices. Images were captured using a Leica M205A stereo microscope fitted with a Leica DFC500 camera and processed using the extended focus software LAS Version 3.6. All the specimens are deposited in the National Zoological Collection, ZSI, Kolkata.

Results
Systematic account:
Family: Termitidae Latreille, 1802
1802. Termitina Latreille, In: Histoire Naturelle, General et Particuliere des Crustaces et des Insectes, 293.
Subfamily: Microcerotermitinae Holmgren, 1910
1910. Microcerotermitinae Holmgren, N., In: The Percy Sladen Trust expedition to the Indian Ocean in 1905. Isoptera. Transactions of the Linnean Society of London, Zoology (2) 14 (8): 135-148.
Genus: *Microcerotermes* Silvestri, 1901
1901. *Microcerotermes* Silvestri, In: Bull. Mus. Zool. Anat. Comp. Tornio, 16 (389): 3

1. *Microcerotermes cameroni* Snyder, 1934
1934. *Microcerotermes cameroni* Snyder, Indian For. Rec., 20 (11): 21-22.

Material examined: Telangana, Kothagudem, Bhadhradri, Telangana: 08. x. 2022, 1soldier, S.S. Jadhav, ex. from dead log.

Diagnosis: Soldier (Table 1 and Figure 1): Head capsule yellowish brown, subrectangular, sparsely hairy. Fontanelle minute. Antennae with 13 segments, segment 3 smallest. Labrum with anterior margin bluntly rounded, sides parallel.

Mandibles brownish black, coarsely serrated with one larger tooth like serration behind middle. Postmentum club shaped, waist lying posteriorly. Pronotum saddle shaped, anterior margin distinctly notched, posterior margin weakly emarginated.

Distribution: Andhra Pradesh, Daman, Gujarat, Karnataka, Kerala, Madhya Pradesh, Sikkim, Tamil Nadu, West Bengal (Krishna *et al.,* 2013) [9], Odisha (Roy *et al*., 2025 b) [20], Telangana (new record).
Remarks: Minor pest of *Eucalyptus* sp., *Cassia fistula*, *Shorea robusta* and *Tectona grandis* (Shanbhag and Sundararaj, 2013) [24].

2. *Microcerotermes fletcheri* Holmgren and Holmgren, 1917

1917. *Microcerotermes fletcheri* Holmgren and Holmgren, Mem. Dep. Agric. India (Ent.), 5 (2): 170-171.

Material examined: Telangana, Central University of Hyderabad campus, 29.ix.2025, 2 soldier, 5 workers, coll. M. Roy, ex. from dead stump

Diagnosis: Soldier (Table 1 and Figure 2): Head capsule yellowish brown to dark brown, subrectangular, sparsely hairy. Fontanelle minute. Antennae with 13 segments, segment 3 smallest. Labrum pentagonal, anterior margin convex and roundly projected medially. Mandibles dark brown with reddish tinge, stout and coarsely serrated with one larger serration behind middle. Postmentum club shaped, waist lying posteriorly. Pronotum saddle shaped, anterior margin with a distinct median notch, posterior margin slightly emarginated medially.

Distribution: India: Karnataka, Kerala, Tamil Nadu, Uttar Pradesh (Krishna *et al.* 2013) [9], Odisha (Roy *et al*. 2025b) [20], Telangana (new record).

Remarks: It is reported as minor pest of *Cocos nucifera* and bamboo poles (Shanbhag and Sundararaj, 2013) [24].

3. *Microcerotermes labioangulatus* Sen Sarma and Thakur, 1975

1975. *Microcerotermes labioangulatus* Sen Sarma and Thakur, Wood destroying termites of India (Final Tech. Rep. PL 480 Proj. No. A 7-FS-58): 13, 54, 65

Material examined: Telangana, Kinnerasani wildlife Sanctuary: 24.iii.2024, 1 soldier (in association with *Odontotermes* sp.), S.S. Jadhav, ex. from base of dead stump.

Diagnosis: Soldier (Table 1 and Figure 3): Head capsule yellowish brown to deep brown, long rectangular, sides almost parallel. Fontanelle minute. Antennae with 13 segments, segment 3 smallest. Labrum pentagonal, anterior margin convex and roundly projected medially. Mandibles dark reddish brown, coarsely serrated, strongly curved and apically pointed and incurved. Postmentum club shaped, a little narrowed at waist behind middle. Pronotum saddle shaped.

Distribution: Andhra Pradesh, Nagaland, Tripura, Uttar Pradesh (Krishna *et al.* 2013) [9], and Telangana (new record).

Remarks: Minor pest of *Eucalyptus* sp. (Shanbhag and Sundararaj, 2013) [24].

Table 1: Morphometrics of soldier caste of three species of *Microcerotermes*

Attributes	*M. cameroni*		*M. fletcheri*		*M. labioangulatus*	
	Chhotani, 1997	Present study	Chhotani, 1997	Present study	Chhotani, 1997	Present study
Head length	1.40-1.67	1.41	1.37-1.68	1.40	1.6-1.9	1.70
Head width	0.90-1.00	0.91	0.85-0.98	0.86	1.0-1.13	1.0
Mandible length	0.86-0.97	0.87	0.87-0.92	0.88	0.95-1.15	1.0
Postmentum length	0.85-1.02	0.85	0.77-1.05	0.88	1.0-1.15	1.0
Postmentum width	0.29-0.35	0.30	0.30-0.32	0.30	0.30-0.35	0.32
Postmentum waist	0.19-0.22	0.20	0.17-0.20	0.20	0.18-0.20	0.20
Pronotum length	0.27-0.35	0.28	0.27-0.32	0.30	0.33-0.43	0.34
Pronotum width	0.53-0.66	0.54	0.55-0.60	0.56	0.65-0.73	0.66
Mandibular index (left mandible length/ head length)	0.59-0.63	0.61	0.53-0.67	0.62	0.55-0.63	0.58
Head width index (head width/ head length to base of mandible)	0.56-0.64	0.64	0.54-0.64	0.61	0.58-0.60	0.58

Updated check list of termites of Telangana

Family Heterotermitidae Froggatt, 1897
Genus *Coptotermes* Wasmann, 1896
1. *Coptotermes ceylonicus* Holmgren, 1911
2. *Coptotermes heimi* (Wasmann, 1902)

Genus *Heterotermes* Froggatt, 1897
3. *Heterotermes indicola* (Wasmann, 1902)

Family: Termitidae Latreille, 1802
Subfamily: Amitermitinae Kemner, 1934
Genus: *Amitermes* Silvestri, 1901
4. *Amitermes belli* (Desneux, 1906)

Subfamily: Macrotermitinae Kemner, 1934
Genus: *Macrotermes* Holmgren, 1909
5. *Macrotermes convulsionarius* (Koniig, 1779)
6. *Macrotermes gilvus* (Hagen, 1858)
7. *Macrotermes hopini* Roonwal and Sen-Sarma, 1956

Genus: *Microtermes* Wasmann, 1902
8. *Microtermes obesi* Holmgren, 1912

Genus: *Odontotermes* Holmgren, 1910
9. *Odontotermes anamallensis* Holmgren and Holmgren, 1917
10. *Odontotermes bellahunisensis* Holmgren and Holmgren, 1917
11. *Odontotermes brunneus* (Hagen, 1858)
12. *Odontotermes ceylonicus* (Wasmann, 1902)
13. *Odontotermes feae* (Wasmann, 1896)
14. *Odontotermes globicola* (Wasmann, 1902)
15. *Odontotermes guptai* Roonwal and Bose, 1961

16. *Odontotermes horni* (Wasmann, 1902)
17. *Odontotermes obesus* (Rambur, 1842)
18. *Odontotermes redemanni* (Wasmann, 1893)
19. *Odontotermes wallonensis* (Wasmann, 1902)

Subfamily: Microcerotermitinae Holmgren, 1910
Genus: *Microcerotermes* Silvestri, 1901

20. *Microcerotermes beesoni* Snyder, 1933
21. *Microcerotermes cameroni* Snyder, 1934*
22. *Microcerotermes fletcheri* Holmgren and Holmgren, 1917*
23. *Microcerotermes labioangulatus* Sen-Sarma and Thakur, 1975*

Subfamily: Nasutitermitinae
Genus: *Trinervitermes* Holmgren, 1912

24. *Trinervitermes biformis* (Wasmann, 1902)
25. *Trinervitermes fletcheri* Chatterjee and Thakur, 1965

* New record to Telangana

Discussion

Ranjith and Kalleswaraswamy, 2021[17] reported 132 species of termites distributed over 5 families from the five southern States-Andhra Pradesh, Kerala, Karnataka, Tamil Nadu and Telangana. Kerala exhibit the highest species diversity with 96 species (Amina and Rajmohana, 2025; Aiswarya *et al*. 2025) [12, 1] followed by Karnataka with 76 species and Tamil Nadu with 64 species (Baraik *et al*. 2025) [2]. Ranjith *et al*. 2025[18] added 4 species of *Odontotermes* Holmgren, 1910 to the already reported 25 species of termite from Andhra Pradesh thus enhancing the species number to 29.

Telangana, carved out of the north-western part of undivided Andhra Pradesh on 2014, is located in the Deccan Plateau and is characterized by semi-arid to sub-tropical climate, with thorny vegetation and dry deciduous forests. The state of Telangana is bordered by the state of Maharashtra in the North, Chhattisgarh and Odisha in the North east, Andhra Pradesh in the South east and South and Karnataka in the west.

The taxonomic history of termite fauna in Telangana began with Rao *et al.* 2012 [14], reporting 12 species under 6 genera from Bhadrachalam region in Khammam district, of which one species *Odontotermes indicus* is synonymized to *O. feae* followed by Sengupta *et al*. 2021[22] documenting 5 species under genera *Odontotermes* Holmgren, 1910, *Macrotermes* Holmgren, 1909 and *Trinervitermes* Holmgren, 1912 from Adilabad district of Kawal Tiger Reserve and Amrabad Tiger Reserve in Nillamala hills of Telangana, enhancing the termite species from Telangana to 16 species under 7 genera and 2 families. Rajmohana, 2024 a, b [15, 16] enhanced the species number to 22. The information on the termite diversity in the region remains scattered. An updated checklist of termite fauna of Telangana with revised classification of Hellemans *et al*. 2024[8] is presented here. Genus *Microcerotermes* Silvestri, 1901 is documented from all the neighbouring states of Telangana except Chhattisgarh.

Genus *Microcerotermes* Silvestri, 1901 belongs to Type II feeding group (Denovan *et al*. 2001, Amina and Rajmohana, 2016) [7, 11] and 8 species of the genus are reported to be minor pests found feeding on *Eucalyptus* sp., *Cassia fistula*, *Accacia catechu*, *Shorea robusta*, *Tectona grandis*, *Pterocarpus marsupium* and Bamboo (Shanbhag and Sundarraj, 2013) [24]. The two species of *Microcerotermes*-*M. cameroni* and *M. labioangulatus* are found to forage along with *Odontotermes* sp. in the decayed wood at the base of a dead stump and also under a log.

In India, genus *Microcerotermes* is represented by 27 species, of which 14 are endemics (Krishna, 2013, Baraik *et al*. 2025) [9, 2]. The genus falls under two categories on the basis of serration of mandibles-finely serrated and coarsely serrated. The three *Microcerotermes* species reported here are endemic to India and have their mandibles coarsely serrated. *Microcerotermes cameroni* with markedly incurved mandibles and *M. fletcheri* with less incurved mandibles falls under the *M. fletcheri* sub-group whereas *Microcerotermes labioangulatus* with head length of 1.70 mm and strongly curved with apically pointed and incurved mandibles, like scythe, falls in *M. annandalaei* sub-group (Chhotani, 1997) [5].

Though previously documented from adjacent states, the group is exhibiting an expanded range of distribution to Telangana.

Photo

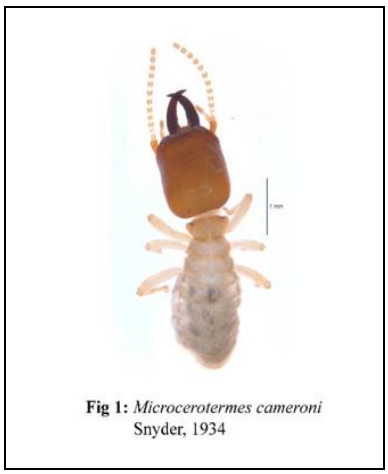

Fig 1: *Microcerotermes cameroni* Snyder, 1934

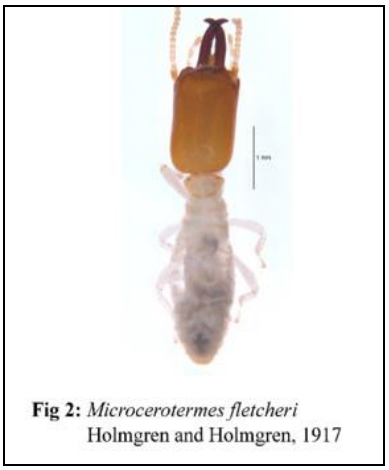

Fig 2: *Microcerotermes fletcheri* Holmgren and Holmgren, 1917

Fig 3: *Microcerotermes labioangulatus* Sen-Sarma and Thakur, 1975

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References

1. Aiswarya PM, Sebastian H, Sudhikumar AV. Termites (Blattodea: Isoptera) of India: An updated checklist. Acta Zoológica Lilloana,2025:69(1):77-158. https://doi.org/10.30550/j.azl/2013
2. Baraik B, Basak J, Roy M, Konar B, Das S, Rajmohana K. Fauna of India checklist: Arthropoda: Insecta:

Blattodea (Termites). Version 2.0. Zoological Survey of India, 2025.
3. Basak J, Lekharu K, Dekha B, Das S, Rajmohana K. First documentation of two Odontotermes species (Blattodea: Termitidae) from Assam, India. Insect Environment,2026:29(1):59-65.
4. Buragohain A, Kalleshwaraswamy CM, Saikia S, Naorem AS. First report of Odontotermes profeae Akhtar from Assam, India. Hexapoda, Insecta Indica,2025:32(1):71-75. http://doi.org/10.55446/hexa.2025.579
5. Chhotani OB. Fauna of India - Isoptera (Termites). Vol. II. Calcutta: Zoological Survey of India, 1997.
6. Constantino R. Termite Taxonomy from 2001-2021: The Contribution of Zootaxa. Zootaxa,2021:4979:222-223.
7. Donovan SE, Eggleton P, Bignell DE. Gut content analysis and a new feeding group classification of termites. Ecological Entomology,2001:26(4):356-366. https://doi.org/10.1046/j.1365-2311.2001.00342.x
8. Hellemans S, Rocha MM, Wang M, Arias JR, Aanen DK, Bagneres AG, *et al*. Genomic data provide insights into the classification of extant termites. Nature Communications,2024:15:6724. https://doi.org/10.1038/s41467-024-51028-y
9. Krishna K, Grimaldi DA, Krishna V, Engel MS. Treatise on the Isoptera of the World. Bulletin of the American Museum of Natural History,2013:377:1-200.
10. Ningthoujam K. Diversity and distribution of termite fauna in mid hill-range of Meghalaya (Eastern Himalayan region), India. International Journal of Tropical Insect Science,2024:44(2):873-884. https://doi.org/10.1007/s42690-024-01197-6
11. Poovoli A, Rajmohana K. Feeding group diversity of termites (Isoptera: Insecta) in Kerala. Journal of Entomology and Zoology Studies,2016:4(4):114-116.
12. Poovoli A, Rajmohana K. A taxonomic review of the Indian endemic genus *Labiocapritermes* Krishna, 1968 (Blattodea: Isoptera: Termitidae) with description of two new species from Kerala, India. Journal of Insect Biodiversity and Systematics,2025:11(4):1013-1026. https://doi.org/10.48311/jibs.11.4.1013
13. Pulikkal MA, Poovoli A, Ambalaparambil VS. Two new termite species (Blattodea: Termitidae: Apicotermitinae and Mirocapritermitinae) from the Western Ghats, India. Zootaxa,2026:5787(1):127-142. https://doi.org/10.11646/zootaxa.5787.1.6
14. Rao AN, Samatha C, Sammaiah C. Biodiversity of termites in Bhadrachalam forest region, Khammam District, Andhra Pradesh. Journal of Biodiversity,2012:3(1):55-59. https://doi.org/10.1080/09766901.2012.11884736
15. Rajmohana K. Termite fauna of Amrabad Tiger Reserve, Telangana. In: Banerjee D, Raghunathan C, Jaiswal D, Jadhav SS, Karuthapandi M, Rehanuma Sulthana SK, editors. Fauna of Amrabad Tiger Reserve, Telangana. Kolkata: Zoological Survey of India, 2024a, 329-332.
16. Rajmohana K. Insecta: Blattodea (Termite). In: Banerjee D, Raghunathan C, Jaiswal D, Jadhav SS, Karuthapandi M, Rehanuma Sulthana SK, editors. Fauna of Kawal Tiger Reserve, Telangana. Kolkata: Zoological Survey of India, 2024b, 338-339.
17. Ranjith M, Kalleshwaraswamy CM. Termites (Blattodea: Isoptera) of southern India: Current knowledge on distribution and systematic checklist. Journal of Threatened Taxa,2021:13(6):18598-18613. https://doi.org/10.11609/jott.5781.13.6.18598-18613
18. Ranjith M, Kalleshwaraswamy CM, Meghana KJ, Sandeep A. New records of *Odontotermes* Holmgren (Blattodea: Termitidae: Macrotermitinae) from Andhra Pradesh, India with an updated list of termites from the state. International Journal of Tropical Insect Science,2025:45:1111-1120. https://doi.org/10.1007/s42690-025-01497-5
19. Roy M, Basak J, Das S, Baraik B, Konar B, Rajmohana K. First report of four species of termites from India. Spixiana,2025:48(1):51-58.
20. Roy M, Basak J, Baraik B, Rajmohana K. New State records and distributional range extensions of termite species in India. Entomon,2025:50(3):355-362.
21. Sengupta R, Rajmohana K. Three new records of *Microcerotermes* Silvestri (Blattodea: Isoptera: Termitidae) from West Bengal, India. Records of the Zoological Survey of India,2020:120(3):263-266. https://doi.org/10.26515/rzsi/v120/i3/2020/150766
22. Sengupta R, Baraik B, Basak J, Rajmohana K. Insecta: Isoptera: Blattodea (Termite). In: Current Status of Faunal Diversity in Telangana. Kolkata: Zoological Survey of India, 2021, 167-170.
23. Sengupta R, Balmohan R, Rajmohana K, Debnath R. Description of a new species of soil-dwelling termites (Blattodea: Termitidae: Mirocapritermitinae) from the Indian sub-continent. Journal of Insect Biodiversity and Systematics,2026:12(03):537-545. https://doi.org/10.48311/jibs.12.03.537
24. Shanbhag R, Sundararaj R. Host range, pest status and distribution of wood destroying termites of India. The Journal of Tropical Asian Entomology,2013:2(1):12-27.
25. Tuma J, Eggleton P, Fayle TM. Ant-termite interactions: An important but under-explored ecological linkage. Biological Reviews,2020:95(3):555-572. https://doi.org/10.1111/brv.12577