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A taxonomic review of the Indian endemic genus *Labiocapritermes* Krishna, 1968 (Blattodea: Isoptera: Termitidae) with description of two new species from Kerala, India

Poovoli Amina
Department of Zoology, MES Asmabi College, P. Vemballur, Kodungallur, Thrissur, Kerala- 680664, India.
✉ *aminapoovoli@gmail.com* https://orcid.org/0000–0002–0484–7677

Keloth Rajmohana
Zoological Survey of India, M-Block, New Alipore, Kolkata-700053, India.
✉ *mohana.skumar@gmail.com* https://orcid.org/0000-0001-9419-6582

ABSTRACT. *Labiocapritermes* Krishna, 1968 (Blattodea: Isoptera: Termitidae), endemic to the Southern states of India, has been a monotypic genus. The genus is reviewed and two new species, *Labiocapritermes microcephalus* Amina & Rajmohana **sp. nov.**, and *Labiocapritermes wayanadensis* Amina & Rajmohana **sp. nov.** from Kerala, India are described. A dichotomous key to all three species is provided, along with their distribution map. Distribution data suggest a high elevation affinity to the genus. The genus is documented both in natural and managed habitats. Typically, group III and IV soil-feeding termites are underrepresented in agricultural plots, with higher abundance in less disturbed habitats. In contrast, the present study records *L. wayanadensis* from a rubber plantation and *L. distortus* from a tea plantation, suggesting a degree of tolerance to habitat disturbance. This study provides the first documentation of *Labiocapritermes* occurrence in a managed habitat.

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INTRODUCTION

The subfamily Mirocapritermitinae under the family Termitidae (Blattodea: Isoptera) is a monophyletic taxon represented by 14 genera and 132 species globally (Krishna et al., 2013; Hellemans et al., 2024). Their distribution is restricted to the Oriental region, except for *Pericapritermes* (Hellemans et al., 2024). Of the total of 132 species of Mirocapritermitinae, 35 species under 9 genera are known from India (Krishna et al., 2013; Amina et al., 2019, 2022). Among them, *Labiocapritermes* Krishna, 1968, has been a monotypic genus, endemic to the southern states of India (Krishna et al., 2013). *Labiocapritermes* belongs to the *Pericapritermes* group (Krishna et al., 2013). The soldier caste of *Labiocapritermes* has a very distinctive character of a strongly swollen labrum and very short, extremely asymmetric mandibles compared to the other eight genera of the *Pericapritermes* group. Hence, this genus can easily be differentiated from others. This genus was reported from Karnataka, Kerala **(**Wayanad, Kozhikode, Ernakulam, Idukki, and Thiruvananthapuram), and Tamil Nadu (Chhotani, 1997; Krishna et al., 2013; present study) (Fig. 4).

Labiocapritermes species are soil dwellers. Their worker mandible structure (De Souza & Brown, 1994) indicates that they are humus/organic–rich soil feeders of feeding group III, devouring the highly decayed wood, or soil with high organic content. Present in both natural and managed habitats, they are tolerant to disturbances. The genus shows affinity to high elevations. As a part of the taxonomic studies of termites of the south Indian state of Kerala (Amina & Rajmohana, 2013, 2014, 2016; Amina et al., 2019, Amina et al., 2022), genus *Labiocapritermes* is reviewed, and two new species are described based on the

Corresponding author: Keloth Rajmohana, ✉ *mohana.skumar@gmail.com*

morphological characters of soldiers and workers. This paper also provides a dichotomous key to identify all the species of *Labiocapritermes*. A map presenting the distribution of species is also appended. Some bioecological insights of the genus are derived based on the collection data.

MATERIAL AND METHODS

All the specimens were collected from termite colonies observed in the soil, underneath boulders, during the field surveys undertaken in the Kerala part of the Western Ghats during the years 2013–2015. The specimens were preserved in 100% alcohol. Dissections and measurements were also made in 100% alcohol under a stereozoom microscope, Leica® EZ4 HD, at magnifications between 8–35 ×. Mandibles of worker castes of both the proposed new species were slide-mounted in Canada balsam and then examined for diagnostic characters. Images were taken using a Leica® 205-A stereomicroscope fitted with a DFC 500 camera, and processed with the help of extended focus software, LAS version 3.6. Morphological characters follow Chhotani (1997), while studies on the worker mandibles are after Fontes (1987), Gathorne-Hardy (2001), and Eggleton (2011). The holotype and paratypes are deposited in the National Zoological Collections of the Zoological Survey of India (ZSI), at Calicut (Kozhikode), Kerala, India. Abbreviations: S – Soldiers; W – Workers; AMNH – American Museum of Natural History, New York; IEA – Instituto di Entomologia Agraria, Portici, Italy; ZSI – Zoological Survey of India.

RESULTS

Taxonomic hierarchy

Class Insecta

Order Blattodea Wattenwyl, 1882

Infraorder Isoptera Brullé, 1832

Family Termitidae Latreille, 1802

Genus *Labiocapritermes* Krishna, 1968

Labiocapritermes Krishna, 1968:267, 304–305. **Type species.** *Capritermes distortus* Silvestri, 1922.

Diagnosis. Soldier. Head capsule subrectangular, without any frontal projection. In profile, frons inclined gradually. Fontanelle small, fontanelle gland small in size. Antennae 14-segmented. Labrum asymmetrical and strongly swollen; anterior margin slightly incurved, antero-lateral corners of labrum with or without small points. Mandibles strongly asymmetrical and shorter than head length; left mandible strongly twisted at middle; without any beak or hook at tip; right mandible blade-like, much shorter than left and with blunt tip. Postmentum club-shaped. Pronotum strongly saddle-shaped.

Worker. Monomorphic. Head capsule subcircular; antennae 14-segmented. Mandibles each with an apical and two marginal teeth. Apical tooth large. First + second marginal of left mandible with long posterior margin; third marginal very much reduced. In right mandible, second marginal small, prominent with a weakly incurved posterior margin; pronotum saddle-shaped.

Remarks. As per Chhotani (1997), the soldier caste of *Labiocapritermes* is described with clearly distinct median arm of the Y-suture on the head capsule. The present study observed that, in *Labiocapritermes* species, the median arm of the Y-suture on the head capsule is variably seen even within the same colony, character is clearly distinct or faintly distinct, or sometimes even indistinct, hence this not being considered a species character here. Since this study could detect two brown coloured prominent spine-like spurs in the midtibia of soldiers, in all three species of the genus, the character is proposed as of generic significance. As per Eggleton et al. (2002), Group III and Group IV soil-feeding termites are poorly represented in the agricultural plots, while their abundance was observed in less disturbed areas. However, in this study, the samples of *L. wayanadensis* sp. nov. were collected from a rubber plantation, while a few samples of *L. distortus* were from a tea plantation. As such, the distribution data indicate that the members have some degree of tolerance to disturbances. The occurrence of *Labiocapritermes* is documented for the first time from a managed habitat.

Key to the species of *Labiocapritermes* Krishna, 1968 (based on soldier caste)

1 Small species: Head length with mandibles 2.17–2.40 mm, head length to base of mandibles 1.31–1.44 mm; head width index 0.60–0.66 mm. ... ***Labiocapritermes microcephalus*** Amina & Rajmohana **sp. nov.**

– Large species: Head length with mandibles 2.45–2.88 mm, head length to base of mandibles 1.46–1.83 mm; head width index 0.53–0.60 mm. **2**

2 Head generally large (head length with mandibles 2.88 mm; head length to base of mandibles 1.80–1.83 mm). Mandible comparatively short (length of left mandible 1.05–1.08 mm; left mandible index 0.57–0.60). ..... ***Labiocapritermes wayanadensis*** Amina & Rajmohana **sp. nov.**

– Head generally small (head length with mandibles 2.45–2.67 mm; head length to base of mandibles 1.46–1.70 mm). Mandible comparatively long (length of left mandible 0.97–1.15 mm; left mandible index 0.66–0.69). ..... ***Labiocapritermes distortus*** (Silvestri)

Labiocapritermes distortus (Silvestri, 1922)

(Fig. 1A–F; Table 1)

Capritermes distortus Silvestri, 1922:451–543. Syntypes (IEA, AMNH). – India.
Labiocapritermes distortus (Silvestri) Krishna, 1968: 304–305.
Pericapritermes vythirii Verma, 1983:296. Holotype, Soldier (ZSI). – India.

Material examined. 2S, 8W, India, Kerala, Ernakulam (Thattekadu Bird Sanctuary-Urulamthanni): 10°6'14.04"N, 76°42'0.72"E, 38 m a.s.l., 06-I-2015, Amina Poovoli, Colony code, Vial No. Er-106 (Register No. ZSI/ WGRC/IR/INV/5632); 3S, 10W, India, Kerala, Kozhikode (Balusseri-Narayamkulam), 11°30'36"N, 75°48'39.96"E, 44 m a.s.l., 02-I-2015, Amina Poovoli, Colony code, Vial No. 340 (Register No. ZSI/ WGRC/IR/INV/5630); 4S, 15W, India, Kerala, Kozhikode (Kakkayam), 11°32'50.28"N, 75°53'33.36"E, 741 m a.s.l., 30-XII-2014, Amina Poovoli, Colony code, Vial No. 276 (Register No. ZSI/ WGRC/IR/INV/5636); 2S, 8W, India, Kerala, Kozhikode (NIT Campus), 11°19'17.04"N, 75°55'59.88"E, 61 m a.s.l., 03-XII-2014, Amina Poovoli, Colony code, Vial No. 293 (Register No. ZSI/ WGRC/IR/INV/5276); 1S, 7W, India, Kerala, Idukki (Thekkady-PTR): 09°36'11.16"N, 77°09'41.4"E, 979 m a.s.l.; 06-IV-2013, Rajmohana & Party, Colony code, Vial No. I-29 (Register No. ZSI/ WGRC/IR/INV/5638); 2S, 12W, India, Kerala, Idukki (Thekkady-Mullaperiyar), 09°31'43.32"N, 77°07'50.088"E, 911 m a.s.l., 05-IV-2013, Rajmohana & Party, Colony code, Vial No.I-17 (Register No. ZSI/ WGRC/IR/INV/5639); 2S, 12W, India, Kerala, Trivandrum (Pandipath), 08°40'15.96"N, 77°12'6.12"E, 1363 m a.s.l.; 15-XII-2015; Rajmohana & Party, Colony code, Vial No. TV-37 (Register No. ZSI/ WGRC/IR/INV/5640); 4S, 8W, India, Kerala, Kozhikode (Janakikkad), 11°37'42.6"N, 75°47'39.48"E, 111 m a.s.l., 16-IX-2015, Amina Poovoli, Colony code, Vial No. 385 (Register No. ZSI/ WGRC/IR/INV/5637); 1S, 5W, India, Kerala, Wayanad (Thalappuzha), 11°50'25.08"N, 75°56'57.12"E, 734 m a.s.l.; 6-VII-2015, Shili, Colony code, Vial No. SH-T3 (Register No. ZSI/ WGRC/IR/INV/5643); 5S, 3W, India, Kerala, Wayanad (Vythiri) [tea plantation], 11°33'6.012"N, 76°2'25.08"E, 750 m a.s.l., 14-VII-2015, Shili, Colony code, Vial No. SH-T14 (Register No. ZSI/ WGRC/IR/INV/5648).

Diagnosis. Soldier. (Fig. 1A–E) Head capsule subrectangular (Fig. 1B); frons gradually inclined in front (Fig. 1C); median suture of head distinct, extending a little more than half of head length from posterior margin; fontanelle small, situated at frontal inclination; fontanelle gland small in size. Antennae 14-segmented; segment 3 subequal to 2; segment 4-shortest. Labrum asymmetrical, strongly swollen (Fig. 1D); sides convex, anterior margin slightly incurved with very small antero-lateral points; sometimes points indistinct. Mandibles strongly asymmetrical, shorter than head length; right mandible much shorter than left mandible, blade-like, tip blunt and not pointed. Postmentum club-shaped (Fig. 1E); markedly narrowed at the waist. Pronotum strongly saddle-shaped; anterior margin weakly notched, posterior margin without any notch.

Worker. Total body length 3.00–3.50 mm. Head capsule in dorsal view subcircular, broader than head length (length to tip of labrum 1.02–1.10 mm, length to base of mandible 0.62–0.66 mm, and maximum width 0.73–0.78 mm).

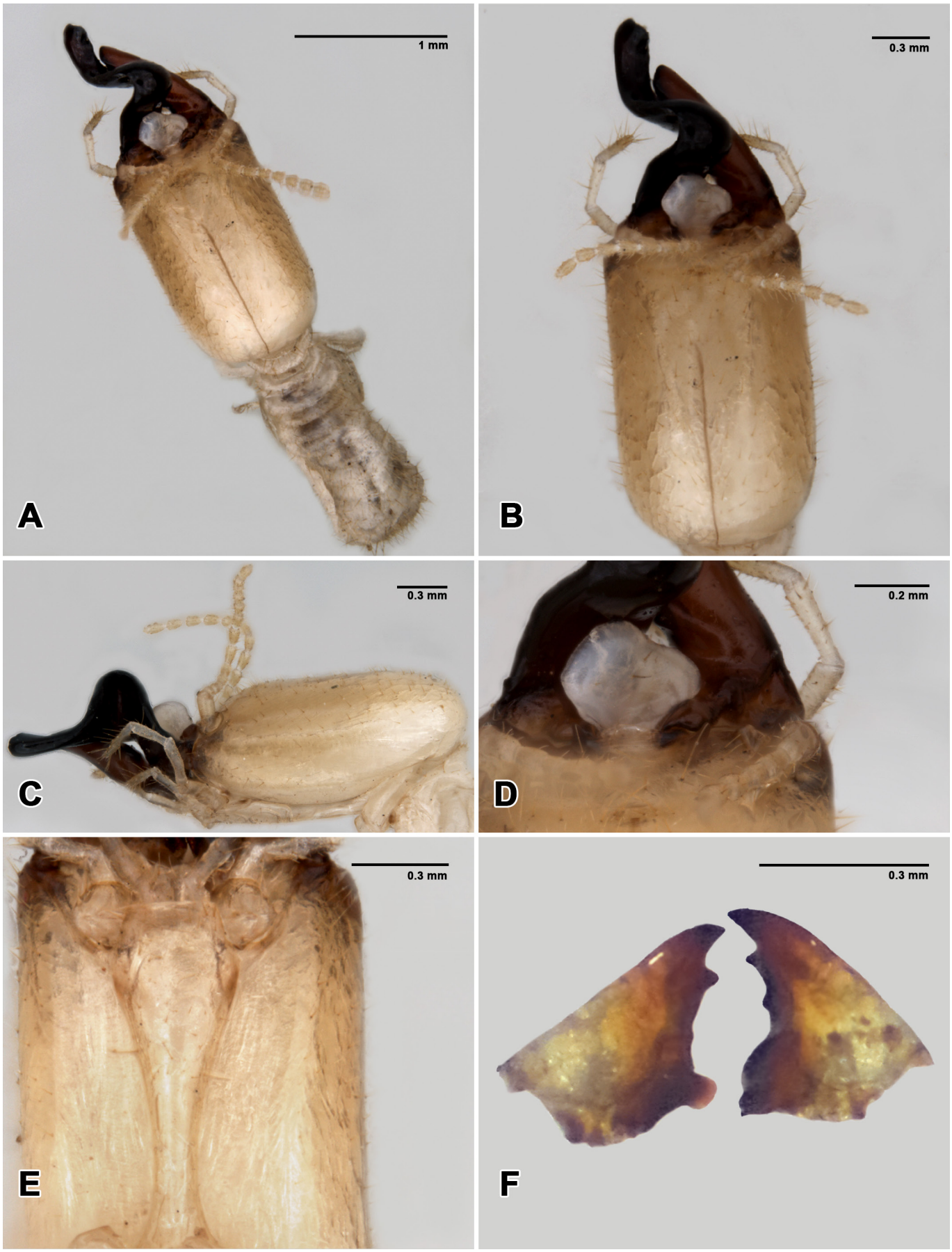

Figure 1. *Labiocapritermes distortus* (Silvestri). **A.** Soldier, body dorsal view; **B.** Soldier, head dorsal view; **C.** Soldier, head profile; **D.** Soldier, labrum; **E.** Soldier's postmentum; **F.** Worker, left and right mandible.

Table 1. Measurements of *Labiocapritermes distortus* (Silvestri), Soldier (Modified from Chhotani, 1997).

Body parts	Measurements (mm)
Head length with mandibles	2.45–2.67
Head length to base of mandibles	1.46–1.70
Maximum head width	0.85–0.98
Head index I (maximum head width/head length to base of mandible	0.54–0.60
Occipito-fontanelle distance	1.10–1.33
Index fontanelle-distance/head length	0.71–0.77
Length of labrum	0.25–0.33
Width of labrum	0.33–0.40
Left mandible length	0.97–1.15
Right mandible length	0.90–1.00
Mandible head length index (left mandible length/head length to base of mandibles)	0.66–0.69
Length of postmentum	0.86–1.08
Maximum width of the postmentum	0.29–0.35
Width of the postmentum at the waist	0.12–0.15
Pronotum length	0.24–0.30
Pronotum width	0.55–0.57
Total body length	4.00–5.10

Antennae 14-segmented, segment 3 shorter than 2 and a little longer than 4, segment 4 shortest. Postclypeus swollen, length about or a little more than half of width (length 0.17–0.20 mm, width 0.34–0.36 mm). Mandibles each with an apical and two marginal teeth (Fig. 1F). Pronotum strongly saddle-shaped (length 0.18–0.22 mm, width 0.38–0.42 mm).

Distribution. Kerala (Kavalai, Vythiri, Kuttikanam, Panchakanam Reserve forest), Tamil Nadu (Mylar), and Karnataka (Coorg) (Bose, 1984; Verma, 1983). Kerala (Kozhikode, Ernakulum, and Trivandrum).

Remarks. As per Chhotani (1997), the pronotum of soldiers was without any notch at the anterior margin, but in the present collection, a weak notch has been observed at the anterior margin. As per the species distribution data, the species is widespread. Among the 3 species of *Labiocapritermes*, *L. distortus* is the only species showing a wide range of distribution, known from multiple localities, with an altitudinal range from 38–1363 m a.s.l. Though present in the plains, the majority of the collections are from the high elevation area, indicating their affinity to high elevations (700 m a.s.l.). Prior to this study, the species was known only from its type locality and two other places. In the present study, the species was collected from several localities, and this indicates that the species is widespread (Fig. 4)

Labiocapritermes microcephalus Amina & Rajmohana sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:05F054D7-9B82-4B77-BCF1-EC8F3B7C418B

(Fig. 2A–F; Table 2)

Material examined. **Holotype** (Soldier), India, Kerala, Ernakulam (Kallippara), 10°7'41.16"N, 76°45'18.72"E, 40 m a.s.l., 07-I-2015, Amina Poovoli. Colony code-Vial No. Er-119.ZSI/ WGRC/IR/INV/6343; **Paratypes** (3 soldiers and 18 workers): 1 Soldier and 7 Workers with the same data as holotype; 1 Soldier and 2 Workers, India, Kerala, Kozhikode (Narayamkulam), 11°30'36"N, 75°48'39.96"E, 44 m a.s.l., 02-I-2015, Amina Poovoli. Colony code. Vial No. 334.ZSI/ WGRC/IR/INV/6344; 1 Soldier and 9 Workers, India, Kerala, Ernakulam (Thattekad), 10°6'14.04"N, 76°42'0.72"E, 38 m a.s.l., 26-XI-2014, Muhammad Jafer & Party. Colony code. Vial No. Er-70. ZSI/ WGRC/IR/INV/6342.

Etymology. The species is named '*microcephalus*' (in Latin, micro = small, cephalus = head). The species has a small head, compared to other species.

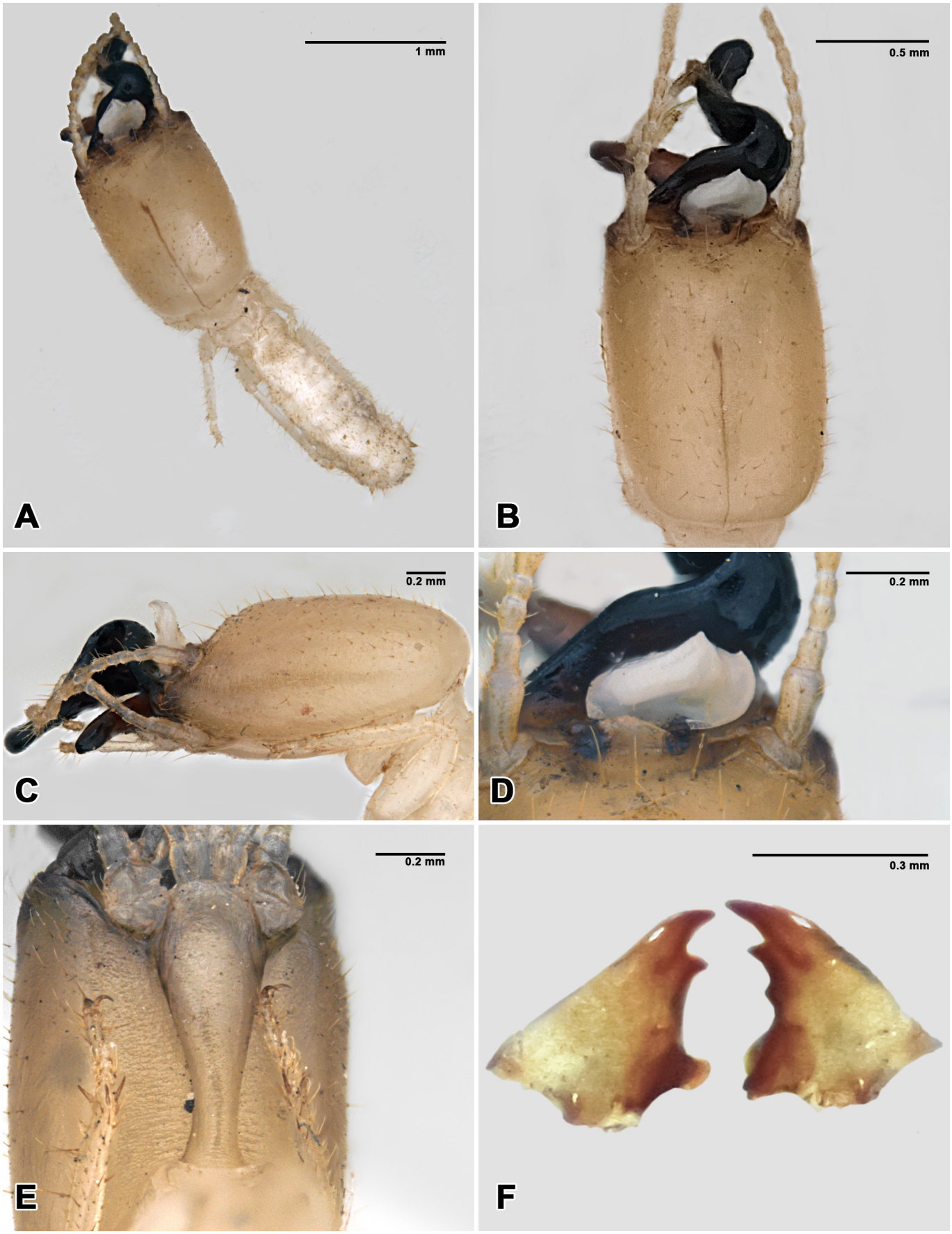

Figure 2. *Labiocapritermes microcephalus* Amina & Rajmohana **sp. nov.**. **A.** Soldier body, dorsal view; **B.** Soldier head, dorsal view; **C.** Soldier, head profile; **D.** Soldier, labrum; **E.** Soldier, postmentum; **F.** Worker, left and right mandible.

Description. — ***Soldier*** (Holotype) (Fig. 2A–E). Head capsule pale yellow, somewhat dark at distal part; antennae pale brownish yellow; labrum white; left mandible black, right mandible reddish brown; thorax legs and abdomen creamish yellow. Head and body densely hairy. Head capsule subrectangular (Fig. 2B); sides substraight; head wider, width more than half of head length to the base of mandibles. Frons gradually inclined in front (Fig. 2C); median suture of head distinct or faintly distinct or sometimes indistinct, extending beyond half of the head length from posterior margin. Fontanelle small. Antennal segments short, 14-segmented; segment 3 a little shorter than 2; segment 4–shortest; segments 5–9 gradually increasing in size; remaining segments almost subequal. Labrum asymmetrical, greatly swollen (Fig. 2D), anterior margin slightly incurved with very small antero–lateral points. Mandibles strongly asymmetrical, shorter than head length; left mandible strongly twisted and widened at middle; tip blunt and without any beak-like projections. Right mandible, blade–like with blunt tip. Postmentum short and club-shaped (Fig. 2E); minimum width posteriorly. Pronotum strongly saddle-shaped; without any notch at anterior and posterior margin. Legs with 3:2:2 apical tibial spurs; middle tibia with two distinct dorsal spurs. Abdomen elongate; cerci short; 2-segmented.

Worker. Head, antennae, and postclypeus whitish yellow; thorax and legs creamish white; abdomen translucent with greyish intestinal contents showing through. Head and body moderately hairy. Total body length 3.20–3.65 mm. In dorsal view, head subcircular, broader than head length (length to tip of labrum 0.94–1.00 mm, length to base of mandible 0.58–0.62 mm, and maximum width 0.74–0.79 mm). Fontanelle plate translucent white, fontanelle round. Antennae 14-segmented, segment 3 shorter than 2 and a little longer than 4; segment 4 shortest. Postclypeus swollen, length about half of width (length 0.15–18 mm, width 0.37–0.45 mm). Mandibles each with an apical and two marginal teeth (Fig. 2F). Apical tooth large. First + second marginals of left mandible with long posterior margin; third marginal very much reduced and rudimentary. First marginal of right mandible with a little longer posterior margin than its anterior margin; second marginal small, prominent with weakly incurved posterior margin; molar plate highly concave, smooth without any ridges; cockroach notch distinct. Pronotum strongly saddle-shaped (length 0.18–0.21 mm, width 0.38–0.40 mm), anterior and posterior margin without any notch. Legs with tibial spurs 3:2:2; foretibia swollen.

***Imago*:** Unknown.

Remarks. *Labiocapritermes microcephalus* **sp. nov.** is known from three localities, all falling under an altitudinal range of 38–44 m a.s.l.

Table 2. Measurements of *Labiocapritermes microcephalus* **sp. nov.**, Soldier (n=4).

Body parts	Measurements (mm)		
	Range	Mean	Holotype
Head length with mandibles	2.17–2.40	2.29	2.40
Head length to base of mandibles	1.31–1.44	1.38	1.40
Maximum head width	0.86–0.90	0.87	0.90
Head index I (maximum head width/head length to base of mandible	0.60–0.66	0.63	0.64
Occipito-fontanelle distance	1.05–1.19	1.12	1.19
Index fontanelle-distance/head length	0.79–0.85	0.81	0.85
Length of labrum	0.22–0.25	0.24	0.22
Width of labrum	0.28–0.34	0.30	0.28
Left mandible length	0.82–0.93	0.86	0.93
Right mandible length	0.85–0.91	0.88	0.91
Mandible head length index (left mandible length/head length to base of mandibles)	0.60–0.66	0.63	0.66
Length of postmentum	0.73–0.82	0.77	0.79
Maximum width of the postmentum	0.29–0.35	0.32	0.33
Width of the postmentum at the waist	0.11–0.13	0.13	0.11
Pronotum length	0.22–0.25	0.24	0.24
Pronotum width	0.48–0.51	0.49	0.49
Total body length	3.10–3.80	3.51	3.80

Labiocapritermes wayanadensis Amina & Rajmohana sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:511858E2-6572-4381-A204-BA0FCE4956B6

(Fig. 3A–F; Table 3).

Material examined. **Holotype** (soldier), India, Kerala, Wayanad (Kenichira), 11°43'23.16"N, 76°9'8.64"E, 785 m a.s.l., 19.VI.2015, Shili Mol. Colony code–Vial No. RP–14. ZSI/ WGRC/IR/INV/6345, from a rubber plantation. **Paratypes:** 1 Soldier and 10 Workers, same data as holotype.

Etymology. The species is named 'wayanadensis' after the collection locality, Wayanad, the hilly district of Kerala at the border between Kerala and Karnataka, India.

Description. — ***Soldier*** (Fig. 3A–E). Head capsule yellow; antennae pale yellow; labrum white to translucent; left mandible black, right mandible reddish brown; thorax legs and abdomen creamish yellow. Head and body densely hairy; postmentum with a few hairs on distal and middle region. Head capsule subrectangular (Fig. 3B); sides sub-straight; head broad, width more than half of head length to base of mandibles. Frons gradually inclined in front (Fig. 3C); median suture of head distinct, extending beyond half of head length from posterior margin. Fontanelle small fontanelle gland small in size. Antennae 14-segmented; segment 3 a little shorter or subequal to 2; segment 4–shortest; segments 5–9 gradually increasing in size; remaining segments almost subequal. Labrum asymmetrical, strongly swollen (Fig. 3D), anterior margin slightly incurved with very small antero–lateral points. Mandibles asymmetrical, shorter than head length; left mandible strongly twisted and widened at middle; tip blunt and without any beak-like projections. Right mandible much shorter than left mandible, blade–like, tip blunt and not pointed. Postmentum long and club-shaped (Fig. 3E); strongly narrowed at waist; waist lying at middle region, minimum width lying near posterior part. Pronotum strongly saddle-shaped; anterior margin notched, posterior margin without any notch. Legs with 3:2:2 apical tibial spurs; middle tibia with two distinct dorsal spurs. Abdomen elongate; cerci short; 2-segmented.

Table 3. Measurements of *Labiocapritermes wayanadensis* **sp. nov.**, Soldier (n=2).

Body parts	Measurements (mm)	
	Range	**Holotype**
Head length with mandibles	2.88	2.88
Head length to base of mandibles	1.80–1.83	1.80
Maximum head width	0.97–0.98	0.97
Head index I (maximum head width/head length to base of mandible	0.53–0.55	0.53
Occipito–fontanelle distance	1.42–1.45	1.45
Index fontanelle–distance/head length	0.77–0.81	0.81
Length of labrum	0.33–0.36	0.33
Width of labrum	0.35–0.37	0.35
Left mandible length	1.05–1.08	1.08
Right mandible length	0.96–0.99	0.99
Mandible head length index (left mandible length/head length to	0.57–0.60	0.60
Length of postmentum	0.98–1.11	0.98
Maximum width of the postmentum	0.32–0.35	0.35
Width of the postmentum at the waist	0.13–0.14	0.14
Pronotum length	0.27–0.32	0.27
Pronotum width	0.63–0.64	0.63
Total body length	4.85–5.40	4.85

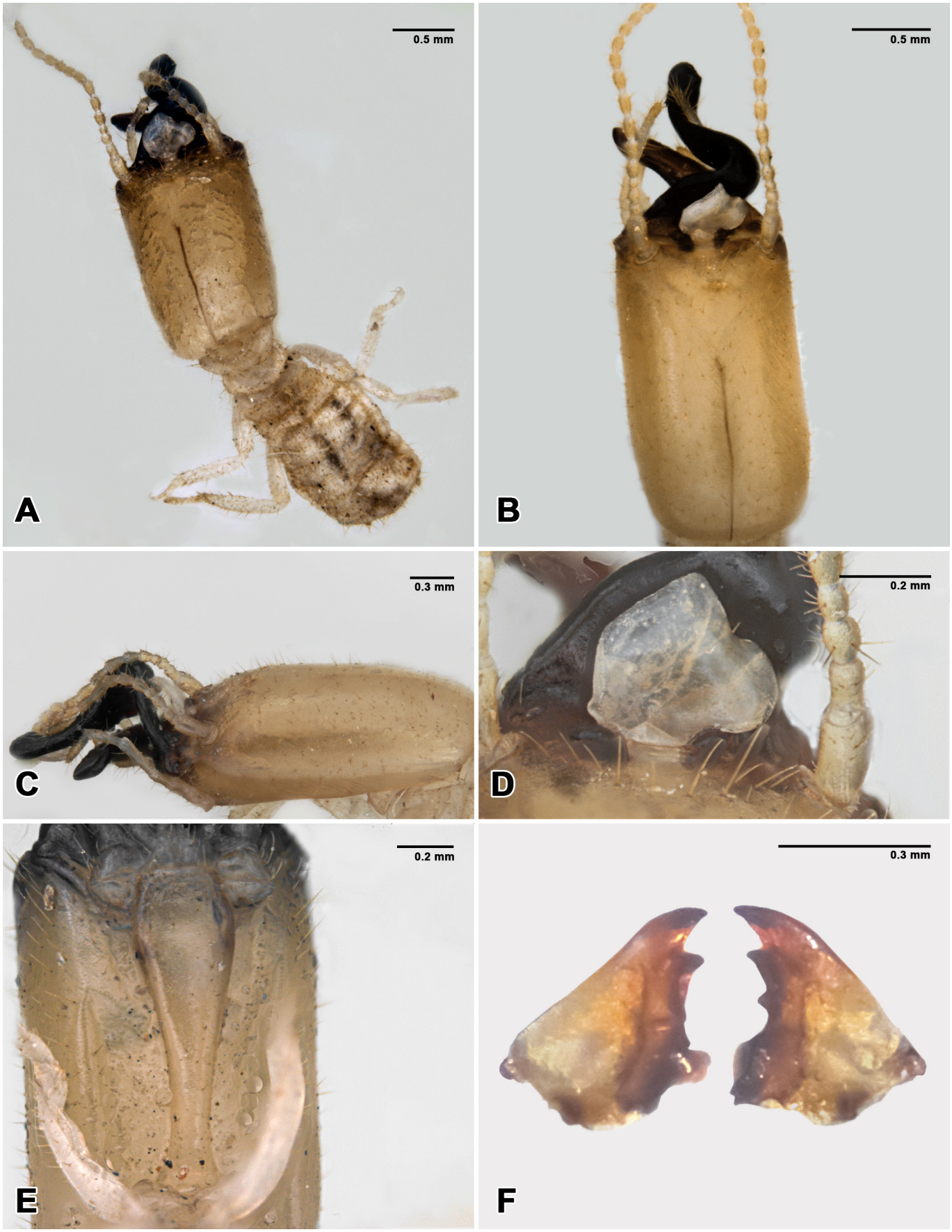

Figure 3. *Labiocapritermes wayanadensis* Amina & Rajmohana **sp. nov.**. **A.** Soldier, body dorsal view; **B.** Soldier head, dorsal view; **C.** Soldier head, profile; **D.** Soldier, labrum; E. Soldier, postmentum; **F.** Worker, left and right mandible.

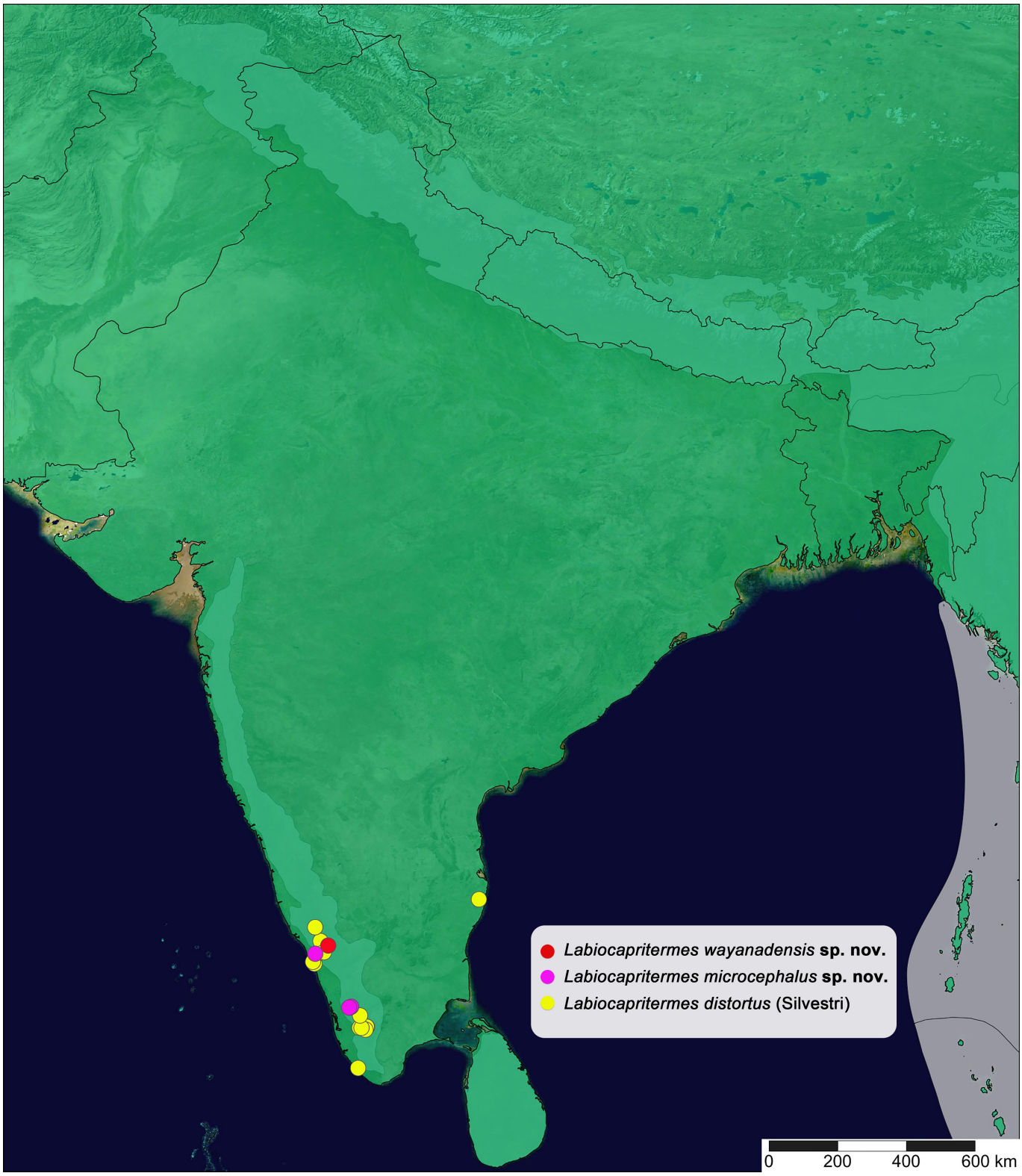

Figure 4. Distribution map of *Labiocapritermes* spp. in India.

Worker. Head whitish yellow; antennae and postclypeus pale yellow; thorax and legs creamish yellow; abdomen translucent with greyish intestinal contents showing through. Head and body moderately hairy. Total body length 3.40–4.10 mm. Head subcircular, wider than head length (length to tip of labrum 1.05–1.08 mm, length to base of mandible 0.64–0.65 mm, and maximum width 0.83–0.85 mm). Fontanelle plate translucent, oval. Antennae 14-segmented, segment 3 shorter than 2; segment 4 shortest.

Postclypeus swollen, length about half of width (length 0.24–28 mm, width 0.44–0.48 mm). Mandibles each with an apical and two marginal teeth (Fig. 3F). Apical tooth of both mandibles large. First + second marginals of left mandible with long posterior margin; third marginal very much reduced and rudimentary; a small molar tooth present in front of molar prominence. First marginal of right mandible with a little longer posterior margin than its anterior margin; second marginal small, prominent with weakly incurved posterior margin; molar plate highly concave, smooth without any ridges; cockroach notch distinct. Pronotum strongly saddle-shaped (length 0.20–0.24 mm, width 0.40–0.45 mm), anterior and posterior margin without any notch. Legs with tibial spurs 3:2:2; foretibia swollen.

Imago. Unknown

Remarks. *Labiocapritermes wayanadensis* **sp. nov.** is known only from a single locality, which is of high elevation (above 700 m a.s.l.).

DISCUSSION

The genus *Labiocapritermes* is known from multiple localities within an altitudinal range of 38–1363 m a.s.l. The majority of the collection localities are from high-elevation areas. Out of the 19 collection localities from the literature (Krishna et al., 2013; Bose, 1984; Verma, 1983) as well as the present study, 11 are from 700 m a.s.l. or above, indicating a clear affinity to high elevations for the taxon. As per Eggleton (2000), the generic level endemism is relatively low in the Oriental region. However, in the subfamily Mirocapritermitinae alone, four genera, namely, *Indocapritermes* Chhotani, 1997, *Krishnacapritermes* Chhotani, 1997, *Labiocapritermes* Krishna, *Rinacapritermes* Amina & Rajmohana, are endemic to India. The above endemic genera are soil dwellers, belonging to Group III soil feeders (Jones & Eggleton, 2010) and come under *Pericapritermes*-group (Krishna et al., 2013). They do not fall under any pest category, since they feed on decaying, organic matter only.

Labiocapritermes microcephalus **sp. nov.** is smaller than the other two species and is easily distinguished from them by the characters keyed. Mandible comparatively shorter (left mandible length 0.82–0.93 mm; mandible head length index 0.60–0.66) than *L. distortus* (0.97–1.15, index 0.66–0.69) and *L. wayanadensis* (1.05–1.08, index 0.57–0.60). Postmentum is generally short (0.73–0.82 mm) *vs*. long in *L. distortus* (0.86–1.08 mm) and *L. wayanadensis* (0.98–1.11 mm). The fontanelle gland is not clearly distinct; this may be due to its pale colour. Pronotum of proposed new species is less wide (0.48–0.51 mm) than *L. distortus* (0.55–0.57 mm) and *L. wayanadensis* (0.63–0.64 mm). Among the three species of *Labiocapritermes*, *L. wayanadensis* **sp. nov.** is relatively large-sized and shows affinities with *L. distortus* in general body coloration and head capsule shape. However, careful examination reveals a number of diagnostic differences between the two species. The head capsule of *L. wayanadensis* is slightly broader (head width more than half of the head length) and bears a higher fontanelle index (0.77–0.81) compared to *L. distortus* (0.71–0.77). In addition, the pronotum of *L. wayanadensis* is distinctly wider (0.63–0.64 mm vs. 0.55–0.57 mm in *L. distortus*). These characters, together with the longer and more club-shaped postmentum and the relatively wider head capsule in the worker caste of *L. wayanadensis (*maximum width 0.83–0.85 mm vs. 0.73–0.78 mm), clearly separate it from *L. distortus*.

AUTHOR'S CONTRIBUTION

The authors confirm their contribution to the paper as follows: P. Amina: conceptualization, methodology, identification, and writing – original draft; K. Rajmohana: writing – review and editing. Both authors read and approved the final version of the manuscript.

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AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited at the National Zoological Collections of the Zoological Survey of India (ZSI), Calicut, Kozhikode, Kerala, India, and are available from the curator upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included plants and arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

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بازبینی تاکسونومیک جنس *Labiocapritermes* Krishna, 1968 (Blattodea: Isoptera: Termitidae)، بومی هند با توصیف دو گونه جدید از کرالا

پوولی آمینا[۱]، کلوث راجموهانا[۲*]

۱ گروه زیست‌شناسی، کالج آسمابی، تریسور، کرالا، هند
۲ مرکز منطقه‌ای مطالعات جانورشناسی هند، نیو آلیپور، کلکته، هند

* پست الکترونیک نویسنده مسئول مکاتبه: *mohana.skumar@gmail.com*

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چکیده: جنس *Labiocapritermes* Krishna, 1968 (Blattodea: Isoptera: Termitidae) یک تاکسون مونوتیپیک بومی ایالت‌های جنوبی هند است. این جنس مورد بازبینی تاکسونومیک قرار گرفت و دو گونه جدید، شامل *Labiocapritermes microcephalus* Amina & Rajmohana **sp. nov.** و *Labiocapritermes wayanadensis* Amina & Rajmohana **sp. nov.** از کرالا در هند توصیف شدند. کلید شناسایی سه گونه طبقه‌بندی شده در این جنس، همراه با نقشه پراکنش آنها نیز ارایه شد. اطلاعات مربوط به مناطق انتشار، نشان‌دهنده تمایل گونه‌های این جنس به استقرار در مناطق مرتفع می‌باشد. حضور جمعیت‌هایی از گونه‌های این جنس در زیستگاه‌های طبیعی و زمین‌های کشاورزی نیز ثبت شد. به طور معمول، موریانه‌های خاک‌زی گروه III و IV کمتر در زمین‌های کشاورزی نمایان شده و اغلب در زیستگاه‌های بکر یافت می‌شوند. در مقابل، بر اساس مطالعه حاضر، گونهٔ *L. wayanadensis* در محدوده یک کشت زیرپلاستیک و *L. distortus* در مزرعه کشت چای، ثبت شد که نشان‌دهنده درجه‌ای از تحمل به اختلال زیستگاه در این موریانه‌ها می‌باشد. این مطالعه اولین شواهد حضور گونه‌های جنس *Labiocapritermes* در یک زیستگاه مدیریت شده را ارایه می‌دهد.

واژگان کلیدی: کلید شناسایی، مورفومتریک، خاورزمین، *Pericapritermes*، موریانه‌ها