

**TWO NEW TERMITES OF GENUS *ANGULITERMES* SJOSTEDT
(ISOPTERA : TERMITIDAE) FROM INDIA, WITH A KEY
TO SPECIES OF INDIAN REGION**

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(With 5 Text-figures and 2 Tables)

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I—INTRODUCTION

Ahmad (1955) reported the occurrence of the genus *Angulitermes* Sjöstedt (Termitidae : Termitinae) from the Indian Region, including here the species *dehraensis* (Gardner) (India and West Pakistan) and his own *hussaini* (West Pakistan). The former was originally described as a species of the genus *Mirotermes* Wasmann and was catalogued by Snyder (1949) under the genus *Termes* Linnaeus. In 1958, Ahmad included in *Angulitermes* three species from the Indian Region, namely *dehraensis* (Gardner), *hussaini* Ahmad and *obtusus* (Holmgren and Holmgren). Harris (1962), in his work on the African members of the genus *Angulitermes*, also listed these three species under that genus.

Angulitermes fletcheri (Holmgren and Holmgren), also first described as a species of *Mirotermes*, and considered by Snyder (1949) and Ahmad (1958) to be a species of genus *Termes* Linn., has recently been referred to *Angulitermes* by Mathur and Sen-Sarma (1961) and by Krishna (1965). The other two species, namely, *lighti* Snyder and Emerson and *marjoriae* (Snyder), both originally described as *Mirotermes* species from this region, are still referred to genus *Termes*.

Besides these four species of *Angulitermes*, namely, *dehraensis*, *fletcheri*, *hussaini* and *obtusus*, four more have recently been described from the Indian Region. These latter are : *acutus* Mathur and Sen-Sarma (1961), *akhorisainensis* Chatterjee and Thakur (1964), and *paanensis* and *resimus*, the last two by Krishna (1965).

In this paper, we have described two more new species from India (District Udhampur, Jammu and Kashmir State), thus making a total of

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ten from the Indian Region as follows, and also provided an identification key, based on soldier characters, for these ten species.

- acutus* Mathur & Sen-Sarma.—India.
akhorisainensis Chatterjee and Thakur.—India.
dehraensis (Gardner).—India and West Pakistan.
fletcheri (Holmgren and Holmgren).—India.
hussaini Ahmad.—West Pakistan.
kashmirensis sp. n.—India.
obtusus (Holmgren and Holmgren).—India.
paanensis Krishna.—Burma.
resimus Krishna.—Burma.
tilaki sp. n.—India.

II—DESCRIPTION OF NEW SPECIES

1. *Angulitermes kashmirensis* sp. n.

(Text-figs. 1 and 2 ; and Tables 1 and 2)

(a) *Material*

Two vials, in spirit, both from District Udhampur, Jammu and Kashmir State, India, *Raj Tilak* coll., 1964, and present in the collections of the Zoological Survey of India, Calcutta : (i) A vial, with a soldier and several workers (mixed with *Microtermes obesi* Holmgren), Z.S.I Coll. Station No. 39, c. 10 km. east of Chineni near confluence of River Tawi and Binisangh Nullah (stream), altitude c. 1122 m. (3700 ft.) above mean sea-level, 28.ix.1964 (Field No. T39/28.9.64). (ii) A vial in spirit, with a soldier and several workers (mixed with soldiers and workers of *Odontoiermes obesus* Rambur), Z. S. I. Coll. Station No. 45, 12 km. west of Chineni near confluence of River Tawi and Samroli Nullah (stream), altitude c. 940 m. (3100 ft.) above mean sea-level, 2.x.1964 (Field Coll. No. T45/2.10.64).

(b) *Description*

1 IMAGO—

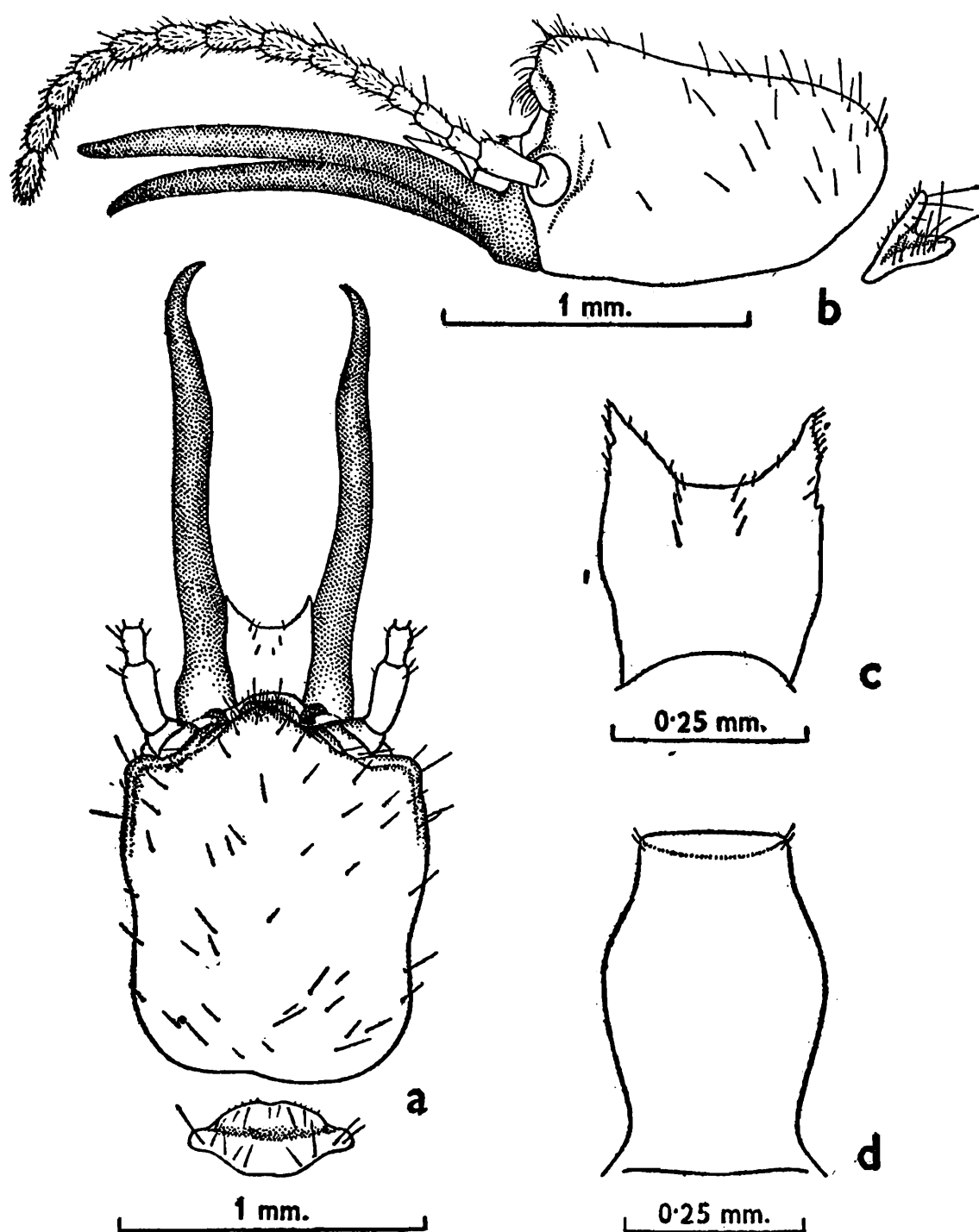
Unknown.

2. SOLDIER (Text-fig. 1 ; and Table 1)—

General : Head-capsule pale yellow to light orange yellow ; antennae, body and legs paler. Head-capsule moderately, and frontal projection, fontanelle and body fairly densely, pilose. Total body-length including mandibles c. 5.2 mm.

Head : Head-capsule subrectangular (length to base of mandibles 1.20—1.30 ; maximum width 1.00 mm.) ; broadest at about anterior one-third, whence the sides gradually narrowing behind and somewhat incurved a little posterior to middle ; posterior margin weakly rounded (slightly invaginated in holotype, Text-fig. 1*a*) ; frontal projection broadly projected in front and slightly indented medially at anterior margin. *Fontanelle* : Lying below the frontal projection and hairy. *Eyes and ocelli* : Absent. *Antennae* : With 14 segments ; segments 1 and 2 sparsely, and the remainder fairly densely, pilose ; segment 1 longest, cylindrical ; 2 about half of 1 ; 3 slightly longer than 2 and club-shaped ; 4 subequal to 2 ; 5-8 club-shaped and increasing in length in that order ; 9 to the

penultimate one subequal to or shorter than 8 ; the last ovate and a little longer than the penultimate one. *Clypeus* : Postclypeus weakly swollen and pilose. Anteclypeus apilose. *Labrum* : Subrectangular, longer than wide (index Width/Length 0.85-0.88) ; sides weakly narrowed behind and minutely wavy in the region of the horn-like antero-lateral projections ; anterior margin deeply incurved medially. *Mandibles* : Long, slender, rod-like, slightly wavy, and of the snapping-type ; pointed and weakly incurved at distal tips ; longer than head-length to base of mandible (index Left mandible length/Head-length to base of mandibles 1.14-1.23). *Postmentum* : Short and club-shaped, widest a little above the middle ; waist lying near posterior margin ; anterior margin sub-straight.



TEXT-FIG. 1.—*Angulitermes kashmirensis* sp. n. Holotype soldier. (a) Head and pronotum, in dorsal view. (b) Ditto, in side view. (c) Labrum, in dorsal view. (d) Postmentum, in ventral view.

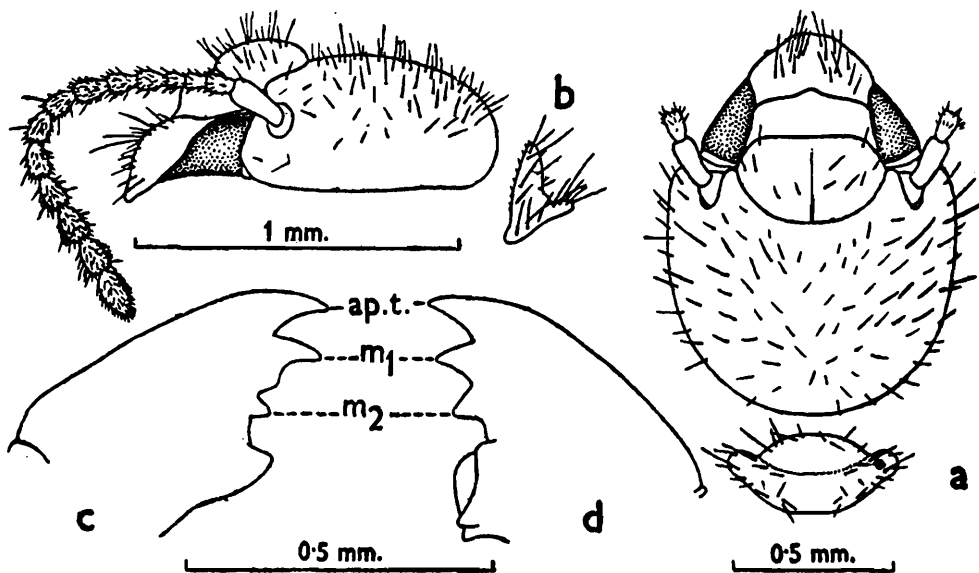
Thorax : Pronotum : Strongly saddle-shaped ; broader than long and much narrower than head-capsule (maximum length 0.20 ; maximum width 0.47-0.50 mm.) ; anterior margin weakly notched medially. **Mesonotum :** Suboval ; almost as wide as pronotum ; posterior margin weakly convex. **Metanotum :** Also suboval ; wider than pronotum ; posterior margin weakly convex. **Legs :** Thin, short and pilose ; hind-legs longest, middle-legs shortest ; apical tibial spur formula 3 : 2 : 2 ; dorsal spur on fore-tibia shorter than the ventral ones. Tarsi 4-segmented.

Abdomen : Oblong, fairly densely pilose. Cerci short, 2-segmented and hairy ; c. 0.07 mm. long. Styli absent.

3. WORKER (Text-fig. 2 ; and Table 2)—

General : Head-capsule pale yellow ; antennae, legs and thorax whitish with a yellow tinge ; abdomen appearing dark grey because of intestinal contents showing through the semi-transparent tergites and sternites ; head and body fairly densely pilose. Total body-length c. 3.9-4.5 mm.

Head : Oval, broader than long (length to base of mandibles 0.73-0.80 ; maximum width 0.87-0.90 mm.) ; posterior margin rounded. Fontanelle indistinct. Eyes and ocelli absent. Antennae with 14-segments ; segments 1 and 2 sparsely, and the remainder fairly densely, pilose ; segment 1 longest, cylindrical, narrower proximally ; 2 also cylindrical, longer than half of 1 ; 3 shorter than 2 ; 4 shortest ; 5-9 gradually increasing in length and club-shaped ; 10-13 subequal and club-shaped ; the last longer than the penultimate one and tapering in front. Postclypeus swollen and pilose ; anterior margin substraight ; posterior margin round ; divided into two halves by a thin, median, longitudinal line. Anteclypeus translucent hyaline, apilose, projected in front medially. Labrum broadly tongue-shaped ; broader than long. Mandibles of typical *Angulitermes*-type.



TEXT-FIG. 2.—*Angulitermes kashmirensis* sp. n. Morphotype worker.

(a) Head and pronotum, in dorsal view. (b) Ditto, in side view. (c), (d) Left and right mandibles respectively, in dorsal view.

ap. t., apical tooth of mandibles ; m_1 , m_2 , 1st and 2nd marginal teeth of mandibles.

Thorax : Pronotum strongly saddle-shaped ; broader than long, anterior and posterior margins not notched. Meso and metanota oval ; the former as wide as, and the latter wider than, the pronotum ; posterior margin of both convex and not notched. *Legs* : As in soldier.

Abdomen : Oblong, fairly densely pilose. Cerci 2-jointed, short, c. 0.07 mm. long. Styli absent.

(c) *Type-Specimens*

Holotype : A soldier (Z.S.I. Reg. No. 5038/H8) ; from "Material (i)" above ; deposited in National Zoological Collections, Zoological Survey of India, Calcutta. *Morphotype* : A worker (Z.S.I. Reg. No. 5039/H8) ; from "Material (i)" above ; deposited as above. *Paratype* (soldier) and *paramorphotypes* (workers) : (i) A soldier and several workers from "Material (ii)" above, deposited in Z.S.I. (ii) 20 workers from holotype lot, in Z.S.I. (iii) Two workers, from holotype lot, in Entomological Collections, Forest Research Institute, Dehra Dun. (iv) Two workers, also from holotype lot, with Prof. Alfred E. Emerson, U.S.A.

(d) *Type-Locality and Distribution*

Type-locality : About 10 km. east of Chineni, near confluence of River Tawi and Binisangh Nullah (stream), alt. c. 1122 metres, District Udhampur (Jammu and Kashmir State, India). *Distribution* : District Udhampur (*vide* "Material" above).

(e) *Comparisons*

The soldier of *A. kashmirensis* is closest to that of *A. akhorisainensis*, Chatterjee and Thakur, and is separable from the latter as follows :— (i) Head shorter (length to base of mandibles 1.20-1.30 vs. 1.35-1.40 mm.). (ii) Mandibles longer in comparison to head-length (index Left mandible-length/Head-length to base of mandibles 1.14-1.23 vs. 1.00-1.04). (iii) Labrum shallowly incurved anteriorly vs. deeply so (index Median length/Maximum length 0.72-0.75 vs. 0.68) ; and broader (index Maximum width/Maximum length 0.85-0.88 vs. 0.80). (iv) Frontal projection slightly notched at anterior margin (vs. not notched).

The soldier is also close to that of *A. dehraensis*, but is separable in having a shorter frontal projection (length of projection 0.10 vs. 0.13-0.17 mm.).

From *A. tilaki* sp. n. (*vide* below), the other species from the area, the soldier is separable in having a larger head (head-length to base of mandibles 1.20-1.30 vs. 1.13-1.20 mm.), and longer mandibles both absolutely and in comparison with head-length (length of mandibles 1.43-1.47 vs. 1.27 mm.; index Left mandible length/Head-length to base of mandible 1.14-1.23 vs. 1.06-1.12). Third segment of antenna longer (vs. shorter) than 2. The workers are very similar except that the post-clypeus is shorter in comparison with width (index Length/Width 0.50 vs. 0.57-0.58).

2. *Angulitermes tilaki* sp. n.

(Text-figs. 3-5 ; and Tables 1 and 2)

(a) *Material*

A vial, in spirit, with 2 soldiers and several workers, Z.S.I. Coll. Station No. 38, c. one km. west of Chineni near confluence of River Tawi and Motor Shed Nullah (stream), District Udhampur (Jammu

and Kashmir State, India), altitude c. 1090 m. (3600 ft.) above mean sea-level, *Raj Tilak* coll., 27.ix.1964 (Field Coll. No. T38/27.9.64).

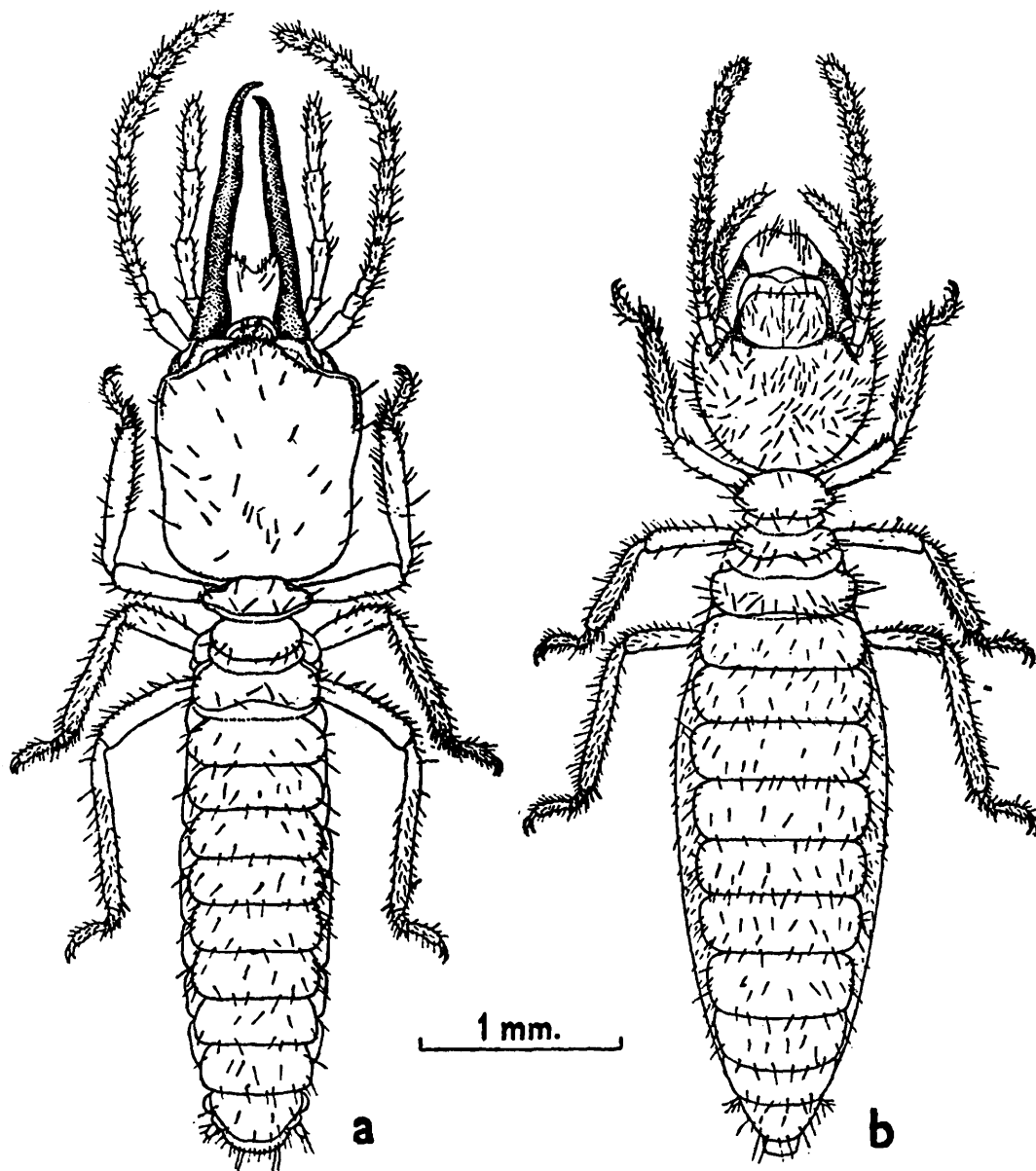
(b) *Description*

1. IMAGO—

Unknown.

2. SOLDIER (Text-figs. 3 and 4 ; and Table 1)—

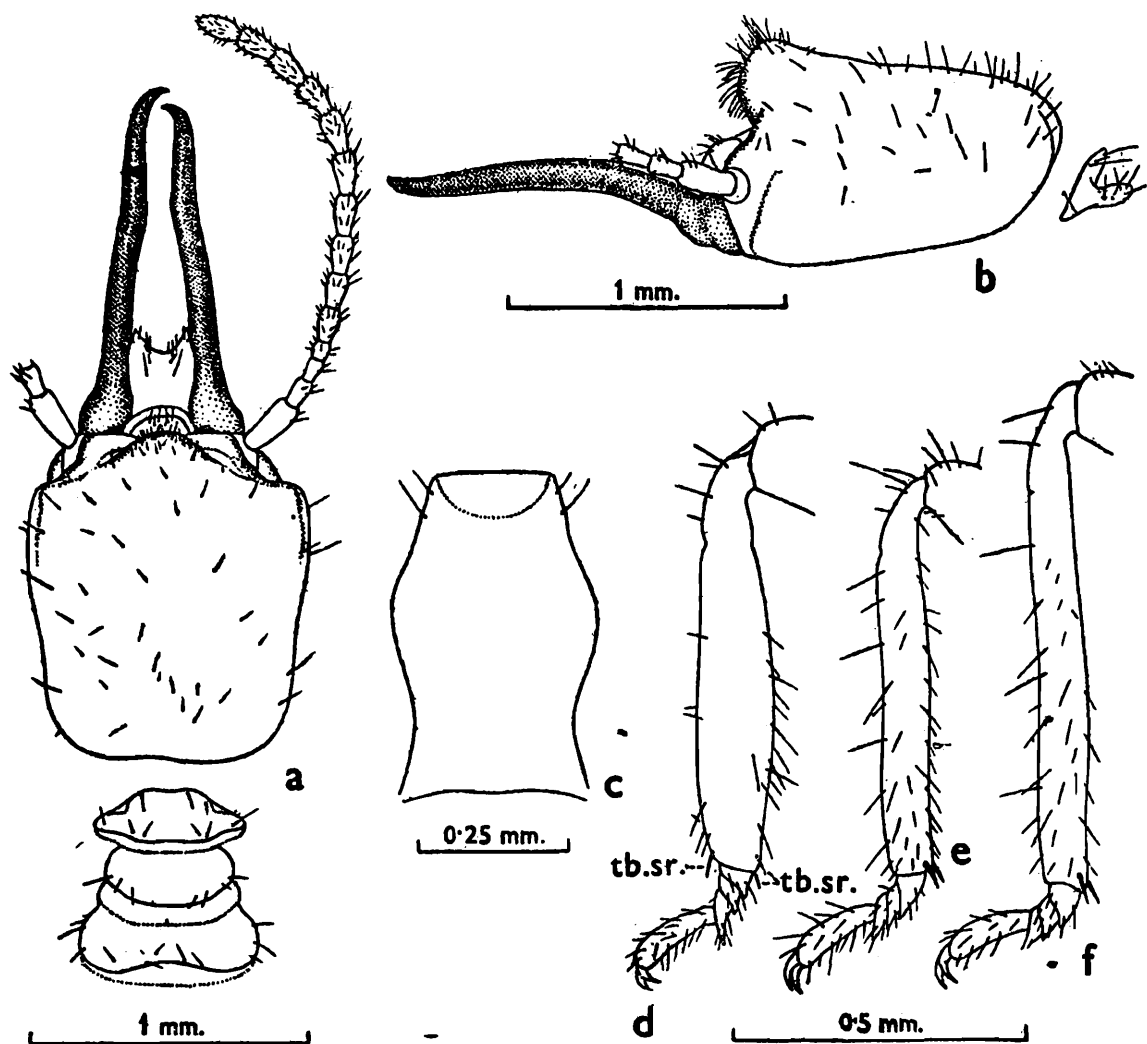
General : Head-capsule pale yellow ; antennae labrum, legs and body whitish ; mandibles dark brown. Head and body fairly pilose. Total body-length with mandibles, c. 4.6-4.9 mm.



TEXT-FIG. 3.—*Angulitermes tilaki* sp. n.
(a) Soldier, in dorsal view. (b) Worker, in dorsal view.

Head : Head-capsule subrectangular, broader anteriorly, longer than wide (length to base of mandibles 1.13-1.20 ; maximum width 0.97-1.00 mm.) ; sides weakly incurved a little behind the middle ; posterior margin weakly rounded ; frontal projection broadly round and projected in front, not reaching up to base of mandibles ; head moderately pilose. *Fontanelle* : Lying below the frontal projection. *Eyes and ocelli* : Absent. *Antennae* : With 14-segments ; segments 1

and 2 weakly, and the remainder fairly densely, pilose ; segment 1 longest cylindrical, slightly wider apically ; 2 also cylindrical and about half of 1 ; 3 shorter than 2 ; 4 shortest ; 5 to 9 long, club-shaped and gradually increasing in length in that order ; 10-13 also long and club-shaped but gradually decreasing in length ; the last ovate and subequal to the penultimate one. *Clypeus* : Somewhat swollen ; divided into an ante and a postclypeus and clearly demarcated from frons. Postclypeus of same colour as head-capsule, pilose ; anteriorly rounded ; posterior margin weakly convex. Anteclypeus translucent white, apilose ; anterior margin round. *Labrum* : Subrectangular, longer than wide (Index Width/Length 0.80-0.88) ; sides weakly narrowed posteriorly ; anterior margin deeply incurved medially and with sharply pointed, lateral, horn-like projections ; index Median length/Maximum length 0.75-0.79. *Mandibles* : Long, slender, slightly wavy, rod-like and of the snapping-type, with pointed incurved distal tips ; slightly longer than head-length to base of mandibles (index Left mandible length/Head-length to base of mandibles 1.06-1.12). *Postmentum* : Short and club-shaped ; broadest a little above, and incurved a little behind, the middle ; anteriorly translucent and hyaline ; anterior margin substraight, with a pair of short hairs on either side ; posterior margin weakly incurved.



TEXT-FIG. 4.—*Angulitermes tilaki* sp. n. Holotype soldier.

(a) Head and thorax, in dorsal view. (b) Ditto, in side view. (c) Postmentum in ventral view. (d)-(f) Fore-, middle- and hind-legs respectively, in dorsal view, Only tibia and tarsi shown.

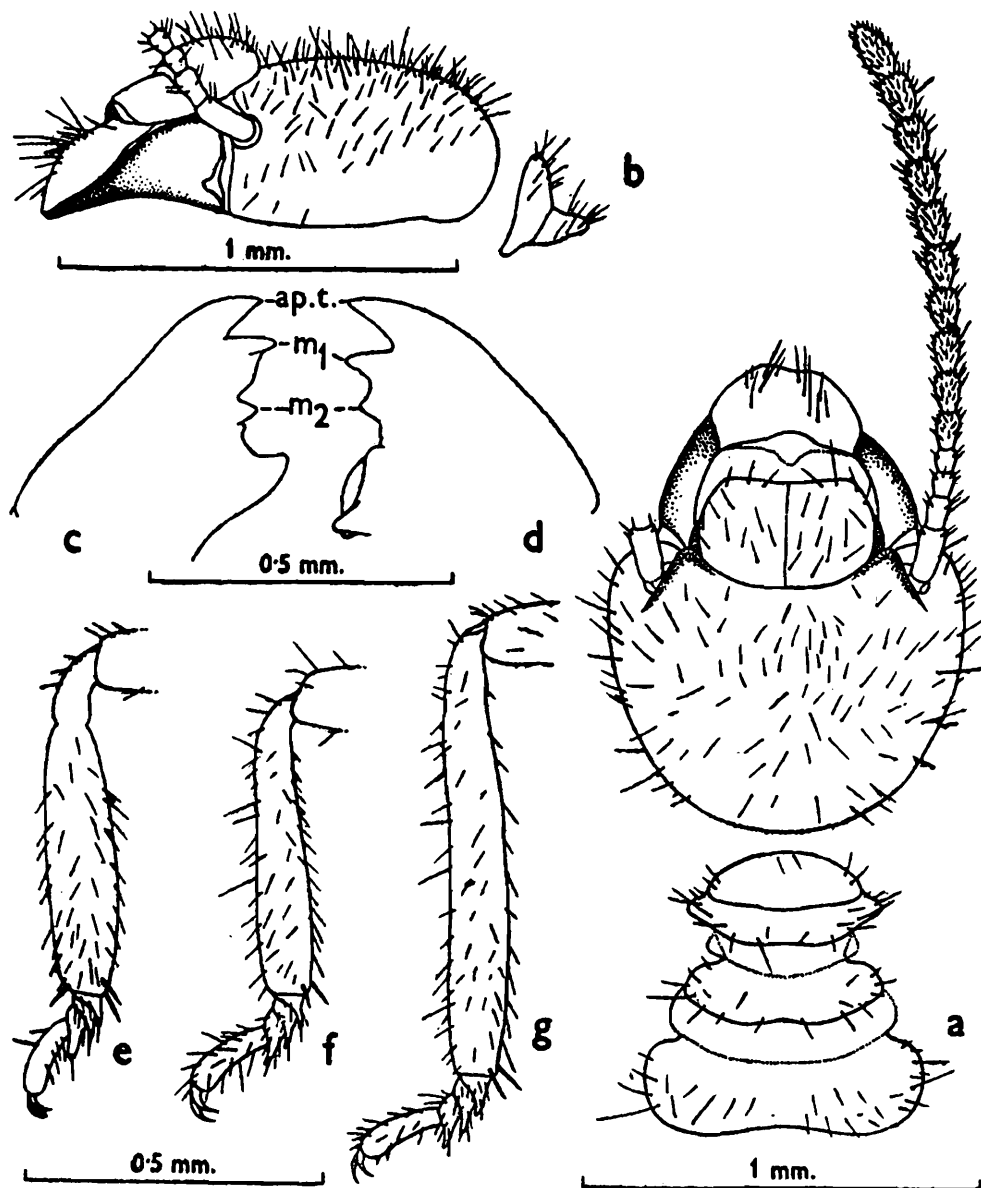
tb. sr., apical tibial spur,

Thorax : Pronotum : Strongly saddle-shaped ; broader than long and much narrower than head-width (maximum length 0.17 ; maximum, width 0.50 mm.); anterior lobe greatly upturned ; anterior margin round, weakly incurved medially. **Mesonotum** : Suboval, posteriorly rounded ; as wide as pronotum. **Metanotum** : A little broader than pronotum ; posterior margin strongly incurved medially. **Legs** : Thin and pilose ; hind-legs longest ; middle-legs shortest ; fore-tibiae weakly swollen ; apical tibial spur formula 3 : 2 : 2 ; dorsal spur on fore-tibia longer than ventral ones. Tarsi 4-segmented.

Abdomen : Oblong, pilose. Cerci 2-jointed ; c. 0.10 mm. long. Styli absent.

3. WORKER (Text-figs. 3 and 5 ; Table 2)—

General : Head-capsule pale yellow ; antennae, labrum, legs and thorax whitish ; abdominal tergites and sternites semi-transparent, but



TEXT-FIG. 5.—*Angulitermes tilaki* sp. n. Morphotype worker.

(a) Head and thorax, in dorsal view. (b) Head and pronotum, in side view. (c), (d), Left and right mandibles respectively, in dorsal view. (e)-(g) Fore-middle-and hind-legs respectively, in dorsal view. Only tibia and tarsi shown.

ap. t., apical tooth of mandibles ; m_1 , m_2 , 1st and 2nd marginal teeth of mandible ; *tb. sr.*, apical tibial spurs.

abdomen appearing greyish due to intestinal contents showing through. Head and body fairly densely pilose. Total body-length *c.* 4.4-4.9 mm.

Head : Oval, longer than broad ; head-capsule subcircular, broader than long ; posterior margin round. Fontanelle indistinct. Eyes and ocelli absent. Antennae with 14-segments ; segment 1 longest, cylindrical ; 2 cylindrical, longer than half of 1 ; 3 shorter than 2 ; 4 shortest ; 5-8 club-shaped and gradually increasing in length in that order ; 9 to the penultimate one subequal ; the last ovate, tapering in front and longer than the penultimate one. Postclypeus large, swollen, pilose and divided into right and left halves by a dark median longitudinal line ; anterior margin weakly concave. Anteclypeus translucent, apilose ; anteriorly projected in front medially. Labrum broadly tongue-shaped ; pilose near anterior margin and on body. Mandibles of typically *Angulitermes*-type.

Thorax : Pronotum saddle-shaped ; anterior lobe greatly upturned ; anterior margin rounded, not notched medially ; posterior margin weakly convex, with or without a median incurving. Mesonotum oval, as wide as pronotum : posterior margin convex, incurved medially. Metanotum wider than pronotum ; posterior margin convex with a broad median incurving. Legs as in soldier.

Abdomen : Oblong, hairy. Cerci 2-jointed, short, *c.* 0.07 mm. long. Styli absent.

(c) *Type specimens*

Holotype : A soldier (Z.S.I. Reg. No. 5042/H8). Deposited in National Zoological Collections, Zoological Survey of India, Calcutta.

Morphotype : A worker (Z.S.I. Reg. No. 5043/H8), deposited as above.

Paratype (soldier) and *paramorphotypes* (workers) : (i) A paratype soldier and 20 paramorphotype workers, in Zoological Survey of India. (ii) Two paramorphotype workers in Entomological Collections, Forest Research Institute, Dehra Dun. (iii) Two paramorphotype workers with Prof. Alfred E. Emerson, U.S.A.

(d) *Type-Locality and Distribution*

Type-locality : Approximately one km. west of Chineni near confluence of River Tawi and Motor Shed Nullah (stream), District Ud'hampur (Jammu and Kashmir State, India). Known only from the type-locality.

(e) *Comparisons*

The soldier of *Angulitermes tilaki* is close to that of *A. obtusus* Holmgren and Holmgren in size but is separable as follows :—(i) Head-capsule wider in front and narrower behind (*vs.* uniformly wide). (ii) Frontal projection with a round apex and rounded anteriorly (*vs.* with an acute apex and sharply declining anteriorly). (iii) Head-capsule wider both absolutely and in comparison with head-length (maximum width 0.97-1.00 *vs.* 0.90-0.93 mm. ; index Width/Length to side base of mandibles 0.83-0.85 *vs.* 0.78-0.80).

For differences from *A. kashmirensis*, see above under that species.

III—KEY TO *ANGULITERMES* OF INDIAN REGION BASED ON SOLDIERS

Note : The types of all species except *hussaini*, *paanensis* and *resimus* have been examined by us.

- 1(2). Frontal projection of head relatively long (length c. 0.23 mm.) and subconical
- 2(1). Frontal projection of head short (length c. 0.10—0.17 mm.) and blunt.
- 3(6). Smaller species : Head-length to side base of mandibles c. 0.87—1.00 mm. ; maximum head-width c. 0.80—0.84 mm.
- 4(5). Head wider anteriorly and sparsely hairy. Frontal projection narrower and indented medially at anterior margin. Third antennal segment longer than second
- 5(4). Head wider posteriorly and fairly densely hairy. Frontal projection broader and even at anterior margin. Third antennal segment subequal to second
- 6(3) Larger species : Head-length to side base of mandibles over 1 mm. (c. 1.13—1.40 mm.) ; maximum head-width c. 0.90—1.05 mm.
- 7(8) Labrum broader (index Maximum Width/Maximum length 0.97), and strongly narrowed posteriorly ; anterior margin broadly and shallowly concave
- 8(7). Labrum narrower (index Maximum width/Maximum length 0.66—0.88), and weakly narrowed posteriorly ; anterior margin narrowly and deeply concave.
- 9(12). Mandibles shorter (c. 1.27—1.30 mm. long).
- 10(11). Head-capsule uniformly wide ; frontal projection with an acute apex and sharply truncated in front
- 11(10). Head-capsule wide in front and narrowed posteriorly ; frontal projection with a round apex and roundly truncated in front
- 12(9). Mandibles longer (c. 1.34—1.47 mm. long).
- 13(16). Frontal projection of head longer ; length of head to frontal projection slightly more than its length to side base of mandibles.
- 14(15). Head fairly pilose ; frontal projection rounded and not turned upwards apically
- 15(14). Head sparsely pilose, with only a few bristles ; frontal projection conical and turned upwards apically
- 16(13). Frontal projection of head shorter (c. 0.1 mm. long) ; length of head to frontal projection slightly less than its length to side base of mandibles (index Head-length upto frontal projection/Head-length to side base of mandibles 0.97—0.98).
1. *A. fletcheri* Holmgren & Holmgren
2. *A. hussaini* Ahmad
3. *A. paanensis* Krishna
4. *A. acutus* Mathur & Sen-Sarma
5. *A. obtusus* Holmgren & Holmgren
6. *A. tilaki* sp. n.
7. *A. dehraensis* (Gardner)
8. *A. resimus* Krishna

17(18). Head shorter (head-length to side base of mandibles c. 1.20—1.50 mm.). Mandibles longer compared to head-length (index Left mandible-length/Head-length to side base of mandibles 1.14—1.23). Labrum shallowly incurved at anterior margin (index Median length/Maximum length 0.72—0.75) and broader (index Maximum width/Maximum length 0.85—0.88) 9. *A. kashmirensis* sp.n.

18(17). Head longer (head-length to side base of mandibles 1.35—1.40 mm.). Mandibles shorter compared to head-length (index Left mandible-length/Head-length to side base of mandibles 1.0—1.04). Labrum deeply incurved at anterior margin (index Median length/Maximum length 0.68) and narrower (index Maximum width/Maximum length 0.80) 10. *A. akhorisainensis*
Chatterjee and Thakur

IV—SUMMARY

1. Ten species of genus *Angulitermes* Sjöstedt are now known from the Indian Region (8 already known and 2 described as new here).

2. The two new species are : *A. kashmirensis* and *A. tilaki*. They are described from soldier and worker castes, from Udhampur District, Jammu and Kashmir State, India.

3. A key, based on soldier characters, is provided for the identification of the ten species.

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TABLE 1.—Measurements (in mm.) etc., of soldiers of *Angulitermes kashmirensis* and *A. tilaki* spp. n.

Body--parts	<i>A. kashmirensis</i>		<i>A. tilaki</i>	
	Range (2 exs.)	Holotype	Range (2 exs.)	Holotype
1. Total body-length (including mandibles but excluding antennae), <i>c.</i>	5.20	5.20	4.6—4.9	4.6
2. Length of head to lateral base of mandibles	1.20—1.30	1.20	1.13—1.20	1.20
3. Length of head upto frontal projection	1.17—1.27	1.17	1.10—1.17	1.17
4. Length of head upto fontanelle	1.07—1.20	1.07	1.00—1.07	1.07
5. Maximum width of head	1.00	1.00	0.97—1.00	1.00
6. Maximum height of head	0.70—0.77	0.70	0.70	0.70
7. Head Index I (Width/Length to side base of mandibles)	0.77—0.83	0.83	0.83—0.85	0.83
8. Head Index II (Height/Length to side base of mandibles)	0.58—0.59	0.58	0.58—0.62	0.58
9. Head Index III (Height/Width)	0.70—0.77	0.70	0.70—0.72	0.70
10. Head Index IV (Length upto frontal projection/Length to side base of mandibles)	0.975—0.977	0.975	0.973—0.975	0.975
11. Fontanelle-Head Index (Length upto fontanelle/Length to side base of mandibles)	0.89—0.92	0.89	0.88—0.89	0.89
12. Length of frontal projection of head	0.10	0.10	0.10	0.10
13. Maximum length of labrum	0.30—0.33	0.33	0.28—0.31	0.31
14. Maximum length of labrum upto middle of anterior margin	0.22—0.25	0.25	0.20—0.25	0.25
15. Maximum width of labrum	0.27—0.28	0.28	0.25	0.25
16. Labrum Index I (Length upto middle of anterior margin/Maximum length)	0.72—0.75	0.75	0.75—0.79	0.79
17. Labrum Index II (Maximum width/Maximum length)	0.85—0.88	0.85	0.80—0.88	0.80

18. Length of mandibles (from upper base of condyle to tip) :

(a) Left Mandible	1.47	1.47	1.27	1.27
(b) Right Mandible	1.43—1.47	1.47	1.27	1.27
19. Head-Mandibular length Index (Left mandible length/Head-length to side base of mandibles)	1.14—1.23	1.23	1.06—1.12	1.06
20. Minimum median length of postmentum	0.47	0.47	0.47—0.50	0.50
21. Maximum width of postmentum	0.31—0.33	0.31	0.33	0.33
22. Width of postmentum at waist	0.23—0.27	0.23	0.27	0.27
23. Postmentum contraction Index	0.74—0.82	0.74	0.82	0.82
24. Maximum length of pronotum	0.20	0.20	0.17	0.17
25. Maximum width of pronotum	0.47—0.50	0.47	0.50	0.50

TABLE 2.—Measurements (in mm.) of workers of *A. kashmirensis* and *A. tilaki* spp. n.

Body-parts	<i>A. kashmirensis</i> (5 exs.)	<i>A. tilaki</i> (5 exs.)
1. Total body-length (excluding antennae), c.	3.90—4.50	4.4 —4.9
2. Length of head to tip of labrum	1.10—1.17	1.10—1.17
3. Length of head to lateral base of mandibles	0.73—0.80	0.73—0.80
4. Maximum width of head	0.87—0.90	0.87—0.90
5. Maximum height of head	0.40—0.43	0.37—0.40
6. Maximum length of postclypeus	0.23—0.25	0.25—0.27
7. Maximum width of postclypeus	0.47—0.50	0.43—0.47
8. Maximum length of labrum	0.30—0.33	0.30—0.33
9. Maximum width of labrum	0.40—0.43	0.40—0.43
10. Maximum length of pronotum	0.20—0.23	0.20
11. Maximum width of pronotum	0.47—0.50	0.50