

گزارش ۳ گونه مورخانه جدید از ایران  
*Microcerotermes varaminicus* sp. n. *Amitermes iranicus* sp.  
n. and *Amitermes kharrazii* sp. n.  
(Isoptera: Termitidae, Termitinae)

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چکیده:

در مطالعه مورخانه‌های ایران ۳ گونه از جنس‌های *Microcerotermes Silvestri* و *Amitermes Silvestri* جمع‌آوری و نامگذاری گردید و برای تأیید به خانم Bosc و آقای Chhotani ارسال گردید و به عنوان گونه‌های جدید برای دنیا تأیید شد.

در طبقه سرباز *Microcerotermes varaminicus* sp. nov. کپسول سر مستطیلی شکل، زرد رنگ و در قسمت جلو کمی تیره‌تر می‌باشد. طول سر حدود  $1/37$  برابر عرض سر و حاشیه‌های جانبی موازی و در قسمت جلو کمی همگرا شده‌اند.

در طبقه سرباز *Amitermes iranicus* sp. nov. کپسول سر و قطعه زیر پیشانی عقبی زرد متمایل به قهوه‌ای کم رنگ است. شاخک‌ها ۱۴ بندی، بند اول استوانه‌ای شکل، بندهای ۲ و ۴ یک اندازه و سومین بند کوچکترین بند است. طول بدن با آرواره‌های بالا  $5/50-5/60$  میلیمتر می‌باشد.

در طبقه سرباز گونه *Amitermes kharrazii* sp. nov. کپسول سر، پیش‌گرده و شاخک‌ها زرد متمایل به قهوه‌ای کم رنگ می‌باشد. شاخک‌ها ۱۵ بندی، طول بدن با آرواره‌های بالا  $6/40-7/00$  میلیمتر و طول کپسول سر تا قاعده آرواره‌های بالا  $1/50-1/55$  میلیمتر است.

توصیف اصلی (Original description) گونه‌ها، شکل‌های قسمت‌های مختلف بدن و منابع مورد استفاده در قسمت انگلیسی آمده است.

۱- بخش تحقیقات رده بندی حشرات، موسسه‌ی تحقیقات آفات و بیماری‌های گیاهی، صندوق

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Three New Termite Species from Iran

*Microcerotermes varaminicus* sp. n. *Amitermes iranicus* sp. n. and  
*Amitermes kharrazii* sp. n. (Isoptera: Termitidae, Termitinae)

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**Keywords:** Termites, new species, Iran

**Abstract**

During study of termite fauna of Iran three species of genera *Microcerotermes* and *Amitermes* were collected and assumed that they are new to science. Therefore, the specimens were mailed to Zoological Survey of India (Calcutta). Dr. Bose and Dr. Chhotani kindly confirmed the identifications.

In soldier caste of *Microcerotermes varaminicus* sp. nov. head capsule subrectangular, pale yellow and somewhat darker anteriorly. Head length about 1.37 times than of width, sides parallel, a little convergent anteriorly.

In soldier caste of *Amitermes iranicus* sp. nov. head capsule and postclypeus pale yellow brown. Antennae 14 segmented, first larger, cylindrical, second and fourth subequal and third shortest. Total length 5.50-5.60mm.

In soldier caste of *Amitermes kharrazii* sp. n. head capsule, pronotum and antennae, pale yellow brown. Antennae 15 segmented. Total body-length 6.40-7.00mm and length of head to side base of mandible 1.50-1.55mm.

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## Intoduction:

Termites are Paurometabolous and structurally primitive insects, which are closely related to cockroaches. They are always found in discrete, fully eusocial community and the most highly developed species show a social behaviour superior to that of the social Hymenoptera. About 2, 761 species of termites have been described, principally from the tropical regions of the world.

Termites are divided to wood-dweller and ground-dweller and feed on wood and serve an important function in nature by converting dead trees into organic matter.

Iran is located in dry zone of western paleractic region. This region collectively is not suitable as habitat of termites. A few species of the genera *Anacanthotermes*, *Psammotermes*, *Microcerotermes* and *Amitermes* have been reported by Silvestri (1920), Harris (1967) and Badawi (1982). Chhotani and Bose (1979, 83) reported *Microcerotermes diversus*, *M. parvulus*, *M. saudiensis*, *M. gabrielis*, *Amitermes vilis*, *A. stephensoni* and *A. messinae* from Arabian Peninsula.

Indo-malyayan region is the best habitat of termites. Ahmad (1955) and Akhtar (1974) have investigated termite fauna of Pakistan, and several new species have been reported by them.

In Iran, termites are pests of pasture, agriculture, forest plantations and bulidings. Therefore termite fauna of Iran have been studying by author since 1987.

## Material and Methods:

During the study of termite fauna of Iran, specimens of genera *Microcerotermes* Silvestri and *Amitermes* Silvestri were collected from Varamine, Kermanshah and Tehran. It was assumed that they are new to the science, thus the specimens were mailed to Zoological Survey of India (Calcutta). The specimens were examined by the late Dr. Chhotani and Dr. Bose and the identifications were confirmed.

Castes of reproductives, soldier and worker were collected from nests and covered run-ways, transfered into the vials containing 75% ethanol.

Morphological studies were conducted by binocular equipped with micrometre and drawing tube. Afterwards pictures of body parts were drawn.

### Discussion and Conclusion:

#### 1. *Microcerotermes varaminicus* sp. nov.

**Soldier** (Fig. 1): Head yellow, somewhat darker anteriorly; labrum, pronotum and antennae paler than head; mandibles dark reddish brown; legs and body pale creamy yellow. Head and body fairly pilose. Total body length 5mm.

Head subrectangular, longer than broad; length about 1.37 times than of width, sides parallel, a little convergent anteriorly. Fontanell indistinct. Eye spots present, pale brown. Antennae 13 - segmented, segment 3 shortest, 4 onwards increasing in length, last one slender and much longer than penultimate. Postclypeus not sharply demarcated from frons. Anteclypeus apilose, hyaline, whitish, thin and narrow. Labrum tongue - shaped. Mandibles long, slightly shorter than head without mandibles, fairly straight on outer margins, inner margins finely serrated, apices incurved. Postmentum subrectangular, with an imperceptible incurving below middle, sides converging to anterior margin from widest position. Pronotum weakly saddle - shaped, with a very indistinct notch on anterior margin. Mesonotum wider than pronotum and metanotum wider than mesonotum. Legs long and hairy; middle - legs shortest; hind - legs longest; fore tibiae slightly swollen; apical tibial spurs 3:2:2, tibia with two extra spines; tarsi 4 - jointed. Abdomen oval, oblong and pilose.



Table 1: Morphometrical measurements of soldier caste, *M. varamanicus* sp. n.

(mm)	
Body parts	Holotype
Total body - length	5.00
Head - length with mandibles	2.50
Head - length to mandible - base (L)	1.37
Max. head - width (W)	1.00
Length of left mandible (M)	1.25
Postmentum (median L × max. W)	6.67 × 0.37
Pronotum (L × W)	0.25 × 0.75
Head Indices:	
L/M (Mandible - head Index)	1.10
M/L (Mandible - head Index)	0.91
L/W (Head Index)	1.37
W/L (Head Index)	0.73

**Worker:** Head yellowish, rest of body creamy, abdomen appears greyish because of intestinal contents.

Head capsule subcircular, sides somewhat diverging anteriorly. Eye spots present, pale brown. Antennae with 13 segments, segment 3 shortest. Labrum broad, tongue shaped. Pronotum, legs and abdomen as in soldier.

Table 2: Morphometrical measurements of worker caste, *M. varamanicus* sp. n.

(mm)	
Body parts	Holotype
Total body - length	4.75
Head - length with mandible - base	0.87
Max. head - width	0.93
Pronotum (L × W)	0.25 × 0.67

**Type - specimens:** All from varamine, coll. R. Ghayourfar, 6.XIII.1989, deposited as follow: Holotype and paratypes soldier and worker in Plant Pests

and Diseases Research Institute Museum.

**Distribution:** IRAN: Tehran Provice; Varamine.

**Affinities:** This species is close to the *Microcerotermes gabrielis*, but length of left mandible and length of head to side base of mandibles is larger compare to *M. gabrielis*.

## 2. *Amitermes iranicus* sp. nov.

**Soldier** (Fig. 2): Head and postclypeus pale yellow brown; antennae and labrum somewhat paler; fontanelle gland portion paler; mandibles dark brown, basal paler; pronotum yellow brown, slightly paler than head - capsule; anteclypeus, labrum, legs and body yellow. Head and body sparsely pilose. Total body - length 5.50 - 5.60mm.

Head subrectangular, sides somewhat converging anteriorly. Frons sloping in front. Fontanelle roundly oval, slightly raised, situated at level of antennae, with a depressed groove leading from opening up to labrum base. Antennae fairly pilose, 14 - segmented, first segment large, cylindrical, second and fourth subequal, third shortest, fifth onwards increasing in size, last one long, slender. Postclypeus bilobed, broader than long. Anteclypeus thin, hyaline, pilose. Mandible short, basally broad, outer margin curving inwards to a sharply pointed apex. Left mandible with a triangular tooth at middle; posterior margin of tooth long; inner margin above molar plate strongly incurved. Right mandible same left mandible. Postmentum subrectangular, with an imperceptible incurving below middle, sides converging to anterior margin from widest position. Pronotum saddle - shaped, with a fine notch on anterior margin.

Mesonotum narrower than pronotum in width. Metanotum slightly broader than pronotum. Legs long, fairly robust; tarsi 4 - segmented; apical tibial spurs 3:2:2.



Table 3: Morphometrical measurements of soldier caste, *Amitermes iranicus* sp.

Body parts	n. (mm)	Range	X	Holotype
Total body length with mandibles		5.50-5.60	5.55	5.50
Head-length to mandible-base (L)		1.25-1.32	1.27	1.25
Max. width of head (W)		1.10-1.17	1.13	1.12
Length of left mandible (M)		0.75-0.87	0.80	0.75
Mandibular tooth distance		0.40-0.42	0.41	0.40
Pronotum (L×W)		-	0.37×0.75	0.37×0.75
Postmentum (Max. L×W)		0.70-0.75	0.74	0.75
		×	×	×
		0.35-0.37	0.36	0.35
Length of hind tibia		-	1	1
Mandible-Head Index (L.M)		1.52-1.67	1.59	1.67
Head Index (L/M)		1.07-1.18	1.13	1.12

**Worker** (Fig. 3, A): Head, pronotum and antennae yellowish, abdomen pale yellow. Head - capsule somewhat darker anteriorly. Mandibles apically golden yellow with brownish teeth. Head and body pilose with a short hairs. Total body length 4.70 - 5.50mm.

Head subcircular, much broader than length to base of mandibles, sides curving slightly to a rounded posterior margin. Antennae 14 - segmented, third shortest. Postclypeus divided into right and left halves, swollen, broader than long, anterior margin substraight. Anteclypeus apilose, medially projecting in front to a fairly pointed tip. Labrum broadly tongue - shaped, broader than long. Pronotum saddle - shaped, much broader than long, narrower than head. Legs long, tibial spurs 3:2:2, tarsi 4 - segmented.

Table 4: Morphometrical measurements of worker caste, *Amitermes iranicus* sp.

Body parts	n. (mm)		
	Range	X	Holotype
Total body - length	4.70 - 5.50	5.04	5.50
Head - length to mandible - base	0.82 - 0.87	0.86	0.87 <sup>b</sup>
Max. width of head	1.07 - 1.12	1.10	1.07
Length of hind tibia	0.85 - 0.87	0.86	0.85

**Type - specimens:** All from Kermanshah, coll. R. Ghayourfar, 12.IX.1996; deposited as follow; Holotypes and some paratypes soldier and worker in Pests and Diseases Research Institute Museum; remained paratypes in Zoological Museum, Faculty of Agriculture (Karaj)

**Distribution:** IRAN: Western parts; Kermanshah.

### 3. *Amitermes kharrazii* sp. nov.

**Soldier** (Fig. 4): Head, pronotum, antennae pale yellowish brown, slightly darker anteriorly; fontanelle gland portion darker; mandibles dark brown, basal slightly paler; legs and body pale yellowish brown, somewhat paler than head - capsule. Head and body sparsely pilose. Total body - length 6.46 - 7.00mm.

Head - capsule subrectangular, frons sloping in front. Antennae fairly pilose, 15 segmented, segment first large, cylindrical, second longer than fourth, third shortest, fifth onwards increasing in size, last one slender and subequal to penultimate. Postclypeus bilobed, broader than long, with a few short hairs near margin and on body. Anteclypeus thin, hyaline, apilose. Mandible short, basally broad, outer margin curving inwards to a sharply pointed apex, tooth approximately in middle, directed backwardly in a continuous line with the inner margin anterior to it, not pointed; inner margin with a regular curve from tooth to apex. Postmentum subrectangular, with an imperceptible incurving below middle. Pronotum saddle - shaped, without notch on anterior margin. Metanotum broader than pronotum and mesonotum. Legs long, tarsi 4 - segmented, apical tibial spurs 3:2:2.



Table 5: Morphometrical measurements of soldier caste, *Amitermes kharrazii*

Body parts	sp. n. (mm)		
	Range	X	Holotype
Total body length including mandibles	6.40 - 7.00	6.52	6.70
Head - length to mandible - base (L)	1.50 - 1.55	1.51	1.55
Max. width of head (W)	1.30 - 1.37	1.33	1.37
Length of left mandible (M)	0.92 - 1.00	0.97	1.00
Mandibular tooth distance	0.47 - 0.50	0.49	0.47
Length of head with mandible	2.37 - 2.50	2.46	2.50
Pronotum (L x W)	0.37	0.37	0.37
	0.82 <sup>x</sup> - 0.87	0.86 <sup>x</sup>	0.82 <sup>x</sup>
Postmentum (Median L x Max. W)	0.74 - 0.87	0.82	0.74
	0.37 <sup>x</sup> - 0.42	0.39 <sup>x</sup>	0.37 <sup>x</sup>
Length of hind tibia	1.25 - 1.30	1.26	1.25
Mandible - Head Index L/M	1.50 - 1.63	1.56	1.55
Head Index L/W	1.11 - 1.36	1.17	1.13

**Imago** (Fig. 5): Head capsule and pronotum pale yellowish brown, slightly darker anteriorly; antennae and postclypeus yellowish, somewhat paler than head - capsule; body pale yellow; wings pale yellowish brown. Head and body fairly pilose. Total body length without wings 5.50mm.

**Head capsule** subcircular, eyes projecting, ocelli present, oval, pale yellow. Fontanelle present, roundly oval, situated at level of eyes. Antennae 15 segmented, third segment shortest, fourth onwards increasing in length, last one slender and longer than penultimate. Postclypeus swollen, divided into right and left halves, broader than long. Posterior of head almost semicircular. Pronotum subequal of head across eyes, posterior margin with a fine notch, sides broadly rounded, converging to posterior. Mandibles of *Amitermes* - type. Tarsi 4 - segmented and tibial spurs 3:2:2.

Table 6: Morphometrical measurements of adult, *Amitermes kharrazii* sp. n.

Body parts	(mm)	Holotype
Total length without wings		5.50
Head - length to side base of mandible		0.88
Head to apex of labrum		1.25
Max. head - width		1.18
Long diameter of eye		0.28
Short diameter of eye		0.25
Length of pronotum		0.58
Width of pronotum		1.00
Length of fore wing with scale		6.50

**Worker** (Fig. 3, B): Head pale yellowish brown, paler at base of mandible; pronotum, legs and antennae paler than head - capsule. Mandibles apically yellowish brown, with dark - brown teeth. Head and body pilose with a short hair. Total body 5.50 - 6.00mm.

Head - capsule subcircular, broader than length to base of mandible, sides curving to a rounded posterior margin. Antennae 15 segmented, third shortest. Postclypeus divided into right and left halves, swollen, broader than long, anterior margin subright. Anteclypeus apilose, medially projecting in front to a more or less pointed tip. Labrum broadly tongue - shaped, much broader than long. Mandible of *Amitermes* - type. Pronotum saddle - shaped, much broader than long, narrower than head. Legs long, tibial spurs 3:2:2, tarsi 4 - segmented.



Table 7: Morphometrical measurements of worker caste, *Amitermes kharrazii*

Body parts	Range	X	Holotype
Total - body length	5.50 - 6.00	5.75	5.50
Head - length to mandible base	—	1.00	1.00
Max. width of head	—	1.25	1.25
Pronotum (median L × max. width)	—	0.37	0.37
		×	×
		0.75	0.75
Length of hind tibia	1.00 - 1.12	1.04	1.00

**Type specimens:** All from Tehran, coll. R. Ghayourfar, 16.XII.1997; deposited as follow: Holotypes and some paratypes Imago, soldier and worker in Pests and Diseases Research Institute Museum; remained paratypes in Zoological Museum, Faculty of Agriculture (Karaj).

**Distribution:** IRAN: Province of Tehran; Tehran, Karaj, Abyek.

**Etymology:** Named for the Dr. A. Kharrazi.

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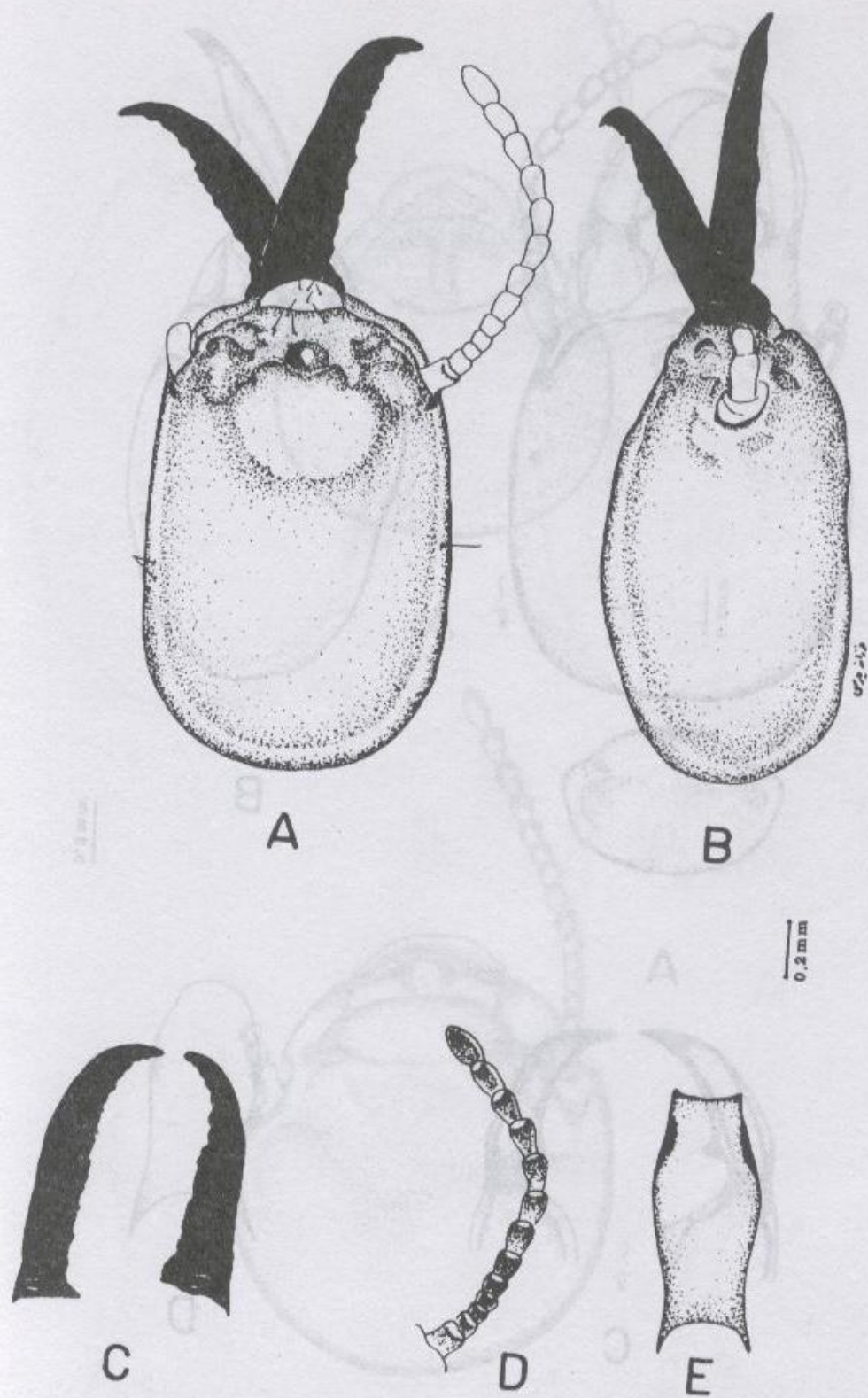


Fig. 1. *Microcerotermes varamanicus*. sp. n. soldier; A. Head from above, B. Head from side view, C. Mandible, D. Antenna, E. Postmentum.

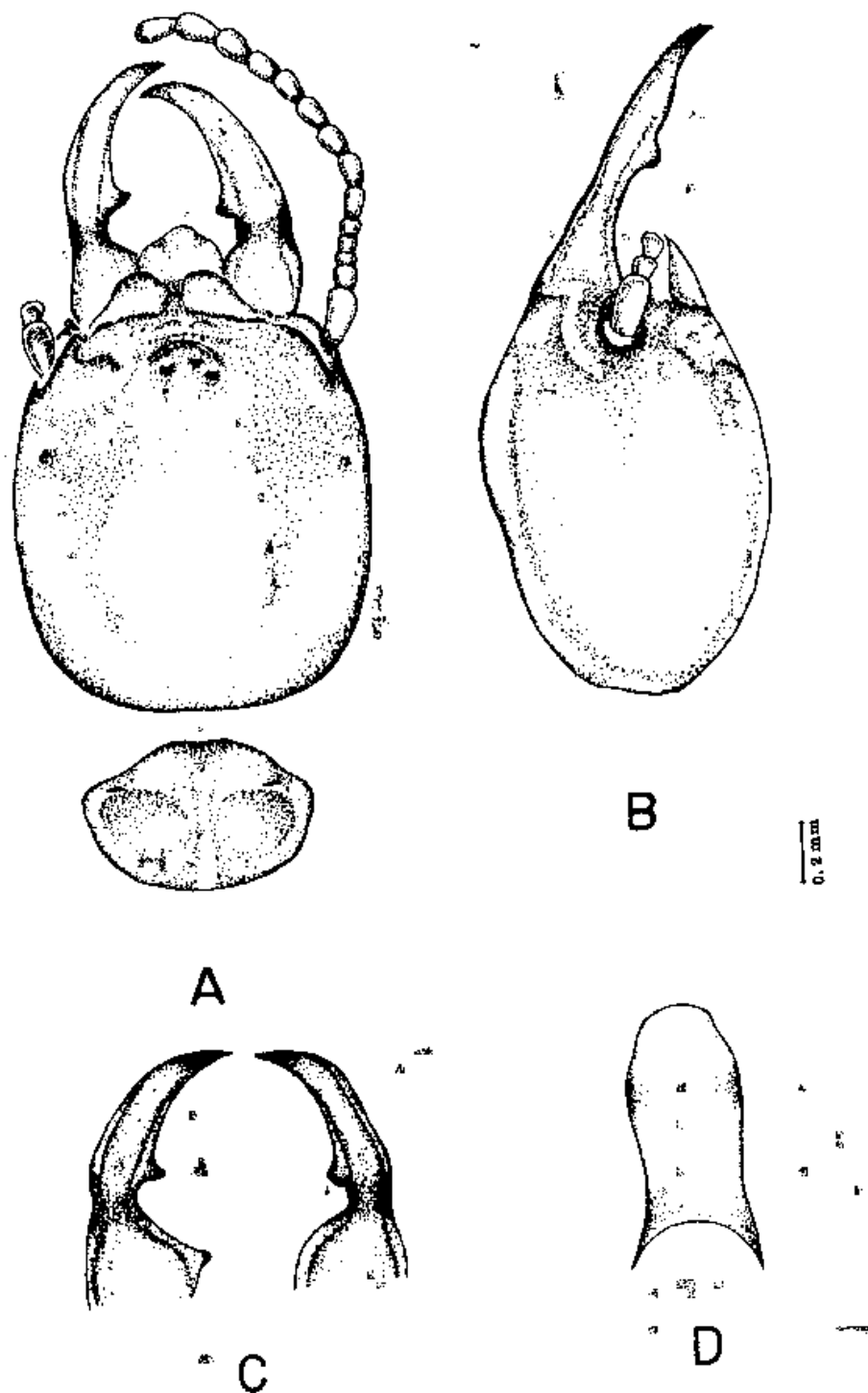


Fig. 2. *Amitermes iranicus*. sp. n. Soldier, A. Head and pronotum from dorsal view, B. Head from side view; C. Mandible, D. postmentum.

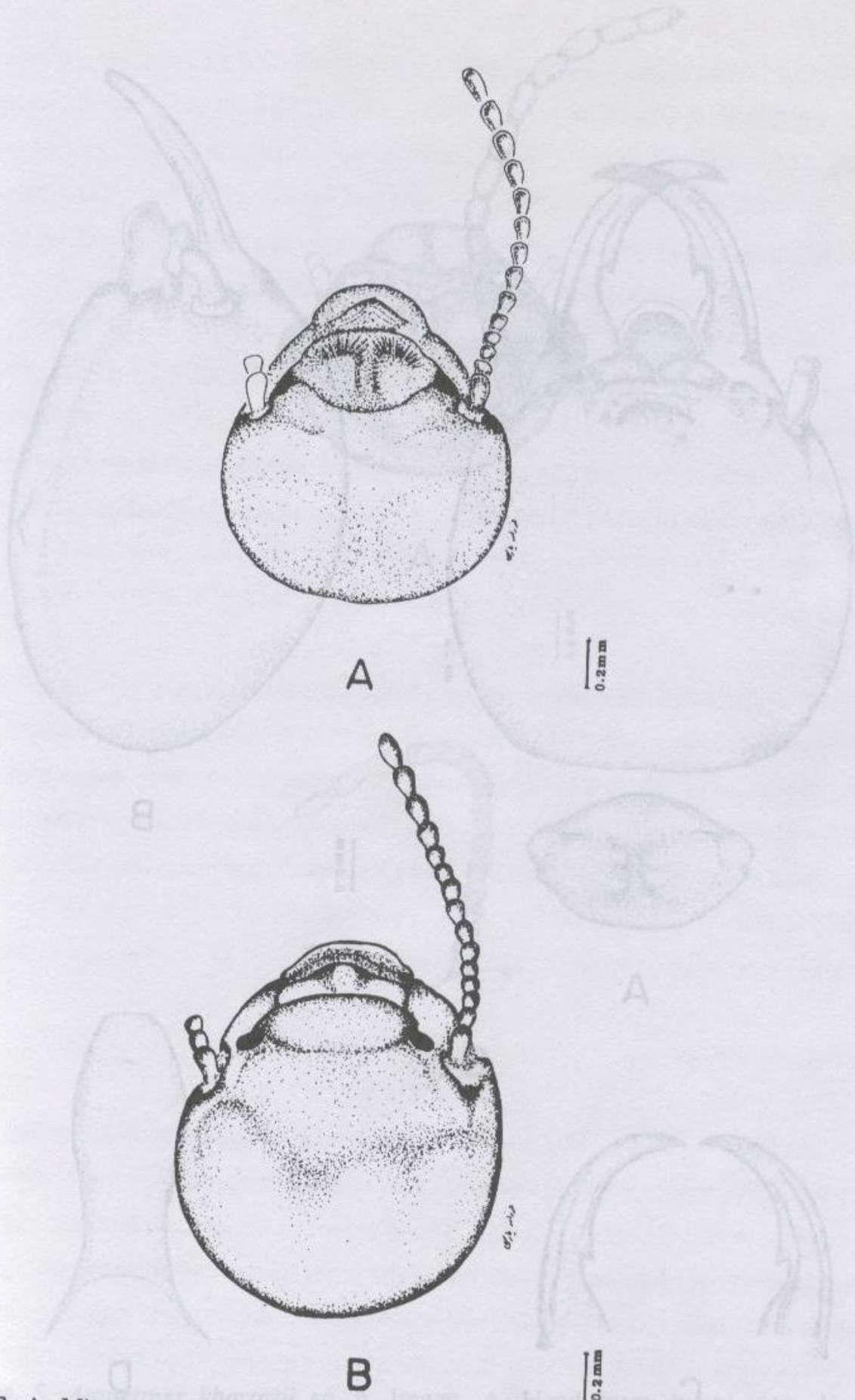


Fig. 3. A. *Microcerotermes iranicus* sp. n. worker, head from dorsal view. B. *Amitermes kharrazii*, sp. n. worker, head from dorsal view.

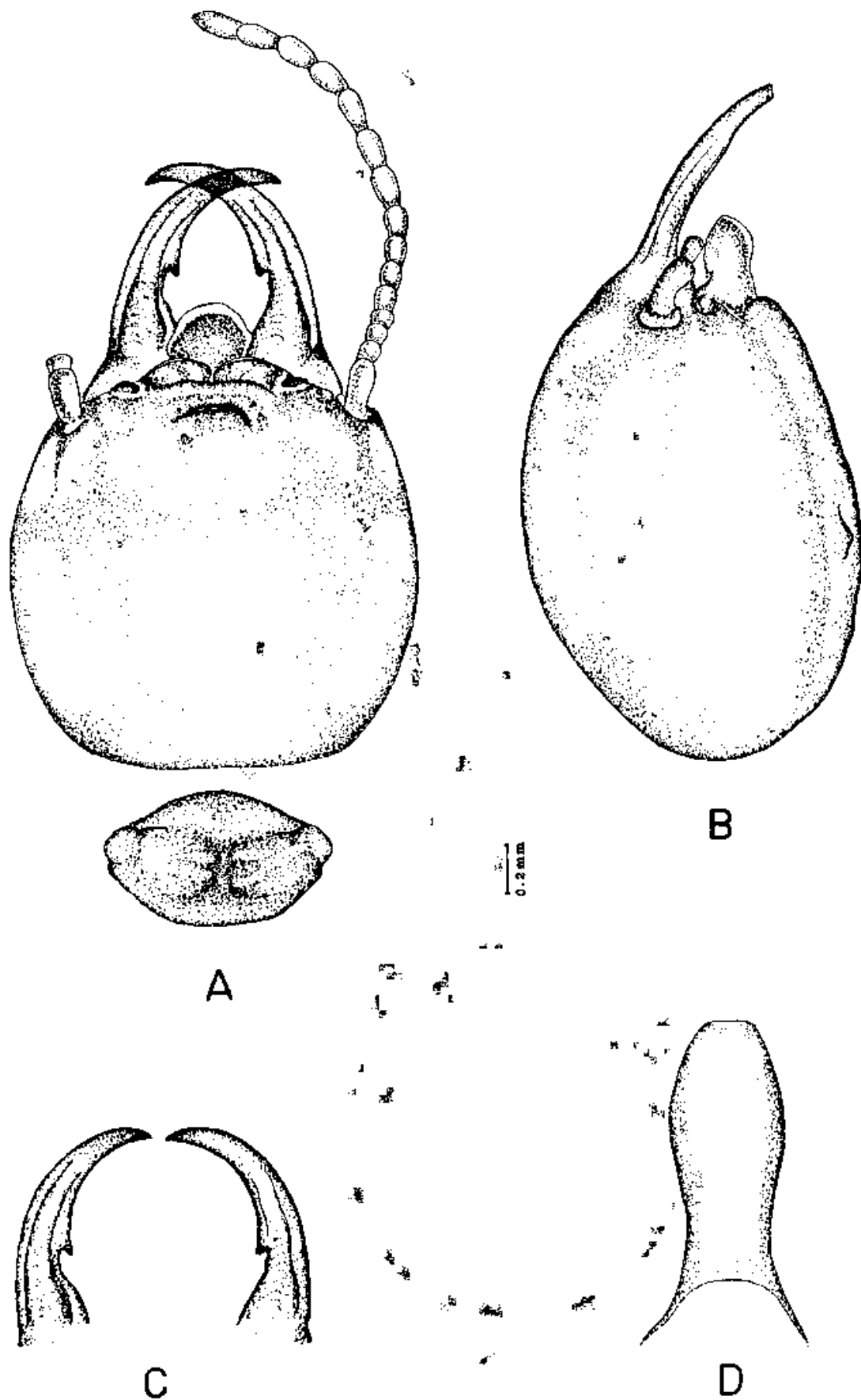
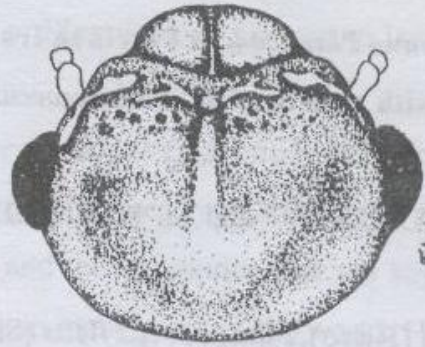


Fig. 4. *Amitermes kharrazii* sp. n. Soldier, "A. Head and pronotum from dorsal view, B. Head from side view, C. Mandible, D. postmentum.





A

0.2 mm



B

Fig. 5. *Amitermes kharrazii* sp. n. Imago, A. Head from dorsal view, B. Antenna.