

گزارش یک گونه‌ی جدید موربانه از ایران،

Microcerotermes sistaniensis sp. n.
(Isoptera: Termitidae)

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چکیده

جنس *Microcerotermes* Silvestri یک جنس همه جایی می‌باشد و در تمام مناطق جهان به استثناء منطقه‌ی نئارتکتیک^۱ انتشار دارد. در اثناء مطالعه‌ی فون موربانه‌های ایران نمونه‌هایی از این جنس از منطقه‌ی زابل جمع‌آوری شد. پس از بررسی‌های مورفولوژیک مشخص شد که گونه‌ای جدید می‌باشد. در طبقه‌ی بالدار جنسی، کپسول سر قهوه‌ای کم‌رنگ، قطعه‌ی زیرپیشانی عقبی، لب بالا، شاخک‌ها، پیش‌گرده و پاها زرد متمایل به قهوه‌ای است. نیم‌حلقه‌های پشتی شکم (ترزیت‌ها) قهوه‌ای و غشاء بین بندهای شکم زرد کم‌رنگ است. در طبقه‌ی سرباز کپسول سر زرد متمایل به قهوه‌ای، حاشیه جلو و اطراف درز شاخک‌ها تیره‌تر است. شاخک‌ها روشن‌تر از کپسول سر، آرواره‌های بالا قهوه‌ای تیره، پاها و شکم زرد رنگ می‌باشد. این گونه با *Microcerotermes diversus* Silvestri شباهت دارد ولی با توجه به تفاوت‌های مورفولوژیک طبقات سرباز و بالدارهای جنسی قابل تفکیک می‌باشند. در طبقه‌ی سرباز *Microcerotermes sistaniensis* sp. n. سر بیضی شکل، کپسول سر زرد متمایل به قهوه‌ای، حداکثر عرض سر ۱/۱۲ میلی‌متر و نسبت طول سر تا قاعده‌ی آرواره‌ها به عرض سر ۱/۲۳ می‌باشد. در طبقه‌ی سرباز *M. diversus* سر مستطیلی شکل، کپسول سر زرد رنگ، حداکثر عرض سر ۰/۹۰ میلی‌متر و نسبت طول سر تا قاعده‌ی آرواره‌ها به عرض سر ۱/۵۵ می‌باشد. در بالدارهای جنسی *M. sistaniensis* طول بدن بدون بال‌ها ۶ تا ۷، طول سر تا انتهای لب بالا ۱/۱۹ و عرض سر ۱/۰۷ میلی‌متر است. در بالدارهای جنسی *M. diversus* طول بدن بدون بال‌ها ۴/۵ تا ۵/۲، طول سر تا انتهای لب بالا ۰/۹۱ و عرض سر ۰/۷۸ میلی‌متر است.

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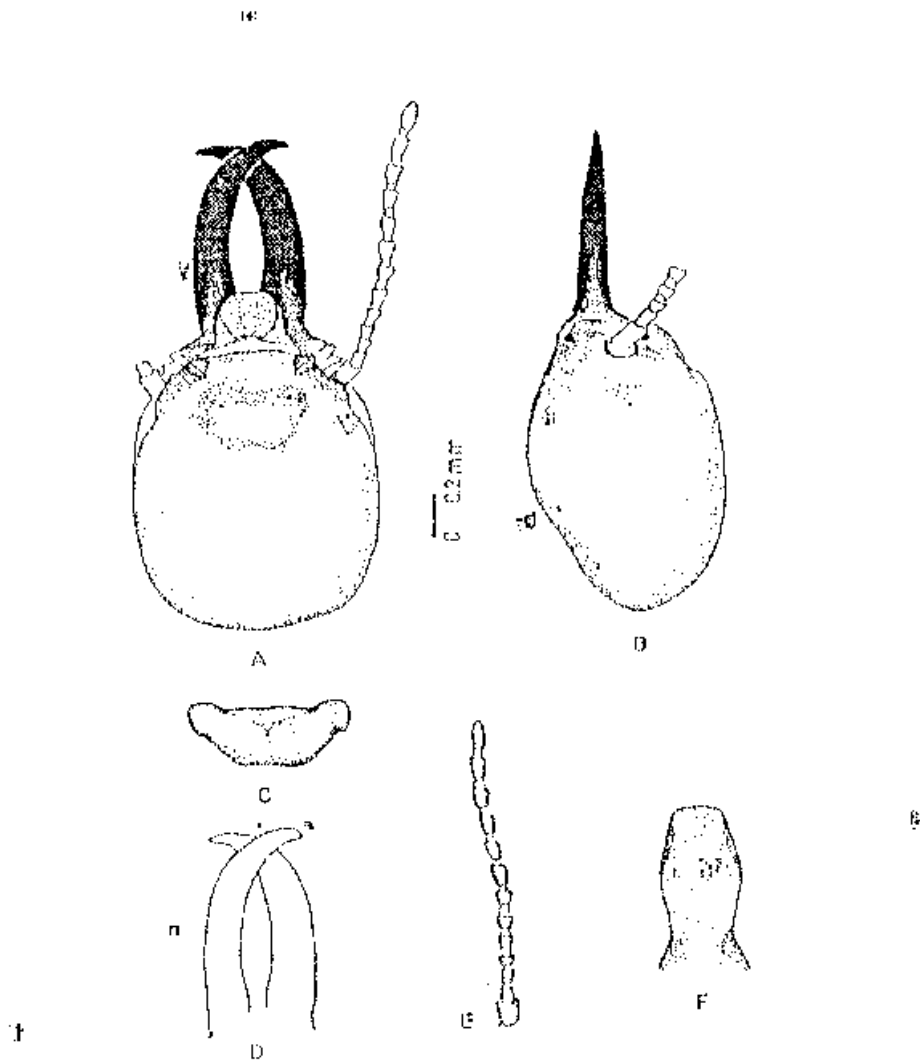


Fig. 2: *Microcerotermes sistaniensis* sp. n. Soldeir.

A and B= Head, C= Pronotum, D= Mandible,

E= Antenna, F= Postmentum

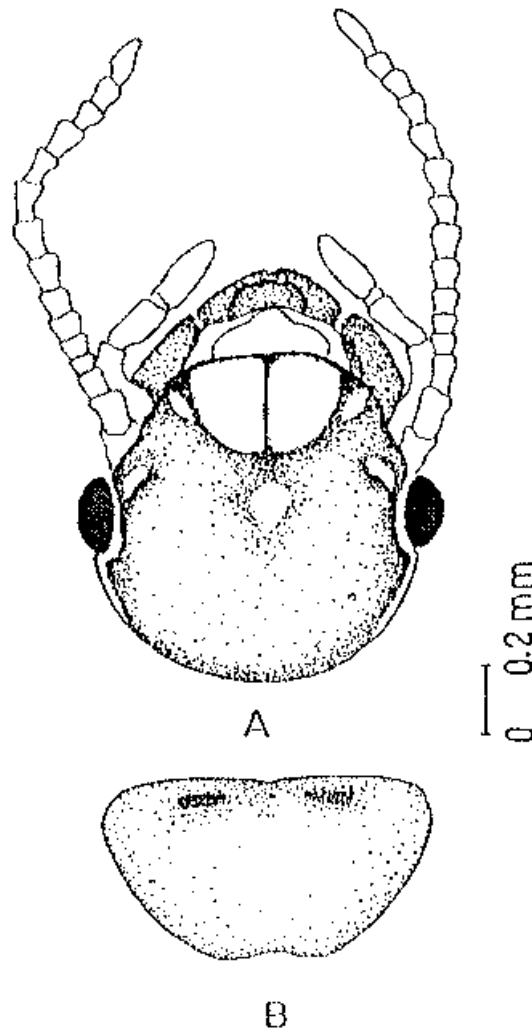


Fig. 1: *Microcerotermes sistaniensis* sp. n. Alate imago.

A= Head, B= Pronotum

Table 3- Summary of main differences between soldiers and alate imagos of *M. diversus* and *M. sistaniensis* sp. n.

Body parts	<i>M. sistaniensis</i>	<i>M. diversus</i>
Soldier		
Head capsule	oval	subrectangular
Color of head capsule	yellowish brown	yellow
Max. width of head	1.12 mm	0.90 mm
L/W	1.23	1.55
L/M	1.30	1.42
Alate imago		
Length of body without wings	6.00-7.00 mm.	4.50-5.20mm
Length of head to the tip of labrum	1.19mm	0.91mm
Max. width of head	1.07mm	0.78mm

L/W= length of head at mandible base to max. width of head

L/M= length of head at mandible base to length of left mandible

Measurements of *M. diversus* after Weidner, 1955

Holotype and all paratypes were deposited in the collection of Hayk Mirzayans Insect Museum (Tehran-Iran).

Table 1- *Microcerotermes sistaniensis* sp. n.; measurements of the alate imagos (mm), n=7

Body parts	Range	Mean	±S. D.
Total body length	6.00-7.00	6.67	±0.43
Head – length to mandible – base	0.87-0.92	0.88	±0.02
Head – length to tip of labrum	1.12-1.25	1.19	±0.05
Max. head width	1.00-1.12	1.07	±0.04
Length of eye	0.22-0.25	0.24	±0.00
Width of eye	0.20-0.22	0.22	±0.00
Length of ocellus	0.10-0.12	0.10	±0.00
Width of ocellus	0.07	0.07	±0.00
Length of pronotum	0.42-0.50	0.48	±0.03
Width of pronotum	0.82-0.92	0.87	±0.03

S. D.= Standard Deviation

Table 2- *Microcerotermes sistaniensis* sp. n., measurements of soldiers (mm), n=7

Body parts	Range	Mean	±S. D.
Total body length	5.00-6.30	5.66	±0.49
Head – length to mandible – base (L)	1.37-1.50	1.40	±0.05
Max. head width (W)	1.07-1.15	1.12	±0.02
Length of left mandible (M)	1.00-1.12	1.09	±0.04
Length of pronotum	0.30-0.35	0.32	±0.02
Width of pronotum	0.67-0.70	0.68	±0.01
Length of postmentum	0.75-0.80	0.77	±0.03
Width of postmentum	0.35-0.37	0.36	±0.00
Length of hind tibia	0.75-0.80	0.76	±0.02
L / M	1.22-1.37	1.30	±0.06
L / W	1.17-1.30	1.23	±0.05

S. D.= Standard Deviation

vertical line. Anteclypeus hyaline, trapezoidal with a median tip at anterior margin. Labrum broadly tongue-shaped and pilose. Mandibles typical for the genus. Pronotum semicircular, without vertical line in the middle, posterior margin medially emarginate, sides roundly converging posteriorly. Wings hairy and covered with micrasters.

Forewings: costa and subcosta fused, thick, running along margin; radial sector thick, running almost parallel to costa and subcosta; medial vein independent, thin, running medially and giving off a few veins to posterior margin. Hindwings: costa-subcosta, radial and radial sector the same as those in forewings. Legs long; apical tibial spurs 3:2:2; tarsi 4 - segmented. Abdomen oval, elongate; cerci 2 - segmented.

Soldier (fig. 2 & table 2): Head-capsule yellowish brown, somewhat darker anteriorly; labrum somewhat darker than head; mandibles dark brown, basally paler; body whitish; legs yellow. Head sparsely and body fairly pilose. Postclypeus brown, darker than head capsule; anteclypeus hyaline, trapezoidal, with a median tip at anterior margin. Body length 5.00-6.30 mm.

Head-capsule oval, longer than wide, lateral sides convex, posterior margin outcurved. Fontanelle absent. Antennae 13-segmented, 3rd segment shortest, the last segment (13th) longer than preceding one. Labrum tongue-shaped and pilose. Pronotum saddle-shaped, posterior margin substraight, anterior margin medially emarginate. Mandibles long, 1.00-1.12 mm, slightly shorter than the length of head at base of mandibles, inner margin finely serrate, outer margin strongly incurved in apical half. Postmentum subrectangular, incurved at middle, lateral margins convergent toward anterior margin. Legs long, apical tibial spurs 3:2:2. Abdomen oval, elongate; cerci 2 - segmented.

Remarks: *Microcerotermes sistaniensis* sp. n. comes closest to *M. diversus*, but could be separated with morphological characters of soldier and alate imago castes. The main differences between soldiers are the shape and color of head-capsule, the maximum width of head, and head length at mandible base to head width (L/W). The main differences between alate imagos are the length of body without wings, length of head to the tip of labrum and the width of head (table 3).

Etymology: *Microcerotermes sistaniensis* is named after the region of collection, Sistan, which located in the eastern part of Iran.

Material examined: Holotype, soldier and alate imago; Sistan & Baluchistan: Zabol, Zehak; Shadi, 10.II.1999, leg. R. Ghayourfar. Paratypes, 5 soldiers and 6 alate imagos same data as holotype.

Silvestri (12) in 1920 reported *M. diversus* from Mesopotamia. This species is also distributed in Yemen, Arabian Peninsula and Iran (4, 6, 10, 13, and 14). Several species of *Microcerotermes* are distributed in Pakistan, where Ahmad (1) in 1955 described *M. logignathus*, *M. sakesarensis* and *M. baluchistanicus*, and also Akhtar (2) in 1974 described *M. chaudhryi*, *M. lahorensis*, *M. maliki*, *M. pakistanicus* and *M. prochampioni*. A few species of *Microcerotermes* are distributed in Arabian Peninsula. Badawi et al. (3) reported *M. gabrielis* Weidner from Saudi Arabia. Besides, Chhotani and Bose (4,5,6) reported *M. buettikeri* Chhotani and Bose from Saudi Arabia. Several species of *Microcerotermes* are distributed in Iran. Ghayourfar (9), in 2000, reported *M. chhotanii* Ghayourfar from Iran. Besides, Ghayourfar and Esmaili (8) and Ghayourfar (9, 10) reported *M. buettikeri*, *M. turkestanicus* Luppova and *M. pakistanicus*.

Materials and methods

During expeditions to different parts of Iran, soldiers and imagos of termites were collected from covered run-ways and nests. Specimens were preserved in 75% ethanol. Morphological studies were carried out in the laboratory. In this regard, different parts of body were measured and drawn using an ocular graticule and drawing tube. Morphological studies indicated that specimens belonged to a new species.

It is worth mentioning that the terminology follows that of Chhotani and Bose (1979).

Results and Discussion

Microcerotermes sistaniensis sp. n.

Description

Imago (fig. 1 & table 1): Head-capsule pale brown; postclypeus, labrum, antennae, pronotum, mesonotum, metanotum and legs yellowish brown; wings yellow; abdominal tergites brown, paler than head-capsule; sternites pale brownish; intersegmental membrane pale yellow. Head and body fairly hairy. Body length without wings 6.00-7.00 mm.

Head-capsule subcircular, broader than head length at mandible base; fontanelle fairly distinct. Eyes subrounded, projected and separated from the lateral margin of head by a little less than half of their diameter. Ocelli oval, slightly convex, situated at their long diameter from eyes. Antennae 14-segmented; segment 3 shortest; the last segment (14th) longer than preceding one. Postclypeus hairy, trough-shaped, divided into two parts by a median brown

Report of a New Termite Species from Iran,
Microcerotermes sistaniensis sp. n. (Isoptera: Termitidae)

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Abstract

Microcerotermes Silvestri is a cosmopolitan genus and is distributed in all zoogeographical regions, except the Nearctic region. During the study of Iranian termite fauna, specimens of *Microcerotermes* were collected from Zabol (Eastern of Iran, Sistan). Morphological studies indicated that specimens belonged to a new species. In imagos, the head-capsule pale brown; postclypeus, labrum, antennae, pronotum and legs yellowish brown; tergites brown; intersegmental membrane pale yellow. In soldiers, the head-capsule yellowish brown, oval; anterior margin and around the antennal suture darker; antennae paler than the head-capsule; mandibles dark brown; legs and abdomen yellow. *Microcerotermes sistaniensis* sp. n. comes closest to *Microcerotermes diversus* Silvestri, but can be separated from the latter on the basis of the morphological characters of the soldier and alate imago. In soldiers of *M. sistaniensis*, head oval, yellowish brown, the maximum width of head 1.12 mm, head length at mandible base to the maximum width of head (L/W) 1.23. In soldiers of *M. diversus*, head subrectangular, yellowish, the maximum width of head 0.90 mm, head length at mandible base to the maximum width of head (L/W) 1.55. In alate imagos of *M. sistaniensis*, the length of body without wings 6-7 mm, the length of head to the tip of labrum 1.19 mm and head width 1.07 mm. In alate imagos of *M. diversus*, the length of body without wings 4.5-5.2 mm, the length of head to the tip of labrum 0.91 mm and head width 0.78 mm.

Introduction

During the study of Iranian termite fauna in February 1999, specimens of the genus *Microcerotermes* Silvestri were collected from Zabol region (Zehak city, Shadi village). Morphological studies indicated that specimens belonged to a new species. The *Microcerotermes* is cosmopolitan and is distributed in all regions, except the Nearctic (4).

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