

REPORT ON A NEW TERMITE SPECIES *ODONTOTERMES PARATAKENSIS* N.SP (ISOPTERA: TERMITIDAE) FROM MALAYSIA AND INDONESIA

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ABSTRACT: In the present report, a new species of termite *Odontotermes paratakensis*, n.sp. belonging to family Termitidae subfamily Macrotermitinae, is described and illustrated in detail from Malaysia.

Key words: Termite, Soldier, *Odontotermes paratakensis*

INTRODUCTION

Genus *Odontotermes* is confined to Ethiopian and Indo-Malayan region. Emerson (1945) documented ninety three species of this genus, of which sixty two were Indo-Malayan. According to Thakur (1981), 195 species are known, of which 107 occur in the Ethiopian and 88 in the Oriental region, while Chhotani (1997) has taken into account 176 species of which 91 are reported to occur in the Oriental and 85 in the Ethiopian region. The present species is an addition to the already described species of the genus.

MATERIALS AND METHODS

The present study is based on the following preserved material available in the collection of Dr. Muzaffar Ahmad, Professor Emeritus, Department of Zoology, University of the Punjab, Lahore.

MATERIAL EXAMINED

A. Indonesia: Sumatra: Lankat Reserve, near Bukit Lawang (latitude 10°30'S, longitude 100°00'E (type locality) soldiers and workers, (Holotype and paratype) collected by Kistner, H.R. and J.A. Jacobson, N. Dondo from nest T-887, 9-7-1977.

B. Malaysia: Malaya: Terenganu, 21 km W. Dungun, Bukit Bank, soldiers and workers, collected by D. H. and K. M. C. Kistner, H. R. Jacobson, N. Dondro, 27.7.1977, from forest reserve, nest, T-928,

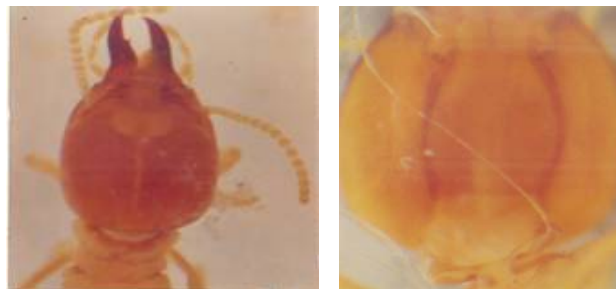
Specimens from the samples were picked up at random and measured under stereoscopic binocular microscope with built in magnification changer. Measurements were taken with the aid of calibrated ocular micrometer. Diagrams of the mandibles and postmentum were prepared by Olympus binocular with attached camera Lucida. Taxonomic terms and measurements used in the present study were as explained by Emerson (1945, 1952), Ahmad (1965) Roonwal (1970) and Akhtar (1975).

For each individual soldier, the following ten parameters were measured: i) length of head to side base of mandibles ii) width of head to side base of mandibles iii) width of head at the posterolateral ends of antennal carinae iv) maximum width of head v) length of left mandible vi) tooth of left mandible from tip vii) length of Pronotum viii) width of Pronotum ix) length of Postmentum x) width of Postmentum. The data were statistically analysed for mean, standard deviation, standard error and coefficient of variation (Steel *et al*, 1997).

RESULTS AND DISCUSSION

Odontotermes paratakensis, n. sp: Imago: unknown

Soldier: (Fig 1-A and B Tables 1, A and B): Head reddish brown; labrum of same colour as head; mandibles dark brown, lighter at bases; antennae brownish yellow, uniformly colored. Pronotum light brownish yellow. Head sparsely hairy; Labrum with long bristles along lateral sides and at tip; postmentum with a few bristles anteriorly; pronotum with scattered short hairs and bristles of medium size. Head elongately oval, gradually narrowed anteriorly; lateral margins convex. Labrum longer than broad. dome shaped; maximum width in middle. Left mandible with a small laterally directed tooth situated a little anterior to middle; right



A :Head Capsule

B : Postmentum

Fig 1: A: Head capsule B: Postmentum of soldiers of *Odontotermes .paratakensis*, n.sp.

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mandible with two denticles, one nearly in middle and other at base. Postmentum moderately arched less than one and a half times as long as broad, broadest in basal half. Lateral margin convex. Antennae with 16 articles, second as long as third and fourth combined; fourth shortest. Pronotum longer than half of its width, moderately notched anteriorly. Posterior margin emarginated; lateral lobes broadly rounded.

Comparisons: In genus *Odontotermes*, there are number of closely related and morphologically similar species that have been separated on the basis of only small differences which may be accounted for by intra specific variations. *Odontotermes takensis* Ahmad was described

by Ahmad (1965) from Thailand. Later on, it was collected from Indonesia and Malaysia. This species is not found in Pakistan. Morphological features of termites are very important in their taxonomy and classification.

The soldier of *Odontotermes paratakensis*, n.sp. differs from the soldier of *O. takensis* Ahmad by following characters:

1. Head narrower anteriorly: width of head at side base of mandibles (0.65-0.75mm vs. 0.74-0.85mm)
2. Postmentum widest in basal half, in *O. takensis* postmentum is widest in apical third. Besides, the new species has been compared with the species revised by Thakur (1981) and Manzoor (2005,2006,2010)

Table 1: Measurements (in mm) of 10 soldiers of *O. paratakensis*, n.sp. Locality A: Indonesia Sumatra

Parameters	Holotype (mm)	O.R. (N= 10)	Mean ±S.E. (mm)	C.V.%
Length of head to side base of mandibles	1.45	1.40-1.62	1.50 ± 0.023	4.84
Width of head at the side base of mandibles	.67	0.65-0.75	0.68± 0.014	6.72
Width of head at the posterolateral ends of antennal carinae	1.10	0.95-1.25	1.05± 0.016	5.02
Maximum width of head	1.30	1.27-1.44	1.35± 0.017	4.17
Length of left mandible	.82	0.75-0.85	0.79 ±0.012	4.96
Tooth of left mandible from tip	.34	0.34-0.35	0.35± 0.001	1.21
Length of pronotum	.55	0.52-0.62	0.57 ±0.009	5.46
Width of pronotum	.90	0.89-1.05	0.94 ±0.016	6.30
Length of postmentum	.87	0.77-0.89	0.83 ±0.009	3.72
Width of postmentum	.65	0.62-0.67	0.63 ± 0.006	2.99
Locality B: Malaysia: Terrenganu				
Length of head to side base of mandibles	1.45	1.25-1.45	1.39±0.019	4.43
Width of head at the side base of mandibles	.67	0.65-0.75	0.68±0.010	4.66
Width of head at the posterolateral ends of antennal carinae	1.10	1.07-1.15	1.11±0.0091	2.59
Maximum width of head	1.30	1.31-1.44	1.33±0.016	3.85
Length of left mandible	.82	0.75-0.82	0.78±0.010	4.26
Tooth of left mandible from tip	.34	0.34-0.35	0.35±0.001	0.90
Length of pronotum	.55	0.52-0.60	0.55±0.010	5.94
Width of pronotum	.90	0.95-1.00	0.97±0.0078	2.55
Length of postmentum	.87	0.85-0.87	0.87±0.0026	0.97
Width of postmentum	.65	0.57-0.62	0.61±0.0051	2.66

N = Number of samples; O. R. = Observed range; S. E. = Standard Error; C. V. = Coefficient of variation.

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