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**A REVIEW OF
TAXONOMY OF
INDIAN TERMITES**

By
O. B. CHHOTANI

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RECORDS
OF THE
ZOOLOGICAL SURVEY OF INDIA

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A REVIEW OF
TAXONOMY, OF INDIAN TERMITES

By

O. B. CHHOTANI

Dedicated to the memory of the late Professor Alfred E. Emerson,
Professor Emeritus, University of Chicago (U.S.A.)



Edited by the Director, Zoological Survey of India

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I. INTRODUCTION

Termites were known to very early Indians. There are references to these insects in Rig Vedas and Ramayana but the actual work on termite taxonomy began with the publication of König (1779) who made some field observations on termites of Tranquebar and Thanjavur in southern India. This was the first true scientific work on termites. Since then a good amount of work has been done on Indian termites and more recently the taxonomy of these important insects has received special attention. As there is no comprehensive review giving the present position of different taxonomic categories, nomenclatural changes and remarks of authors on important publications on Indian termite taxonomy, this present contribution has been prepared with a view that it might be of some use to future workers.

The author is grateful to Dr. S. Khera, Joint Director for his valuable suggestions in the preparation of this review and to the Director, Zoological Survey of India for his encouragements.

II. DEVELOPMENTS IN TERMITE TAXONOMY

(A) Up to the End of 19th Century

(a) *General*: Up to the end of 19th Century very little work was done on Indian termites. Linnaeus (1758), in his "Systema Naturae", which is the starting point of zoo-taxonomy, refers to the species, "*Termes fatale*" from "Indiae" under the order Apteran, but this species actually is from Surinam, South America (Snyder, 1949). König (1779) was the first naturalist to have observed termites in nature in southern India and Sri Lanka. He described the mounds of an unnamed species around Thanjavur and its inhabitants and gave their figures in the plate accompanying his paper. This termite is referred to as *Terms fatalis* König in literature by certain authorities (Hagen, 1858a; Desneux, 1904a; Green 1913; Margabandhu, 1934; and Rattan Lal and Menon, 1953) but is most probably *Odontotermes redemanni* (Wasmann) (Roonwal, 1970a). The other species of which König (1779) mentioned or gave figures in his paper were *Termes viarum*, *Termes convulsionarius* and *Termes monoceros*, these species

are now placed under the genera *Anacanthotermes* (Hodotermitidae, Hodotermitinae), *Macrotermes* (Termitidae, Macrotermitinae) and *Hospitalitermes* (Termitidae, Nasutitermitinae) respectively. Since König's publication no work was carried out on Indian termites for a long period until Rambur (1842) described *Termes obesus*, which is the most common *Odontotermes* species of India, from Bombay and Walker (1853) described *Odontotermes taprobanes* (= *Termes Taprobanes*) from Sri Lanka. Hagen's "Monographie der Termiten" Part 2 (1858a) and the "Synopsis der Neuroptera Ceylons" (1858b, '59), published during this period, are a landmark in the history of termite taxonomy. In Hagen's first publication, seven species are recorded (including "*Termes fatalis* König") from the Indian region, and in the second six named species. In all nine species, having valid names, were known to Hagen from the Indian subregion. Thereafter, apart from the publication of Brauer (1866) describing *Termes longirostris* (now referred to the genus *Schedorhinotermes*, Rhinotermitidae), there was a period of lull until the last decade of the century when Wasmann (1893, 1896) described *Odontotermes redemanni* (= *Termes Redemanni*) and *Dicuspiditermes incola* (= *Eutermes incola*) from Sri Lanka (1893) and *Odontotermes feae* (= *Termes Feae*), *Macrotermes azarellii* (= *Termes Azarellii*), *Hypotermes xenotermitis* (= *Termes Xenotermitis*) and *Coptotermes gestroi* (= *Termes Gestroi*) from Burma (1896). Thus until the end of 19th century only sixteen species of termites were known from the Indian subregion.

(b) *Classification, catalogues, lists, etc.* (i) *Classification*: Termites were assigned to different orders, suborders and tribes during this period until Brullé (1832) referred them to the order "Isopteres" Only three species were known to Linnaeus (1758), of which two were placed under the order Neuroptera and the third under Aptera. Latreille (1802) placed them in the family "Termitina" Walker (1853), in his list of Neuropterous insects in the British Museum, still kept termites (including the Indian species) under the family "Termitides" of suborder Corrodentia and order Neuroptera. Hagen (1858a) in his "Monographie der Termiten" placed termites in the family Termitina Stephens and tribe Corrodentia Burmeister and referred the then known species from all over the world to four genera (*Calotermes*, *Termopsis*, *Hodotermes* and *Termes*, the latter two with three subgenera each) and his work has led to the modern concept of different termite genera. Till then all the termites were treated as species of the composite genus *Termes* Linn. Comstock and Comstock (1895) recognised the order Isoptera and the single family Termitidae. Froggatt (1896), while working on the Australian termites,

divided the family Termitidae into four subfamilies (Calotermitinae, Rhinotermitinae, Glyptotermitinae and Termitinae); and his work has been the basis of the future work on the classification of termites.

(ii) *Catalogues, lists, etc.*: Walker (1853) published the list of Neuropterous insects (including termites) in the British Museum and Hagen published synopsis of the Neuroptera of Sri Lanka (1858*b*, 1859) and a catalogue of Neuropterous insects in British Museum (1858*c*).

(B) *During Twentieth Century*

For convenience, the work done on Indian termite taxonomy during the twentieth century, has been divided into three periods of quarter century each.

1. *The first quarter (1901-1925)*

(a) *General*: This was a very active period and a considerable amount of work was done. A number of good taxonomists like N. Holmgren, F. Silvestri, E. Wasmann, J. Desneux and E. Bugnion and his associates were engaged on the study of termites from different parts of the world. They worked on the collections of termites sent to them by collectors in the Indian region. The more important works are those of Wasmann (1902) and Desneux (1904*a, b*, 1906*a, b*, 1908) on collections from India and Sri Lanka; Holmgren (1911*a*) on a collection from Sri Lanka and (1912*b*, 1913*b*) on collections from Bombay, Gujarat, Bangalore, etc. made by Father Assmuth; Holmgren and Holmgren (1917) on collections from different parts of India and sent by the then Imperial Entomologist, Dr T. B. Fletcher; Silvestri on collections of Abor Expedition (1914), Barkuda Island, Chilka Lake (1923) and some general collection of *Capritermes* group of genera (1922), sent to him by Dr N. Annandale, the then Director, Zoological Survey of India; and Bugnion (1912, 1913, 1914*a, b* and *c*), Bugnion and Ferrier (1911), Bugnion and Popoff (1910*a* and *b*) and John (1925) on Sri Lanka termites.

During this period 96 species belonging to 28 genera were described and two other known species recorded, from the Indian region.

Apart from the work on different collections from the Indian region, the trend of studies changed to classification, faunistics, phylogeny, etc., as well. The following works require a special mention :

(b) *Faunistic studies*: Holmgren (1911a) studied the termites of Sri Lanka and Holmgren (1913a), in his monographic work on oriental termites, dealt with all the species occurring in the region (including the Indian subregion). These works are very important reference works and also contain keys for the identification of the different species.

(c) *Classification and phylogenetic studies*: (i) *Classification*: Desneux (1904a) in *Genera Insectorum* assigned termites to order Isoptera and family Termitidae with three subfamilies recognising two of Froggatt's (1896) and one his own, viz. Mastotermitinae created for the genus *Mastotermes*. Silvestri (1909) later raised the subfamily Mastotermitinae to the family level and recognised only two families, viz., Mastotermitidae and Termitidae. Holmgren (1910) divided the order Isoptera into three families viz., Protermitidae (with Mastotermitinae, Hodotermitinae, Stolotermitinae and Calotermitinae as subfamilies), Mesotermitidae (with Leucotermitinae, Coptotermitinae, Rhinotermitinae, Serritermitinae and Termitogetoninae as subfamilies) and Metatermitidae (with single subfamily Termitinae), later (1911b), recognising Mastotermitidae as well. Green (1913), in the catalogue of Sri Lanka termites, has followed Holmgren (1911b). But, as these names did not conform to the rules of nomenclature, Banks in Banks and Snyder (1920) erected Kalotermitidae to accommodate four subfamilies (Termopsinae, Kalotermitinae, Stolotermitinae and Mastotermitinae) and Termitidae with two subfamilies (Rhinotermitinae and Termitinae) and placed them under the superfamily Termitoidea and order Isoptera. Light (1921) followed Holmgren giving the names Kalotermitidae to Protermitidae, Rhinotermitidae to Mesotermitidae and Termitidae to Metatermitidae. Snyder (1925) raised Hodotermitinae to the family rank.

(ii) *Phylogeny*: Holmgren (1911b and 1912a) has discussed the phylogenetic relationships of the termite genera, including the Indian ones, in some details.

(d) *Catalogues, lists, etc.*: Desneux (1904a), in the *Genera Insectorum*, has listed the world (including Indian) species of termites and classified them into the order Isoptera, the family Termitidae and three subfamily, viz., Calotermitinae, Mastotermitinae and Termitinae. The thirty species catalogued from the Indian region belong to the subfamilies Calotermitinae (4 species) and Termitinae (26 species).

Green (1913), in his catalogue of the termites of Sri Lanka, recorded 44 species belonging to 13 genera and 3 families.

2. *The second quarter (1926-1950)*

(a) *General* : During this period there was not much work done. The only works on the termites from this subregion were those of Kemner (1926 and 1932) on Sri Lanka termites; Snyder (1933*a* and *b*, 1934) on collections from different parts of India sent to him from the Forest Research Institute, Dehra Dun; Gardner (1944) on collections from Burma and India; and Ahmad (1947).

Forty species belonging to 16 genera were described and two others recorded during this quarter.

(b) *Classification and phylogenetic studies* : (i) *Classification* : Margabandhu (1934) classified the Indo-Ceylonese termites into three families following Holmgren (1911*b*); and (1935) listed the termites described by Snyder (1933*a*) as classified by the latter. Snyder (1949) classified the living termites into five families as follows :

MASTOTERMITIDAE*

KALOTERMITIDAE Electrotermitinae* (fossil termite)
Kalotermitinae

HODOTERMITIDAE Termopsinae
Stolotermitinae*
Porotermitinae*
Hodotermitinae

RHINOTERMITIDAE Psammotermitinae
Heterotermitinae
Stylotermitinae
Coptotermitinae
Termitogetoninae
Rhinotermitinae

TERMITIDAE Serritermitinae*
Amitermitinae
Termitinae
Macrotermitinae
Nasutitermitinae

The families and subfamilies marked with asterisk are not represented in the Indian subregion.

His system has come to be accepted in general.

(ii) *Phylogenetic studies*: Hare (1937) discussed the phylogeny in respect of the development of soldier mandibles and Ahmad (1950) studied the phylogenetic relationships of the various termite genera on the basis of the imago-worker mandibles, grouping them in different families and subfamilies. Ahmad's (1950) is a pioneer work and has been useful in determining of phylogenetic position of the genera discovered subsequently.

(c) *Catalogues, lists, bibliographies, etc.*: During this period catalogues of the Indo-Ceylonese and world termites were published. Margabandhu (1934) catalogued the Indo-Ceylonese termites, listing 119 species belonging to 19 genera and 3 families and again in (1935) listed the species described and recorded by Snyder (1933a). Snyder (1949) has published the world catalogue of termites. To a taxonomist this is the most important publication on the subject. All the taxonomic references on the different species with distribution are given and the catalogue has a complete list of bibliography on termite taxonomy at the end.

3. *The third quarter (1951 — to-date)*

(a) *General*: The present period has again been of great activity. The work on Indian termites is taken up in a systematic and detailed manner and it would not be out of place to express our gratitude for the initiative and interest taken by the well known Indian entomologist, Dr. M. L. Roonwal, who has trained up a number of workers on termite taxonomy. At present the work on termite taxonomy, in the Indian Region, is being carried out at three main centres *i.e.*, the Zoological Survey of India, Calcutta (India), the Forest Research Institute, Dehra Dun (India) and the Panjab University, Lahore (Pakistan).

A large number of publications, including a number of monographic works on faunistics and revisionary studies, have come out mainly from these three centres. The work is summarised as under.

(b) *Faunistic studies*: Ahmad (1955) has studied the termite fauna of Pakistan, reporting the occurrence of 30 species including eight new ones. He (1958) has also published the key to the Indo-Malayan termites and it is a useful publication for identification of the species occurring in the region. Roonwal and Chhotani (1962a), studying the termites of Assam region (India), have reported 34.

species (including 13 new ones) belonging to 16 genera and 3 families. Mathur and Thapa (1963) have listed 15 species in their account of the survey of southern Bihar. Roonwal and Bose have studied the termites of the arid Rajasthan (1964) and the Andaman and Nicobar Islands (1970), recording 19 (including 3 new) species and subspecies from Rajasthan and 17 (including 4 new) species from the Andaman and Nicobar Islands. Krishna (1965a) has worked on his collections from some parts of Burma, reporting 21 species and bringing the total to 39 species occurring in Burma. Chatterjee and Thakur (1967) have recorded 19 species (including 3 new ones) from North-Western Himalayas. Roonwal and Chhotani (1977) have studied a collection of termites from Bhutan and reported 21 species including three new ones and described the hitherto unknown imago caste of a number of species. Maiti (Mss) and Bose (Mss) have studied the termite fauna of West Bengal and southern India, respectively, at the Zoological Survey of India; the results of their studies are being compiled to be sent to press shortly.

(c) *Revisionary studies*: Revisionary work has also received good attention at the hands of recent workers. The entire family Kalotermitidae has been dealt with rather thoroughly. Roonwal and Sen-Sarma (1960) have revised the oriental species of the genera *Kaloterмес* and *Neoterмес* and Chhotani (1970, 1975b) has revised the oriental *Cryptoterмес* and the Indian *Glyptoterмес*. Krishna (1961) has made a generic revision of the family Kalotermitidae, reassigning all the world species to different genera (including some new ones). It is a very important and commendable work on the family. Of the family Stylotermitidae the genus *Stylotermes* has been revised by Mathur and Chhotani (1959) and of Rhinotermitidae the genus *Coptoterмес*, the species of which are highly destructive to wood, wood products, etc., by Roonwal and Chhotani (1962b). Of Termitidae, the Amitermitine genera, *Eurytermes* (endemic to the Indian region and of phylogenetic importance), *Eremotermes* and *Microcerotermes* (Indian forms only) have been revised by Roonwal and Chhotani (1966b), Roonwal and Sen-Sarma (1960) and Prashad, Thapa and Sen-Sarma (1967), respectively. The *Capriterмес* complex group of genera (Termitinae) have been studied by Krishna (1968). Krishna and Chhotani (Mss) and Emerson, Krishna and Chhotani (Mss) have revised the genera *Procapriterмес* and *Dicuspiditerмес*

respectively, these studies are likely to be sent to press shortly. The genera *Hypotermes* and *Microtermes* (Macrotermitinae) have been revised by Chatterjee and Thakur (1963, 1964a). Prashad and Sen-Sarma (1959, 1960, 1966a, b) have dealt with the Indian genera of Nasutitermitinae.

(d) *Important discoveries* : The most important discovery in the Indian termite fauna is that of the soldier caste (supposed to have been lost secondarily) in the genus *Speculitermes* by Roonwal and Chhotani (1960, 1966a). The genera *Procryptotermes*, *Incisitermes*, *Psammotermes* and *Anoplotomes*, which were hitherto not known to occur in the Indian region, were reported by Roonwal and Chhotani (1963), Roonwal and Verma (1973b), Roonwal and Bose (1960, 1964) and Roonwal and Chhotani (1959, 1962c), respectively.

As many as 15 genera and 134 species and subspecies were discovered and described during this period and the hitherto unknown castes of a number of species described. A list of the world genera (including 3 Indian ones) and species (including 37 Indian ones) described since the publication of the catalogue by Snyder (1949) has been given by Roonwal (1962). Here in this publication a list of the species and genera, described since Roonwal (1962) is given so that a complete list of the species, occurring in the Indian subregion, is available to the workers. It is out of scope of the present publication to give comments on individual species, but the present position of the new genera added is discussed below :

Krishna (1961) described the genera *Postelectrotermes*, *Bifiditermes* and *Incisitermes*, which occur in the Indian region, referring *Calotermes militaris* Desneux and *Neotermes pishinensis* Ahmad to *Postelectrotermes* and *Kalotermes beelsoni* Gardner and *K. pintoi* Kemner to *Bifiditermes*. The genus *Incisitermes* has recently been reported from Rajasthan by Roonwal and Verma (1973b). The genus *Sarvaritermes*, erected by Chatterjee and Thakur, for *S. faveolus* is synonymous with *Stylotermes* (Krishna, 1970, Emerson, 1971). The genera *Beesonitermes* Chatterjee and Thapa (Amitermitinae), *Microcapritermes* Mathur and Thapa (Termitinae) and *Fletcheritermes* Sen-Sarma (Nasutitermitinae) are synonymous with *Eurytermes* Wasmann (Roonwal and Chhotani, 1966b) *Homallotermes* John (Krishna, 1968) and *Nasutitermes* Banks (Krishna, 1970), respectively.

The validity of the genus *Indograllatotermes* for the Indian constituents of *Grallotermes* i.e., *grallatoriformis* and *niger* and also that of other genera i.e., *Philippinitermes* and *Afrograllatotermes*, erected by Sen-Sarma (1966) is questionable according to Krishna (1970). Some other genera, described from the Indian region, during the period, are *Doonitermes* (Amitermitinae), *Dicuspiditermes* (Termitinae) and *Ampoulitermes*, *Emersonitermes* and *Ceylonitermellus* (Nasutitermitinae). The genus *Indotermes* described and assigned to the new family Indotermitidae by Roonwal and Sen-Sarma (1960) has been placed by Ahmad (1963) and Krishna (1965a) under the sub-family Amitermitinae but Roonwal (1975) in his recent paper, has treated Indotermitidae as a valid family and discussed its phylogenetic position and taxonomic status.

(e) *Distribution and zoogeography*: (i) *Distribution*: Detailed geographical distribution of the various species has been given by the various authors while revising different genera as under "Revisionary Studies" and making faunistic studies. Broad distribution of the genera belonging to the family Kalotermitidae and *Capritermes*-complex (Termitinae) (including the Indian genera) has been given by Krishna (1961, 1968). A list of the oriental species of the family Kalotermitidae with their distribution is given by Chhotani (1975a).

(ii) *Zoogeography*: The most important work discussing the origin, dispersal and zoogeography of termites is that of Emerson (1955) in which he has dealt with all the different genera occurring in various zoogeographical regions. Roonwal and Chhotani have discussed the zoogeography of the termites occurring in the Assam region (eastern India) (1965a) and Bhutan (1977) and Roonwal and Bose (1965, 1970) the zoogeography of the termites of Andaman and Nicobar Islands. Chhotani has discussed the zoogeography, origin and dispersal of the genera *Cryptotermes* (1970) and *Glyptotermes* (1975b) and the oriental Kalotermitidae (1975a). Thakur (1976c) gives the distribution and zoogeography of *Odontotermes* of the Indian region.

(f) *Classification and phylogenetic studies* (i) *Classification*: The classification of the order Isoptera as given by Snyder (1949) and Grassé (1949) are generally accepted by different workers. Roonwal and Pant (1953), in the catalogue of Isoptera collection, in the collections of Forest Research Institute, Dehra Dun, had followed

Snyder's (1949) classification. Rattan Lal and Menon (1953) in the "Catalogue of Indian Insects, Part 27-Isoptera" recognise all the five families, as recognised by Snyder (1949), but treat Termitidae as one composite family (not dividing into subfamilies) and place Termopsinae under Kalotermitidae. Grassé (1949), however, has combined Termopsinae, Porotermitinae and Stolotermitinae into the family Termopsidae and Roonwal (1970a) recognises this view. Roonwal and Sen-Sarma (1960) erected the family Indotermitidae for the genus *Indotermes* from Burma but Ahmad (1963) and Krishna (1965a, 1970) place this genus in Amitermitinae, while Sands (1972) places this genus, along with several others, in the *Anoplotermes* branch of the subfamily Apicotermitinae. The subfamily Stylotermitinae was raised to the family rank by Chatterjee and Thakur (1964b) but Emerson (1965, 1971) does not agree with their view. Chhotani (1972), however, has treated both these as separate families and Roonwal (1975) has given his comments on their validity while discussing their phylogeny and taxonomic status.

(ii) *Phylogenetic studies*: Sands (1957) has studied the phylogeny of Nasutitermitinae on the basis of soldier mandibles while Severs (1957) has discussed termite phylogeny on the basis of the evolution in termitophilous Staphylinidae. The phylogeny of different genera of the family Kalotermitidae and the *Capritermes* complex (Termitinae) has been discussed by Krishna (1961, 1968), that of families Stylotermitidae and Indotermitidae by Roonwal (1975) and that of Indian Nasutitermitinae by Sen-Sarma (1968). Roonwal and Chhotani (1966 a, b,) have discussed the phylogenetic position of the *Anoplotermes-Speculitermes* complex and the genus *Eurytermes* and Chhotani (1970 and 1975b) has discussed the phylogeny of the genera *Cryptotermes* and *Glyptotermes* (Kalotermitidae). Sen-Sarma (1966) has discussed the phylogeny of his *Grallatotermes* complex and erected 3 genera, viz. *Indograllotermes* for the Indian species i.e., *G. grallatoriformis* and *niger*, *Philippinitermes* for *G. admirabilis* and *Afrograllatotermes* for *G. africanus*. Sands (1967) and Krishna (1970) are, however, doubtful about the validity of these genera.

(g) *Catalogues, lists, bibliographies, reviews etc.* (i) *Catalogues*: Rattan Lal and Menon (1953) have published a catalogue of the Indian Isoptera in the "Catalogue of Indian Insects" series. They had probably not seen Snyder's (1949) catalogue. It contains syste-

matics and biological references and lists of hosts of different species. Roonwal and Pant (1953) have published a catalogue of the Isoptera collection in the collections of the Forest Research Institute and Mathur and Thapa (1962*b*) have revised this catalogue. The revised publication, unfortunately, contains a large number of manuscript names and a long list of errata.

(ii) *Bibliographies* : Griffins (1951) has published bibliography of the work done on termites since 1758. Snyder (1956) has published the "Annotated, subject heading bibliography of termites, 1350 B.C. to A.D. 1954" It contains all the references on termites except those on systematics which are given at the end of his catalogue (1949) and the references are classified into a number of subheadings. Two supplements to this bibliography have also been published by the same author (1961, 1968). It is another of the very useful works by the great termitologist and it has made the future studies on various aspects of termites much easier.

(iii) *Reviews* : Roonwal (1954, 1958, 1959, 1962) and Kapur (1958) have briefly reviewed the work done on termite systematics during various periods. Roonwal (1962) has also given lists of various categories described from different parts of the world and this publication serves as a supplement to Snyder's (1949) catalogue. Chhotani (1972) has briefly reviewed taxonomic work carried out in India since Roonwal (1962).

(iv) *General works* Roonwal (1964, 1970*b*) on the recommendation of UNESCO'S Advisory Committee for Humid Tropics Research for standardization of measurements and indices, which are very important in termite taxonomy, has given a list of some useful measurements (1964) and prepared a monograph for the purpose (1970*b*). It is a very useful work; it is desirable to use standardised measurements so that there is uniformity in taking measurements of different body parts.

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APPENDIX 1

New genera of termites described or reported from the Indian Region since Roonwal, 1962.

Family : KALOTERMITIDAE

1. *Postelectrotermes* Krishna, 1961.
2. *Bifiditermes* Krishna, 1961.
3. *Incisitermes* Krishna, 1961.

Family : STYLOTERMITIDAE

4. *Sarvaritermes* Chatterjee and Thakur, 1964*b*.
(Syn. of *Stylotermes* Holmgren and Holmgren)

Family : TERMITIDAE

Subfamily : AMITERMITINAE

5. *Beesonitermes* Chatterjee and Thapa, 1963.
(Syn. of *Eurytermes* Wasmann)
6. *Doonitermes* Chatterjee and Thakur, 1965*a*.

Subfamily : TERMITINAE

7. *Dicuspidermes* Krishna, 1965*a*.
8. *Microcapritermes* Mathur and Thapa, 1962*a*.
(Syn. of *Homalotermes* John)

Subfamily : NASUTITERMITINAE

9. *Fletcheritermes* Sen-Sarma, 1965.
(Syn. of *Nasutitermes* Banks)
10. *Indograllatotermes* Sen-Sarma, 1966.
(Syn. of *Grallatotermes* Holmgren)
11. *Ampoulitermes* Mathur and Thapa, 1962*d*.
12. *Alstonitermes* Thakur, 1976*d*.

APPENDIX 2

New species of termites described from the Indian Region since Roonwal, 1962.

Family KALOTERMITIDAE

1. *Postelectrotermes bhimi* Roonwal and Maiti, 1965.
India : Kerala.
2. *Postelectrotermes nayari* Roonwal and Verma, 1971b.
India : Kerala.
3. *Neotermes buxensis* Roonwal and Sen-Sarma, 1960.
India : West Bengal.
4. *Neotermes keralai* Roonwal and Verma, 1971a.
India : Kerala.
5. *Glyptotermes nigrifrons* Mathur and Sen-Sarma, 1960.
(Syn. of *G. coorgensis* Holmgren and Holmgren)
India : Tamil Nadu.
6. *Incisitermes didwanaensis* Roonwal and Verma, 1973b.
India : Rajasthan.
7. *Procryptotermes dhari* Roonwal and Chhotani, 1963.
India : Tamil Nadu.
8. *Procryptotermes hunsurensis* Thakur 1975a.
India : Karnataka.
9. *Cryptotermes roonwali* Chhotani, 1970.
India : Kerala.

Family : TERMOPSISIDAE

10. *Archotermopsis deodaruae* Chatterjee and Thakur, 1967.
India : Kashmir.

Family : RHINOTERMITIDAE

Subfamily : HETEROTERMITINAE

11. *Heterotermes balwanti* Mathur and Chhotani, 1969.
India : Orissa.
12. *Reticulitermes saraswati* Roonwal and Chhotani, 1962a.
India : Meghalaya.

Subfamily : COPTOTERMITINAE

13. *Coptotermes beckeri* Mathur and Chhotani, 1969.
India : Tamil Nadu.

Subfamily : RHINOTERMITINAE

14. *Prorhinotermes shiva* Roonwal and Thakur, 1963.
India : Andaman Isls.
15. *Schedorhinotermes eleanorae* Roonwal and Bose, 1970.
India : Andaman Isls.
16. *Schedorhinotermes tiwarii* Roonwal and Thakur, 1963.
India : Andaman Isls.

Family : STYLOTERMITIDAE

17. *Stylotermes bectsoni* Thakur, 1975b.
India : Tripura.
18. *Stylotermes chakratensis* Mathur and Thapa, 1962c.
India : Uttar Pradesh.
19. *Stylotermes dunensis* Thakur 1975b.
India : Uttar Pradesh.
20. *Stylotermes faveolus* (Chatterjee and Thakur, 1964b).
(= *Saravaritermes faveolus* Chatterjee and Thakur)
India : Himachal Pradesh.

Family : TERMITIDAE

Subfamily : AMITERMITINAE

21. *Eurytermes boveni* Roonwal and Chhotani, 1966b.
India : Madhya Pradesh.
22. *Eurytermes budha* Bose and Maiti, 1966.
India : Tamil Nadu and Karnataka.
23. *Eurytermes topslipensis* (Chatterjee and Thapa, 1963).
(= *Beesonitermes topslipensis* Chatterjee and Thapa)
India : Tamil Nadu.

24. *Doonitermes capilosus* Chatterjee and Thakur, 1965a.
India : Uttar Pradesh.
25. *Euhamitermes dentatus* Thakur and Chatterjee, 1974.
India : Andhra Pradesh.
26. *Euhamitermes kanhaensis* Roonwal and Chhotani 1965b.
India : Madhya Pradesh.
27. *Euhamitermes karnatakensis* Roonwal and Chhotani, 1965b.
India : Karnataka.
28. *Euhamitermes urbanii* Roonwal and Chhotani, 1977.
Bhutan.
29. *Euhamitermes wittmeri* Roonwal and Chhotani, 1977.
Bhutan.
30. *Microcerotermes raja* Roonwal and Bose, 1964.
(=*M. championi raja* Roonwal and Bose)
India : Rajasthan.
31. *Microcerotermes danieli* Roonwal and Bose, 1970.
India : Nicobar Island.
32. *Microcerotermis lanceolatus* Mathur and Thapa, 1965.
India : Assam.
33. *Microcerotermes nicobarensis* Roonwal and Bose, 1970.
India : Nicobar Island.
34. *Microcerotermes rambanensis* Chatterjee and Thakur, 1964d.
India : Jammu and Kashmir.
35. *Microcerotermes laxmi* Roonwal and Bose, 1964.
(=*M. tenuignathus laxmi* Roonwal and Bose)
India : Rajasthan.
36. *Microcerotermes unctus* Krishna, 1965a.
Burma.
37. *Speculitermes chadaensis* Chatterjee and Thapa, 1964a.
India : Madhya Pradesh.
38. *Speculitermes rongrensis* Roonwal and Chhotani, 1962a.
(=*S. cyclops rongrensis* Roonwal and Chhotani)
India : Meghalaya.

39. *Speculitermes deccanensis deccanensis* Roonwal and Chhotani, 1962d.
India : Karnataka.
40. *Speculitermes deccanensis paivai* Roonwal and Chhotani, 1962d.
India : Bihar; Bengal.
41. *Speculitermes dharwarensis* Roonwal and Chhotani, 1964b.
India : Karnataka.
42. *Speculitermes goeswaldi* Roonwal and Chhotani, 1964b.
India : Karnataka.
43. *Speculitermes sinhalensis* Roonwal and Sen-Sarma, 1960.
(=*S. cyclops sinhalensis* Roonwal and Sen-Sarma)
India : Tamil Nadu; Karnataka. Sri Lanka.
44. *Speculitermes triangularis* Roonwal and Sen-Sarma, 1960.
India : Uttar Pradesh.
- Subfamily : TERMITINAE
45. *Angulitermes acutus* Mathur and Sen-Sarma, 1961a.
India : Tamil Nadu.
46. *Angulitermes akhorisainensis* Chatterjee and Thakur, 1964c.
India : Uttar Pradesh.
47. *Angulitermes kashmirensis* Roonwal and Chhotani, 1971.
India : Jammu and Kashmir.
48. *Angulitermes paanensis* Krishna, 1964a
Burma.
49. *Angulitermes resimus* Krishna, 1965a.
Burma.
50. *Angulitermes tilaki* Roonwal and Chhotani, 1971.
India : Jammu and Kashmir.
51. *Homalotermes pilosus* (Mathur and Thapa, 1962a.)
(=*Microcapritermes pilosus* Mathur and Thapa)
India : Tamil Nadu.
52. *Dicuspiditermes fontanellus* Thakur and Chatterjee, 1971.
India : Goa.

53. *Dicuspiditermes pername* Thakur and Chatterjee, 1971.
India : Goa.
54. *Pericapritermes assamensis* (Mathur and Thapa, 1965)
(=*Capritermes assamensis* Mathur and Thapa)
India : Assam.
55. *Pericapritermes dunensis* (Roonwal and Sen-Sarma, 1960).
(=*Capritermes dunensis* Roonwal and Sen-Sarma)
India: Uttar Pradesh.
56. *Pericapritermes durgā* (Roonwal and Chhotani, 1962a).
(=*Capritermes latignathus durgā* Roonwal and Chhotani)
India : Meghalaya.
57. *Capritermes orientalis* Mathur and Sen-Sarma, 1961b.
(syn. of *Pericapritermes tetraphilus* Silvestri)
Burma.
58. *Pericapritermes topslipensis* Thakur, 1976a.
India Tamil Nadu.
59. *Procapritermes bhutanensis* Roonwal and Chhotani, 1977.
Bhutan.
60. *Procapritermes fontanellus* (Mathur and Thapa, 1961).
(=*Pseudocapritermes fontanellus* Mathur and Thapa)
India : Tamil Nadu.
61. *Procapritermes goanicus* (Thakur and Chatterjee, 1969)
(=*Pseudocapritermes goanicus* Thakur and Chatterjee)
India : Goa.
62. *Pseudocapritermes planus* Mathur and Thapa, 1965.
(syn. of *Procapritermes tikadari* (Roonwal and Chhotani))
India : Assam
63. *Procapritermes tikadari* (Roonwal and Chhotani, 1962a).
(=*Pseudocapritermes tikadari* Roonwal and Chhotani)
India : Meghalaya.
64. *Mirocapritermes valeriae* Krishna, 1965a.
Burma.

Subfamily : MACROTERMITINAE

65. *Macrotermes khajuriae* Roonwal and Chhotani, 1962a.
India : Meghalaya.
66. *Odontotermes guptai* Roonwal and Bose, 1961.
(=*O. bellahunisensis guptai* Roonwal and Bose)
India : Rajasthan.
67. *Odontotermes bhagwatii* Chatterjee and Thakur, 1967.
India : Punjab.
68. *Odontotermes kushwahi* Roonwal and Bose, 1964.
(=*O. brunneus kushwahi* Roonwal and Bose)
India : Rajasthan.
69. *Odontotermes giriensis* Roonwal and Chhotani, 1962a.
India : Meghalaya ; Arunachal Pradesh.
70. *Odontotermes horai* Roonwal and Chhotani, 1962a.
India : Meghalaya.
71. *Odontotermes kapuri* Roonwal and Chhotani, 1962a.
India : Meghalaya.
72. *Odontotermes latiguloides* Roonwal and Verma, 1973a.
India : Rajasthan.
73. *Odontotermes lokanandii* Chatterjee and Thakur, 1967.
(syn. of *Odontotermes guptai* Roonwal and Bose)
India : Jammu and Kashmir ; Panjab.
74. *Odontotermes mathadi* Roonwal and Chhotani, 1964a.
India : Karnataka.
75. *Odontotermes microdentatus* Roonwal and Sen-Sarma, 1960.
India : Uttar Pradesh.
76. *Odontotermes paralatigula* Chatterjee and Sen-Sarma, 1963.
Burma.
77. *Microtermes imphalensis* Roonwal and Chhotani, 1962a.
India : Manipur.

78. *Microtermes umsaе* Roonwal and Chhotani, 1962a.
(syn. of *Microtermes pakistanicus* Ahmad)
India : Meghalaya.

Subfamily : NASUTITERMITINAE

79. *Nasutitermes beckeri* Prashad and Sen-Sarma, 1959.
India : Kerala.
80. *Nasutitermes cherraensis* Roonwal and Chhotani, 1962a.
India : Meghalaya.
81. *Nasutitermes fabricii* Krishna, 1965b.
India : Nicobar Island.
82. *Nasutitermes garoensis* Roonwal and Chhotani, 1962a.
India : Meghalaya.
83. *Nasutitermes jalpaigurensis* Prashad and Sen-Sarma, 1959.
India : Bengal.
84. *Nasutitermes kali* Roonwal and Chhotani, 1962a.
India : Assam ; Meghalaya.
85. *Nasutitermes krishna* Roonwal and Bose, 1970.
India : Andaman Islands.
86. *Nasutitermes salemensis* (Sen-Sarma, 1965).
(=*Fletcheritermes salemensis* Sen-Sarma)
India : Tamil Nadu.
87. *Nasutitermes suknensis* Prashad and Sen-Sarma, 1959.
India : Bengal.
88. *Nasutitermes thanensis* Prashad and Sen-Sarma, 1959.
India : Uttar Pradesh.
89. *Bulbitermes prabhae* Krishna, 1965a.
Burma.
90. *Grallatitermes niger* Chatterjee and Thapa, 1964b.
India : Tamil Nadu.

91. *Hospitalitermes ataramensis* Prashad and Sen-Sarma, 1960.
Burma.
92. *Hospitalitermes brevirostratus* Prashad and Sen-Sarma, 1960
Burma.
93. *Trinervitermes fletcheri* Chatterjee and Thakur, 1965b.
India : Tamil Nadu.
94. *Aciculitermes maymyoensis* Krishna, 1965a.
Burma.
95. *Ampoulitermes wynaadensis* Mathur and Thapa, 1962d.
India : Kerala.
96. *Ceylonitermes indicola* Thakur 1976b.
India : Kerala.
97. *Alstonitermes flavescens* Thakur 1976d.
India : Tamil Nadu.