INTRODUCTION

Ants are very highly developed social animal and have got a specialised colonial habit with marked degree of division of labour amongsts its various constituent casts. They are the premier soil turner, channelers of energy, dominatories of the insect world and represent the culmination of insect evolution in the same sense that human beings represent the sumit of vertebrate evolution, even then, this tiny creature has remained totally neglected by the biologist.

About one-third of entire animal biomass of Amazanian rain forest is composed of ants and termites. These two kinds of insects along with wasps and bees, cover 75% of the total insect biomass (Holldobler and Wilson, 1990).

While density of ants is so much so, in the insect biomass, it is the prime duty of a Myrmecologist to assess the distribution of ants in its own continent. Southern India being the peninsular part of the country, carries more importance because of possession of tropical forests which provide the suitable environment for the growth of insect fauna. The present work is an endevour by the author to contribute to the knowledge of ant fauna of Southern India.

Jerdon (1851) worked on Indian ants particularly from Southern India and recorded 46 species under 8 genera from this region; of these, 39 species were new to science. Later on, Rothneyi (1889), Forel (1900), Donisthorpe (1942, 1943) contributed much to the ant fauna of Southern India. Prior to this, Bingham (1903) published his valuable work on the Ant Fauna of British India, including Burma and Ceylon and gave detailed account of distribution of the species recorded.

Sucessive workers like Forel (1900a, 1900b, 1900c), Mukherjee (1927), Karawajew (1926, 1927, 1928), Wheeler (1927, 1928), Menozzi (1935), Donisthorpe (1942a, 1942b, 1942c, 1943), Smith (1948), Brown Jr. (1954, 1957, 1959a), Wilson (1964), Taylor (1965, 1966, 1968), Collingwood (1970), Bolton (1977), Baroni Urbani (1977a, 1977b), Tiwari *et al.* (1977a, 1977b, 1977c, 1986a, 1986b, 1994a, 1994b, 1996, 1997) and Imai *et al.* (1984) have made valuable contributions to the ant fauna of India, but no one has exclusively studied the ant fauna of Southern India. There have been some records of ants from various parts of Southern India in scattered form. This is the first attempt by the present author to consolidate the ant fauna of Southern India.

The present work is based on a collection of ants from Tamil Nadu, a part of Kerala (coll. O.B. Chhotani and R. N. Tiwari in Feb.-March, 1969), Andhra Pradesh (coll. J. N. Maligi in 1962 and N. M. Antony in 1969). Besides this the species recorded from Southern India, lying in National Zoological Collection of this department (Zoological Survey of India), have also been incorporated. The entire material studied under this project, have been deposited in the collection of Zoological Survey of India, Calcutta.

Altogether 219 species under 48 genera and 7 subfamilies have been reported in this monograph. Out of these, 22 species are reported for the first time from Southern India and 2 species are new records from India. This includes descriptions of Worker and Female of 1 new species along with a new description of Female of 1 known species separately. The taxa marked with single asterisk (*) in "the list of Taxa in Systematic Account" are new records from the states of Southern India and those marked with double asterisks (**) are new records from India.

Key to the subfamilies, genera and species, include only those species which were studied by the author. The species, recorded from literature, have been omitted in "Key to the species" because of insufficient description and non-availability of concerned papers. The separate Table showing the distributional pattern of recorded species zone-wise, along with distributional analysis of the same is also provided to have a glimpse of the distribution of the species at a glance. The mode of arrangement of the species is followed as in

"*Fauna of British India*"—Bingham (1903). Illustrations given in the text are Fig. 1 after Ettershank (1966) and Figs. 2-6 after Bingham (1903). All measurements given in the text are in µm.

Southern India or the Indian peninsula is bounded by Bay of Bengal in the east, the Arabian sea on the west, the Indian Ocean on the south and Satpura and Vindhya ranges in the north. The farthest point in the south is Kanyakumari, which lies at 8°04' N latitude and 77°36' E longitude. The peninsula has Western Ghats on the west, which rising steeply from the narrow costal plains, reach to greater heights of more than 1,200 m above mean sea level in certain parts and to more than 2,000 m in the south in Nilgiris, the Anaimalai and Cardamon Hills, the highest peak being at an altitude of 2,695 m above mean sea level in the Anaimalai Hills. The general slope of the land is towards the east, and such as, the Eastern Ghats are much lower than the mountains on the western side. The Deccan plateau lies at the centre and is generally 300 m high, rising to more than 600 m in Southern Deccan. On the east are wide eastern coastal plains with the high Shevaroy, Javadi and Pachaimalai Hills.

The western coastal plains have numerous short and rapid flowing streams, some forming lagoons, a characteristic feature of the Malabar coast. The easter plains below 16° N, have only one large river of importance, the Kaveri, and a few small ones, the Penner, the Palar and the Vagai. These are also fairly fast flowing as they flow towards the sloping plateau. All these rivers are seasonal and depend entirely on the monsoon rains.

The peninsula has been a stable land-mass since the very ancient times, at least the pre-cambrian and consists of highly metamorphosed rocks like gneisses and schists of the Archaean-system. The deltas in Tamil Nadu and Kerala states are alluvial. The Deccan lavas, some rocks in Tamil Nadu and parts of Coromandel plains have regur soils, while the major portion of the peninsula has red soil found on the Archaean crystaline rocks.

Southern India has a fairly hot climate. The hottest months are April-May, when the maximum temperature varies from 32°C-40°C in different parts. The coldest months are December-January, when the maximum temperature varies from 27°C-30°C. The Malabar coast has fairly uniform temperature during the year varying 28°C-32°C, in Deccan between 30°C-40°C and in the south-east between 29°C-37°C.

Both south-east and south-west monsoons are active in Southern India. The south-west monsoon is more active, giving heavy rains in the Malabar coast and Western Ghats and little in Deccan and eastern coast. The north-east monsoon gives rain in the eastern coastal areas. The average annual rainfall is more than 2,500 mm in Malabar coast and Western Ghats, about 900 mm in Karnataka and south-east Tamil Nadu and about 600 mm in Deccan.

Western Ghats being very wet, have tropical evergreen forests. On the eastern side of these Ghats are found dry deciduous hill forests and some sub-tropical evergreen forests in the Shevaroy Hills.

MORPHOLOGY

Morphologically ants are at once distinguished from other aculeate Hymenoptera by a remarkable modification of the one or two segments of the abdomen immediately following the median segment or propodeum. This modification of the anterior portion of the abdomen consists in the almost complete detachment of one or two segments from the rest of the abdomen to form a highly flexible pedicel composed of one or two nodes. In the majority of the genera of the family Formicidae, the attachment of the pedicel to the median segment in front and to the rest of the abdomen behind is extremely constricted and narrow, giving great freedom of movement to both thorax and abdomen properly. When the pedicel is formed of two segments, a similar constriction lies between the two. In certain low forms of primitive ants like *Myopopone, Amblyopone,* etc., the node of pedicel is attached by the whole of its posterior face to the succeeding

segment of the abdomen, showing an approximation to the stiffer and more ponderous form of abdomen possessed by fossorial wasps of the family Scoliidae.

Ants like other social Hymenopterans, such as Honey-bees and wasps, exhibit the maximum degree of social pattern and thus are differentiated into following forms :

1. The female or perfect fertile female — ♀
2. The male — ♂
3. The worker or so called Neuter — ☿

The workers are undeveloped female and are invariably wingless and generally have the thorax more or less modified and different from the thorax of male or female. On shape and size, they are further differentiated into :

(a) Worker minor — ☿ min.

(b) Worker major — ☿ maj.

Further some of the workers are especially modified in their morphology for the purpose of fighting and protecting the colony from external invasion. For this purpose, their mandibles are strong and stout and have got bigger head. They are called Soldiers (♃). They are further differentiated according to the size as follows :

(a) Soldiers minor — ♃ min.

(b) Soldiers major — ♃ maj.

The parts of the head, thorax and abdomen in an ant are homologous with those in other Hymenopterous insects, but are generally modified. The given figures (Figs. 1-4), illustrations of some of the various parts assumed by these, with details of the parts of which they are composed. The lettering in all the figures is alike and refers to the same parts (Bingham, 1903).

TERMINOLOGY

Mouth parts

Mandible : The various parts of mandible are shown in Fig. lb. The most distal tooth is termed the *apical,* and the rests are *sub-apical* teeth; dental formulae are coded in the form "1 + 3" indicating one apical and three sub-apical.

The basal shaft of the mandible bears several characters of classificatory importance. The *mandalus* is a small, unpigmented, apparently membranous lacuna which may contain the orifice of the duct from the mandibular gland. In shape, the mandalus may be linear, key-hole shaped or even triangular (Fig. lb).

Trulleum : Distal to the mandalus is a large, more or less basin shaped depression called *Trulleum,* bounded laterally and distally by the blade of the mandible and medially by *Canthallus* (Fig. lb).

Canthallus : It is a raised ridge running distal from the base of the mandible (Fig. lb).

Labrum : The *labrum* (Fig. 2F) is movably articulated below the median area of the clypeus and folds up under the closed mandibles, forming with the exposed plates of the labio-maxillary complex, a tight seal over more delicate mouth parts and buccal opening.

Maxillary and labial palpi : The palpal formula is a valuable character in identification. The old palpal formula is out dated and not in practice (Fig. 2E-F).

A variable amount of fusion between segments which can not be seen in dried material is clear in immersed preparation (Kusnezov, 1954a, 1954b). As this fusion is important for phylogenetic reasoning the palpal formula is coded in a way, that indicates three degree of fusion.

i. Separate segment or s

ii. Partial fusion or p

iii. Complete fusion or c

"4, 3" represents four freely articulated maxillary segments and three freely articulated labial segments.

Body Parts

Thorax : The thorax of ants varies enormously in shape and development of the component parts. The thorax of a worker (☿) differs markedly from the thorax of female (♀) or male (♂) of the same species.

The thorax of ants of different subfamilies, vary greatly in the structures and as such no typical diagram of an ant serves the purpose. However, in order to give different body structures, *Solenopsis* sp. has been selected as a typical form

and the terms related to identification have been elaborately illustrated in Figure 1d.

Wing : To the mesothorax at the sides above are attached in the female (♀) and male (♂), the fore-wing, and to the sides of the metathorax, the hind-wings, the nerve venations of the wings are less complete than in most of the Aculeata.

In the fore-wing the radial, coastal, medial and two sub-medial cells are always complete; others are variable and may or may not be present, complete or incomplete (Figs. lc, 3A, B, D).

Legs : Three pairs of legs are present in all sexes containing the following parts :

Coxae, trochanter, single jointed femora, tibiae, tibial calcaria, which may or may not be present on all the legs, are often double, and may be pectinate or simple; tarsi 5 joints, the apical joint armed with two claws, which may be pectinate, dentate or simple (Figs. 3E-G).

Abdomen : The abdomen in worker (☿) and female (♀) is composed of 6 segments, in the male (♂) of 7 visible segments and is like the rest of the parts in ants, very variable, generally more massive and comparatively longer in the female; smallar and more slender in the male than in the female (Figs. 4A-E).

Other Terms

(Figs. la-d)

Inferior propodeal plates : These are pair of flanges or plate like structures placed vertically on either side of the foramen of petiole. (Synonymous terms are "lamellae" "rounded lamella" "metapleural lobes" and "meta-sternal lobes"-keml).

Levator foramen : It is a partially separated channel in the roof of the propodeal foramen, into which fits a ligament that elavates the petiole.

Median meta-sternal process : It is heavily sclerotised and consists of longitudinal grooved extension of the metasternum and is meant to receive the sub-petiolar process of the petiole.

Median meso-sternal process : It is ventrally and posteriorly directed elaboration of the anterior margin of the mesonotum, its function is unknown.

Sub-petiolar process : It is a structure originating from the ventral surface of the petiole. It consists of 2 ridges, 1) an anterior ventral transverse ridge, and 2) posterior ventral transverse ridge which is actually an elaboration of the posterior sternal margin of the post-petiolar segment.

The post-petiole articulates by a ball and socket joint with the gaster (or abdomen) the "Ball" of the gaster generally being concealed within the "socket" of the post-petiole.

SYSTEMATIC ACCOUNT

Formicidae is one of the largest family of order Hymenoptera under the class Insecta and is widely distributed throughout the world, because of its cosmopoliton nature. 9538 species of ants under 16 subfamilies, 59 tribes and 296 genera have been reported till date from the world (Holldobler and Wilson, 1990). The most speciose subfamilies are Myrmicinae (4377 species, 155 genera), Formicinae (2458 species, 49 genera), Ponerinae (1299 species, 42 genera), Dolichoderinae (554 species, 22 genera), Pseudomyrmecinae (197 species, 3 genera). Subfamily Myrmicinae represents 45.89% of the species and 52.34% of the genera of the world, whereas Formicinae represents 25.77% of the species and 16.55% of the genera. Similarly Ponerinae represents 13.62% of the species and 14.19% of the genera of the world (Bolton, 1995).

From Oriental region (including Indo-Australian), altogether 227 genera of ants have been reported till date, of these 27 genera are endemic in nature. The number of species described from Oriental region is 2480 (the splited number being 771 from Oriental region and 1709 from Indo-Australian region).

Prior to this, Bingham (1903) reported 498 species under 79 genera from india, including Burma and Ceylon. Subsequently, Chapman and Capco (1951) recorded 2080 species, 441 subspecies and 684 varieties of ants spread over 176 genera in their check list from Asian subcontinent.

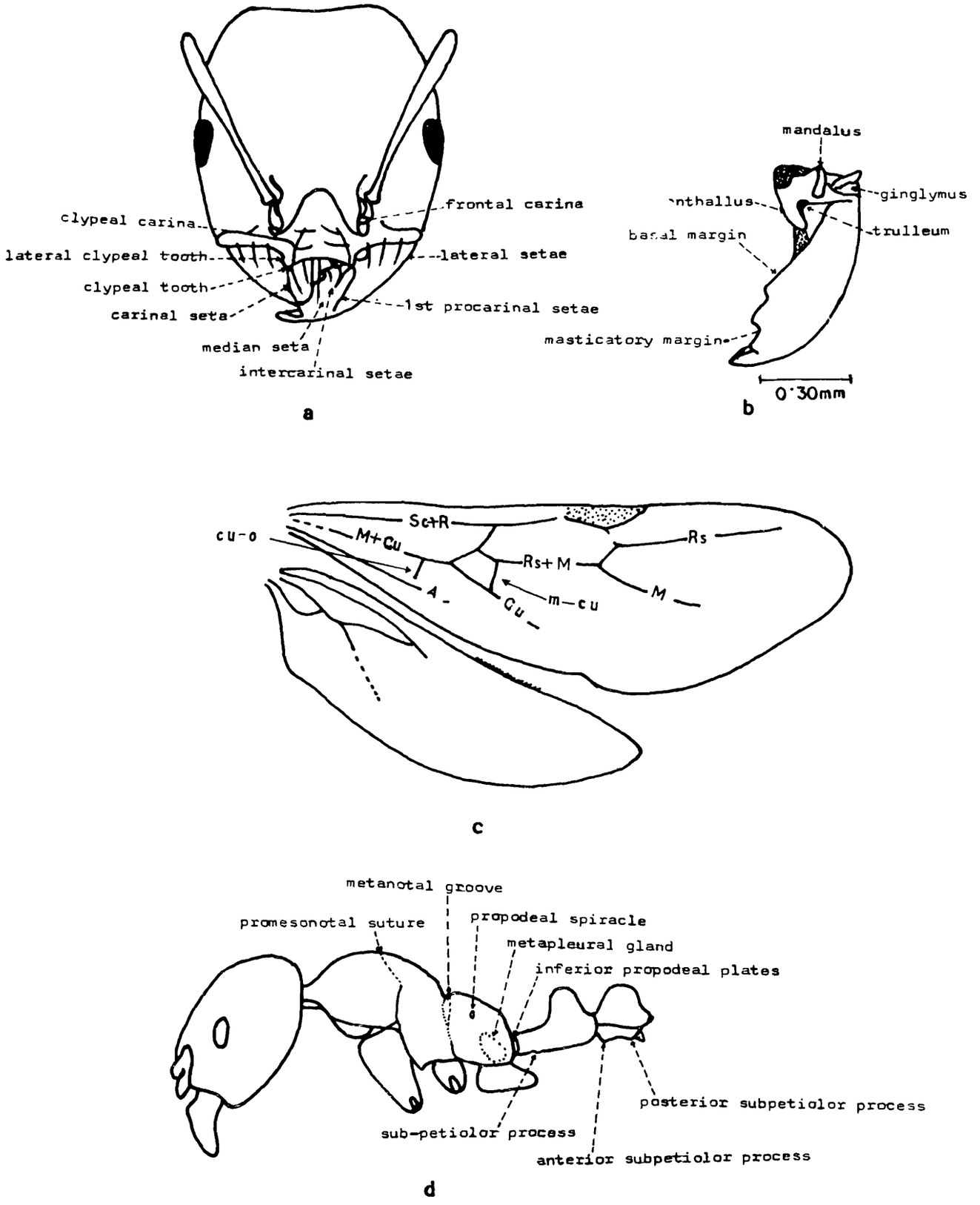

Fig. 1. a- Head of a typical ant (*Solenopsis* sp., worker) showing various parts; **b**-Mandible of *Solenopsis* sp., worker; **c**-Wing venation of fore and hind wings of *Solenopsis* sp., female; **d**-body parts of a typical ant (*Solenopsis* sp., worker).

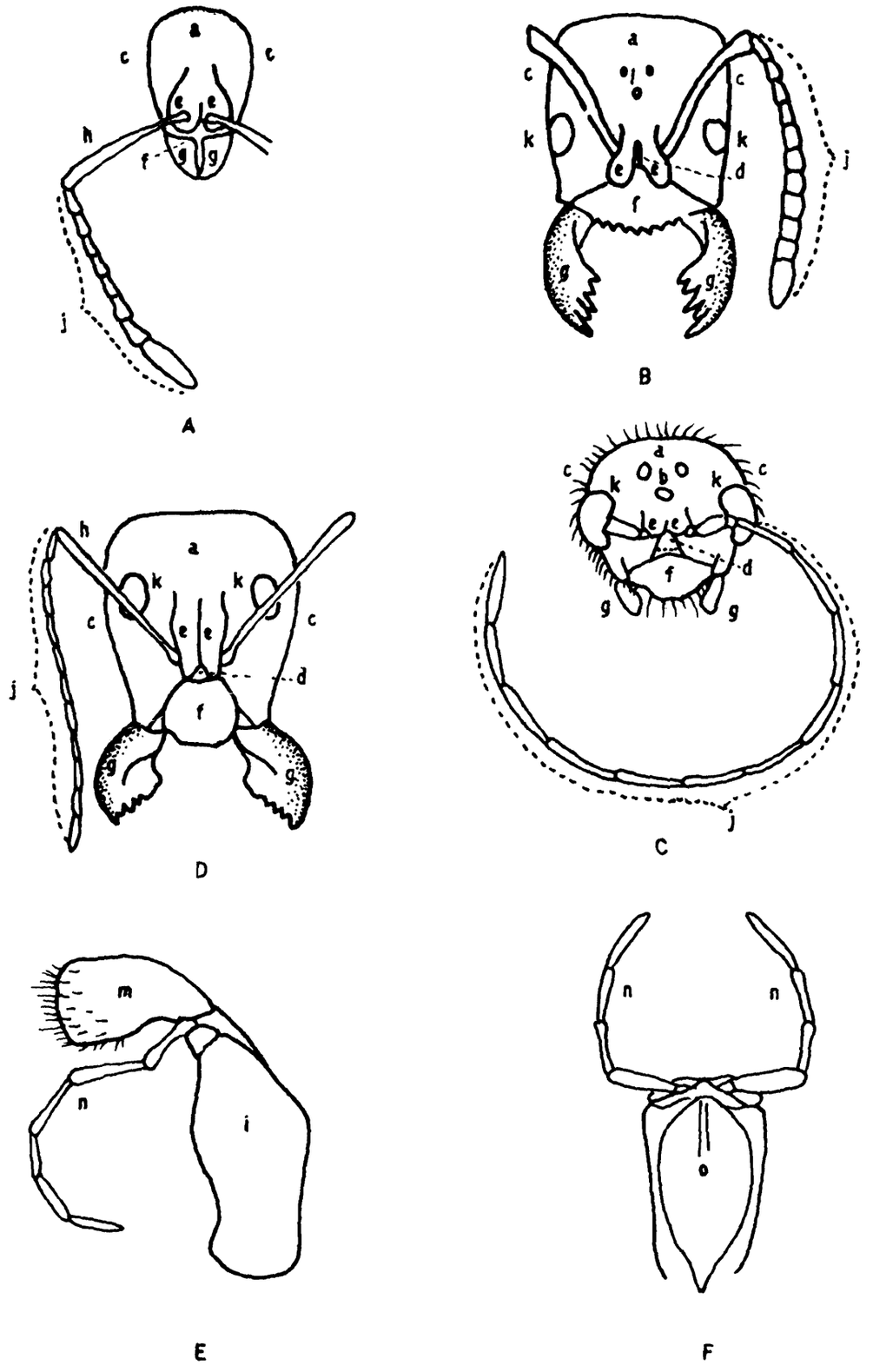

Fig. 2. **A**-Head of a Dorylinae, worker; **B**-Head of Ponerinae, female; **C**-Head of a Ponerinae, male; **D**-Head of a Camponotinae, worker; **E**-Mouth parts (Maxilla) of Camponotinae; **F**-Mouth parts (Labium) of Camponotinae. a, vertex; b, ocelli; c, sides of head; d, frontal area; e, antennal carinae; f, clypeus; g, mandible; h, scape; j, flagellum; k, compound eyes; l, stipes; m, galea; n, palpus (palpi); o, ligula.

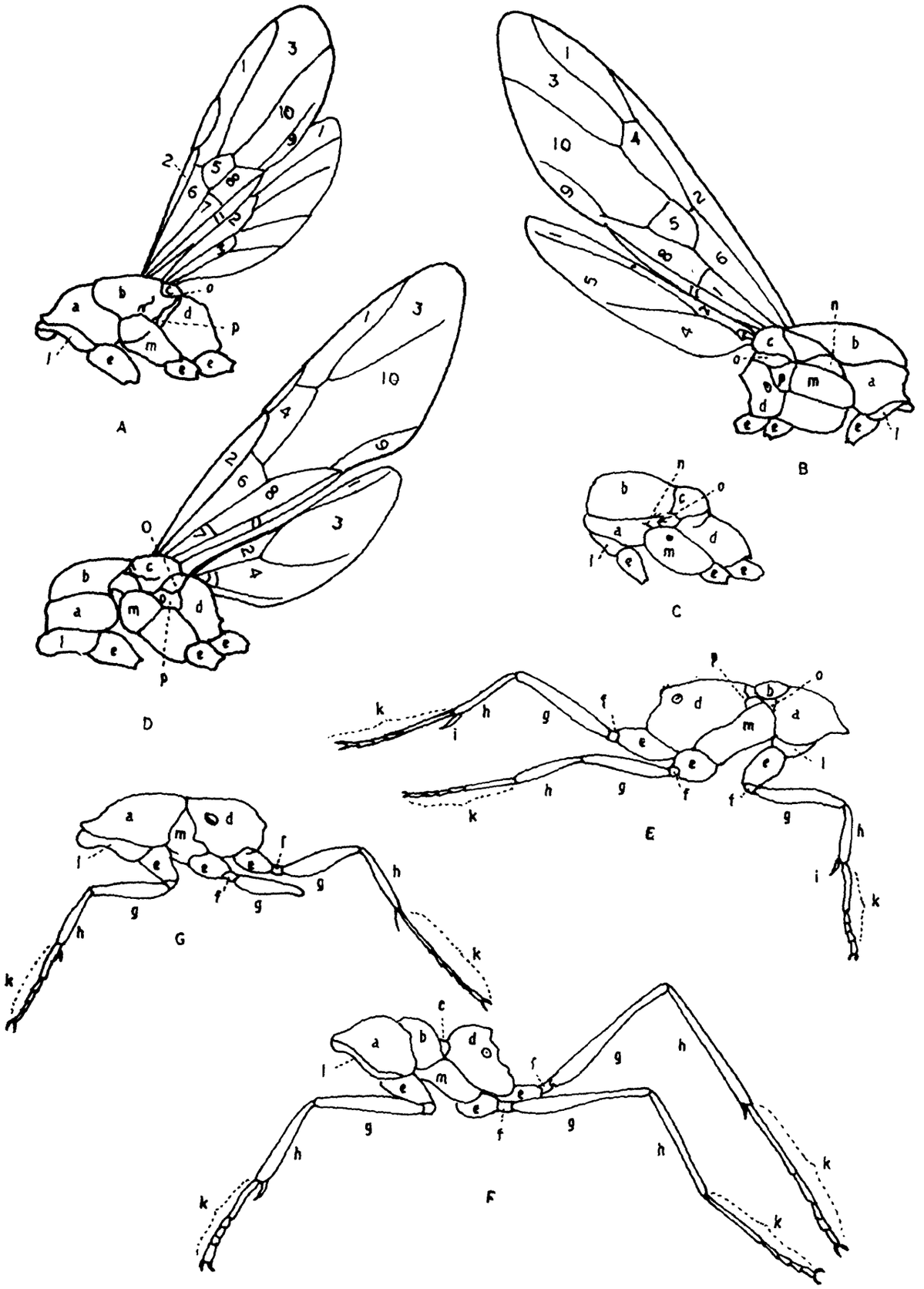

Fig. 3. A-Thorax and wings of Ponerinae, worker; B-Thorax and wings of Myrmicinae, female; C-Thorax of Ponerinae, male; D-Thorax and wings of Camponotinae, female; E-Thorax and legs of Ponerinae, worker; F-Thorax and legs of Dolichoderinae, worker; G-Thorax and legs of Dorylinae, worker. a, pro-thorax; b, meso-thorax; c, scutellum; d, median segment; l, pro-pleurae; m, meso-pleurae; p, meta-pleurae; f, trochanters; g, femora; h, tibiae; i, tibial calcaria; k, tarsi.

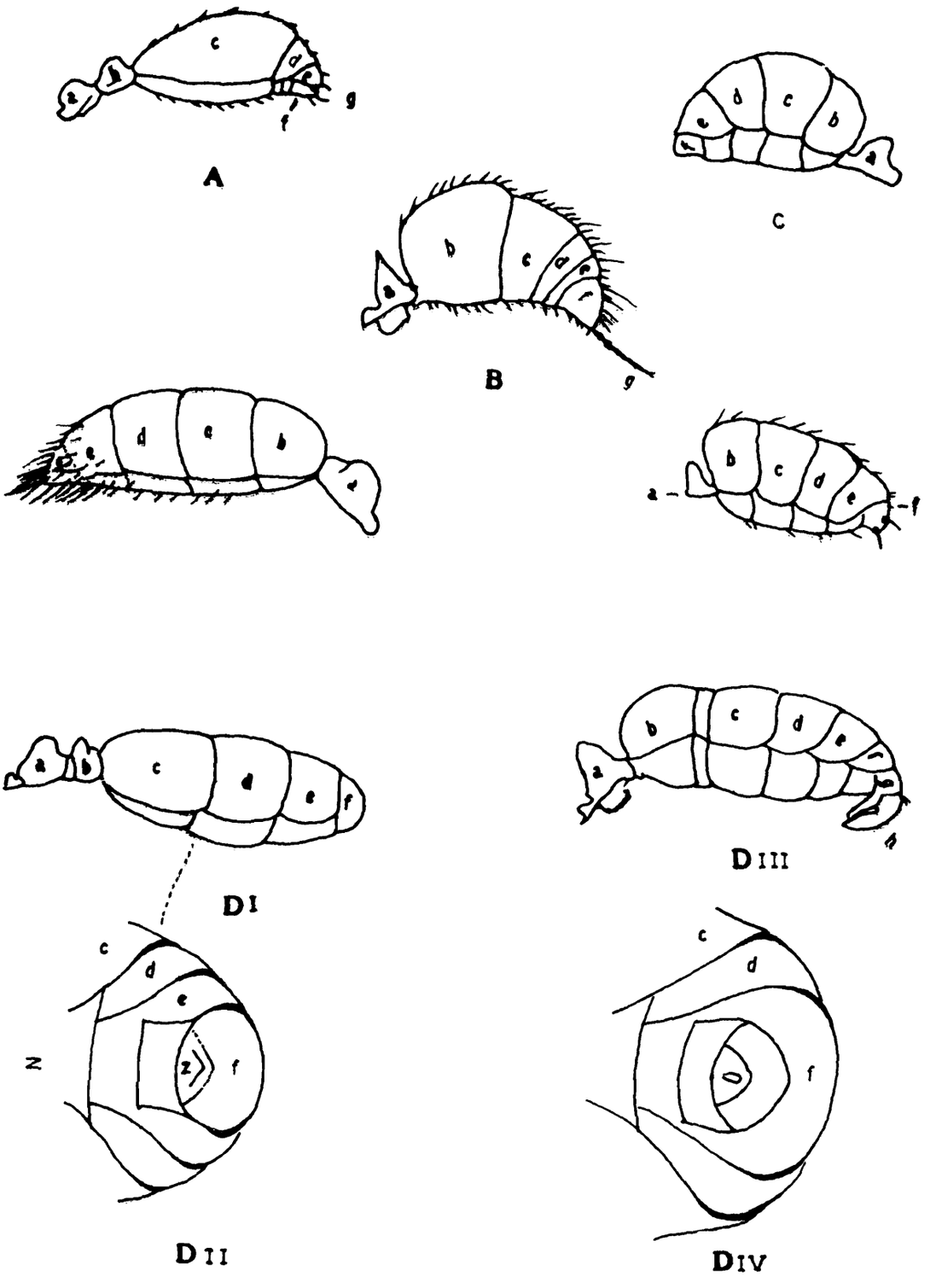

Fig. 4. A - Abdomen of Dorylinae, worker; **B**-Abdomen of Ponerinae, worker; **C**-Abdomen of Dolichoderinae, worker; **D** (i) & (ii)-Abdomen of Myrmicinae, female; (iii)-Abdomen of Ponerinae, male; (iv)-Abdomen of componotinae, female; **E**-Abdomen of Camponotinae, worker.

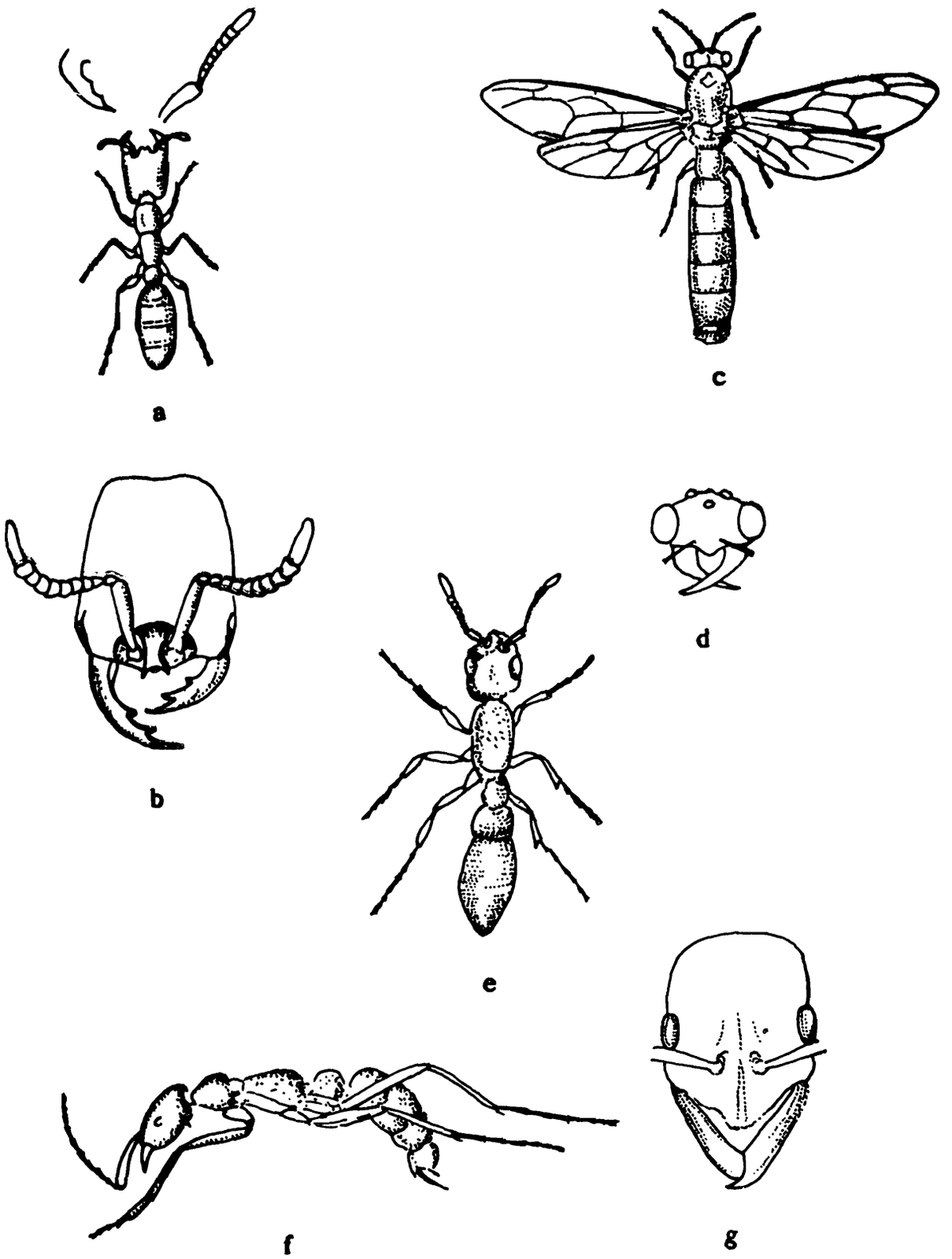

Fig. 5. **a**-A representative of subfamily Dorylinae (*Dorylus* sp., worker); **b**-Head of *Dorylus* sp., worker; **c**-Winged form of *Dorylus* sp., male; **d**-Head of winged form of *Dorylus* sp., male; **e**-A representative of subfamily Cerapachyinae (*Lioponera* sp., worker); **f**-A representative of subfamily Ponerinae (*Leptogenys* sp., worker); **g**-Head of *Leptogenys* sp., worker.

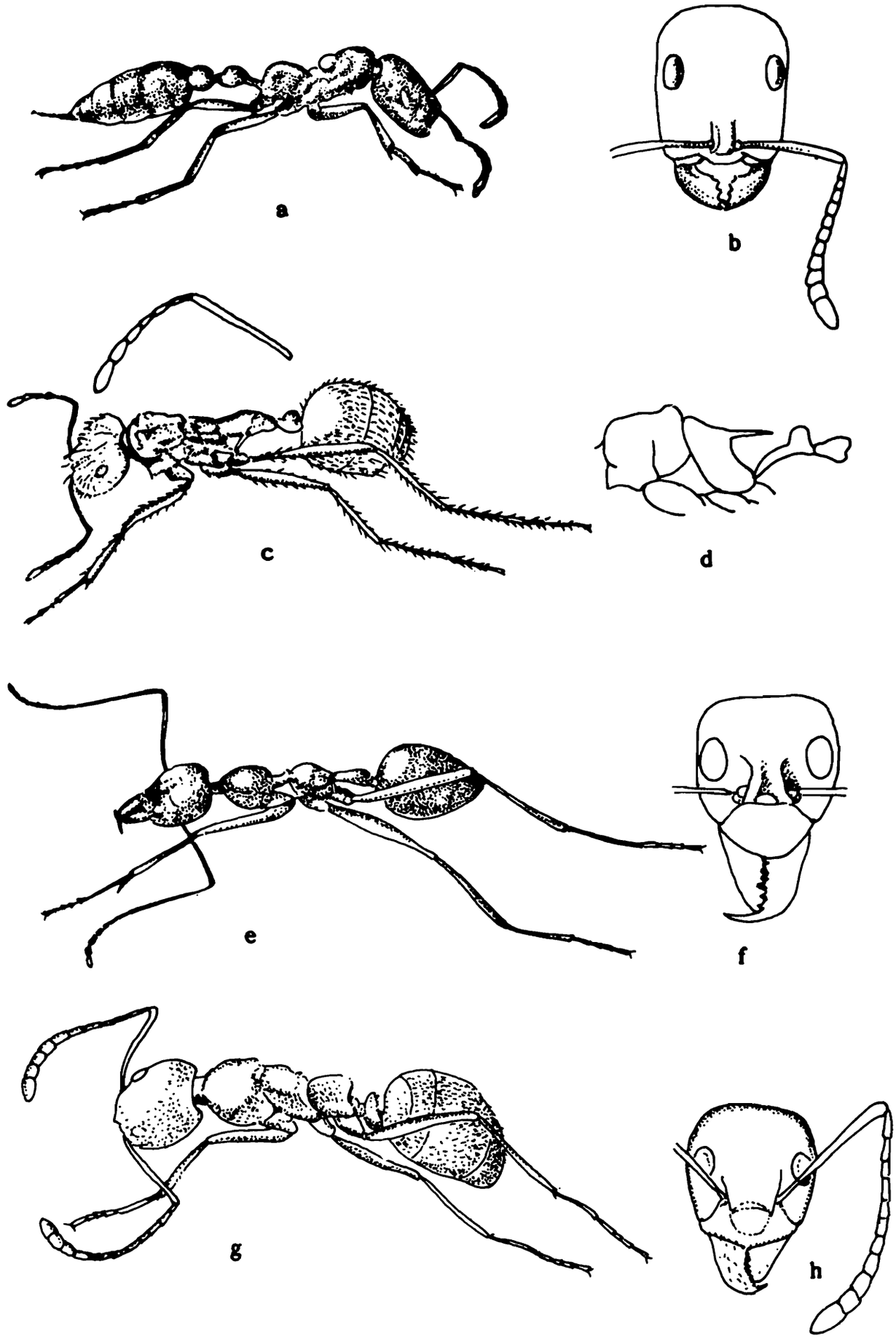

Fig. 6. **a**-A representative of subfamily Pseudomyrmecinae (*Tetraponera* sp., worker); **b**-Head of *Tetraponera* sp., worker; **c**-A representative of subfamily Myrmicinae (*Myrmicaria* sp., worker); **d**-Thorax and petiole of *Myrmicaria* sp., worker; **e**-A representative of subfamily Formicinae (*Oecophylla* sp., worker); **f**-Head of *Oecophylla* sp., worker; **g**-A representative of subfamily Dolichoderinae (*Dolichoderus* sp., worker); **h**-Head of *Dolichoderus* sp., worker.

LIST OF TAXA INCORPORATED IN SYSTEMATIC ACCOUNT

Family FORMICIDAE

I. Subfamily DORYLINAE Forel

1. Genus *Dorylus* Fabricius, 1793

Subgenus *Alaopone* Emery, 1881

*1. *Dorylus (Alaopone) orientalis* Westwood, 1835

2. Genus *Aenictus* Shuckard, 1840

2. *Aenictus arutus* Forel, 1900
3. *Aenictus brevicornis* (Mayr, 1878)
4. *Aenictus fergusoni* Forel, 1900
5. *Aenictus pachycerus* (Smith, 1858)
6. *Aenictus ceylonicus* (Mayr, 1866)
7. *Aenictus arya* Forel, 1900
8. *Aenictus clavatus* Forel, 1900
9. *Aenictus clavatus* var. *kanarensis* Forel, 1900
10. *Aenictus wroughtoni* Forel, 1890
11. *Aenictus gleadowi* Forel, 1900

II. Subfamily PONERINAE Lepeletiere

3. Genus *Anochetus* Mayr, 1861

*12. *Anochetus sedillotl* Emery, 1884
13. *Anochetus mordax* Donisthorpe, 1942
14. *Anochetus orientalis kanariensis* Forel, 1900
15. *Anochetus punctiventris* Mayr, 1878
16. *Anochetus punctiventris taylori* Forel, 1900
17. *Anochetus ruginotis* Stitz, 1929
18. *Anochetus rufus* (Jerdon, 1851)

4. Genus *Odontomachus* Latreille, 1804

19. *Odontomachus haematodes* (Linnaeus, 1758)

5. Genus *Harpegnathus* Jerdon, 1851

20. *Harpegnathus saltator* Jerdon, 1851
21. *Harpegnathus venator* (Smith, 1858)

6. Genus *Leptogenys* Roger, 1861

Subgenus *Lobopelta* Mayr, 1862

*22. *Leptogenys (Lobopelta) birmana* Forel, 1900
23. *Leptogenys (Lobopelta) ocellifera* (Roger, 1861)
24. *Leptogenys (Lobopelta) dentilobis* Forel, 1900
*25. *Leptogenys (Lobopelta) diminuta* (Smith, 1857)
26. *Leptogenys (Lobopelta) diminuta palliseri* Forel, 1900
27. *Leptogenys (Lobopelta) carinata* Donisthorpe, 1943
28. *Leptogenys (Lobopelta) roberti coonoorensis* Forel, 1900
29. *Leptogenys (Lobopelta) longiscapus* Donisthorpe, 1943
30. *Leptogenys (Lobopelta) dalyi* Forel, 1900

7. Genus *Diacamma* Mayr, 1862

31. *Diacamma vagans* (Smith, 1860)
32. *Diacamma rugosum ceylonensis* Emery, 1897
33. *Diacamma rugosum* var. *jerdoni* Forel, 1903
34. *Diacamma rugosum* var. *sculptum* (Jerdon, 1851)
35. *Diacamma cyaniventre* André, 1887

8. Genus *Ectomomyrmex* Mayr, 1867

36. *Ectomomyrmex annamitus* (André, 1892)
37. *Ectomomyrmex leeuwenhoeki* (Forel, 1886)

9. Genus *Bothroponera* Mayr, 1862

38. *Bothroponera henryi* Donisthorpe, 1942
*39. *Bothroponera rubiginosa* (Emery, 1889)
*40. *Bothroponera sulcata* (Frauenfeld, 1867)
41. *Bothroponera tesserinoda* (Mayr, 1877)
42. *Bothroponera rufipes* (Jerdon, 1851)

10. Genus *Ponera* Latreille, 1804

*43. *Ponera truncata* Smith, 1860
44. *Ponera confinis* Roger, 1860
45. *Ponera stenocheilos* Jerdon, 1851
46. *Ponera sulcato-fossulata* Forel, 1900
47. *Ponera affinis* Jerdon, 1851

11. Genus ***Euponera*** Forel, 1861

Subgenus ***Trachymesopus*** Emery, 1911

48. *Euponera (Trachymesopus) darwini* (Forel, 1893)

12. Genus ***Cryptopone*** Emery, 1893

49. *Cryptopone testacea* (Motschulsky, 1863)

50. *Cryptopone rufotestaceus* Donisthorpe, 1943

13. Genus ***Brachyponera*** Emery, 1901

51. *Brachyponera jerdoni* (Forel, 1900)

52. *Brachyponera luteipes* (Mayr, 1862)

53. *Brachyponera luteipes* var. *continentalis* Karawajew, 1925

14. Genus ***Mesoponera*** Emery, 1901

54. *Mesoponera melanaria* Emery, 1893

15. Genus ***Platythyrea*** Roger, 1863

55. *Platythyrea sagei* Forel, 1900

56. *Platythyrea wroughtoni* Forel, 1900

57. *Platythyrea wroughtoni* var. *victoriae* Forel, 1900

16. Genus ***Amblyopone*** Erichson, 1842

58. *Amblyopone belli* Forel, 1900

III. Subfamily CERAPACHYINAE Forel

17. Genus ***Lioponera*** Mayr, 1878

59. *Lioponera longitarsus* Mayr, 1878

60. *Lioponera parva* Forel, 1900

IV. Subfamily PSEUDOMYRMECINAE Emery

18. Genus ***Tetraponera*** Smith, 1852

Subgenus ***Tetraponera*** Emery, 1900

61. *Tetraponera (Tetraponera) aitkeni* (Forel, 1902)

*62. *Tetraponera (Tetraponera) allaborans* Walker, 1859

63. *Tetraponera (Tetraponera) rufonigra* (Jerdon, 1851)

64. *Tetraponera (Tetraponera) nigra* (Jerdon, 1851)

65. *Tetraponera (Tetraponera) nigra fergusoni* (Forel, 1902)

66. *Tetraponera (Tetraponera) difficilis longiceps* (Forel, 1902)

67. *Tetraponera (Tetraponera) rufipes* (Jerdon, 1851)

V. Subfamily MYRMICINAE Lepeletier

19. Genus ***Aphaenogaster*** Mayr, 1853

*68. *Aphaenogaster rothneyi* Forel, 1902

69. *Aphaenogaster beccarii* (Emery, 1887)

20. Genus ***Messor*** Forel, 1890

70. *Messor barbarus* (Linnaeus, 1767)

21. Genus ***Pheidole*** Westwood, 1841

Subgenus ***Pheidole*** s. str.

*71. *Pheidole (Pheidole) malinsi* Forel, 1902

72. *Pheidole (Pheidole) phipsoni* Forel, 1902

73. *Pheidole (Pheidole) spathifera* Forel, 1902

74. *Pheidole (Pheidole) sharpi* Forel, 1902

75. *Pheidole (Pheidole) hoogwerfi* Forel, 1902

76. *Pheidole (Pheidole) constanciae* Forel, 1902

77. *Pheidole (Pheidole) fergusoni* Forel, 1902

78. *Pheidole (Pheidole) mus* Forel, 1902

79. *Pheidole (Pheidole) minor* (Jerdon, 1851)

80. *Pheidole (Pheidole) roberti* Forel, 1902

81. *Pheidole (Pheidole) providens* (Sykes, 1835)

82. *Pheidole (Pheidole) malabarica* (Jerdon, 1851)

83. *Pheidole (Pheidole) diffusa* (Jerdon, 1851)

22. Genus ***Myrmica*** Latreille, 1804

84. *Myrmica caeca* Jerdon, 1851

23. Genus ***Myrmicaria*** Saunders, 1841

85. *Myrmicaria brunnea* Saunders, 1841

24. Genus ***Crematogaster*** Lund, 1831

*86. *Crematogaster wroughtoni* Forel, 1902

87. *Crematogaster dohrni* Mayr, 1878

88. *Crematogaster rogenhoferi* Mayr, 1878

89. *Crematogaster flava* Forel, 1886

*90. *Crematogaster rothneyi* Mayr, 1878

*91. *Crematogaster subnuda* Mayr, 1878

92. *Crematogaster ransonneti* Mayr, 1868

93. *Crematogaster diffusa* (Jerdon, 1851)

94. *Crematogaster rufa* (Jerdon, 1851)

95. *Crematogaster brunnea* var. *nilgirica* Forel, 1902

96. *Crematogaster brunnea contemta* var. *notabilis* Forel, 1902

97. *Crematogaster aberrans* Forel, 1892

98. *Crematogaster aberrans* var. *inglebyi* Forel, 1902

99. *Crematogaster ebenina* Forel, 1902

100. *Crematogaster travancorensis* Forel, 1902

101. *Crematogaster dalyi* Forel, 1902

102. *Crematogaster biroi* Mayr, 1897

103. *Crematogaster biroi* var. *aitkeni* Forel, 1902

104. *Crematogaster pradipi* sp. nov.

25. Genus *Strumigenys* Smith, 1860

105. *Strumigenys godeffroyi* Mayr, 1866

26. Genus *Myrmecina* Curtis, 1829

106. *Myrmecina urbanii* Tiwari, 1994

107. *Myrmecina vidyae* Tiwari, 1994

27. Genus *Monomorium* Mayr, 1855

108. *Monomorium indicum* Forel, 1902

**109. *Monomorium glyciphilum* (Smith, 1858)

*110. *Monomorium mayri* Forel, 1902

111. *Monomorium floricola* (Jerdon, 1851)

*112. *Monomorium latinode* Mayr, 1872

113. *Monomorium dichroum* Forel, 1902

114. *Monomorium pharaonis* (Linnaeus, 1758)

115. *Monomorium wroughtoni* Forel, 1902

116. *Monomorium criniceps* (Mayr, 1878)

117. *Monomorium scabriceps* (Mayr, 1878)

118. *Monomorium crinicipitoscabriceps* (Forel, 1902)

119. *Monomorium nigrum* (Forel, 1902)

120. *Monomorium glabrum* (André, 1883)

121. *Monomorium glabrocriniceps* (Forel, 1902)

122. *Monomorium destructor* (Jerdon, 1851)

123. *Monomorium schurri* Forel, 1902

124. *Monomorium minutum* Mayr, 1855

28. Genus *Oligomyrmex Mayr,* 1867

125. *Oligomyrmex leei* Forel, 1902

126. *Oligomyrmex lamellifrons* (Forel, 1902)

29. Genus *Solenopsis* Westwood, 1841

127. *Solenopsis geminata* (Fabricius, 1804)

30. Genus *Lophomyrmex* Emery, 1892

128. *Lophomyrmex quadrispinosus* (Jerdon, 1851)

31. Genus *Pheidologeton* Mayr, 1862

129. *Pheidologeton affinis* (Jerdon, 1851)

130. *Pheidologeton diversus* (Jerdon, 1851)

32. Genus *Meranoplus* Smith, 1854

*131. *Meranoplus bicolor* (Guérin, 1838)

132. *Meranoplus belli* Forel, 1902

133. *Meranoplus carinatus* Donisthorpe, 1942

134. *Meranoplus flaviventris* Donisthorpe, 1943

135. *Meranoplus levis* Donisthorpe, 1942

136. *Meranoplus rothneyi* Forel, 1902

33. Genus *Triglyphothrix* Forel, 1890

137. *Triglyphothrix decamera* Forel, 1902

138. *Triglyphothrix musculus* Forel, 1902

139. *Triglyphothrix obesa* (André, 1887)

34. Genus *Tetramorium* Mayr, 1855

140. *Tetramorium guineense* (Fabricius, 1793)

**141. *Tetramorium pilosus yerburyi* Forel, 1902

142. *Tetramorium fergusoni* Forel, 1902

143. *Tetramorium inglebyi* Forel, 1902

144. *Tetramorium coonoorense* Forel, 1902

145. *Tetramorium mixtum* Forel, 1902

146. *Tetramorium wroughtoni* (Forel, 1902)

147. *Tetramorium rothneyi* (Forel, 1902)

148. *Tetramorium smithi* Mayr, 1879

149. *Tetramorium tortuosum* var. *belli* Forel, 1902

150. *Tetramorium belgaense* Forel, 1902

35. Genus *Cataulacus* Smith, 1853

151. *Cataulacus* (*Cataulacus*) *latus* Forel, 1891

36. Genus *Atta* Fabricius, 1804

152. *Atta domicola* Jerdon, 1851

153. *Atta dissimilis* Jerdon, 1851

VI. Subfamily FORMICINAE Lepeletier

37. Genus *Oecophylla* Smith, 1861

154. *Oecophylla smaragdina* (Fabricius, 1775)

38. Genus *Myrmecocystus* Wesmael, 1838

155. *Myrmecocystus setipes* Forel, 1894

39. Genus *Acantholepis* Mayr, 1861

*156. *Acantholepis frauenfeldi* (Mayr, 1855)

157. *Acantholepis opaca* Forel, 1892

158. *Acantholepis fergusoni* Forel, 1895

40. Genus *Camponotus* Mayr, 1861

159. *Camponotus angusticollis* (Jerdon, 1851)

160. *Camponotus compressus* (Fabricius, 1787)

161. *Camponotus sericeus* (Fabricius, 1798)

162. *Camponotus rufoglaucus* (Jerdon, 1851)

*163. *Camponotus dolendus* Forel, 1892

164. *Camponotus paria* Emery, 1889

165. *Camponotus mendax* Forel, 1895

166. *Camponotus puniceps* Donisthorpe, 1942

167. *Camponotus barbatus* Roger, 1863

168. *Camponotus taylori* Forel, 1892

169. *Camponotus similis* Donisthorpe, 1943

170. *Camponotus variegatus* (Smith, 1858)

171. *Camponotus variegatus-somifica* Forel, 1902

172. *Camponotus mitis* (Smith, 1858)

173. *Camponotus thraso* Forel, 1893

174. *Camponotus phragmaticola* Donisthorpe, 1943

175. *Camponotus strictus* (Jerdon, 1851)

176. *Camponotus confucii* Forel, 1894

177. *Camponotus varius* Donisthorpe, 1943

178. *Camponotus nirvanae* Forel, 1893

179. *Camponotus timidus* (Jerdon, 1851)

180. *Camponotus velox* (Jerdon, 1851)

181. *Camponotus radiatus* Forel, 1892

41. Genus *Polyrhachis* Smith, 1858

182. *Polyrhachis mayri* Roger, 1863

*183. *Polyrhachis dives* Smith, 1857

*184. *Polyrhachis simplex* Mayr, 1862

185. *Polyrhachis clypeata* Mayr, 1862

186. *Polyrhachis clypeata* var. *obtusisquama* Forel, 1902

187. *Polyrhachis exercita* Walker, 1859

188. *Polyrhachis rastellata* Latreille, 1802

189. *Polyrhachis rastellata* var. *corporaali* Santschi, 1928

190. *Polyrhachis duodentata* Donisthorpe, 1942

191. *Polyrhachis illaudata* Walker, 1859

192. *Polyrhachis latispinosa* Donisthorpe, 1942

193. *Polyrhachis punctillata* Roger, 1863

194. *Polyrhachis punctillata fergusoni* Forel, 1902

195. *Polyrhachis dives belli* Forel, 1912

196. *Polyrhachis binghami* Forel, 1893

197. *Polyrhachis furcata gracilior* Forel, 1893

198. *Polyrhachis indificans* (Jerdon, 1851)

199. *Polyrhachis sylvicola* (Jerdon, 1851)

200. *Polyrhachis tibialis* Smith, 1858

201. *Polyrhachis tibialis* var. *parsis* Emery, 1901

202. *Polyrhachis weberi* Donisthorpe, 1943

203. *Polyrhachis wroughtoni* Forel, 1894

204. *Polyrhachis thrinax* Roger, 1863

205. *Polyrhachis indica* Mayr, 1870

42. Genus ***Hemioptica*** Roger, 1862

206. *Hemioptica scissa* Roger, 1862

207. *Hemioptica aculeata* (Mayr, 1878)

43. Genus ***Paratrechina*** Motschoulsky, 1863

*208. *Paratrechina bourbonica* (Forel, 1886)

*209. *Paratrechina longicornis* (Latreille, 1802)

210. *Paratrechina assimilis* (Jerdon, 1851)

211. *Paratrechina yerburyi* (Forel, 1894)

44. Genus ***Plagiolepis*** Mayr, 1861

212. *Plagiolepis jerdoni* Forel, 1894

213. *Plagiolepis rogeri* Forel, 1894

214. *Plagiolepis wroughtoni* Forel, 1902

45. Genus ***Anoplolepis*** Santschi, 1914

215. *Anoplolepis longipes* (Jerdon, 1851)

46. Genus ***Formica*** Linnaeus, 1758

216. *Formica phyllophila* Jerdon, 1851

217. *Formica vagans* Jerdon, 1851

VII. Subfamily DOLICHODERINAE Forel

47. Genus ***Tapinoma*** Förster, 1850

218. *Tapinoma melanocephalum* (Fabricius, 1793)

48. Genus ***Bothriomyrmex*** Emery, 1865

219. *Bothriomyrmex dalyi* Forel, 1895

Key to the Subfamilies of Formicidae

1. Pedicel of the abdomen one-jointed 2

— Pedicel of the abdomen two-jointed 4

2. A more or less marked constriction between basal two segments of abdomen .....

.....PONERINAE

— No constriction between basal two segments of abdomen 3

3. Opening at posterior end of gaster (acidopore) terminal, circular and usually surrounded by a fringe of hairs .....FORMICINAE

— Opening at posterior end of gaster (acidopore) transverse, slit-like; eye never present, blind .....DORYLINAE

4. Elongate, often very slender, eye very large and elongate; clypeus with a rounded upper margin, not prolonged upward between the frontal carinae; frontal carinae usually close together, usually narrow and not expanded laterally to cover the antennal insertations, antennae short ....PSEUDOMYRMECINAE

— Without this combination of characters; frontal carinae usually large, nearly always covering the antennal insertations and nearly always well-separated .....MYRMICINAE

I. Subfamily DORYLINAE Forel

Members of this subfamily are known as army ants and are sometimes referred to as legionary ants in the New World and Old World. They are predaceous and are known for their foraging expeditions, the size of which are sometimes exaggerated. Army ants exhibit a number of morphological and biological peculiarities not common to most ants, such as, wasp-like males, wingless termite-like females, blind workers, and their raiding and emigrating behaviour. Retten Meyer (1963) outlined the following traits in which they differ from other ants : 1) they feed almost exclusively on animal prey which is collected by large groups raiding workers; 2) their raiding columns usually connect to the nest by at least one continuous column; 3) the entire colony periodically and frequently emigrates to new nest's sites ; 4) emigration are largely dependant on the size, cast, age and range of ages of the brood (or broods); and 5) the colonies are founded by division of an entire colony into two (or possibly several daughter colonies. Other ants may possess some of these traits, but not all of them.

Much of the biological work on army ants has been done in Central America on the terrestrial species of *Eciton* which are found in large clusters above the ground and whose colonies may number upto million individuals. Most of the army ants, however. are sub-terranean in habit, though the raiding columns of some may appear above ground. Raiding may be in columns only several ants wide or in swarms of a fan-shaped pattern. Most of the prey is other arthropods, only occasionally vertebrates. All species have nomadic and statary activity cycles where the entire colony moves from one area to another, a unique behaviour exhibited by this group.

Most of the taxonomy is based on males and workers, and for some species only one caste is known.

Key to the Genera of Dorylinae

☿☿

1. Pedicel one-jointed; pro-mesonotal suture distinct, meso-metanotal suture obsolete..... .....*Dorylus*

— Pedicel two-jointed; pro-mesonotal suture obsolete, meso-metanotal suture distinct..... .....*Aenictus*

♂♂

1. Of comparatively large size, length over 18 mm.; node of pedicel convex.....*Dorylus*

— Smaller body size, length under 13 mm.; node of pedicel concave, sometimes merely longitudinally grooved or bilobed never convex .....*Aenictus*

1. Genus ***Dorylus*** Fabricius

1793. *Dorylus* Fabricius, *Ent. Syst.*, **2** : 194.

Type-species : *D. helvolus* ♂ (Linnaeus, 1758), from Africa.

Subgenus ***Alaopone*** Emery

1881. *Alaopone* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **16** : 274, ☿.

*1. ***Dorylus (Alaopone) orientalis*** Westwood

1835. *Dorylus orientalis* Westwood, *Proc. Zool. Soc. Lond.*, **3** : 72, ♂.

1840. *Typhlopone curtisi* Shuckard, *Ann. Mag. Nat. Hist.*, **5** : 265, ☿.

1840. *Dorylus longicornis* Shuckard, *Ann. Mag. Nat. Hist.*, **5** : 321, ♂.

1881. *Alaopone oberthueri* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **16** : 274, ☿.

1903. *Dorylus orientalis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 4, ♂, ☿ maj., ☿ min.

1994. *Dorylus (Alaopone) orientalis*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part 8 : 232.

Material examined : SOUTH INDIA : Kerala : Kuttikanam near Peermade, Several exs., 3.iii.1969, ex. at light, coll. O. B. Chhotani and R. N. Tiwari; Enur back water, 5 workers, 18.1.1915, coll. N. Annandale.

Distribution : INDIA : Kerala, Orissa, Maharashtra, West Bengal. Elsewhere : Burma, China, Malayan Peninsula, Indonesia (Java, Sumatra, Borneo), Nepal, Sri Lanka.

Biological notes : This species is commonly known as root-eating ant, the workers feed on soft parts of roots and the tuberous roots are hollowed out.

Green (1903) also agreed with above vegetation behaviour of the said species. But Mukherjee (1933) doubted this. He studied the worker's mouth parts in details and found them "better adapted for feeding on animal food than on plants. The mandible is similar to that of the species *Dorylus* (*Typhlopone*) *labiatus* Shuck., 1840, which is carnivorous in habit. The sharp-pointed bristles, spines and setae on the 1st and 2nd maxillae, can well pierce the skin of the victim and draw out the nutritive fluid from the body of their prey, which they suck by their a mobile tongue."

The male resembles wasps and females are wingless and blind. In Southern India only one male was collected at light no workers came across, evidently it is presumed that it is not very common species in Southern India.

2. Genus *Aenictus* Shuckard

1840. *Aenictus* Shuck., *Ann. Mag. Nat. Hist.*, **5** : 266, ♂.

Type-species : *A. ambiguus* Shuckard, 1840, from India.

2. *Aenictus aratus* Forel

1900. *Aenictus aratus* Forel, *Ann. Soc. Ent. Belg.*, **44** : 74, ☿.

1900. *Aenictus aitkenii* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 465 & 475, ☿.

1964. *Aenictus aratus*, Wilson, *Pacific Insects*, **6** (3) : 446 (Syns.).

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala, Tamil Nadu, Maharashtra, Himachal Pradesh. Elsewhere : Queensland, Australia.

Remarks : The material of this species could not be available for the study. However, Bingham (1903 : 19) reported the species, *A. aitkeni* Forel, 1900 from Poona, Kanara and Travancore.

3. *Aenictus brevicornis* (Mayr)

1878. *Typhlatta brevicornis* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 668 & 669, ☿.

1900. *Aenictus brevicornis* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 466, ☿.

1994. *Aenictus brevicornis*, Tiwari *et al.*, *State Fauna Series* **3** : *Fauna of West Bengal*, Part **8** : 233.

Material examined : Nil.

Distribution : INDIA : Kerala, Karnataka, Uttar Pradesh, Assam, West Bengal.

Remarks : Material of this species could not be available for the study. However, Bingham (1903 : 21) reported this species from Calcutta, Bangalore, Calicut, Assam and N. W. Provinces of India.

4. *Aenictus fergusoni* Forel

1900. *Aenictus fergusoni* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 465 & 473, ☿.

1964. *Aenictus fergusoni*, Wilson, *Pacific Insects*, **6** : 462 (Syns).

Material examined : Nil.

Distribution : INDIA : Kerala, Gujarat, Sikkim, Assam, Great Nicobar. Elsewhere : Burma, Indonesia (Java).

Remarks : Bingham (1903 : 18) reported this species from Travancore, Surat, Sikkim. But Wilson (1964) reported varities of this species, var. *piltze* from Nedungadu, Tanjore, Tamil Nadu and var. *montanus* from Darjeeling, West Bengal and Missamari, Assam.

5. *Aenictus pachycerus* (Smith)

1858. *Eciton pachycerus* Smith, *Cat. Hymn. Brit. Mus.*, **6** : 153, ☿.

1878. *Typhlatta bengalensis* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 668, ☿.

1964. *Aenictus pachycerus*, Wilson, *Pacific Insects*, **8** : 471 (Syns.).

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala, Tamil Nadu, Uttar Pradesh, Maharashtra, Himachal Pradesh.

Remarks : The material of this species could not be available for this study. However, Bingham (1903 : 20) reported this species and mentioned its localities as Dehra Dun, Travancore, Madras, Kanara and probably throughout continental India. But Wilson (1964) reported the syntypes of *bengalensis* from Solan near Simla which are very similar to the syntypes of *pachycerus*.

6. *Aenictus ceylonicus* (Mayr)

1866. *Typhlatta ceylonicus* Mayr, *Sitzungsb. Akad. Wiss. Wien*, **53** : 505, ☿.

1903. *Aenictus ceylonicus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 22, ☿.

1964. *Aenictus ceylonicus*, Wilson, *Pacific Insects*, **6** : 452.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra. Elsewhere : Sri Lanka, Taiwan, Indonesia (Borneo), Philippine Is., New Guinea, Aru, Australia as far South as Northern South Wales.

Remarks : No specimen of this species were available for the study. However, Wilson (1964) reported this species from Kanara and Poona.

7. *Aenictus arya* Forel

1900. *Aenictus arya* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 468 & 472, ♂.

1964. *Aenictus arya*, Wilson, *Pacific Insects*, **6** : 481

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : Specimen of this Species could not be available for the study. But Bingham (1903 : 8) and Wilson (1964), both of them, reported this species from Kanara.

8. *Aenictus clavatus* Forel

1900. *Aenictus clavatus* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 467, 471.

1964. *Aenictus clavatus*, Wilson, *Pacific Insects*, **6** : 482.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra, Gujarat, Sikkim.

Remarks : Specimen of this species could not be available for the study. However, Bingham (1903 : 12) reported this species and mentioned its localities as "Western India, Gujarat, Kanara and Sikkim" Wilson (1964) also reported this species from Kanara and Poona.

9. *Aenictus clavatus* var. *kanarensis* Forel

1900. *Aenictus clavatus* var. *kanarensis* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 467, ☿.

1964. *Aenictus clavatus* var. *kanarensis*, Wilson, *Pacific Insects*, **6** : 482.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No material of this species could be available for the study. However, Wilson (1964) reported this species from Kanara.

10. *Aenictus wroughtoni* Forel

1890. *Aenictus wroughtoni* Forel, *Ann. Soc. Ent. Belg.*, **34** : 104, ☿, ♂.

1903. *Aenictus wroughtoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 16, ♂, ☿.

1964. *Aenictus wroughtoni*, Wilson, *Pacific Insects*, **6** : 480.

Material examined : Nil.

Distribution : INDIA : Kerala, Maharashtra, Madhya Pradesh.

Remarks : The material of this species could not be available for the study. However, Bingham (1903) reported this species and mentioned its localities as "Western and Central India and Travancore"

11. *Aenictus gleadowi* Forel

1900. *Aenictus gleadowi* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 468 & 469, ♂.

1903. *Aenictus gleadowi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 8, ♂.

1964. *Aenictus gleadowi*, Wilson, *Pacific Insects*, **6** : 482.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No specimen of this species were available for study. However, Bingham (1903) reported this species from Kanara. Subsequently, Wilson (1964) also reported this species from the same area.

II. Subfamily PONERINAE Lepeletier

The species of this subfamily are primarily characterised by a constriction, sometimes slight but generally distinct, and often remarkably deep, between the basal two segments, and by the unmodified powerful and generally exerted sting. The body more or less elongate and cylindrical, the abdomen especially so; the mandibles powerful; the antennae more or less massive; eyes generally present, absent in one or two genera; legs moderately long. Habits predaceous and carnivorous. The Ponerine ants carry their prey or

food underneath the body between the fore legs, a method of carrying food, quite different from that adopted by the Camponotinae and Myrmicinae. The males and females of Ponerinae, so far as they are known, are always winged. This subfamily mostly represents the primitive group of ants and thus can be treated as the ancestral stock in the phylogeny of ants. The nests, in small colonies of a few hundred individuals or less, mostly on soil or rotten wood. They are abundantly distributed all over the tropical regions of the world, but are even reported from some European and American countries and the cause of this migration is the introduction of commerce from one part of the world to the other.

Key to the Genera of Ponerinae

1. Pedicel not free; a strong constriction, but no flexible joint between pedicel and abdomen ..... *Amblyopone*

— Pedicel free, with a flexible joint between it and the abdomen 2

2. Mandibles articulated close together in middle of front margin of head 3

— Mandibles articulated wide apart at lateral angles of front margin of head 4

3. Antennal hollows not confluent posteriorly ..... *Odontomachus*

— Antennal hollows not confluent posteriorly ..... *Anochetus*

4. Mandibles long, curved upwards, one strong tooth at base of masticatory margin, thence denticulate to apex ..... *Harpegnathus*

— Mandibles differently formed 5

5. Claws pectinate ..... *Leptogenys*

— Claws not pectinate 6

6. Posterior margin of clypeus not distinctly defined ..... *Platythyrea*

— Posterior margin of clypeus defined by a suture 7

7. Node of pedicel bispinous posteriorly ..... *Diacamma*

— Node of pedicel not bispinous, sometimes denticulate posteriorly 8

8. Episternum of mesothorax separated from sternum by a suture ..... *Ectomomyrmex*

— Episternum of mesothorax not separated from sternum 9

9. Posterior tibiae with only one spur 10

— Posterior tibiae with two spurs 11

10. Club of flagellum of antennae not well-defined ..... *Ponera*

— Club of flagellum of antennae distinct and well-defined ..... *Cryptopone*

11. Middle of front margin of clypeus produced, truncate at apex ..... *Euponera*

— Middle of front margin of clypeus not produced 12

12. Meso-metanotal suture obsolete ..... *Bothroponera*

— Meso-metanotal suture well-marked 13

13. Masticatory margin of mandibles very long, longer than inner margin ..... *Mesoponera*

— Masticatory margin of mandibles shorter .... *Brachyponera*

3. Genus ***Anochetus*** Mayr

1861. *Anochetus* Mayr, *Europ. Formicid.* : 53, ☿.
Type-species : *Odontomachus ghilliani* Spinola, 1853 from Europe.

*12. ***Anochetus sedilloti*** Emery

1884. *Anochetus sedilloti* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **21** : 377 & 378, ☿.

1903. *Anochetus sedilloti*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 42, ☿, ♀, ♂.

1911. *Anochetus (Anochetus) sedilloti*, Emery, *Genera Insect.*, **118** : 109.

1951. *Anochetus sedilloti*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 41.

Material examined : SOUTH INDIA : Tamil Nadu : Mudamthorai Tiger Sanctuary near Ambasamudrum, Several workers, 1.iii. 1969, coll. O.B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu and Western India. Elsewhere : North Africa (Tunisia).

Remarks : Bingham (1903) also reported this species and mentioned its locality as "Western India"

13. *Anochetus mordax* Donisthorpe

1942. *Anochetus mordax* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 452, ☿.

1951. *Anochetus mordax*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 40.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : No material of this species could be available for this study. However, Donisthorpe (1942), in his Columbo Museum Expedition of Southern India, reported this species from Dohnavur, Tinnelvelly dist., South India.

14. *Anochetus orientalis kanariensis* Forel

1900. *Anochetus kanariensis* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 59, ☿.

1903. *Anochetus kanariensis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 44, ☿.

1951. *Anochetus orientalis kanariensis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 40.

Material examined : Nil.

Distribution : INDIA : Karnataka, Tamil Nadu. and Western India.

Remarks : The material of this species could not be available for the study. However, Bingham (1903) reported this species from Western India, Kanara and Madras. Further, he (*op. cit.*) also quoted, "Dr. Forel regards this as a race of *A. orientalis* André from Cochin-China"

15. *Anochetus punctiventris* Mayr

1878. *Anochetus punctiventris* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 659, ☿.

1903. *Anochetus punctiventris*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 41, ☿, ♀.

1951. *Anochetus punctiventris*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 41.

1994. *Anochetus punctiventris*, Tiwari *et. al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 236.

Material examined : Nil.

Distribution : INDIA : Southern and Western India, Sikkim, West Bengal.

Remarks : No specimen of this species were available for the study. However, Bingham (1903) reported this species and mentioned its localities as "Bengal, Sikkim, Western and Southern India"

16. *Anochetus punctiventris taylori* Forel

1900. *Anochetus taylori* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 60 & 63, ☿.

1903. *Anochetus taylori*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 43, ☿.

1951. *Anochetus punctiventris taylori*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 41.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala, Tamil Nadu, Maharashtra. Elsewhere : Prinsen Is., Vertaten Is.

Remarks : The material of this subspecies could not be available for the study. However, Bingham (1903) reported *taylori* as a species and mentioned its localities as "the Nilgiris, Belgaum, Western India and Poona"

17. *Anochetus ruginotis* Stitz

1929. *Anochetus ruginotis* Stitz, *Gesel. Nat. Freunde Berlin* : 114, ☿.

1951. *Anochetus ruginotis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 41.

Material examined : Nil.

Distribution : INDIA : South India.

Remarks : The material of this species could not be available for the study. However, Chapman and Capco (1951) reported this species from South India, no clear locality mentioned.

18. ***Anochetus rufus*** (Jerdon)

1851. *Odontomachus rufus* Jerdon, *Madras J. Lit. Sci.*, **17** : 116, ☿.

1951. *Anochetus rufus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 41.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu (Salem).

Remarks : No material of this species could be available for the study. However, Jerdon (1851) reported this species under the Genus ***Odontomachus*** from Salem dist. (ex. under stone). But subsequently, Chapman and Capco (1951) recorded this species under the Genus *Anochetus* and mentioned its locality as "South India"

4. Genus ***Odontomachus*** Latreille

1804. *Odontomachus* Latreille, *Nouv. Dict. Hist. Nat.*, **24** : 179.

Type-species : *Formica haematodes* Linnaeus, 1758, from the tropics of both hemispheres.

19. ***Odontomachus haematodes*** (Linnaeus)

1758. *Formica haematodes* Linn., *Syst. Nat., ed.* 10, **1** : 582, ☿.

1900. *Odontomachus haematodes*, Forel; *J. Bombay Nat. Hist. Soc.*, **13** : 57, ☿.

1903. *Odontomachus haematodes*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 47, ☿, ♀.

1951. *Odontomachus haematoda*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 43.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Kerala, Assam, Sikkim, Andaman and Nicobar Is; Elsewhere : Africa, America, Australia, Indonesia (Java, Borneo), New Guinea, Philippines, Sri Lanka.

Remarks : The material of this species could not be available for the study. However, Bingham (1903) reported this species and mentioned its distribution from different places of Southern India (Madras, Cochin, Travancore) and Sikkim, Assam, Ceylon etc. and also found in Africa and America.

5. Genus ***Harpegnathus*** Jerdon

1851. *Harpegnathus* Jerdon, *Madras J. Lit. Sci.*, **17** : 116, ☿.

Type-species : *H. saltator* Jerdon, 1851, from Malabar, India.

20. ***Harpegnathus saltator*** Jerdon

1851. *Harpegnathus saltator* Jerdon, *Madras J. Lit. Sci.*, **17** : 117, ☿.

1858. *Drepanognathus cruentatus* Smith, *Cat. Hym. Brit. Mus.*, **6** : 82, ☿.

1900. *Harpegnathus saltator et cruentatus*, Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 63 & 65, ☿, ♀, ♂ :

1903. *Drepanognathus saltator*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 50, ☿, ♀, ♂.

1951. *Harpegnathus saltator*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 66.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala, Western India, Assam, Elsewhere : China ?, Sri Lanka.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species under the Genus *Drepanognathus* and mentioned its localities as "Western India, Mysore, Kanara, Travancore, Ceylon and China ?"

21. *Harpegnathus venator* (Smith)

1858. *Drepanognathus venator* Smith, *Cat. Hym. Brit. Mus.*, **6** : 82, ☿.

1900. *Harpegnathus venator*, Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 63 & 64, ☿, ♀, ♂.

1903. *Drepanognathus venator*, Bingham, *Fauna Brit. India. Hymenoptera*, **2** : 51, ☿, ♀, ♂.

1951. *Harpegnathus venator*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 67.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu ?, Assam, Sikkim, Uttar Pradesh, Elsewhere : Burma, China.

Remarks : No specimen of this species could be available for this study. But Bingham (1903) reported this species under the Genus *Drepanognathus* and mentioned its distribution as "Northern India (Dehra Dun), Sikkim, Assam, Madras ? and Burma"

6. Genus *Leptogenys* Roger

1861. *Leptogenys* Roger, *Berl. ent. Zeitschr.*, **5** : 41, ☿.

Type-species : *L. falcigera* Roger, 1861, from Sri Lanka (formerly Ceylon)

Subgenus *Lobopelta* Mayr

1862. *Lobopelta* Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 733, ☿.

Key to the Species of *Leptogenys* (*Lobopelta*)

1. Node of pedicel squamiform, compressed longitudinally, its upper margin narrow, obtuse 2

— Node of pedicel not compressed longitudinally, broader above, sub-cubital with anterior and posterior margins .... *diminuta*

2. Clypeus tridentate anteriorly ..... *dentilobis*

— Clypeus not dentate 3

3. Medial joints of flagellum of antennae distinctly longer than broad ..... *ocellifera*

— Medial joints of flagellum of antennae not longer than broad ..... *birmana*

*22. *Leptogenys* (*Lobopelta*) *birmana* Forel

1900. *Lobopelta birmana* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 305 & 310.

1903. *Lobopelta birmana*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 58, ☿, ♂.

1951. *Leptogenys (Lobopelta) birmana*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 32.

1994. *Leptogenys (Lobopelta) birmana*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 242.

Material examined : SOUTH INDIA : Tamil Nadu : Sanyasimalai Reserve Forest and Yercaud, 7 workers, 13.ii.1969, ex. under stone, coll. O.B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal, Assam. Elsewhere : Burma.

23. *Leptogenys (Lobopelta) ocellifera* (Roger)

1851. *Ponera processionalis* Jerdon, *Madras J. Lit. Sci.*, **17** : 118.

1861. *Ponera ocellifera* Roger, *Berl. ent. Zeit.*, **5** : 13, ☿.

1887. *Lobopelta distinguenda* var. *andrei* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **25** : 431, ☿.

1903. *Lobopelta ocellifera*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 57, ☿, ♂.

1911. *Leptogenys (Lobopelta) processionalis*, Emery, *Genera Insect.*, **118** : 104.

1951. *Leptogenys (Lobopelta) ocellifera*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 38.

1994. *Leptogenys (Lobopelta) ocellifera*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 244.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, several workers, 18.ii.1969, ex. from a teak tree, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, West Bengal, and nearly the whole of peninsular India. Elsewhere : Sri Lanka.

Remarks : Bingham (1903) reported this species under *Lobopelta* and mentioned its distribution as "Nearly the whole of peninsular India and Ceylon, not extending to Assam or Burma" A variety was also reported from Sarawak by Emery.

Biological notes : This ant was collected going in files over a teak tree at Top-Slip, Tamil Nadu, along the earthern galleries of *Odontotermes* sp. (Isoptera).

24. *Leptogenys (Lobopelta) dentilobis* Forel

1900. *Lobopelta dentilobis* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 305 & 309, ☿.

1903. *Lobopelta dentilobis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 58, ☿.

1911. *Leptogenys (Lobopelta) dentilobis*, Emery, *Genera Insect.*, **118** : 103.

1951. *Leptogenys (Lobopelta) dentilobis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 33.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip near Sirkarpadi Tunnel entry, 12 workers, 18.ii.1969, ex. soil and under stone, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Karnataka, Maharashtra.

Remarks : Bingham (1903) reported this species under *Lobopelta* and mentioned its localities as "Western India, Thana, Kanara, Travancore and the Nilgiris"

*25. *Leptogenys (Lobopelta) diminuta* (Smith)

1857. *Ponera diminuta* Smith, *J. Proc. Linn. Soc.*, **2** : 69, ☿.

1857. *Ponera laeviceps* Smith, *J. Proc. Linn. Soc.*, **2** : 69, ☿.

1900. *Lobopelta diminuta*, Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 307 & 312, ☿, ♀ ?, ♂.

1911. *Leptogenys (Lobopelta) diminuta*, Emery, *Genera Insect.*, **118**, : 103.

1951. *Leptogenys (Lobopelta) diminuta*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 33.

1994. *Leptogenys (Lobopelta) diminuta*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 242.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, Sirkarpadi Tunnel area, 16 workers, 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, and mostly throughout India except Punjab and the dry desert areas of Central India. Elsewhere : Extending in the East through Malayan subregion to New Guinea.

Remarks : Previously this species was also recorded under the Genus *Lobopelta* by Bingham (1903 : 61) and he in the same publication, mentioned its distribution as "Extends throughout our limits and into the Malayan subregion : not recorded from the Punjab or the dry desert portions of Central India"

26. *Leptogenys (Lobopelta) diminuta palliseri* Forel

1900. *Lobopelta palliseri* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 307 & 313, ☿.

1951. *Leptogenys (Lobopelta) diminuta palliseri*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 35.

Material examined : Nil.

Distribution : INDIA : Karnataka and Western India. Elsewhere : Burma, Indonesia (Sumatra), Taiwan (Formosa).

Remarks : The material of this subspecies could not be available for this study. However, Bingham (1903) reported *palliseri* as a species under the Genus *Lobopelta* and mentioned its locality as Kanara, besides other localities. He (*op. cit.*) noted "*L. palliseri* Forel, 1900 resembles *L. diminuta* (Smith, 1857), but is much more robustly built and larger body size" Subsequently, Chapman and Capco (1951) also reported this subspecies from Kanara.

27. *Leptogenys (Lobopelta) carinata* Donisthorpe

1943. *Lobopelta carinata* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 220.

1951. *Leptogenys (Lobopelta) carinata,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 32.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species could be available for the study. However, Chapman and Capco (1951) recorded this species and mentioned "India : Travancore" as its locality"

28. *Leptogenys (Lobopelta) roberti coonoorensis* Forel

1900. *Lobopelta coonoorensis* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 306 & 311, ☿.

1903. *Lobopelta coonoorensis,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 68, ☿.

1951. *Leptogenys (Lobopelta) roberti coonoorensis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 38.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Kerala and Western India.

Remarks : The specimen of this subspecies could not be available for this study. Bingham (1903), however, reported *coonoorensis* as a species under the Genus *Lobopelta* and mentioned its distribution as "Western India, the Nilgiri Hills" He (*op. cit.*) also noted, *"L. coonoorensis* Forel, 1900 resembles *L. roberti* Forel, 1900, but is slightly larger and darker, with a proportionately larger head and shorter mandibles, which latter are longitudinally striate."

29. *Leptogenys (Lobopelta) longiscapus* Donisthorpe

1943. *Lobopelta longiscapus* Donisthorpe, *Ann. Mag. Nat. Hist.*, **10** : 199.

1951. *Leptogenys (Lobopelta) longiscapus,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 37.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species were available for this study. However, Chapman and Capco (1951) listed this species in their check list and mentioned "India : Travancore" as its locality.

30. *Leptogenys (Lobopelta) dalyi* Forel

1900. *Lobopelta dalyi* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 306 & 311, ☿.

1951. *Leptogenys (Lobopelta) dalyi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 33.

Material examined : Nil.

Distribution : INDIA : Kerala, Karnataka, Tamil Nadu. Elsewhere : China.

Remarks : The material of this species could not be available for this study. Bingham (1903 : 67), however, reported this species under the Genus *Lobopelta* and mentioned its distribution as "Western India, the Nilgiris, Kanara, Mysore and Cochin"

7. Genus *Diacamma* Mayr

1862. *Diacamma* Mayr, *Verh. zool.-bot. Ges. Wien,* **12** : 718, ☿.

Type-species : *Ponera rugosa* Le Guillou, 1841, from Borneo (Indonesia).

Key to the Species of *Diacamma*

1. Colour black; head elongate oval, proportionately shorter; pronotum with concentric striae on the disc enclosing one or two transverse or longitudinal striae; node of pedicel rounded anteriorly; nodal spines

attenuate at base, pointing obliquely outwards and forming a distinct angle with the upper surface of the node; abdomen massive .... *rugosum*

— Colour black with beautiful greenish bronzy tint; head oval, proportionately longer; pronotum with one to four transverse striae surrounded by concentric striae; node of pedicel gradually slopped anteriorly; nodal spines rather thick at base, pointing backwards in continuation of the upper surface of the node, not obliquely outwards; abdomen proportionately narrower and elongate ..... *vagans*

31. *Diacamma vagans* (Smith)

1860. *Ponera vagans* Smith, *J. Proc. Linn. Soc.*, **5** : 103, ☿.

1903. *Diacamma vagans*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 81, ☿, ♂.

1911. *Diacamma rugosum vagans*, Emery, *Genera Insect.*, **118** : 67.

1994. *Diacamma vagans*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part 8 : 238.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, several workers, 22.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Suranganar Reserve Forest, 15 workers, 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Coimbatore, Tudiyalur, several workers, 26.ii.1969, ex. Supari Nut tree, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka, Orissa, Maharashtra, West Bengal, Sikkim, Assam, Andaman Is. Elsewhere : Burma, Sri Lanka, Malaysia, Singapore, Philippines, Vietnam, Taiwan, New Guinea, Batchian Is. (Pacific).

Biological notes : It nests in the soil at the base of trees (Seeson, 1941). In Southern India, it is collected from Mango and 'Supari' nut trees, may be while going in search of food.

Remarks : This species is known by a number of varieties from different places. Bingham (1903) also mentioned its locality as "Kanara" besides other localities. He (*op. cit.*) further noted that this species was originally described from Batchian Is.

Diacamma rugosum (Le Guillou)

1841. *Ponera rugosa* Le Guillou, *Ann. Soc. Ent. Fr.*, **10** : 318.

1900. *Diacamma rugosum*, Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 318, ☿.

32. *Diacamma rugosum ceylonensis* Emery

1897. *Diacamma ceylonense* Emery, *Rend. Acc. Sci. Bolog.*, **1** : 159 & 165, ☿.

1903. *Diacamma ceylonense*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 79, ☿.

1911. *Diacamma rugosum ceylonensis*, Emery, *Genera Insect.*, **118** : 66.

1951. *Diacamma rugosum ceylonensis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 57.

Material examined : SOUTH INDIA : Tamil Nadu : Periyakulam, several workers, 22.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Madurai, Lower camp, several workers, 24.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala. Elsewhere : Sri Lanka.

Remarks : Bingham (1903) mentioned its distribution as "Cochin, Ceylon" and recorded it as a species. But he (*op. cit.*) noted that he was not very certain about this species and mentioned "it closely resembles *Diacamma sculptum* (Jerdon, 1851), but it is slightly larger, very black, brilliant and shining and the pubescence is not more but less dense"

33. *Diacamma rugosum* var. *jerdoni* Forel

1903. *Diacamma rugosum* var. *jerdoni* Forel, *Rev. Suisse Zool.*, **11** : 400, ☿.

1951. *Diacamma rugosum* var. *jerdoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 55.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this variety could not be available for this study. However, Chapman and Capco (1951) noted in their Check list that Donisthorpe (1942, 1943) reported this variety from Malabar and Travancore (Kerala) respectively.

34. ***Diacamma rugosum*** var. ***sculptum*** (Jerdon)

1851. *Ponera sculpta* Jerdon, *Madras J. Lit. Sci.*, **17** : 117, ☿.

1900. *Diacamma geometricum*, Forel (nec Smith), *J. Bombay Nat. Hist. Soc.*, **13** : 319, ☿.

1903. *Diacamma sculptum*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 80, ☿.

1951. *Diacamma rugosum* var. *sculptum*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 56.

1994. *Diacamma rugosum* var. *sculptum*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal* Part **8** : 238.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala, Tamil Nadu, Sikkim, West Bengal. Elsewhere : China, Sri Lanka, Taiwan (Formosa), Philippines, Indonesia (Borneo), Singapore.

Remarks : No specimens of this variety could be available for this study. However, Bingham (1903) reported the *sculptum* as a species and mentioned its distribution as "Sikkim; Barrackpore, Bengal; Kanara; Mysore; Malabar, the Nilgiri hills; Cochin; Travancore; Ceylon" Prior to this, Jerdon (1851) first described this species under the genus *Ponera* from Malabar, Nilgiri (Southern India).

35. ***Diacamma cyaniventre*** André

1887. *Diacamma cyaniventre* Er. André, *Rev. d'Ent.*, **6** : 293, ☿.

1900. *Diacamma rugosum* race *cyaniventre*, Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 318, ☿.

1903. *Diacamma cyaneiventre*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 78, ☿.

1951. *Diacamma cyaniventre*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 54.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Sri Lanka.

Remarks : The material of this species could be available for this study. Bingham (1903), however, recorded this species and mentioned its localities as 'Cochin and Ceylon'

8. Genus ***Ectomomyrmex*** Mayr

1867. *Ectomomyrmex* Mayr, *Tijdschr. v. Ent.*, **10** : 83.

Type-species : *E. javanus* Mayr, 1867, from Java (Indonesia).

36. ***Ectomomyrmex annamitus*** (André)

1892. *Ponera annamita* Er. André, *Rev. d'Ent.*, **11** : 48.

1903. *Ectomomyrmex annamitus*, Bingham, *Fauna Brit. India*, Hymenoptera, **2** : 87, ☿, ♀.

1951. *Ectomomyrmex annamita*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 60.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Burma, Annam, Gulf of Siam, Philippines.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from Calicut of South India.

37. ***Ectomomyrmex leeuwenhoeki*** (Forel)

1886. *Ponera leeuwenhoeki* Forel, *J. Asiat. Soc. Bengal*, **55** : 244.

1903. *Ectomomyrmex leeuwenhoeki*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 88, ☿.

1951. *Ectomomyrmex leeuwenhoeki*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 62.

Material examined : Nil.

Distribution : INDIA : Kerala, Assam. Elsewhere : Burma, Singapore.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species from Calicut (Kerala).

9. Genus ***Bothroponera*** Mayr

1862. *Bothroponera* Mayr, *Verh. zool-bot. Ges. Wien*, **12** : 717.

Type-species : *B. punicosa* (Roger, 1862), from South Africa.

Key to the Species of *Bothroponera*

1. Body colour dull black to castaneous red; head, thorax and abdomen minutely reticulate-punctate; clypeus convex in the middle and subcarinate; node of pedicel as broad as long, flat and equally truncated anteriorly and posteriorly ..... *sulcata*

— Body colour dull opaque black to reddish yellow; head, thorax and abdomen finely and very closely reticulate-punctate; clypeus transverse, medially sharply carinate; node of pedicel a little broader than long, roundly truncated anteriorly and abruptly truncated posteriorly ..... *rubiginosa*

38. ***Bothroponera henryi*** Donisthorpe

1942. *Bothroponera henryi* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 449, ☿.

1951. *Bothroponera henryi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 50.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The material of this species could not be available for this study. Chapman and Capco (1951), however, mentioned "Southern India : Dohnavur (Tinnelvelly Dist.)" as its locality.

*39. ***Bothroponera rubiginosa*** (Emery)

1889. *Ponera rubiginosa* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **27** : 498, ☿.

1903. *Bothroponera rubiginosa*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 99, ☿.

1911. *Pachycondyla (Bothroponera) rubiginosa*, Emery, *Genera Insect.*, **118** : 77.

1951. *Bothroponera rubiginosa*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 50.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, several workers, 10.ii.1969, ex. ground surface of soil, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Maharashtra. Elsewhere : Burma, China.

*40. ***Bothroponera sulcata*** (Frauenfeld)

1867. *Ponera sulcata* Frauenfeld, *Verh. zool.-bot. Ges. Wien*, **17** : 441, ☿.

1903. *Bothroponera sulcata*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 98, ☿, ♂.

1911. *Bothroponera (Bothroponera) sulcata*, Emery, *Genera Insect.*, **118** : 78.

1994. *Bothroponera sulcata*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 237.

Material examined : SOUTH INDIA : Andhra Pradesh : Guntur, several workers, 25.vii.1961, coll. J. N. Maligi; Tamil Nadu : Madurai, several workers, 15.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Andhra Pradesh, Tamil Nadu, West Bengal, Central and Western India.

Remarks : "Dr. Forel has described two varieties under the names *sulcato-tesserinoda* and *fossulata*. The former has characters intermediate between *B. sulcata* and *B. tesserinoda;* and the latter differs from typical *B. sulcata* in having the posterior

half of the head with scattered large shallow punctures" (Bingham, 1903 : 99).

41. ***Bothroponera tesserinoda*** (Mayr)

1878. *Ponera tesserinoda,* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 661 & 663, ☿.

1903. *Bothroponera tesserinoda,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 97, ☿, ♂.

1911. *Pachycondyla (Bothroponera) tesserinoda* Emery, *Genera Insect.,* **118** : 78.

1942. *Pachycondyla (Bothroponera) tesserinoda,* Donisthorpe, *Ann. Mag. Nat. Hist., London,* (11) **9** : 449.

1951. *Bothroponera tesserinoda,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 51.

1994. *Bothroponera tesserinoda,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 237.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Kerala (Cochin) to Uttar Pradesh (Dehra Dun), West Bengal, Assam. Elsewhere : Sri Lanka and Burma.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) mentioned "Dehra Dun to Cochin" and Donisthorpe (1942) mentioned "Dohnavur, Tinnelvelly Dist."as it localities from South India.

42. ***Bothroponera rufipes*** (Jerdon)

1851. *Ponera rufipes* Jerdon, *Madras J. Lit. Sci.,* **17** : 119, ☿.

1858. *Pachycondyla rufipes,* Smith, *Cat. Hym. Brit. Mus.,* **6** : 106.

1903. *Bothroponera rufipes,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 96, ☿.

1911. *Pachycondyla (Bothroponera) rufipes,* Emery, *Genera Insect.,* **118** : 76.

1951. *Bothroponera rufipes,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 50.

1994. *Bothroponera rufipes,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 236.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala (Malabar), Western India, Himalayas from Siwaliks to Assam, West Bengal. Elsewhere : Sri Lanka, Burma.

Remarks : The material of this species could not be available for this study. However, Jerdon (1851) described the species *rufipes* under the genus *Ponera* from Malabar. Bingham (1903) also reported this species under the genus *Bothroponera* and mentioned its distribution as "Himalayas from the Siwaliks to Assam, and upto 4000 ft.; Bengal; Western India, Kanara to Malabar; Ceylon, and throughout Burma"

10. Genus ***Ponera*** Latreille

1804. *Ponera* Latreille, *Nouv. Dict. d'Hist. Nat.,* **24** : 179.

Type-species : *P. coarctata* Latreille, 1804, from Europe.

*43. ***Ponera truncata*** Smith

1860. *Ponera truncata* Smith, *J. Proc. Linn. Soc.,* **5** : 72, ☿.

1903. *Ponera truncata,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 90, ☿.

1951. *Ponera truncata,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 73.

1994. *Ponera truncata,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 246.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, near Sirkarpadi Tunnel entry, 12 workers, 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal. Elsewhere : Burma, Indonesia (Celebes, Borneo, Java), Formosa (Taiwan).

44. *Ponera confinis* Roger

1860. *Ponera confinis* Roger, *Berl. ent. Zeit.*, **4** : 284, ☿.

1860. *Ponera simillima* Smith, *J. Proc. Linn. Soc.*, **5** : 105, ☿.

1903. *Ponera confinis*, Bingham, *Fauna Brit. India, Hymenoptera*, 2 : 91, ☿, ♀.

1951. *Ponera confinis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 69.

1994. *Ponera confinis*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 246.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India, West Bengal, Elsewhere : Sri Lanka, Oceania, Indonesia (Sumatra).

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species and mentioned its localities as "Bengal, Western India, Kanara and Ceylon"

45. *Penera stenocheilos* Jerdon

1851. *Ponera stenocheilos* Jerdon, *Madras J. Lit. Sci.*, **17** : 118, ☿.

1951. *Ponera stenocheilos*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 72.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Kerala (Malabar).

Remarks : No material of this species could be available for this study. While describing this species, Jerdon (1851) mentioned that he had found this ant very rarely in Malabar. He (*op. cit.*) further noted some important characters of the worker of this species like "Head large square behind, pointed anteriorly; antennae long; jaws very long, linear, ending in a strong tooth; thorax narrow; abdominal pedicel raised, round, pointing backwards; abdomen very long; sting large; legs long; colour dingy greenish brown" Later on, Chapman and Capco (1951) also recorded this species from Madras (Tamil Nadu).

46. *Ponera sulcato-fossulata* Forel

1900. *Ponera sulcato-fossulata* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 326, ☿.

1951. *Ponera sulcato-fossulata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 73.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The specimens of this species could not be available for this study. However, Chapman and Capco (1951) reported this species in their monograph and mentioned its locality as "Madras"

47. *Ponera affinis* Jerdon

1851. *Ponera affinis* Jerdon, *Madras J. Lit. Sci.*, **17** : 118, ☿.

1951. *Ponera affinis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 68.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The material of this species could not be available for this study. However, Jerdon (1851) described the worker of this species from 'Malabar' and noted some important characters of this species like "Body length 1/3rd of an inch; head oblong, notched behind, advanced anteriorly; jaws triangular, strongly toothed; antennae thickened at the tip; eyes somewhat anterior, moderately large; thorax slightly grooved; abdominal pedicel pointed, thin; abdomen oval; colour dingy black"

11. Genus *Euponera* Forel

1861. *Euponera* Forel, in Grandidier, *Hist. Nat. Phys. Madagascar*, **20** : 126.

Type-species : *Formica stigma* Fabricius, 1793.

Subgenus *Trachymesopus* Emery

1911. *Euponera*, subgen. *Trachymesopus* Emery, *Genera Insect.*, **118** : 86.

48. *Euponera (Trachymesopus) darwini* (Forel)

1893. *Belonopelta darwini* Forel, *Annls. Soc. Ent. Belg.*, **37** : 460, ♀.

1903. *Pseudoponera darwini*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 93, ♀.

1911. *Euponera (Trachymesopus) darwini*, Emery, Genera Insect., **118** : 86.

1951. *Euponera (Trachymesopus) darwini*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** ; : 65.

1959. *Trachymesopus darwini*, Wilson, *Bull. Mus. Comp. Zool. Harvard, Cambridge*, **119** (1958) : 352.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, Several workers, 17.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka. Elsewhere : West Australia, Congo, Madagascar, Malacca, Singapore, Philippines, Indonesia (Sumatra, Borneo), China, Kalimantan, Sri Lanka, Formosa (Taiwan).

Remarks : Bingham (1903) also reported this species and mentioned its localities as "Kanara and Ceylon" However, he (*op. cit.*) noted that the species was described from West Australia and quoted "Dr. Forel has separated the Indian species as var. *indica*, which differs from the Australian species by shorter and squarer head, the female is unknown"

12. Genus *Cryptopone* Emery

1893. *Cryptopone* Emery, *Ann. Soc. Ent. Fr.*, : 240.

Type-species : *Amblyopone testacea* Motschulsky, 1863, recorded so far only from Sri Lanka (formerly Ceylon).

49. *Cryptopone testacea* (Motschulsky)

1863. *Amblyopone testacea* Motsch., *Bull. Soc. Nat. Mosc.*, **36** (2) : 15, ♀.

1893. *Cryptopone testacea*, Emery, *Ann. Soc. Ent. Fr.* : 240, ☿.

1903. *Cryptopone testacea*, Bingham, *Fauna Brit. India, Hymenoptera*, 2 : 104, ☿, ♀.

1943. *Cryptopone testacea*, Donisthorpe, *Ann. Mag. Nat. Hist.*, **10** : 196.

1951. *Cryptopone testacea*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 53.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The species could not be available for this study. However, Donisthorpe (1943) reported this species from Nadungayam (200 ft.), Malabar, Southern India.

50. *Cryptopone rufotestaceus* Donisthorpe

1943. *Cryptopone rufotestaceus* Donisthorpe, *Ann. Mag. Nat. Hist.*, **10** : 197.

1951. *Cryptopone rufotestaceus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 53.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The species could not be available for this study. However, Donisthorpe (1943) reported this species and mentioned its locality as "Travancore, Kerala".

13. Genus *Brachyponera* Emery

1901. *Brachyponera* Emery *(Euponera* Forel, Subgen. *Brachyponera), Ann. Soc. Ent. Belg.*, **45** : 43.

Type-species : *Ponera senaarensis* Mayr, 1862, from Arabia.

51. *Brachyponera jerdoni* (Forel)

1900. *Ponera jerdoni* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 324 & 327, ☿.

1903. *Brachyponera jerdoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 102, ☿.

1951. *Euponera (Brachyponera) jerdoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 63.

1959. *Brachyponera jerdoni*, Wilson, *Bull. Mus. Comp. Zool. Harvard, Cambridge*, **119** (1958) : 346.

1994. *Brachyponera jerdoni*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 240.

Material examined : Nil.

Distribution : INDIA : Kerala, Western India, Assam, West Bengal.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from "Bengal, Western and Southern India and Assam" Subsequently, Chapman and Capco (1951) also reported this species and mentioned "India : Travancore" as its locality.

52. ***Brachyponera luteipes*** (Mayr)

1862. *Ponera luteipes* Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 722, ☿, ♀.

1903. *Brachyponera luteipes*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 101, ☿, ♀, ♂.

1951. *Euponera (Brachyponera) luteipes*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 63.

1959. *Brachyponera luteipes*, Wilson, *Bull. Mus. Comp. Zool. Harvard, Cambridge*, **119** (1958) : 346.

1994. *Brachyponera luteipes*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 241.

Material examined : Nil.

Distribution : INDIA : Kerala, West Bengal and mostly throughout India. Elsewhere : Burma, Sri Lanka, Indonesia (Java, Sumatra), Philippines, Malay peninsula.

Remarks : No material of this species could be available for this study. Chapman and Capco (1951), however, mentioned "Southern India : Travancore" as its locality.

53. ***Brachyponera luteipes*** var. ***continentalis*** Karawajew

1925. *Euponera (Brachyponera) luteipes* var. *continentalis* Karawajew, *Konowia*, **4** : 125, ☿.

1951. *Euponera (Brachyponera) luteipes* var. *continentalis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 64.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : The material of this variety could not be available for this study. But, Chapman and Capco (1951) reported this variety under the genus *Euponera (Brachyponera)* and mentioned "Kanara" as its locality.

14. Genus ***Mesoponera*** Emery

1901. *Mesoponera* Emery *(Euponera* Forel, Subgen. *Mesoponera* Emery), *Ann. Soc. Ent. Belg.*, **45** : 43.

Type-species : *Ponera caffraria* Smith, 1858, from South Africa.

54. ***Mesoponera melanaria*** Emery

1893. *Ponera melanaria* Emery, *Ann. Soc. Ent. France*, **62** : 260, ☿.

1903. *Mesoponera melanaria*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 100, ☿, ♀.

1942. *Euponera (Mesoponera) melanaria*, Donisthorpe, *Ann. Mag. Nat. Hist. London*, (11) **9** : 449.

1951. *Euponera (Mesoponera) melanaria*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 64.

1959. *Mesoponera melanaria*, Wilson, *Bull. Mus. Comp. Zool. Harvard, Cambridge*, **119** : 361.

Material examined : Nil.

Dstribution : INDIA : Karnataka, Kerala and Western India. Elsewhere : Sri Lanka, Lower Burma, Indonesia (Sumatra), Singapore.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1942) reported this species from Nadungayam (200 ft.), Malabar, Southern India. Subsequently, Chapman and Capco (1951) recorded this species and mentioned its locality as "Kanara"

15. Genus *Platythyrea* Roger

1863. *Platythyrea* Roger, *Berl. Ent. Zeit.*, **7** : 172.

Type-species : *Pachycondyla punctata* Smith, 1858, from St. Domingo, America.

55. *Platythyrea sagei* Forel

1900. *Platythyrea sagei* Forel, *J. Bombay Nat Hist. Soc.*, **13** : 314 & 315, ☿.

1903. *Platythyrea sagei*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 74, ☿.

1951. *Platythyrea sagei*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 49.

Material examined : Nil.

Distribution : INDIA : Karnataka, Punjab. Elsewhere : Singapore.

Remarks : No material of this species could be available for this study. However, Bingham (1903) reported this species and quoted its localities as "India, recorded so far only from the Punjab and from kanara" Later on, Chapman and Capco (1951) also recorded this species from kanara and Punjab.

56. *Platythyrea wroughtoni* Forel

1900. *Platythyrea wroughtoni* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 315, ☿.

1903. *Platythyrea wroughtoni*, Bingham, *Fauna Brit. india, Hymenoptera*, **2** : 75, ☿.

1951. *Platythyrea wroughtoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 49.

Material examined : Nil.

Distribution : INDIA : Kerala, Karnataka and Tamil Nadu.

Remarks : The material of this species could not be available for this study. Bingham (1903), however, reported this species from Travancore, Mysore and Madras.

57. *Platythyrea wroughtoni* var. *victoriae* Forel

1900. *Platythyrea victoriae* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 315 & 316, ☿.

1903. *Platythyrea victoriae*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 75, ☿.

1951. *Platythyrea wroughtoni* var. *victoriae*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 49.

1994. *Platythyrea wroughtoni* var. *victoriae*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part 8 : 246.

Material examined : Nil.

Distribution : INDIA : Karnataka, West Bengal and Western India.

Remarks : The material of this variety could not be available for this study. Bingham (1903) reported *victoriae* as a species under the genus *Platythyrea* and mentioned its localities as "Bengal, Western India and Mysore" He (*op. cit.*) also noted "it is very similar to *P. wroughtoni* Forel, 1900; in fact a barely separable race. Larger, with comparatively shorter antennae, the antennal carinae distinctly more swollen and broader. Thorax with the metanotum as in *P. wroughtoni*, but not so deeply emarginate posteriorly. Node of the pedicel comparatively shorter, about one and a half (twice in *P. wroughtoni*) as long as broad" Subsequently, Chapman and Capco (1951) also reported *victoriae* as a variety under the species *P. wroughtoni* from Mysore, Southern Idnia.

16. Genus *Amblyopone* Erichson

1842. *Amblyopone* Erichson, *Arch. Naturg.*, **8** : 260.

Type-species : *A. australis* Erichson, 1842, from Australia.

58. *Amblyopone belli* Forel

1900. *Amblyopone belli* Forel, *J. Bombay Nat. Hist. Soc.*, **13** : 55, ☿.

1903. *Stigmatomma belli*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 38, ☿.

1951. *Stigmatomma belli*, Chapman and Capco, *Monogr. Inst. Sci.. Tech., Manila* (Check List Ants Asia), **1** : 24.

1960. *Amblyopone belli*, Brown Jr., *Bull. Mus. Comp. Zool.*, **122** (5) : 162.

Material examined : Nil.

Distribution : INDIA : Karnataka and Western India.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species and mentioned its localities as "Western India and Kanara" Chapman and Capco (1951) also recorded this species from kanara.

III. Subfamily CERAPACHYINAE Forel

This small subfamily, found in the tropical regions of the world, exhibits a blending of doryline and ponerine traits both morphologically and biologically. Little is known concerning the behaviour, but they are predaceous and carnivorous and the colonies are small. Wilson (1959) studied the behaviour of several species from Melanesia and Australia and found them all to be myrmecophagous, feeding on the broods and sometimes adults of other species of ants. He (*op. cit.*) suggested that these ants carry on an alternating group foraging and raiding behaviour pattern by which the colony efficiently exploits the surrounding territory.

However, Brown (1976) does not recognise this subfamily Cerapachyinae and is of opinion that the two tribes Cerapachyini and Acanthostichini should be treated as the tribes of subfamily Ponerinae.

17. Genus *Lioponera* Mayr

1878. *Lioponera* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 666.

Type-species : *L longitarus*, Mayr, 1878, from West Bengal, India.

59. *Lioponera longitarsus* Mayr

1878. *Lioponera longitarsus* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 667, ☿, ♀.

1900. *Lioponera longitarsus,* Forel, *J. Bombay Nat. Hist. Soc.,* **13** : 329, ♂, ♀.

1903. *Lioponera longitarsus,* Bingham, *Fauna Brit. India., Hymenoptera,* **2** : 27, ☿, ♀, ♂.

1994. *Lioponera longitarsus,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal, Part* **8** : 234.

Material examined : Nil.

Distribution : INDIA: Kerala, Maharashtra, West Bengal. Elsewhere : Indonesia (Sumatra), Formosa.

Remarks : No material of this species could be available for this study, However, Bingham (1903) mentioned its localities as "Bengal and Western India, Poona to Travancore"

60. *Lioponera parva* Forel

1900. *Lioponera parva* Forel, *J. Bombay Nat. Hist. Soc.,* **13** : 330, ☿, ♂.

1903. *Lioponera parva,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 27, ☿, ♂.

1994. *Lioponera parva,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 234.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Uttar Pradesh, West Bengal and Western India.

Remarks : The material of this species could not be available for this study. Bingham (1903), however, reported this species and mentioned its localities as "Dehra Dun, Bengal, Madras and Western India"

IV. Subfamily PSEUDOMYRMECINAE Emery

This is a small subfamily with one genus in the New World and several genera in the Old World tropics. Smith (1951) named the subfamily Leptaleinae based on the genus *Leptalea* Erichson but later on, he (1952) found an earlier generic name *Pseudomyrmex* Lund, and changed the subfamily name to Pseudomyrmecinae which has become widely established. The species of this subfamily are most virulent, the sting being most painful and sometimes causing considerable inflammation. They are arborial in nature. They make their nests in the dead wood of trees and very often, in the clefts of the beams and posts of wooden houses. By habit they are feroceous in

nature, particularly *Tetraponera rufonigra* is called 'Lohari' in Northern India, meaning the Black-smith, this name has been given because of it's fierce nature.

18. Genus *Tetraponera* Smith

1852. *Tetraponera* (pt.) Smith, *Ann. Mag. Nat. Hist.*, (2) **9** : 44.

Type-species : *Pseudomyrma allaborans* Walker, 1859, from Sri Lanka (formerly Ceylon).

Subgenus *Tetraponera* Emery

1900. *Tetraponera* Emery, (*Sima* Roger, Subgen. *Tetraponera* Emery), *Ann. Mus. Civ. Stor. Nat. Genova*, **40** : 673.

Key to the Species of *Tetraponera (Tetraponera)*

1. Ocelli present in ☿ .....*rufonigra*

— Ocelli not present in ☿.....2

2. Petiole anteriorly of 1st node shorter than node itself.....3

— Petiole anteriorly of 1st node as long as, but distinctly not longer than node itself..... .....*nigra*

3. In profile, metanotum not higher than pro-mesonotum .....*allaborans*

— In profile, metanotum distinctly very much higher than pro-mesonotum .....*aitkeni*

61. *Tetraponera (Tetraponera) aitkeni* (Forel)

1902. *Sima aitkeni* Forel, *Rev. Suisse Zool.*, **10** : 245, ☿.

1903. *Sima aitkeni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 115, ☿.

1921. *Sima* (Tetraponera) *aitkeni*, Emery, *Genera Insect.*, **174 A** : 25.

1951. *Tetraponera (Tetraponera) aitkeni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 78.

Material examined : SOUTH INDIA : Tamil Nadu : Periyakulam, Tudiyalur near Coimbatore, several workers, 16.ii.1969, ex. ground surface, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka and Western India. Elsewhere : Sri Lanka.

Remarks : Forel (1902) did not give the exact locality while describing this species. Bingham (1903), however, recorded it from Western India and Ceylon with some doubt. He (*op. cit.*) also noted that he had two specimens from Sri Lanka (formerly Ceylon) and thought them to belong to a variety of *aitkeni* as they differed from Forel's (1902) original description of the species *aitkeni* in some characters. The present specimens from Southern India, collected from coconut trees, come to *aitkeni* Forel when run through Bingham's (1903) key. Emery (1921) has recorded it from Kanara. But subsequently, Chapman and Capco (1951) also reported this species from Kanara.

*62. *Tetraponera (Tetraponera) allaborans* Walker

1859. *Pseudomyrma allaborans* Walker, *Ann. Mag. Nat. Hist.*, (3) **4** : 375, ♂.

1863. *Sima compressa* Roger, *Berl. Ent. Zeitschr.*, **7** : 179.

1889. *Sima subtilis* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **27** : 500, ☿.

1903. *Sima allaborans*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 113, ☿.

1921. *Sima (Tetraponera) allaborans*, Emery, *Genera Insect.*, **174 A** : 25.

1951. *Tetraponera (Tetraponera) allaborans*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 78.

1994. *Tetraponera (Tetraponera) allaborans*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 251.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, 17 workers, 17.ii.1969, ex. Mango tree trunk, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal, Western India. Elsewhere : Sri Lanka, Burma, Indonesia (Sumatra), Kalimantan, China.

Biological notes : Collected from a mango tree trunk, running along the galleries of *Odontotermes* sp. (Isoptera).

63. *Tetraponera (Tetraponera) rufonigra* (Jerdon)

1851. *Eciton rufonigrum* Jerdon, *Madras J. Lit. Sci.*, **17** : 111, ☿.

1903. *Sima rufonigra*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 108, ☿, ♀.

1921. *Sima (Sima) rufonigra*, Emery, *Genera Insect.*, **174 A** : 23.

1943. *Sima rufonigra*, Donisthorpe, *Ann. Mag. Nat. Hist.* (11) **10** :

1951. *Tetraponera (Tetraponera) rufonigra*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 81.

1994. *Tetraponera (Tetraponera) rufonigra*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 252.

Material examined : SOUTH INDIA : Tamil Nadu : Tudiyalur, near Coimbatore, 7 workers, 16.ii.1969, ex. Supari tree, coll. O. B. Chhotani and R. N. Tiwari; Palayamkottai, several workers, 28.ii.1969, ex. soil, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka, Kerala and mostly widely distributed species in India. Elsewhere : Burma, Sri Lanka, Singapore, Indonesia (Java, Sumatra), China.

Remarks : This species is most virulent, its sting is being most painful and sometimes causing considerable inflammation (Bingham, 1903).

64. *Tetraponera (Tetraponera) nigra* (Jerdon)

1851. *Eciton nigrum* Jerdon, *Madras J. Lit. Sci.*, **17** : 112, ☿.

1852. *Tetraponera atrata* Smith, *Ann. Mag. Nat. Hist.*, (2) **9** : 44.

1863. *Pseudomyrma carbonaria* Smith, *J. Proc. Linn. Soc.*, **7** : 20, ☿, ♀.

1903. *Sima nigra*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 110, ☿, ♀.

1921. *Sima (Tetraponera) nigra*, Emery, *Genera Insect.*, **174 A** : 26.

1951. *Tetraponera (Tetraponera) nigra*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 80.

1994. *Tetraponera (Tetraponera) nigra*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 251.

Material examined : SOUTH INDIA : Tamil Nadu : Lower Camp, several workers, 24.ii.1969, ex. soil, coll. O. B. Chhotani and R. N. Tiwari

Distribution : INDIA : Tamil Nadu, Kerala, Karnataka, Maharashtra, Sikkim, West Bengal, but widely distributed in India. Elsewhere : Sri Lanka, Burma and extends into the Malayan subregion.

Remarks : Bingham (1903) also recorded this species and mentioned its localities as "Sikkim, Bengal, Poona, the Malabar Coast, Kanara, Ceylon, Burma and it extends into the Malayan subregion" Bingham (*op. cit.*) further noted "This, like *S. rufonigra*, is a tree-ant and almost as fierce as that species; its sting, however, is not so severe. Sometimes *S. nigra* forms its nest in hollow thorns"

65. *Tetraponera (Tetraponera) nigra fergusoni* (Forel)

1902. *Sima nigra* Smith, race *fergusoni* Forel, *Rev. Suisse Zool.*, **10** : 248.

1903. *Sima fergusoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 114, ☿.

1951. *Tetraponera (Tetraponera) nigra* Smith, subsp. *fergusoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 81.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Lower Burma.

Remarks : No specimens of this subspecies could be available for this study. However, Bingham (1903) reported *fergusoni* as a species under the genus *Sima* and mentioned its locality as "Travancore" from Southern India.

66. *Tetraponera (Tetraponera) difficilis longiceps* (Forel)

1902. *Sima difficilis* Emery, race *longiceps* Forel, *Rev. Suisse Zool.*, **10** : 247, ☿.

1903. *Sima longiceps*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 115, ☿.

1951. *Tetraponera (Tetraponera) difficilis* subsp. *longiceps*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 79.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this subspecies could not be available for this study. Bingham (1903), however, recorded this as *Sima longiceps* from Travancore, South India.

67. *Tetraponera (Tetraponera) rufipes* (Jerdon)

1851. *Eciton rufipes* Jerdon, *Madras J. Lit. Sci.*, **17** : 112, ☿.

1903. *Eciton rufipes*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 116, ☿.

1951. *Tetraponera (Tetraponera) rufipes*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 81.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : No specimens of this species could be available for this study. Jerdon (1851) first described this species under the genus *Eciton* and at the same time he mentioned that he had only found this species on one occasion under a stone in Salem district (South India). He (*op. cit.*) also noted some important characters of the worker of this species as "Body length 11/48th of an inch; head oblong; eyes very large, slightly advanced; thorax considerably grooved, abdominal pedicel long, low; abdomen long, ovate, black with rufous legs" Subsequently, Chapman and Capco (1951) recorded this species under the genus *Tetraponera (Tetraponera)* in their monograph and also mentioned its locality as "Salem district"

V. Subfamily MYRMICINAE Lepeletier

This is the largest subfamily of ants and is found throughout the world. In phylogenetic tree, it stands at the top, i.e., it has adapted to the highest adaptation and as such the sizes have appreciably reduced. This subfamily can be distinguished from the other subfamily of the family Formicidae by the pedicel being distinctly two-jointed in all sexes. The neuters of the genus *Aenictus* also have two-jointed pedicel, but they are absolutely without eyes and ocelli. The antennae are long, thick and massive planted extremely close to the anterior margin of the head with their bases very close together. The sting in the Myrmicinae is present but not often exerted, and the pupae are not enclosed in cocoons. No specific demarcation can be made for their habit and habitat, because they are found in almost all habitat except water.

Key to the Genera of Myrmicinae

1. Antennae with less than 12 joints 2
— Antennae 12-jointed 13
2. Antennae 11-jointed 3
— Antennae with less than 11 joints 10
3. Lateral margins of head and thorax denticulate and spiny ..... *Cataulacus*
— Lateral margins of head and thorax not dentate or spiny 4
4. Pedicel attached to dorsal surface of abdomen ..... *Crematogaster*
— Pedicel attached to middle of front or to ventral surface of abdomen 5
5. Pronotum armed with spines or teeth ..... *Lophomyrmex*
— Pronotum unarmed 6
6. Antennae lacking a distinct 2- or 3- jointed club ..... *Atta*
— Antennae with a distinct club 7

7. Club of antennae formed of apical 2 joints of flagellum ..... *Pheidologeton*

— Club of antennae formed of apical 3 joints of flagellum 8

8. Antennal furrows present ..... *Tetramorium,* pt.

— No antennal furrows 9

9. Clypeus bicarinate ..... *Myrmecina*

— Clypeus not bicarinate, occasionally with one carina ..... *Xyphomyrmex*

10. Antennae 10-jointed ..... *Solenopsis*

— Antennae with less than 10 joints 11

11. Antennae 9-jointed; club of flagellum defined ..... *Meranoplus*

— Antennae with less than 9 joints; club of flagellum well-defined 12

12. Antennae 7-jointed ..... *Myrmicaria*

— Antennae 6-jointed ..... *Strumigenys*

13. Erect hair on body trifid ..... *Triglyphothrix*

— Erect hairs on body not trifid, simple 14

14. Flagellum of antennae scarcely thickened towards apex, without distinct club 18

— Flagellum of antennae with distinct club 15

15. Clypeus bicarinate ..... *Monomorium*

— Clypeus not bicarinate, occasionally with one carina 16

16. Neuters or workers strongly dimorphous ..... *Pheidole*

— Neuters or workers monomorphous 17

17. 1st joint of pedicel with an appendix beneath ..... *Acidomyrmex*

— 1st joint of pedicel without any appendix beneath ..... *Tetramorium,* pt.

18. Metanotum armed with 2 short spines ..... *Aphaenogaster*

— Metanotum unarmed or at most bidentate .. .. *Messor*

19. Genus ***Aphaenogaster*** Mayr

1853. *Aphaenogaster* Mayr, *Verh. zool.-bot. Ver. Wien,* **3** : 107.

Type-species : *A. sardous* Mayr, 1853, from Sardinia, Italy.

*68. ***Aphaenogaster rothneyi*** Forel

1902. *Stenamma (Aphaenogaster) rothneyi* Forel, *Rev. Suisse Zool.,* **10** : 224, ☿.

1903. *Aphaenogaster rothneyi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 273, ☿.

1921. *Aphaenogaster (Attomyrma) rothneyi,* Emery, *Genera Insect.,* **174 A** : 59.

1951. *Aphaenogaster (Attomyrma) rothneyi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 132.

Material examined : SOUTH INDIA : Tamil Nadu : Kanyakumari, several workers, 27.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Sikkim, Uttar pradesh, Madhya Pradesh, West Bengal.

Remarks : This species is recorded here for the first time from Tamil Nadu, Southern India.

69. ***Aphaenogaster beccarii*** (Emery)

1887. *Ischnomyrmex beccarii* Emery, *Ann. Mus. Civ. Stor. Nat. Genova,* **25** : 456, ☿, ♂.

1903. *Aphaenogaster beccarii,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 271, ☿, ♀, ♂.

1951. *Aphaenogaster (Deromyrma) beccarii,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 133.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra. Elsewhere : Indonesia (Sumatra).

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from Western India, Bombay; Kanara; Sumatra.

20. Genus *Messor* Forel

1890. *Messor* Forel, *Ann. Soc. Ent. Belg.*, **34** : 68.

Type-species : *Formica barbara* Linnaeus, 1767, from South Europe.

70. *Messor barbarus* (Linnaeus)

1767. *Formica barbara* Linn., *Syst. Nat.*, 12th ed., **1** : 962.

1858. *Atta instabilis* Smith, *Cat. Hym. Brit. Mus.*, **6** : 163, ☿, ♂.

1886. *Aphaenogaster barbara* var. *punctata* Forel, *J. Asiatic Soc. Beng.*, **55** : 284, ☿.

1903. *Messor barbarus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 278, ☿ maj., ☿ min., ♀, ♂.

1951. *Messor barbarus*, Capman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 136.

1994. *Messor barbarus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 259.

Material examined : Nil.

Distribution : INDIA : Kerala, West Bengal, and North-West Himalayas.

Remarks : No material of this species could be available for this study. However, Bingham (1903) recorded this species from the North-West Himalayas, and from Cochin.

21. Genus *Pheidole* Westwood

1841. *Pheidole* Westwood, *Ann. Mag. Nat. Hist.*, **6** : 87.

Type-species : *Atta providens* Sykes, 1835, from India.

Subgenus *Pheidole* s. str.

1841. *Pheidole* Westwood, *Ann. Mag. Nat. Hist.*, **6** : 87.

1921. *Pheidole*, Subgen. *Pheidole*, Emery, *Genera Insect.*, **174 A** : 92.

Key to the Species of *Pheidole* (*Pheidole*)

1. 1st joint of pedicel with no projection or appendix beneath ..... *phipsoni*

— 1st joint of pedicel with a projection or appendix beneath 2

2. Metanotal spines clavate and obtuse towards apex like the halteres or poisers of a dipteron ..... *spathifera*

— Metanotal spines more or less acute at apex, not clavate 3

3. Upper margin of node on 1st joint of pedicel emarginate; appendix beneath with a spine anteriorly ..... *malinsi*

— Upper margin of node on 1st joint of pedicel entire, not emarginate; appendix beneath without any spine ..... *sharpi*

*71. *Pheidole (Pheidole) malinsi* Forel

1902. *Pheidole malinsi* Forel, *Rev. Suisse Zool.*, **10** : 167 & 187, ♀, ☿.

1903. *Phidole malinsi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 231, ♀, ☿.

1921. *Pheidole (Pheidole) malinsi*, Emery, *Genera Insect.*, **174 A** : 92.

1951. *Pheidole (Pheidole) malinsi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 145.

Material examined : SOUTH INDIA : Tamil Nadu : Yercaud, near Municipal Garden, 6 workers, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Sikkim. Elsewhere : Sri Lanka.

Remarks : This is the first record of this species from Tamil Nadu, Southern India.

72. *Pheidole (Pheidole) phipsoni* Forel

1902. *Pheidole phipsoni* Forel, *Rev. Suisse Zool.*, **10** : 171 & 190, ♀, ☿.

1903. *Phidole phipsoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 238, ♀, ☿.

1921. *Pheidole (Pheidole) phipsoni,* Emery, *Genera Insect.,* **174 A** ; 93.

1951. *Pheidole (Pheidole) phipsoni,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 147.

Material examined : SOUTH INDIA: Tamil Nadu : Lower Camp, Suranganar Reserve Forest, 18 workers, 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka and Western India.

Remarks : Bingham (1903) also recorded this species from Kanara and Western India.

73. *Pheidole (Pheidole) spathifera* Forel

1902. *Pheidole spathifera* Forel, *Rev. Suisse Zool.,* **10** : 168 & 187, ♃, ☿, ♀, ♂.

1903. *Phidole spathifera,* Binghma, *Fauna Brit. India, Hymenoptera,* **2** : 232, ♃, ☿, ♀, ♂.

1921. *Pheidole (Pheidole) spathifera,* Emery, *Genera Insect.,* **174 A** : 94.

1951. *Pheidole (Pheidole) spathifera,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 150.

1994. *Pheidole (Pheidole) spathifera,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 265.

Material examined : SOUTH INDIA : Tamil Nadu : Coimbatore, 4 workers, 15.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Andhra Pradesh : Chingleput, 7 workers, 19.iv.1962, coll. J. N. Maligi.

Distribution : INDIA : Tamil Nadu, Andhra Pradesh, Kerala, Western India (the Nilgiris), Assam, West Bengal. Elsewhere : Sri Lanka, Burma.

Remarks : Bingham (1903) also reported this species and mentioned its localities as "Barrackpore; Western India, the Nilgiris to Cochin; Ceylon; Assam; Burma, Pegu Yoma" Prior to this, Forel (1902) recognised the variety *aspatha* from Cochin, Assam and Burma having the metanotal spines obtuse but not clavate, and the 2nd node of the pedicel 3 times as broad as long and the variety *yerburyi* from Sri Lanka having the head strongly medially impressed and the 1st node of the pedicel very slightly emarginate above.

74. *Pheidole (Pheidole) sharpi* Forel

1902. *Pheidole sharpi* Forel, *Rev. Suisse Zool.,* **10** : 169 & 188, ♃, ☿.

1903. *Phidole sharpi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 234, ♃, ☿.

1921. *Pheidole (Pheidole) sharpi,* Emery, *Genera Insect.,* **174 A** : 94.

1951. *Pheidole (Pheidole) sharpi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 150.

Material examined : SOUTH INDIA : Tamil Nadu : Yercaud Hill Top, 4 workers, 12.ii.1969, ex. under stone, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Southern India and Western India. Elsewhere : Burma.

Remarks : Bingham (1903) also recorded this species and mentioned its localities as "Western and Southern India"

75. *Pheidole (Pheidole) hoogwerfi* Forel

1902. *Pheidole sharpi* race *hoogwerfi* Forel, *Rev. Suisse Zool.,* **10** : 170 & 189, ♃, ☿.

1903. *Phidole hoogwerfi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 235, ♃, ☿.

1951. *Pheidole (Pheidole) sharpi* subsp. *hoogwerfi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 150.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra.

Remarks : The material of this species could not be available for this study. Bingham (1903), however, reported *hoogwerfi* Forel as a species

under the genus *Phidole* and mentioned its localities as "Bombay and Mysore"

76. *Pheidole (Pheidole) constanciae* Forel

1902. *Pheidole constanciae* Forel, *Rev. Suisse Zool.*, **10** : 176 & 194, ♃, ☿, ♀.

1903. *Phidole constanciae*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 248, ♃, ☿, ♀.

Material examined : Nil.

Distribution : INDIA : Southern and Western India (Nilgiris).

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species so far only from the Nilgiris. He (*op. cit.*) also noted "Specimens, also from the Nilgiris, vary much darker, almost black, have been separated as var. *nigra* by Dr. Forel"

77. *Pheidole (Pheidole) fergusoni* Forel

1902. *Pheidole fergusoni* Forel, *Rev. Suisse Zool.*, **10** ; 169 & 188.

1903. *Phidole fergusoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 234, ♃, ☿.

1951. *Pheidole (Pheidole) fergusoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 141.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species could be available for this study. Bingham (1903), however, recorded this species so far only from Travancore.

78. *Pheidole (Pheidole) mus* Forel

1902. *Pheidole mus* Forel, *Rev. Suisse Zool.*, **10** : 173 & 191, ♃, ☿, ♂.

1903. *Phidole mus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 242, ♃, ☿, ♂.

1951. *Pheidole (Pheidole) mus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 146.

1994. *Pheidole (Pheidole) mus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 264.

Material examined : Nil.

Distribution : INDIA : Karnataka, West Bengal.

Remarks : The material of this species could not be available for this study. Bingham (1903) reported this species and cited its distribution as "Calcutta and Kanara"

79. *Pheidole (pheidole) minor* (Jerdon)

1851. *Ocodoma minor* Jerdon, *Madras J. Lit. Sci.*, **17** : 110, ☿, ♀.

1951. *Pheidole (Pheidole) minor*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia). **1** : 145.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this species could not be available for this study. However, Jerdon (1851) first described this species under the genus *ocodoma* which was found under a stone in his garden at Tellicherry, Kerala. Subsequently, Champan and capco (1951) also recorded this species under the genus *Pheidole* (*Pheidole*) and mentioned its locality only from "South India"

80. *Pheidole* (*Pheidole*) *roberti* Forel

1902. *Pheidole roberti* Forel, *Rev. Suisse Zool.*, **10** : 182 & 198, ♃, ☿.

1903. *Phidole roberti*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 259, ♃, ☿.

1951. *Pheidole* (*Pheidole*) *roberti* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia). **1** : 149.

1994. *Pheidole* (*Pheidole*) *roberti*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 264.

Material examined : Nil.

Distribution : INDIA : Karnataka, West Bengal, Sikkim.

Remarks : The material of this species could not be available for this study. Bingham (1903) reported this species and mentioned its distribution as "Sikkim, Kanara"

81. *Pheidole (Pheidole) providens* (Sykes)

1835. *Atta providens* Sykes, *Trans. Ent. Soc.*, **1** : 103, ☿.

1851. *Ocodoma providens?*, Jerdon, *Madras J. Lit Sci.*, **17** : 108, ☿.

Material examined : Nil.

Distribution : INDIA : Southern India.

Remarks : *Atta providens* Sykes, 1835, reported as type-species of *pheidole* from India (Bingham. 1903 : 220), has not yet been included to the 'Fauna of British India.' However, Jerdon (1851) treated this species as *Ocodoma providens* (Sykes) with some doubt, but on careful analysis it is found that the species ought to have been treated as *Atta providens* which he (*op. cit.*) misplaced under *Ocodoma.* This species has been included separately in this paper under the genus *Pheidole* (*Pheidole*). The distribution of this species as shown by Jerdon (1851) happens to be "Southern India".

82. *Pheidole (Pheildole) malabarica* (Jerdon)

1851. *Ocodoma malabarica* Jerdon, *Madras J. Lit. Sci,* **17** : 107.

1951. *Pheidole (Pheidole) malabarica,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 145.

Material examined : Nil.

Distribution : INDIA : Southern India.

Remarks : No material of this species could be available for this study. However, Jerdon (1851) described this species under the genus *Ocodoma* from Southern India.

83. *Pheidole (Pheidole) diffusa* (Jerdon)

1851. *Ocodoma diffusa* Jerdon, *Madras J. Lit. Sci.*, **17** : 109.

1951. *Pheidole (Pheidole) diffusa,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 140.

Material examined : Nil.

Distribution : INDIA : Southern India.

Remarks : The material of this species could not be available for this study. Jerdon (1851) first described this species under the genus *Ocodoma* from Southern India.

22. Genus *Myrmica* Latreille

1804. *Myrmica* Latr., *Nouv. Dict. d'Hist. Nat.*, **24** : 179.

Type-species : *M. rubra* Latr., 1804, from Europe.

84. *Myrmica caeca* Jerdon

1851. *Myrmica ? caeca* Jerdon, *Ocodoma?, Madras J. Lit. Sci.*, **17** : 116, ☿.

1951. *Myrmica caeca,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 125.

Material examined : Nil.

Distribution : INDIA : Southern India.

Remarks : Jerdon (1851) described this species under the genus *Myrmica* with question mark and doubed that it may fall under *Ocodoma.* He (*op. cit.*) reported this species from Southern India. However, Bingham (1903) and Chapman and Capco (1951) placed this species under the genus *Myrmica.*

23. Genus *Myrmicaria* Saunders

1841. *Myrmicaria* Saunders, *Trans. Ent. Soc.*, **3** : 57, ♂.

Type-species : *Myrmicaria brunnea* Saunders, 1841, from India.

85. *Myrmicaria brunnea* Saunders

1841. *Myrmicaria brunnea* Saunders, *Trans. Ent. Soc. Lond,* **3** : 57, ♂.

1851. *Myrmica fodicus* Jerdon, *Madras J. Lit. Sci.*, **17** : 115, ☿.

1903. *Myrmicaria brunnea,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 118, ☿, ♀, ♂.

1922. *Myrmicaria brunnea,* Emery, *Genera Insect.,* **174 B** : 122.

1941. *Myrmicaria brunnea,* Donisthorpe, *Ann. Mag. Nat. Hist.,* (11) **8** (45) : 454.

1951. *Myrmicaria brunnea,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 124.

1994. *Myrmicaria brunnea,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal.* Part **8** : 261.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, 13 workers, 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

distribution: INDIA : Tamil Nadu, Kerala, West Bengal, and throughout India except the drier and more desert parts of the country. Elsewhere : Burma, Sri Lanka, Indonesia (Sumatra).

Remarks : Donisthorpe (1941) reported this species from Nadungayam (Kerala). Prior to this, Jerdon (1851) described *Myrmica fodicus,* the junior synonym of this species, from Malabar. Bingham (1903) mentioned its distribution as "Throughout our limits, avoiding the drier and more desert parts of the country"

24. Genus ***Crematogaster*** Lund

1831. *Cremastogaster* Lund, *Ann. Sci. Nat.,* **23** : 132.

Type-species : *Formica scutellaris* Oliv., 1791, from Europe and North Africa.

Key to the Species of *Crematogaster*

1. Head smooth and shining, at most with a few half-obsolete striae anteriorly 2
— Head not smooth, entirely sculptured.....3
2. Pilosity yellowish, abundant, fine and long; the scape of antennae reaching upto the top of the head; the club of flagellum formed of the apical 4 joints.....*wroughtoni*
— Pilosity almost entirely wanting, represented by a few scattered whitish hairs; the scape of antennae reaching a little beyond the top of the head; the club of flagellum formed of the last 3 joints .....*subnuda*
3. Metanotal spines shorter than metanotum... 4
— Metanotal spines distinctly longer than metanotum 5
4. Metanotal spines slender, apex directed backwards, outwards and slightly downwards .....*dohrni*
— Metanotal spines very thick at base, apex directed backwards and inwards..... .....*rothneyi*
5. Pilosity pale, sparse and very short; head from the front nearly square; mandibles rugulose ; clypeus slightly convex, the anterior margin of the medial portion slightly squarely produced; the scape of antennae reaching upto the top of the head; pronotum reticulate; pro-mesonotal suture distinct; abdomen somewhat elongate.....*rogenhoferi*
— Pilosity almost entirely wanting; head a little broader than long; mandibles stout, smooth; clypeus very convex, the anterior margin tranverse and bent inwards; the scape of antennae barely reaching the top of the head; pronotum longitudinally striate; pro-mesonotal suture indicated, but not distinct; abdomen very cordate, short and broad ....*flave*

*86. ***Crematogaster wroughtoni*** Forel

1902. *Cremastogaster wroughtoni* Forel. *Rev. Suisse Zool.,* **10** : 206, ☿, ♀.

1903. *Cremastogaster wroughtoni,* Bingham, *Fauna Brit. India. Hymenoptera,* **2** : 128, ☿, ♀.

1922. *Crematogaster (Paracrema) wroughtoni,* Emery, *Genera Insect.,* **174 B** : 156.

1951. *Crematogaster (Paracrema) wroughtoni,* Chapman and Capco, *Monogr. Inst. Sci. Tech. Manila* (Check List Ants Asia), **1** : 102.

1994. *Crematogaster wroughtoni,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 257.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, Shola Forest, several workers, 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Yercaud, Evergreen Forest and Sanyasimalai Reserve Forest, several workers, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution: INDIA: Tamil Nadu, Maharashtra, West Bengal.

Remarks : This is the first record of this species from Southern India (Tamil Nadu).

87. *Crematogaster dohrni* Mayr

1878. *Cremastogaster dohrni* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 681 & 682, ☿.

1903. *Cremastogaster dohrni,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 139, ☿.

1922. *Crematogaster (Acrocoelia) dohrni,* Emery, *Genera Insect.,* **174 B** : 150.

1951. *Crematogaster (Acrocoelia) dohrni,* Chapman and Capco, *Monogr. Inst. Sci. Tech. Manila* (Check List Ants Asia), **1** : 89.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, 18 winged forms and several workers, 18.11.1969, coll. O. B. Chhotani and R.N. Tiwari; Lower camp, Suranganar Reserve Forest, 7 workers, 23.ii. 1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Elsewhere : Burma, Sri Lanka.

Remarks : This species was recorded for the first time from India (Tamil Nadu, Southern India) by Negi *et al.* (1930).

88. *Crematogaster rogenhoferi* Mayr

1878. *Cremastogaster rogenhoferi* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 681 & 683, ☿.

1903. *Cremastogaster rogenhoferi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 141, ☿.

1922. *Crematogaster (Acrocoelia) dohrni rogenhoferi,* Emery, *Genera Insect.,* **174 B** : 150.

1951. *Crematogaster (Acrocoelia) dohrni rogenhoferi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 90

1970. *Crematogaster rogenhoferi,* Collingwood, *Khumbu Himal.,* **2** (3) : 385.

1994. *Crematogaster dohrni rogenhoferi,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 256.

Material examined : SOUTH INDIA : Tamil Nadu : Lower Camp, Suranganar Reserve Forest, 13 workers, 23.ii. 1969, coll. O. B. Chhotani and R. N. Tiwari; Top-Slip, 16 workers, 19.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Yercaud, 7 workers, 12.ii.1969, coll. O. B. Chhotani and R.N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Maharashtra, Assam, Sikkim, West Bengal. Elsewhere : Sri Lanka, Burma, Indonesia (Sumatra).

Biological notes : This species has been collected from nests on trees.

Remarks : Binghan (1903) reported this species and mentioned its distribution as "Sikkim; Calcutta; Western India, from Bombay to Cochin; Ceylon; Assam; Burma : Tenasserim"

89. *Crematogaster flava* Forel

1886. *Cremastogaster flava* Forel, *J. Asiat. Soc. Beng.,* **55** : 248, ☿.

1903. *Cremastogaster flava,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 142, ☿.

1922. *Crematogaster (Acrocoelia) dohrni rogenhoferi* var. *flava,* Emery, *Genera Insect.,* **174 B** : 151.

1951. *Crematogaster (Acrocoelia) dohrni* var. *flava,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 90.

1970. *Crematogaster flava,* Collingwood, *Khumbu Himal.,* **2** (3) : 385.

1994. *Crematogaster flava,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 256.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, several workers, 19.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Assam, Orissa, Sikkim, West Bengal.

Remarks : Bingham (1903) also reported this species (only ☿) and mentioned its distribution as "Sibsagar, Assam; Sikkim; Orissa; Travancore"

The female (♀) of this species *C. flava,* so far unknown, is described here under.

New Description of ***Crematogaster flava*** Forel (♀)

(Figs. 7)

♀. Head and body yellowish to brownish yellow; abdomen somewhat darker than head; pronotum with three darker longitudinal lines. Fairly densely hairy with short and long hairs, wings densely covered with short hairs.

Head-capsule subsquarish, broader than long upto clypeus (length 1.37-1.47 mm., width with eyes 1.63-1.70 mm.); sides weakly convex; posterior margin incurved a little when seen in dorsal view; with fine striations, somewhat curved around antennal sockets, straight medially and curved outwards laterally. Eyes oval (length 0.40-0.47 mm., width 0.27-0.28 mm.), black-facetted, lying antero-laterally in middle; lower margin somewhat incurved medially. Ocelli small, oval; translucent with a black, oval spot interiorly. Clypeus oval, projecting behind in between antennae, longitudinally striate, with long hairs anteriorly. Mandibles thick, short, with thicker striations and longer hairs; masticatory margin with 5 teeth. Antennae with 11 segments; scape long, cylindrical, reaching behind upto 3/4th of head-length; 1st segment of flagellum long, cylindrical; club formed of 3 apical segments, last segment of club longest, little longer than the other two put together.

Alitrunk narrower than head with eyes. Pronotum elongately suboval, smooth, convex above. Mesonotum transverse, narrower medially. Metanotum semicircular. Legs long; foretibia with a pectinate spur; tarsi 5-jointed. Wings transparent, thin, covered densely with short hairs. Pedicel 2-jointed; 1st joint subtriangular, rounded at antero-lateral corners; 2nd joint broadly transverse, with a faint groove medially and a round petiole in front, either as wide as or slightly narrower than 1st joint.

Abdomen oval, large and massive; tip pointed, sting exerted.

Measurements (in μm) :

Total body length (excluding antennae and wings)	:	8.00-9.00
Median length of head (including clypeus)	:	1.37-1.47
Max. width of head with eyes	:	1.63-1.70
Length of scape of antennae	:	0.97-1.00
Length of eye	:	0.40-0.47
Width of eye	:	0.27-0.28
Max. width of alitrunk	:	1.37-1.47
Length of forewing	:	8.00-8.60
Length of hindwing	:	5.00-5.60
Max. width of 1st joint pedicel	:	0.63-0.70
Max. width of 2nd joint pedicel	:	0.63-0.67
Head width index (length × 100/max. width)	:	82.04-88.02
Scape-head length index (scape length × 100/head length)	:	68.03-70.80
Scape-head width index (scape length × 100/head width)	:	58.05-61.35
Pedicel index (width of 1st joint × 100 / width of 2nd joint)	:	1.00-1.06

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, 12 females, 19.ii.1969, coll. O.

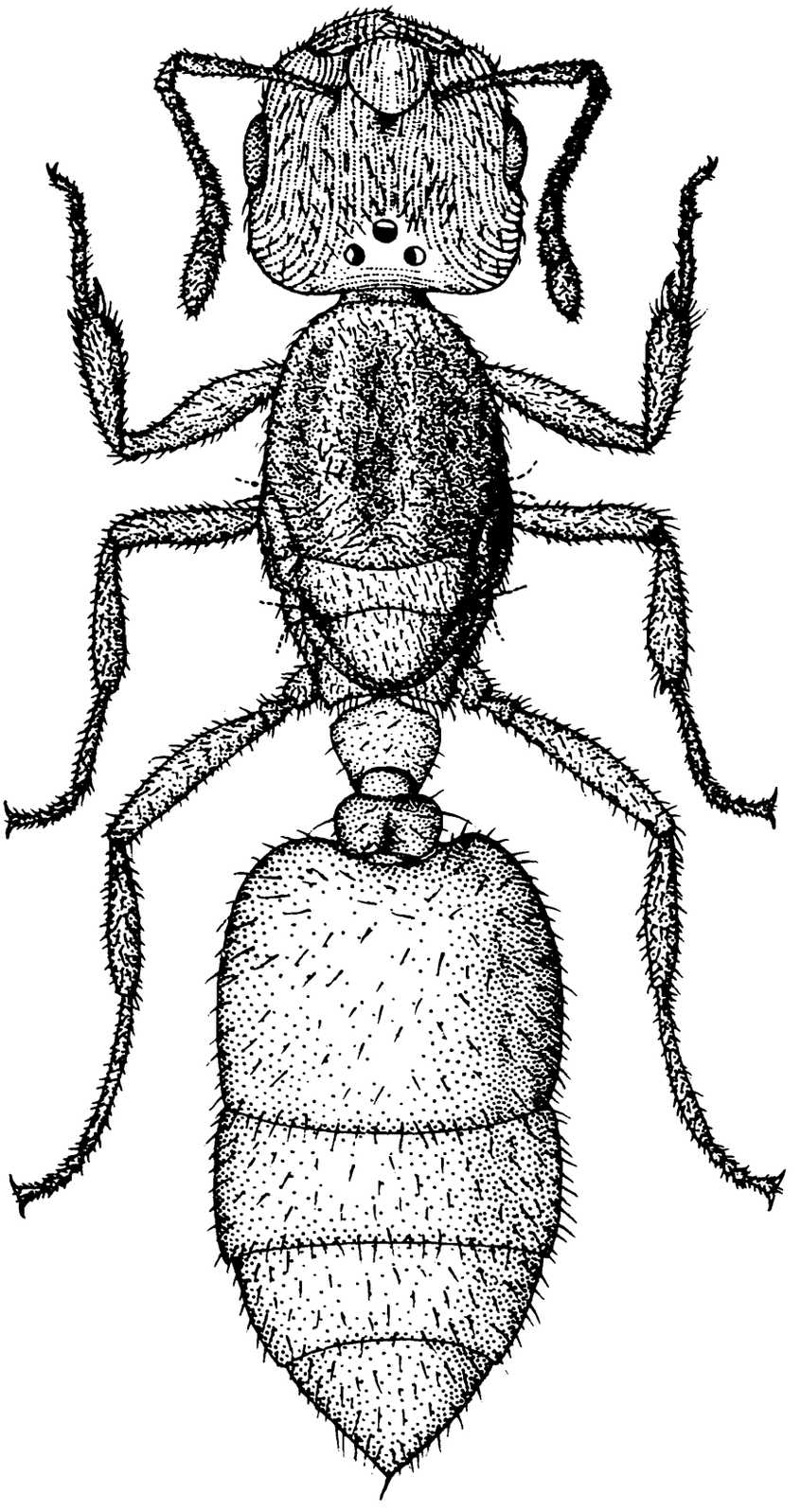

Fig. 7-*Crematogaster flava* Forel (Dorsal view; Female)

B. Chhotani and R. N. Tiwari; Yercaud, 5 females, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu.

*90. *Crematogaster rothneyi* Mayr

1878. *Cremastogaster rothneyi* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 681 & 685, ☿.

1903. *Cremastogaster rothneyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 140, ☿.

1922. *Crematogaster (Acrocoelia) rothneyi*, Emery, *Genera Insect.*, **174 B** : 151.

1951. *Crematogaster (Acrocoelia) rothneyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 93.

1994. *Crematogaster rothneyi*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 256.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, several workers, 24.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Yercaud, several workers, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Gujarat, Maharashtra, Sikkim, West Bengal.

Biological notes : At Yercaud (Tamil Nadu), this species was found making a carton nest on the trunk of a large tree of an unknown species. The nest was about 4 metres above the ground, flat below and convex above. The nest resembles that of the *Nasutitermes* sp. (Isoptera).

*91. *Crematogaster subnuda* Mayr

1878. *Cremastogaster subnuda* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 680 & 682, ☿.

1903. *Cremastogaster subnuda*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 129, ☿.

1951. *Crematogaster (Acrocoelia) brunnea* subsp. *subnuda*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 88.

1994. *Crematogaster subnuda*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 255.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, 21 workers, 10-12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Assam, West Bengal, and throughout India, except in the hot dry desert parts. Elsewhere : Burma, Sri Lanka.

92. *Crematogaster ransonneti* Mayr

1868. *Cremastogaster ransonneti* Mayr, *Verh. zool.-bot. Ges. Wien*, **18** : 287, ☿.

1903. *Cremastogaster ransonneti*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 137, ☿.

1951. *Crematogaster (Acrocoelia) ransonneti*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 93.

Material examined : Nil.

Distribution : INDIA : Karnataka, Sikkim. Elsewhere : Sri Lanka.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species and mentioned its localities as "Sikkim; Kanara; Ceylon"

93. *Crematogaster diffusa* (Jerdon)

1851. *Myrmica diffusa* Jerdon, *Madras J. Lit. Sci.*, **17** : 113, ☿, ♀, ♂.

1903. *Myrmica (Cremastogaster) diffusa*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 146.

1951. *Crematogaster (Acrocoelia) diffusa*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 89.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar) and mostly throughout India.

Remarks : Bingham (1903 : 136) wrongly synonymised this species under *Cremastogaster*

aberrans Forel, 1892. At the same time, he (*op. cit.*) placed this species under the genus *Myrmica* (*Cremastogaster*). Subsequently, Chapman and Capco (1951) also treated it as a separate species under *Crematogaster* (*Acrocoelia*). Prior to this, Jerdon (1851) described this species under the genus *Myrmica* from Malabar, Kerala. He (*op. cit.*) also mentioned, "This is a well known and widely diffused species, being found throughout India. It makes its nest in holes in branches of trees"

Jerdon (1851) further mentioned "It runs with its abdomen turned upwards almost over its head especially when excited, and feeds on honey and other vegetable secretions. Occasionally they appear to join their nest among the roots of Moss, Orchideae, and various Epiphytic plants. It is very pugnacious, and bites very severely, not appearing to use its sting much."

94. ***Crematogaster rufa*** (Jerdon)

1851. *Myrmica rufa* Jerdon, *Madras J. Lit. Sci.*, **17** : 114, ☿.

1903. *Myrmica (Cremastogaster) rufa,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 147.

1951. *Crematogaster (Acrocoelia) rufa,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 93.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : No material of this species could be available for this study. However, Jerdon (1851) described this species from Malabar (Southern India). Bingham (1903) made a list and placed this species under *Myrmica* (*Cremastogaster*). Subsequently, Chapman and Capco (1951) also reported this species and mentioned its locality as "S. India"

This is very closely allied species with *C. diffusa* (Jerdon, 1851) and differs from *diffusa* by having larger body size, head shorter proportionally, thoracic spines longer and straighter, 1st abdominal pedicel longer but less raised (Jerdon, 1851).

95. ***Crematogaster brunnea*** var. ***nilgirica*** Forel

1902. *Cremastogaster brunnea* var. *nilgirica* Forel, *Rev. Suisse Zool.*, **10** : 208, ☿.

1951. *Crematogaster (Acrocoelia) brunnea* var. *nilgirica,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 87.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The material of this variety could not be available for this study. However, Chapman and Capco (1951) reported this variety *nilgirica* from Coonoor (Tamil Nadu).

96. ***Crematogaster brunnea contemta*** var. ***notabilis*** Forel

1902. *Cremastogaster brunnea contemta* var. *notabilis* Forel, *Rev. Suisse Zool.*, **10** : 208.

1951. *Crematogaster (Acrocoelia) brunnea* subsp. *contemta* var. *notabilis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 87.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Maharashtra.

Remarks : No material of this variety could be available for this study. Chapman and Capco (1951), However, reported this variety *notabilis* Forel and mentioned its distribution as Poona (Maharashtra) and Coonoor (Tamil Nadu).

97. ***Crematogaster aberrans*** Forel

1892. *Cremastogaster aberrans* Forel, *Ann. Soc. Ent. Belg.*, **36** : 531, ☿.

1903. *Cremastogaster aberrans,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 136, ☿, ♀, ♂.

1951. *Crematogaster (Oxygyne) aberrans,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 100.

Material examined : Nil.

Distribution : INDIA : Karnataka and Maharashtra.

Remarks : The material of this species could not be available for this study. However, Chapman and Capco (1951) reported this species from Western India and Kanara. Prior to this, Bingham (1903) also recorded this species and mentioned its distribution as "Western India : Thana; Kanara".

98. *Crematogaster aberrans* var. *inglebyi* Forel

1902. *Cremastogaster aberrans* var. *inglebyi* Forel, *Rev. Suisse Zool.*, **10** : 201, ☿.

1951. *Crematogaster (Oxygyne) aberrans* var. *inglebyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 100.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this variety could not be available for this study. However, Bingham (1903 : 137) mentioned this variety under the species, *C. aberrans* Forel, 1892 from Travancore (Kerala) and noted "it differs from *aberrans* in not having the head so truncate anteriorly and the antennae proportionately longer; the scape extending beyond the top of the head" Subsequently, Chapman and Capco (1951) also recorded this variety from the same locality.

99. *Crematogaster ebenina* Forel

1902. *Cremastogaster ebenina* Forel, *Rev. Suisse Zool.*, **10** : 199, ☿, ♀.

1903. *Cremastogaster ebenina*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 133, ☿, ♀.

1922. *Crematogaster (Oxygyne) ebenina*, Emery, *Genera Insect.*, **174 B** : 157.

1951. *Crematogaster (Oxygyne) ebenina*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 100.

1994. *Crematogaster ebenina*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 256.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra, Sikkim, West Bengal. Elsewhere : Burma.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species and mentioned its distribution as "Western India : Thana, Poona, Kanara; Sikkim; Tenasserim".

100. *Crematogaster travancorensis* Forel

1902. *Cremastogaster travancorensis* Forel, *Rev. Suisse Zool.*, **10** : 200, ☿.

1903. *Cremastogaster travancorensis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 134, ☿.

1951. *Crematogaster (Oxygyne) travancorensis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 101.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species could be available for this study. However, Bingham (1903) reported this species from Travancore.

101. *Crematogaster dalyi* Forel

1902. *Cremastogaster dalyi* Forel, *Rev. Suisse Zool.*, **10** : 201.

1903. *Cremastogaster dalyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 138, ☿.

1951. *Crematogaster (Oxygyne) dalyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 100.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Western Ghats.

Remarks : The material of this species could not be available for this study. Bingham (1903) reported this species from Western Ghats. But subsequently, Chapman and Capco (1951) recorded this species under the genus *Crematogaster (Oxygyne)* and mentioned its locality as "Coonoor" (Tamil Nadu).

102. *Crematogaster biroi* Mayr

1897. *Cremastogaster biroi* Mayr, *Termész. Füzetek*, **20** : 428, ☿.

1903. *Cremastogaster biroi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 138, ☿, ♀.

1951. *Crematogaster (Orthocrema) biroi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 96.

Material examined : Nil.

Distribution : INDIA : Karnataka, Uttar Pradesh, Sikkim. Elsewhere : Sri Lanka.

Remarks : No material of this species could be available for this study. However, Bingham (1903) reported this species and mentioned its distribution as "Kanara; Dehra Dun; Sikkim; Ceylon" He (*op. cit.*) further noted "This remarkable species of *Cremastogaster* is as aberrant in habits as in the form of the ♀. It makes no nests in trees as most of the other species do, but lives in small communities under stones"

103. *Crematogaster biroi* var. *aitkeni* Forel

1902. *Cremastogaster biroi* var. *aitkeni* Forel, *Rev. Suisse Zool.*, **10** : 203.

1951. *Crematogaster (Orthocrema) biroi* var. *aitkeni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 97.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : The material of this variety could not be available for this study. However, Chapman and Capco (1951) mentioned its locality as "India : Kanara" But previously, Bingham (1903 : 139) also mentioned *aitkeni* Forel, 1902 as a variety under *C. biroi* Mayr, 1897 from the same locality and noted "The specimens from Kanara separated as var. *aitkeni* Forel, are more pilose, have the thorax striate-reticulate, subopaque, and the metanotal spines divergent, not curved downwards"

104. *Crematogaster pradipi* sp. nov.

(Figs. 8-9)

☿. Head and body blackish brown; legs somewhat paler. Head and body covered with short hairs. Total length 3.8-4.5 mm.

Head-capsule subsquarish, sides weakly convex; posterior margin substraight when viewed flat in dorsal view; with fine striations in anterior part ; striations near antennae curved around them and straighter elsewhere. Eyes black, oval, facetted; situated laterally in middle; length 0.17-0.23 mm., width 0.13-0.17 mm. Ocelli absent. Clypeus suboval, appreciably projecting behind in between antennal carinae; with longitudinal striations and anteriorly with a few long bristle-like hairs. Antennae with 11 segments; scape elongate, a little shorter than flagellum and not reaching upto hind margin of head; 1st segment of flagellum elongate; club 3-jointed; apical segment of club subequal to preceding two segments put together. Mandibles strong, thick and hairy; masticatory margin with 5 teeth.

Alitrunk much narrower than head. Pronotum flat rounded at sides and ridged at upper lateral margin; with a few faint longitudinal striations. Mesonotum oval, sloping posteriorly and weakly depressed medially; ridged on sides; pro-mesonotal suture laterally clear, dorsally not marked. Metanotum transversely broad, with a median longitudinal ridge and fairly large lateral spines; posteriorly sloping downwards; meso-metanotal suture well-marked. First joint of pedicel wider and rounded anteriorly, narrowing posteriorly. Second joint of pedicel divided into two small, round tubercles by a longitudinal groove and with a small, flat, tubercle at base; apex attached to upper basal surface of abdominal segment.

♀. Head and body blackish brown, legs slightly paler; wings transparent, tridescent. Head and body covered with small, short hairs; mandibles and clypeus with a few, long bristles. Total length without wings 7.60-8.00 mm.

Head-capsule as in ☿, but larger; striations more prominent, otherwise as in ☿. Eyes oval (length 0.40-0.43 mm., width 0.27-0.33 mm.), black, facetted, lying laterally and antero-posteriorly, with lower margin sometimes faintly

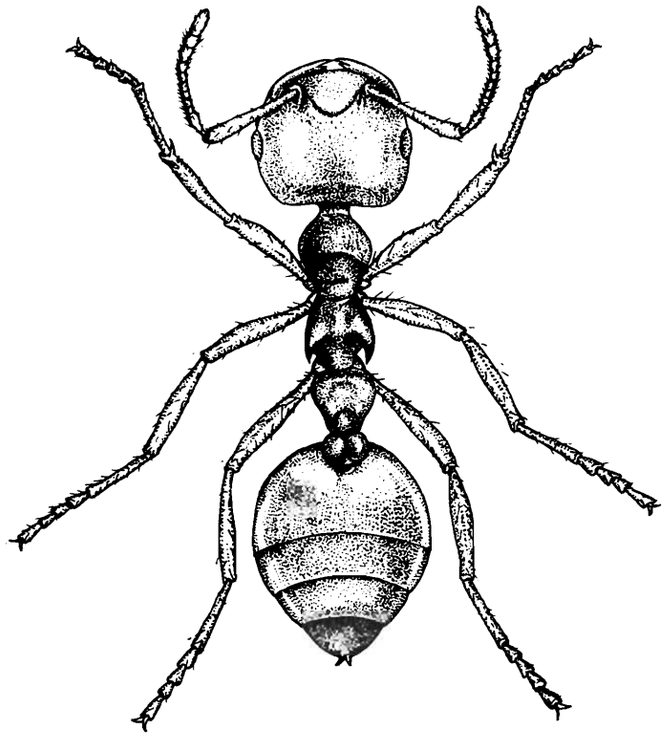

Fig. 8-*Crematogaster pradipi* sp. nov. (Dorsal view; Worker)

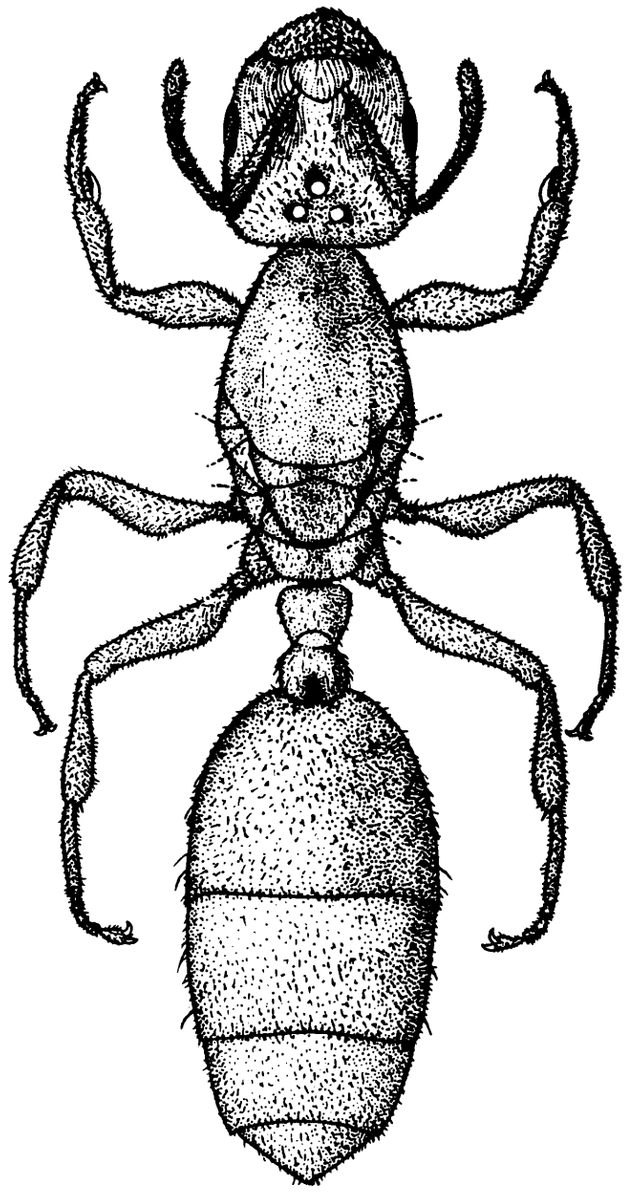

Fig. 9(a)-*Crematogaster pradipi* sp. nov. (Dorsal view Female)

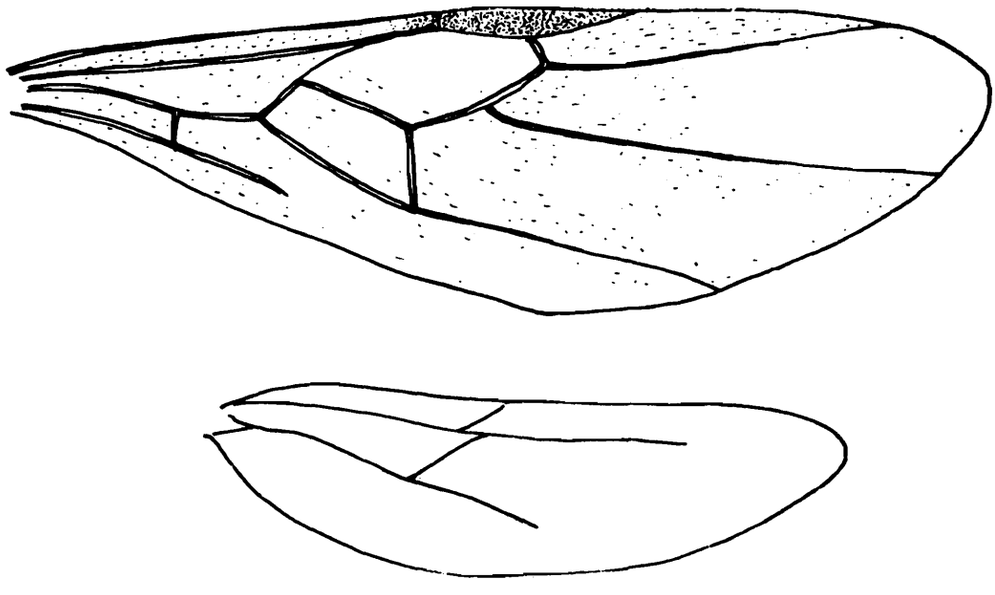

Fig. 9(b)-Fore wing and Hind wing of *Crematogaster pradipi* sp. nov., Female

Measurements (in μm) :

Parts measured	☿ (Worker) Range (5 exs.) (Measurements in μm)	☿ (Worker) Holotype (Measurements in μm)	♀ (Female) (5 exs) (Measurements in μm)
Total body length (excluding antennae and wings)	3.80-4.50	4.50	7.60-8.00
Median length of head including clypeus	0.86-1.07	1.07	1.43-1.50
Maximum width of head with eyes	0.90-1.13	1.13	1.47-1.50
Length of scape of antenna	0.73-0.83	0.83	0.90-1.00
Length of eye	0.17-0.23	0.23	0.40-0.43
Width of eye	0.13-0.17	0.17	0.27-0.33
Maximum width of alitrunk	0.53-0.63	0.63	1.23
Length of fore wing	—	—	6.70 (1 ex.)
Length of hind wing	—	—	5.10 (1 ex.)
Maximum width of 1st joint of pedicel	0.30-0.40	0.40	0.50-0.53
Maximum width of 2nd joint of pedicel	0.27-0.33	0.33	0.50-0.53

incurved. Ocelli small, round, translucent; median ocellus (0.11-0.13 mm. in diameter) slightly larger than lateral ones (0.10-0.11 mm. in diameter). Clypeus suboval, projecting behind in between antennal carinae; longitudinally striates and with a few long bristle-like hairs at anterior margin. Mandibles thick, short, punctate, thickly striate and hairy; masticatory margin with 5 teeth. Antennae with 11 segments as in a whole larger, otherwise as in ☿.

Alitrunk a little narrower than head; pronotum, mesonotum and metanotum distinctly separated. Pronotum elongated oval, smooth, convex above. Mesonotum transverse, narrower medially and wider laterally. Metanotum semicircular narrowed posteriorly. Legs elongate, fore tibia with a pectinate spur, tarsi 5-jointed. Wings transparent, thin and hairy; venation as in figure 9b. Pedicel 2-jointed; 1st joint subtriangular, broad in front and narrowing posteriorly, flat above, somewhat depressed interiorly; 2nd joint broad, indistinctly divided into two by a longitudinal groove and with thick, round petiole anteriorly.

Abdomen oval, large and massive; pointed at tip; sting not well exerted.

Various indexes of Holotype

$$\text{Head Index} = \frac{[\text{Length} \times 100]}{\text{Max. width of the head}} = \frac{1.07 \times 100}{1.13}$$

$$= 94.690$$

$$\text{Scape - head length Index} = \frac{[\text{Scape length} \times 100]}{\text{Head length}}$$

$$= \frac{0.83 \times 100}{1.07} = 77.570$$

$$\text{Scape-head width Index} = \frac{[\text{Scape length} \times 100]}{\text{Head width}}$$

$$= \frac{0.83 \times 100}{1.13} = 73.451$$

$$\text{Pedicel Index} = \frac{\text{Width of 1st joint} \times 100}{\text{Width of 2nd joint}}$$

$$= \frac{0.40 \times 100}{0.33} = 121.212$$

Holotype : ☿, INDIA : Tamil Nadu : Madras, Top-Slip, 24.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; paratypes : 4 ☿, 7 ♀, locality same as holotype; deposited in National Zoological Collections, Zoological Survey of India, Calcutta.

This new species approaches close to *Crematogaster anthracina* Smith, 1857 in the nature of body pattern, colour of the body and other structural characters, but differs from the latter in having pronotum flat dorsally and rounded anteriorly; pro-mesonotal suture obsolete dorsally, but laterally marked; mesonotum medially depressed; metanotal spines thick at the base, convergent posteriorly and bent inwards; first joint of pedicel posteriorly with a raised rounded node; second joint of pedicel distinctly bilobed; abdomen subcordate.

25. Genus ***Strumigenys*** Smith

1860. *Strumigenys* Smith, *Jour. Ent.*, **1** : 72.

Type-species : *S. mandibularis* Smith, 1860, from Brazil.

105. ***Strumigenys godeffroyi*** Mayr

1866. *Strumigenys godeffroyi* Mayr, *Sitz. Akad. Wiss. Wien*, **53** : 516, ☿.

1903. *Strumigenys godeffroyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 149, ☿, ♀.

1951. *Strumigenys (Strumigenys) godeffroyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 108.

Material examined : Nil.

Distribution : INDIA : Southern and Western India. Elsewhere : Malaysia, Oceania, Samao.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) mentioned its habitat as "Western and Southern India." He (*op. cit.*) further mentioned that the Indian form has been separated as var. *indica* Forel, 1902 and characterised by more pilosity, with a slightly longer abdomen, densely striate at the base.

26. Genus ***Myrmecina*** Curtis

1829. *Myrmecina* Curtis, *Brit. Ent.*, **4** : 226, ♂.

Type-species : *M. latreilli* Curtis, 1829, from South of England.

106. ***Myrmecina urbanii*** Tiwari

1994. *Myrmecina urbanii* Tiwari, *Rec. zool. Surv. India*, **94** (2-4) : 152.

Material examined : SOUTH INDIA : Kerala : Thekkadi (2500 ft.), 2 workers, March, 1969 (Colln. No. 029/4). coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Kerala.

Remarks : This species belongs to a little known genus *Myrmecina*. This genus was recorded for the first time from India by Tiwari (1994).

The species *urbanii* Tiwari, 1994 under the genus *Myrmecina* is characterised by alitrunk convex above, triangular, tappering posteriorly; pronotum straited transversely; meso- and metanotum with posteriorly converging longitudinal striae, forming a distinct 'Y' shaped structure at base; pronotum arm with a small spine on each antero-lateral corner, spines directed downward; mesonotum armed with a pair of small acute spines, thick at base and situated at the postero-lateral end of the mesonotum; metanotum armed with a pair of long spines directed outwards and slightly bent upwards at tips.

107. ***Myrmecina vidyae*** Tiwari

1994. *Myrmecina vidyae* Tiwari, *Rec. zool. Surv. India*, **94** (2-4) : 155.

Material examined : SOUTH INDIA : Kerala : Silent Valley Expedition Camp Site, 3 workers, 14.i.1980, coll. S. K. Bhattacharyya.

Distribution : INDIA : Kerala.

Remarks : The species *M. vidyae* is very close to *M. urbanii* Tiwari, 1994, in having body

pattern, antennae, legs and throx characters mostly similar, but it differs from *urbanii* by having the following characters : mandibular formula "1+6" i.e., one apical tooth and 6 small sub-apical teeth; absence of mesonotal spine; metanotal spines thinner and longer in shape; striae on meso-metanotum outwardly divergent; gaster not truncate anteriorly and having finner granulation all over the dorsum.

27. Genus *Monomorium* Mayr

1855. *Monomorium* Mayr, *Verh. zool.-bot. Ges. Wien,* **5** : 452.

Type-species : *M. minutum* Mayr, 1855, from Europe.

Key to the Species of *Monomorium*

1. Head more or less rugulose, opaque 2
— Head not rugulose and opaque, but more or less smooth and shining 3
2. Head in front distinctly broader than posteriorly; the nodes of pedicel, seen from above, nearly equal .....*indicum*
— Head as broad posteriorly as in front; the 2nd node of pedicel broader than 1st node .....*glyciphilum*
3. 2nd node of pedicel not broader than the 1st node .....*mayri*
— 2nd node of pedicel broader than the 1st node 4
4. Length 1.5-2 mm.; pilosity almost entirely wanting; 2nd node of pedicel very little broader than the 1st node .....*floricola*
— Length 3-3.7 mm.; pilosity moderate or sparse, fine and rather long; 2nd node of pedicel very much broader than the 1st node .....*latinode*

108. *Monomorium indicum* Forel

1902. *Monomorium salomonis* Linn., race *indicum* Forel, *Rev. Suisse Zool.,* **10** : 213.

1903. *Monomorium indicum,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 205, ☿, ♀, ♂.

1922. *Monomorium (Xeromyrmex) salomonis* subsp. *indica,* Emery, *Genera Insect.,* **174 B** : 178.

1966. *Monomorium indicum,* Ettershank, *Aust. J. Zool.,* **14** (1) : 89.

Material examined : SOUTH INDIA : Andhra Pradesh : Vijyapuri, Nagarjunsagar Dam, several workers, 3.viii.1962, coll. J. N. Maligi; Nandikonda Valley, several workers, 9.viii.1962, coll. J. N. Maligi.

Distribution : INDIA : Andhra Pradesh, Tamil Nadu, Punjab, Maharashtra. Elsewhere : Burma.

Remarks : Bingham (1903 : 206) also mention its distribution as "The Punjab to Madras, and Bombay to Burma"

**109. *Monomorium glyciphilum* (Smith)

1858. *Myrmica glyciphila* Smith, *Cat. Hym. Brit, Mus.,* **6** : 125.

1903. *Monomorium glyciphilum,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 206, ☿.

1922. *Monomorium (Xeromyrmex) glyciphilum,* Emery, *Genera Insect.,* **174 B** : 176.

1951. *Monomorium (Xeromyrmex) glyciphilum,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 166.

1966. *Monomorium glyciphilum,* Ettershank, *Aust. J. Zool.,* **14** (1) : 89.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, 12 workers, 10.ii.1969, ex. soil surface, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu. Elsewhere : Sri lanka.

Remarks : This is the first record of this species from India (Tamil Nadu, South India).

*110. *Monomorium mayri* Forel

1902. *Monomorium gracillimum* Smith, var. *mayri* Forel, *Rev. Suisse Zool.,* **10** : 209.

1922. *Monomorium (Parholcomyrmex) gracillimum* var. *mayri,* Emery, *Genera Insect.,* **174 B** : 180.

1951. *Monomorium (Parholcomyrmex) gracillimum* var. *mayri*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 166.

1966. *Monomorium mayri*, Ettershank, *Aust. J. Zool.*, **14** (1) : 90.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, several workers, 10. ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Coimbatore, 20 workers, 15.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Kerala : Trivandrum, 3 workers, 1969, coll. N. M. Antony.

Distribution : INDIA : Tamil Nadu, Kerala. Elsewhere : Burma.

Biological notes : This ant has been collected from the trunk of a coconut tree at Coimbatore and from the soil along with *Crematogaster rogenhoferi* Mayr, 1878 and *Solenopsis geminata* (Fabricius, 1804) at Salem (Tamil Nadu).

Remarks : Bingham (1903 : 211) noted "Typical *M. gracillimum*, so far as I know, has been recorded within our limits only from Ceylon; but the form separated as var. *mayri* (Forel, *Rev. Suisse Zool.* **x** (1902), p. 209) is spread throughout India and Burma. It differs from true *M. gracillimum* in being dark brown with the mandibles, antennae and legs pale yellow; the basal portion of the metanotum is submargined and is more abruptly truncate at apex, it is densely and very finely transversely striate and opaque"

111. ***Monomorium floricola*** (Jerdon)

1851. *Atta floricola* Jerdon, *Madras J. Lit. Sci.*, **17** : 107, ☿.

1866. *Monomorium specularis* Mayr, *Sitz. Akad. Wiss. Wien*, **53** : 509, ☿.

1903. *Monomorium floricola*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 211, ☿.

1922. *Monomorium (Monomorium) floricola*, Emery, *Genera Insect.*, **174 B** : 172.

1951. *Monomorium (Monomorium) floricola*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 164.

1966. *Monomorium floricola*, Ettershank, *Aust. J. Zool.*, **14** (1) : 89.

1989. *Monomorium floricola*, Ogata and Bolton, *Jpn. J. Entomol.*, **57** (2) : 460.

1994. *Monomorium floricola*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 260.

Material examined : SOUTH INDIA : Tamil Nadu : Suranganar Res. Forest, near Lower Camp, several workers, 23.ii.1969, ex. rose wood log, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, West Bengal. Elsewhere : Sri Lanka, Oceania.

Biological notes : This is a common house-ant in India and damages all sorts of materials.

Remarks : Jerdon (1851) first described this species *floricola* under the genus *Atta* from Tellicherry (Kerala). While describing this species, he also noted in the same publication that he had obtained this very small ant, of which he had only seen one kind of individual, in small numbers on flowers and leaves and it appeared to feed solely on vegetable secretions.

*112. ***Monomorium latinode*** Mayr

1872. *Monomorium latinode* Mayr, *Ann. Mus. Civ. Stor. Nat. Genova*, **2** : 152, ☿.

1903. *Monomorium latinode*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 211, ☿.

1922. *Monomorium (Monomorium) latinode*, Emery, *Genera Insect.*, **174 B** : 171.

1951. *Monomorium (Monomorium) latinode*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 165.

1966. *Monomorium latinode*, Ettershank, *Aust. J. Zool.*, **14** (1) : 90.

1994. *Monomorium latinode*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part 8 : 260.

Material examined : SOUTH INDIA : Tamil Nadu : Yercaud, 13 workers, 13.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Suranganar Reserve

Forest, near Lower Camp, 8 workers, 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal and spread throughout India. Elsewhere : Sri Lanka, Burma, Indonesia (Borneo), Formosa (Taiwan).

Biological notes : This is also a house-ant in India and damages all sorts of materials. It has been collected from soil under the withering seedlings of *Eucalyptus* sp. It's association, however, in the death of seedlings could not be confirmed.

Remarks : Bingham (1903) reported this species and mentioned its distribution as "spread throughout India, Ceylon, and Burma, extending to Borneo" But Ettershank (1966) has restricted *latinode* to Borneo only.

113. ***Monomorium dichroum*** Forel

1902. *Monomorium dichroum* Forel, *Rev. Suisse Zool.*, **10** : 212.

1903. *Monomorium dichroum*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 202, ☿, ♀.

1951. *Monomorium (Monomorium) dichroum*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check LIst Ants Asia), **1** : 164.

1966. *Monomorium dichroum*, Ettershank, *Aust. J. Zool.*, **14** (1) : 88.

Material examined : Nil.

Distribution : INDIA : Southern India (Nilgiri Hills).

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species and mentioned its locality as "Southern India, Nilgiri Hills"

114. ***Monomorium pharaonis*** (Linnaeus)

1758. *Formica pharaonis, Syst. Nat.* ed. 10, **1** : 580.

1838. *Myrmica domestica* Shuckard, *Charlesworth's Mag. Nat. Hist., new ser.*, **2** : 626.

1851. *Atta minuta* Jerdon, *Madras J. Lit. Sci.*, **17** : 105, ☿, ♀.

1903. *Monomorium pharaonis*, Bingham, *Fauna Brit. India, Hymenoptera*, 2 : 202, ☿, ♀.

1951. *Monomorium (Monomorium) pharaonis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 165.

1966. *Monomorium pharaonis*, Ettershank, *Aust. J. Zool.*, **14** (1) : 91.

Material examined : Nil.

Distribution : INDIA : Karnataka and throughout India. Elsewhere : Spread over the tropical regions to both hemispheres.

Remarks : Jerdon (1851) described the species *minuta* under the genus *Atta* from Karnataka, which was synonymised with *M. pharaonis* (Linn.) by Bingham (1903). Bingham (*op. cit.*) mentioned its distribution as "Throughout our limits, and spread over the tropical regions of both hemispheres"

Jerdon (1851) further noted "this minute species makes a temporary nest in various situations, in an empty box, between the back and its leaves, even among the loose pages of a book, in an empty shell etc. Nothing is used in its construction, a shelter from the light merely being sought for. It is perhaps not very numerous in individuals, one wingless female is generally found in the nest. It appears to prefer dead animal matter to saccharine or vegetable products"

115. ***Monomorium wroughtoni*** Forel

1902. *Monomorium wroughtoni* Forel, *Rev. Suisse Zool.*, **10** : 209.

1903. *Monomorium wroughtoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 204, ☿.

1951. *Monomorium (Monomorium) wroughtoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 165.

1966. *Monomorium wroughtoni*, Ettershank, *Aust. J. Zool.*, **14** (1) : 93.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra.

Remarks : No material of this species could be available for this study. Bingham (1903) however, reported this species, *M. wroughtoni* Forel, 1902 and mentioned its distribution as "Western India, Poona, Kanara"

116. ***Monomorium criniceps*** (Mayr)

1878. *Holcomyrmex criniceps* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 672, ☿.

1903. *Holcomyrmex criniceps,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 282, ☿ maj., ☿ min.

1951. *Monomorium (Holcomyrmex) criniceps,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia),**1** : 163.

1966. *Monomorium criniceps,* Ettershank, *Aust. J. Zool.,* **14** (1) : 88.

Material examined : Nil.

Distribution : INDIA : Southern and Western India. Elsewhere : Sri Lanka, Burma.

Remarks : The material of this species, *M. criniceps* (Mayr) could not be available for this study. While recording this speceis *criniceps* under the genus *Holcomyrmex,* Bingham (1903) mentioned its distribution only "Western India; Southern India; Ceylon; Burma, Pegu Yoma"

117. ***Monomorium scabriceps*** (Mayr)

1878. *Holcomyrmex scabriceps* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 672, ☿.

1903. *Holycomyrmex scabriceps,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 282, ☿ maj., ☿ min., ♀, ♂.

1951. *Monomorium (Holcomyrmex) scabriceps,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 163.

1966. *Monomorium scabriceps,* Ettershank, *Aust. J. Zool.,* **14** (1) : 92.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Kerala, Punjab.

Remarks : No material of this species could be available for this study. However, Donisthorpe (1942c) recorded this species under the genus *Holcomyrmex* and mentioned its locality as "Dohnavur, Tinnelvelly Dist. (S. India). Prior to this, Bingham (1903) also reported this species under the same genus and quoted "Distributed irregularly throughout India from Punjab to Cochin; not recorded from Ceylon, Assam or Burma"

118. ***Monomorium crinicipitoscabriceps*** (Forel)

1902. *Holcomyrmex scabriceps* var. *crinicipito-scabriceps* Forel, *Rev. Suisse Zool.,* **10** : 220, ☿.

1951. *Monomorium (Holcomyrmex) scabriceps* var. *crinicipitoscabriceps,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 163.

1966. *Monomorium crinicipitoscabriceps,* Ettershank, *Aust. J. Zool.,* **14** (1) : 88.

Material examined : Nil.

Distribution : INDIA : Karnataka. Elsewhere : Burma.

Remarks : The material of this species could not be available for this study. However, Chapman and Capco (1951) recorded this species as a variety from Mysore and Burma.

According to Forel (1902), this variety is the intermediate between *H. criniceps* Mayr, 1878 and *H. scabriceps* Mayr, 1878. But later, Ettershank (1966) treated this variety as a species under the genus *Monomorium.*

119. ***Monomorium nigrum*** (Forel)

1902. *Holcomyrmex criniceps* var. *nigra* Forel, *Rev. Suisse Zool.,* **10** : 220.

1951. *Monomorium (Holcomyrmex) criniceps* var. *nigra,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 163.

1966. *Monomorium nigrum,* Ettershank, *Aust. J. Zool.,* **14** (1) : 91.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra.

Remarks : The material of this species could not be available for this study. However, Chapman and Capco (1951) mentioned its distribution as "India : Kanara and Poona"

120. *Monomorium glabrum* (André)

1883. *Holcomyrmex glaber* André, *Spec. Hym. Europe*, **2** : 345, ☿.

1903. *Holcomyrmex glaber*, Bingham, *Fauna Brit India, Hymenoptera*, **2** : 284, ☿ maj., ☿ min.

1951. *Monomorium (holcomyrmex) glabrum*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia). **1** : 163.

1966. *Monomorium glabrum*, Ettershank, *Aust. J. Zool.*, **14** (1) : 89.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Southern and Western India. Elsewhere : Sri Lanka and Burma.

Remarks ; No material of this species could be available for this study. However, Bingham (1903) mentioned its distribution as "Western and Southern India, Ceylon, and Burma" Subsequently, Donisthorpe (1942c) also recorded this species from Dohnavur (550 ft.), Tinnelvelly Dist. Tamil Nadu (South India).

121. *Monorium glabrocriniceps* (Forel)

1902. *Holcomyrmex glaber* var. *glabro-criniceps* Forel, *Rev. Suisse Zool.*, **10** : 220, ☿.

1951. *Monomorium (holcomyrmex) glabrum* var. *glabro-criniceps*, Chapman and Capco, *Mongr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 163.

1966. *Monomorium glabrocriniceps*, Ettershank, *Aust. J. Zool.*, **14** (1) : 89.

Material examined : Nil.

Distribution : INDIA : Karnataka and Maharashtra.

Remarks : No specimens of this species could be available for this study. However, Chapman and Capco (1951) mentioned its localities as "India : Kanara and Bombay"

122. *Monomorium destructor* (Jerdon)

1851. *Atta destructor* Jerdon, *Madras J. Lit. Sci.*, **17** : 105, ☿.

1857. *Myrmica vastator* Smith, *J. Proc. Linn. Soc.*, **2** : 71, ☿.

1865. *Monomorium basale* Mayr, *Novara Reise, Formicid.* : 92.

1903. *Monomorium destructor*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 209, ☿, ♀, ♂.

1951. *Monomorium (Parholcomyrmex) destructor*, Chapman and Capco, *Monogr. Inst. Sci., Tech., Manila* (Check List Ants Asia), **1** : 166.

1966. *Monomorium destructor*, Ettershank, *Aust. J. Zool.*, **14** (1) : 88.

Material examined : Nil.

Distribution : INDIA : Southern India and mostly throughout India. Elsewhere : Spread through the torrid regions of both hemispheres.

Biological notes : They live in holes in the ground, or in walls, etc., and are very numerous in individuals. They prefer animal to vegetable substances, destroying dead insects, bird skins etc., but also feed greedily on sugar (Jerdon, 1851).

Remarks : The material of this species could not be available for this sutdy. However, Jerdon (1851) described this species under the genus *Atta* from Southern India and further mentioned its distribution as "They are common in all parts of India, and often prove very troublesome and destructive to the Naturalist" Later, while reporting this species under the genus *Monomorium*, Bingham (1903) noted its distribution as "Throughout our limits, and spread (probably carried and introduced by shipping) through the torrid regions of both hemispheres"

123. *Monomorium schurri* Forel

1902. *Monomorium schurri* Forel, *Rev. Suisse Zool.*, **10** : 212.

1903. *Monomorium schurri*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 203, ☿, ♀.

1951. *Monomorium (Xeromyrmex) schurri,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila.* (Check List Ants Asia), **1** : 166.

1966. *Monomorium schurri,* Ettershank, *Aust. J. Zool.,* **14** (1) : 92.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Kerala (Nilgiri Hills).

Remarks : The material of this species could not be available for this study. Bingham (1903), however, recorded this species from the Nilgiri Hills, Southern India.

124. ***Monomorium minutum*** Mayr

1855. *Monomorium minutum* Mayr, *Verh. zool.-bot. Ges. Wien,* **5** : 453, ☿.

1858. *Myrmica (Monomorium) carbonaria* Smith, *Cat. Hym. Brit. Mus.,* **6** : 127.

1903. *Monomorium minutum,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 210, ☿.

1966. *Monomorium minutum,* Ettershank, *Aust. J. Zool.,* **14** (1) : 90.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Southern Europe, Africa and North America.

Remarks : No material of this species could be available for this study. However, Bingham (1903) recorded this species from Travancore (Southern India) and also found in Southern Europe, Africa and North America.

28. Genus ***Oligomyrmex*** Mayr

1867. *Oligomyrmex* Mayr, *Tijds. v. Ent.,* **10** : 110, ♀.

Type-species : *O. concinnus* Mayr, 1867, from Australia.

125. ***Oligomyrmex leei*** Forel

1902. *Oligomyrmex leei* Forel, *Rev. Suisse Zool.,* **10** : 216.

1903. *Oligomyrmex leei,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 155, ♀.

1966. *Oligomyrmex leei,* Ettershank, *Aust. J. Zool.,* **14** (1) : 123.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No specimens of this species could be available for this study. However, Bingham (1903) recorded this species from Mysore (South India).

126. ***Oligomyrmex lamellifrons*** (Forel)

1902. *Phidologiton lamellifrons* Forel, *Rev. Suisse Zool.,* **10** : 219, ♀.

1903. *Phidologiton lamellifrons,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 166, ♀.

1951. *Aneleus (Lecanomyrma) lamellifrons,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 155.

1966. *Oligomyrmex lamellifrons,* Ettershank, *Aust. J. Zool.,* **14** (1) : 123.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species under the genus *Phidologiton* so far from Belgaum (South India). Subsequently, Chapman and Capco (1951) also mentioned its locality as "Belgaum" in their monograph. Ettershank (1966) synonymised and placed the species under the genus *Oligomyrmex.*

29. Genus ***Solenopsis*** Westwood

1841. *Solenopsis* Westwood, Ann. Mag. Nat. Hist., **6** : 86.

Type-species : *S. mandibularis* Westwood, 1841, from America.

127. ***Solenopsis geminata*** (Fabricius)

1804. *Atta geminata* Fabricius, *Syst. Piez.* : 423.

1851. *Atta rufa* Jerdon, *Madras J. Lit. Sci.,* **17** : 106, ☋, ☿, ♀.

1903. *Solenopsis geminata,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 158, ☋, ☿, ♀, ♂.

1903. *Solenopsis geminata* var. *rufa*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 159.

1951. *Solenopsis geminata* subsp. *rufa*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 168.

1966. *Solenopsis geminata*, Ettershank, *Aust. J. Zool.*, **14** (1) : 141.

1994. *Solenopsis geminata*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 267.

Material examined : SOUTH INDIA : Tamil Nadu : Several workers, Salem, 10.ii.1969, Yercaud, 12.ii.1969, Tudiyalur, 16.ii.1969, Periyakulam, 22.ii.1969, Mylar Kulasekrum Forest Reserve, 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Madras, several workers, 8.vi.1961, coll. P. P.

Distribution : INDIA : Tamil Nadu, Kerala, Karnataka, West Bengal. Elsewhere : Spread pretty nearly over the tropics of the two hemispheres.

Biological notes : While describing the species *Atta rufa*, Jerdon (1851) noted "It is found in holes under ground, mud walls and often appears in houses, coming through a hole or crevice in the floor or wall. Its favourite food is dead insects and other matter. It stings very severely, leaving a burning pain that lasts for several minutes"

According to Beeson (1941) *S. geminata*, commonly known as 'Brown Fire Ant' has a severe sting. It makes its nest in soil and is reported to be injurious to seedlings buds and leaves. It is reported to be an important enemy of aphids, soft scales, termites, bed bugs and moth larvae and can be introduced in the control of termites and catterpillars of *Eublemma amabilia* and *Holococera pulverea* in the lac godowns.

In Southern India, this ant has been collected from coconut and banana plants and also from soil and under stones.

Remarks : Jerdon (1851) described the species *rufa* under the genus *Atta* from Malabar and Karnataka. Bingham (1903) mentioned the distribution of *S. geminata* (Fabr., 1804) as "Throughout out limits, and spread pretty nearly over the tropics of the two hemispheres" Further he (*op. cit.*) noted "var. *rufa* Jerdon is a darker reddish yellow". Subsequently, Chapman and Capco (1951) also recorded the *rufa* as a subspecies from Malabar. But Ettershank (1966) synonymised the species *Atta rufa* Jerdon, 1851 and placed it under the species *Solenopsis geminata* (Fabricius, 1804).

30. Genus ***Lophomyrmex*** Emery

1892. *Lophomyrmex* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **22** : 114.

Type-species : *Ocodoma quadrispinosus* Jerdon, 1851, from Malabar.

128. ***Lophomyrmex quadrispinosus*** (Jerdon)

1851. *Ocodoma quadrispinosa* Jerdon, *Madras J. Lit. Sci.*, **17** : 111, ☿.

1903. *Lophomyrmex quadrispinosus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 195, ☿.

1922. *Lophomyrmex quadrispinosus*, Emery, *Genera Insect.*, **174 C** : 209.

1966. *Lophomyrmex quadrispinosus*, Ettershank, *Aust. J. Zool.*, **14** (1) : 134.

1994. *Lophomyrmex quadrispinosus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 257.

Material examined : SOUTH INDIA : Tamil Nadu : Salem, Kurambapatty Reserve Forest, 7 workers, 11.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Karnataka, Uttar Pradesh, Sikkim, Orissa, West Bengal. Elsewhere : Sri Lanka.

Biological notes : Jerdon (1851) noted that it appeared to be feeding on the vegetable secretions surrounding the seeds.

Remarks : Jerdon (1851) first described this species under the genus *Ocodoma* from Southern India (Malabar), having thorax with two small spines anteriorly and two large curved spines posteriorly. Later on, Bingham (1903) mentioned

this species under the genus *Lophomyrmex*, having thorax with the characters of the genus, a slight transverse carina between the pronotal spines, the latter triangular, dentate; mesonotum with a prominent transverse carina about the middle, generally bidentate; basal portion of metanotum short, widening posteriorly, the metanotal spines long, acute and slightly curved. He (*op. cit.*) noted its distribution as "N. W. Provinces, Dehra Dun; Sikkim; Orissa; Calcutta; Malabar; Kanara"

31. Genus ***Pheidologeton*** Mayr

1862. *Phidologeton* Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 750.

Type-species : *Ocodoma diversa* Jerdon, 1851, from South India.

129. ***Pheidologeton affinis*** (Jerdon)

1851. *Ocodoma affinis* Jerdon, *Madras J. Lit. Sci.*, **17** : 110, ♀, ☿.

1858. *Atta bellicosa* Smith, *Cat. Hym. Brit. Mus.*, **6** : 164, ☿.

1861. *Solenopsis laboriosa* Smith, *J. Proc. Linn. Soc.*, **6** : 48, ☿.

1863. *Solenopsis calida* Smith, *J. Proc. Linn. Soc.*, **7** : 22.

1903. *Phidologiton affinis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 164, ♀ max., ♀ min., ☿, ♀, ♂.

1922. *Pheidologeton affinis*, Emery, *Genera Insect.*, **174 C** : 212.

1966. *Pheidologeton affinis*, Ettershank, *Aust. J. Zool.*, **14** (1) : 118.

1994. *Pheidologeton affinis*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 266.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip, 5 soldiers, 6 workers (maj. and min.), 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari; Lower Camp, 2 soldiers, 10 workers (maj. and min.), 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Maharashtra, Assam, West Bengal. Elsewhere : Sri Lanka, Burma and S. E. Asia.

Biological notes : The collected specimens of this species *P. affinis* (Jerdon, 1851) has been found in the dead stump of a soft wood and under stones.

Remarks : Jerdon (1851) noted "this ant is very common in Malabar; is nearly allied to, but differs from *O. diversa* in the toothed jaws of the Warriors" Bingham (1903) mentioned its distribution as "Bengal; Western India from Poona to Travancore; Ceylon; Assam; Burma; Tenasserim"

130. ***Pheidologeton diversus*** (Jerdon)

1851. *Ocodoma diversa* Jerdon, *Madras J. Lit. Sci.*, **17** : 109, ♀, ☿.

1858. *Pheidole ocellifera* Smith, *Cat. Hym. Brit. Mus.*, **6** : 174, ☿.

1858. *Pheidole taprobanae* Smith, *Cat. Hym. Brit. Mus.*, **6** : 175.

1903. *Phidologiton diversus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 162, ♀ max., ♀ min., ☿, ♀, ♂.

1951. *Pheidologeton diversus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 159.

1966. *Pheidologeton diversus*, Ettershank, *Aust. J. Zool.*, **14** (1) : 118.

1994. *Pheidologeton diversus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 266.

Material examined : Nil.

Distribution : INDIA : Kerala, Karnataka, Maharashtra, Sikkim, West Bengal. Elsewhere : Burma and extending into the Malayan subregion.

Biological notes : Most of the ants of the genus *Pheidologeton* make their nests under bricks, stones, flower pots, rock-works, or any spot offering shelter or shade of this nature (Rothney, 1889 : 369). Later on, Bingham (1903 : 161) also noted that nests of this group of ants can be found under the blocks of laterite road-material collected by the sides of roads repairing purpose. He had also found large and populous nests under stacks of bricks in a brickfield, under fallen logs in the jungle, and in the foundations of the pillars of the

wooden bunglows. He (*op. cit.*) further mentioned, "the gaint soldiers, however formidable they look, are absolutely unable to give even a decent nip, but the bites of the smaller forms of soldiers and of ☿ min. are vicious and to be remembered. In a nest of these ants, the workers far outnumber the various forms of soldiers. So the attack of the tiny worker is far more ferocious and effective than that of the soldiers"

Remarks : No material of this species could be available for this study. However, Jerdon (1851) first described this species from Southern India. Bingham (1903) also recorded this species from Southern India and mentioned its distribution as "Sikkim; Bengal; Western India, Poona, Kanara, Calicut, Travancore; Burma and Tenasserim. Extending into the Malayan subregion"

32. Genus *Meranoplus* Smith

1854. *Meranoplus* Smith, *Trans. Ent. Soc.*, (2) **2** : 224.

Type-species : *Cryptocerus bicolor* Guérin, 1838, from India.

Key to the Species of *Meranoplus*

1. Pilosity very long; head a little longer than broad; clypeus smooth, convex in the middle; the pro-mesonotal shield about as broad as long; mesonotum armed posteriorly with two long acute spines; 2nd node of pedicel unarmed ..... *bicolor*

— Pilosity shorter; head nearly square; clypeus striate, medially concave; the pro-mesonotal shield broader than long; mesonotum armed posteriorly with only comparatively short teeth; 2nd node of pedicel armed posteriorly above with a distinct rather thick tooth pointing backwards ..... *belli*

*131. *Meranoplus bicolor* (Guérin)

1838. *Cryptocerus bicolor* Guérin, *Cuv. Iconog. Régn. Anim. Ins.*, **3** : 425.

1903. *Meranoplus bicolor*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 168, ☿, ♀, ♂.

1922. *Meranoplus bicolor*, Emery, *Genera Insect.*, **174 C** : 228.

1951. *Meranoplus bicolor*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 112.

1994. *Meranoplus bicolor*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 258.

Material examined : SOUTH INDIA : Tamil Nadu : Several workers, Yercaud, near Municipal Garden, 12.ii.1969, Top-Slip, 18.ii.1969, Pallaimcottai, 26.ii.1969 and Mylar Kulasakrum, 28.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal and mostly throughout India, except the hot dry plains in the North-Western Provinces, Punjab and Central India. Elsewhere : Nepal, Burma, Indonesia (Sumatra) and extending to the Malayan subregion.

132. *Meranoplus belli* Forel

1902. *Meranoplus belli* Forel, *Rev. Suisse Zool.*, **10** : 240, ☿.

1903. *Meranoplus belli*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 169, ☿.

1922. *Meranoplus belli*, Emery, *Genera Insect.*, **174 C** : 228.

1951. *Meranoplus belli*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 112.

Material examined : SOUTH INDIA : Tamil Nadu : Top-Slip (Sirakarpadi Tunnel Entry), 2 workers, 18.ii.1969, ex. from trunk of a teak tree, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka and Western India.

Remarks : Bingham (1903) also recorded this species and mentioned its distribution as "Western India, Kanara"

133. *Meranoplus carinatus* Donisthorpe

1942. *Meranoplus carinatus* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 456.

1951. *Meranoplus carinatus,* Chapman and Capco, *Monogr. Inst. Sci. Tech. Manila* (Check List Ants Asia), **1** : 112.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1942c) described this species and mentioned its locality as "Amarambalam Forest, 500-1500 ft., Malabar, Southern India" Chapman and Capco (1951) also mentioned its distribution as "S. India : Malabar"

134. *Meranoplus flaviventris* Donisthorpe

1943. *Meranoplus flaviventris* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 202.

1951. *Meranoplus flaviventris,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 113.

Material examined : Nil.

Distribution : Kerala.

Remarks : No material of this species could be available for this study. Donisthorpe (1943) first described this species from Tenamalai (500-800 ft.), Travancore, Southern India. Later on, Chapman and Capco (1951) also recorded this species and mentioned its distribution as "S. India : Travancore"

135. *Meranoplus levis* Donisthorpe

1942. *Meranoplus levis* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 455.

1951. *Meranoplus levis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 113.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : No specimens of this species could be available for this study. However, Donisthorpe (1942c) mentioned its locality as "Dohnavur (350 ft.), Tinnelvelly Dist., Southern India"

136. *Meranoplus rothneyi* Forel

1902. *Meranoplus rothneyi* Forel, *Rev. Suisse Zool.*, **10** : 241, ♀.

1903. *Meranoplus rothneyi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 170, ♀.

1951. *Meranoplus rothneyi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 113.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : China.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) and Chapman and Capco (1951) recorded this species from Cochin, South India.

33. Genus *Triglyphothrix* Forel

1890. *Triglyphothrix* Forel, *Ann. Soc. Ent. Belg.*, **34** : 106.

Type-species : *T. walshi* Forel, 1890, from India.

137. *Triglyphothrix decamera* Forel

1902. *Triglyphothrix decamera* Forel, *Rev. Suisse Zool.*, **10** : 240, ♀.

1903. *Triglyphothrix decamera,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 174, ♀.

1951. *Triglyphothrix decamera,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 178.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from Kanara. Subsequently, Chapman and Capco (1951) also listed this species from the same locality.

138. *Triglyphothrix musculus* Forel

1902. *Triglyphothrix musculus* Forel, *Rev. Suisse Zool.*, **10** : 329.

1903. *Triglyphothrix musculus,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 173, ♀.

1951. *Triglyphotrix musculus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 178.

Material examined : Nil.

Distribution : INDIA : Kerala and Tamil Nadu.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species and mentioned its locality as "The Nilgiris".

139. *Triglyphothrix obesa* (André)

1887. *Tetramorium obesa* André, *Rev. d'Ent.*, **6** : 294.

1903. *Triglyphothrix obesa*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 173, ☿.

1951. *Triglyphotrix obesa*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 178.

1994. *Triglyphothrix obesa*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 268.

Material examined : Nil.

Distribution : INDIA : Karnataka, Maharashtra, West Bengal.

Remarks : No material of this species could be available for this study. Bingham (1903), however, reported this species and mentioned its distribution as "Bengal; Western India, Bombay and kanara". Subsequently, Tiwari *et al.* (1994) also recorded its distribution as "West Bengal, Karnataka, Maharashtra".

34. Genus *Tetramorium* Mayr

1855. *Tetramorium* Mayr, *Verh. zool.-bot. Ges. Wien*, **5** : 423.

Type-species : *Formica caespitum* Linnaeus, 1758, from Europe.

Key to the Species/Subspecies of *Tetramorium*

1. Antennae 12-jointed ..... *guineense*
— Antennae 11-jointed ..... *pilosum yerburyi*

140. *Tetramorium guineense* (Fabricius)

1793. *Formica guineense* Fabricius, *Ent. Syst.*, **2** : 357, ☿.

1903. *Tetramorium guineense*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 184, ☿.

1922. *Tetramorium guineense*, Emery, *Genera Insect.*, **174** ☿ : 278.

1951. *Tetramorium guineense*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants sia), **1** : 175.

Material examined : SOUTH INDIA : Kerala : Trivandrum, several workers, vii.1968, coll. N. M. Antony.

Distribution : INDIA : Kerala, Karnataka, Maharashtra.

Remarks : Bingham (1903) also recorded this species and mentioned its distribution as "Western India, Bombay, Kanara".

**141. *Tetramorium pilosus yerburyi* Forel

1902. *Tetramorium (Xiphomyrmex) pilosum* Emery, race *yerburyi* Forel, *Rev. Suisse Zool.*, **10** : 238.

1903. *Tetramorium yerburyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 187, ☿.

1922. *Xiphomyrmex pilosus yerburyi*, Emery, Genera Insect., **174 C** : 288.

1978. *Tetramorium pilosus yerburyi*, Bolton, *Bull. Brit. Mus. Nat. Hist. (Ent.)*, **34** (5) 1976 : 359.

Material examined : SOUTH INDIA : Tamil Nadu : Periyakulam, 12 workers, 22.ii.1969, ex. from trunk of a coconut tree, coll. O. B. Chhotani and R. N. Tiwari; Suranganar Forest, Lower Camp, 10 workers, 23.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu. Elsewhere : Sri Lanka.

Remarks : This subspecies is recorded here for the first time from Indian territory.

142. *Tetramorium fergusoni* Forel

1902. *Tetramorium fergusoni* Forel, *Rev. Suisse Zool.*, **10** : 234.

1903. *Tetramorium fergusoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 182, ☿.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species so far only from Travancore.

143. *Tetramorium inglebyi* Forel

1902. *Tetramorium inglebyi* Forel, *Rev. Suisse Zool.*, **10** : 233, ☿.

1903. *Tetramorium inglebyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 183, ☿.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species could be available for this study. Bingham (1903) however, reported this species and mentioned its locality as "Travancore".

144. *Tetramorium coonoorense* Forel

1902. *Tetramorium coonoorense* Forel, *Rev. Suisse Zool.*, **10** : 237, ☿.

1903. *Tetramorium coonoorense*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 178, ☿, ♀.

Material examined : Nil.

Distribution : INDIA : Kerala and Tamil Nadu.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species so far only from the Nilgiri Hills.

145. *Tetramorium mixtum* Forel

1902. *Tetramorium mixtum* Forel, *Rev. Suisse Zool.*, **10** : 236.

1903. *Tetramorium mixtum*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 182, ☿.

1951. *Tetramorium mixtum*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 176.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Kerala.

Remarks : Material of this species could not be available for this study. Bingham (1903) however, mentioned its localities as "The Nilgiris, Coonoor, Ootacamund". Subsequently, Chapman and Capco (1951) also reported this species from the Nilgiri Hills and Coonoor.

146. *Tetramorium wroughtoni* (Forel)

1902. *Rhoptromyrmex wroughtoni* Forel, *Rev. Suisse Zool.*, **10** : 231.

1903. *Tetramorium wroughtoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 177, ☿, ♂.

1951. *Acidomyrmex wroughtoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 174.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India. Elsewhere : Upper Burma.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) mentioned its localities as "Western India, Kanara; Upper Burma, Bernardmyo, 6000 ft.".

147. *Tetramorium rothneyi* (Forel)

1902. *Rhoptromyrmex wroughtoni* race *rothneyi* Forel, *Rev. Suisse Zool.*, **10** : 232.

1903. *Tetramorium rothneyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 177, ☿.

1951. *Acidomyrmex rothneyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 173.

1994. *Acidomyrmex rothneyi*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 253.

Material examined : Nil.

Distribution : INDIA : Karnataka, West Bengal.

Remarks : No material of this species could be available for this study. However, Bingham (1903)

reported this species from Bangalore, Southern India.

148. *Tetramorium smithi* Mayr

1879. *Tetramorium smithi* Mayr, *Verh. zool.-bot. Ges. Wien,* **28** : 673, ☿.

1903. *Tetramorium smithi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 188, ☿.

1977. *Tetramorium smithi,* Bolton, *Bull. Br. Mus. Nat. Hist. (Ent.),* **36** (2) : 90, Syns.

1994. *Tetramorium smithi,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 268.

Material examined : Nil.

Distribution : INDIA : Southern and Western India, West Bengal.

Remarks : The material of this species could not be available for this study. Bingham (1903) however, mentioned its distribution as "Bengal, Western and Southern India".

149. *Tetramorium tortuosum* var. *belli* Forel

1902. *Tetramorium tortuosum* Roger, 1863, var. *belli* Forel, *Rev. Suisse Zool.,* **10** : 238.

1903. *Tetramorium tortuosum* var. *belli,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 188.

1951. *Xyphomyrmex tortuosus* var. *belli,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 180.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India.

Remarks : The material of this variety *belli* could not be available for this study. However, Bingham (1903) recorded *belli* Forel as a variety under *T. tortuosum* from Western India, Kanara.

150. *Tetramorium belgaense* Forel

1902. *Tetramorium (Xyphomyrmex) belgaense* Forel, *Rev. Suisse Zool.,* **10** : 238, ♀.

1903. *Tetramorium belgaense,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 189, ♀.

1951. *Xyphomyrmex belgaumensis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 179.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India.

Remarks : No material of this species could be available for this study. Bingham (1903) however, reported this species and mentioned its localities as "Western India, Belgaum". Subsequently, Chapman and Capco (1951) also recorded this species from Belgaum.

35. Genus *Cataulacus* Smith

1853. *Cataulacus* Smith, *Trans. Ent. Soc.,* (2) **2** : 225.

Type-species : *C. taprobanae* Smith, 1853, from Sri Lanka (formerly Ceylon).

151. *Cataulacus (Cataulacus) latus* Forel

1891. *Cataulacus latus* Forel, in Grandidier, *Hist. Phys. Nat. Pol. Madagascar,* **20** (2) : 144.

1903. *Cataulacus latus,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 121, ☿, ♀.

1951. *Cataulacus (Cataulacus) latus,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 85.

1994. *Cataulacus (Cataulacus) latus,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 254.

Material examined : Nil.

Distribution : INDIA : Kerala, Orissa, West Bengal. Elsewhere : Burma.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1943) in reports of ants of Southern India, based on Columbo Museum Expedition (Sept.-Oct., 1983), mentioned its locality as "Tenamalai, 500-800 ft., Travancore, Southern India".

36. Genus *Atta* Fabricius

1804. *Atta* (Pt.) Fabricius, *Syst. Piez.,* : 423.

Type-species : *Formica cephalotes* Linnaeus, 1861.

152. *Atta domicola* Jerdon

1851. *Atta domicola* Jerdon, *Madras J. Lit. Sci.*, **17** : 105, ☿.

1951. *Atta domicola,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 83.

Material examined : Nil.

Distribution : INDIA : Andhra Pradesh.

Remarks : No material of this species could not be available for this study. However, Jerdon (1851) first described this species from Nellore, South India in a hole of a house.

153. *Atta dissimilis* Jerdon

1851. *Atta dissimilis* Jerdon, *Madras J. Lit. Sci.*, **17** : 107.

1951. *Atta dissimilis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 83.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The material of this species could not be available for this study. However, Jerdon (1851) described this species under the genus *Atta* which was found in small numbers on trees in Malabar, South India.

VI. Subfamily FORMICINAE Lepeletier

The species belonging to this subfamily are probably mentally and socially the most highly developed of all the ants. Structurally they are distinguished by having a one-jointed pedicel with no constriction between the two basal abdominal segments; the poison-glands and stings are considerably modified, the former being converted into a cushion of convolutions, the latter forming merely an orifice for the ejaculation of the poison, which in certain genera (*Oceophylla,* for instance) can be done with considerable force; the orifice of the cloaca is in this subfamily always circular, and ciliated round the margin.

Certain genera of this subfamily such as *Formica* and *Myrmecocystus* are well known as slave-makers, but this habit seems confined to these genera in Europe, and does not so far as has been observed, obtain in the representatives or even in the same genera in India. Species of representative genus *Camponotus* of this subfamily, are pre-eminently known as farmers of Aphides, Homoptera, Lycaenid-larvae and such like ant-cattle.

37. Genus *Oecophylla* Smith

1861. *Oecophylla* Smith, *J. Proc. Linn. Soc. Lond. Zool.*, **5 : 101**, ☿, ♀.

Type-species : *Formica virescens* Fabricius, 1775, from Australia.

154. *Oecophylla smaragdina* (Fabricius)

1775. *Formica smaragdina* Fabricius, *Syst. Ent.*, **1775** : 828, ♀.

1851. *Formica smaragdina,* Jerdon, *Madras J. Lit. Sci.*, **17** : 121, ☿, ♀, ♂.

1903. *Oecophylla smaragdina,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 311, ☿ maj., ☿ min., ♀, ♂.

1925. *Oecophylla smaragdina,* Emery, *Genera Insect.* **183** : 51.

1941. *Oecophylla smaragdina,* Donisthorpe, *Ann. Mag. Nat. Hist.,* (11) **8** (45) : 457.

1994. *Oecophylla smaragdina,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** : 281.

Material examined : SOUTH INDIA : Tamil Nadu : more than 100 workers, Kurambapatty Reserve Forest, 11-13.ii.1969; Coimbatore, Botanical Garden, 15.ii.1969; Periyakulam, 22.ii.1969 and Kulasekrum Forest Range, 28.ii.1969, coll. O.B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka, Kerala (Malabar), West Bengal and mostly the whole of India, except desert and treeless areas. Elsewhere : Burma, Sri Lanka, S. China, Malaya, New Guinea, Australia.

Biological notes : This species was collected from nests on *Mangifera indica, Strychnose* sp., *Nuxvomica* sp., coconut and Ashoka trees. The nests are made in the leaves which are bound together by fine whitish membranous tissue paper

litu synthetic substance. Some eggs were also found in the nest at Salem.

This is the notorious and vicious 'Red-Ant' of India; it inhabits in trees and makes nest in leaves. Its habits have been very well described by Jerdon (1851), Aitken (1889), Rothney (1989), Wroughton (1893-94) and Green (1896, 1900). In Kanara and some other parts of the country, and through Burma and Siam, a paste made of this species of ant pounded is eaten as a condiment with curry.

The eggs of *O. smaragdina* have been found to contain high protein, fat and as such it is used as a medicine to combat the condition of A-Vitaminosis, particularly in case of Marasemus condition. It is widely used for above purpose in tribal people and the eggs are sold in weekly-market for the purpose.

Remarks : Jerdon (1851) also reported this species under the genus *Formica* from South India and noted "This ant is well known in Malabar, and the wooded parts of India, but is rare in the Carnatic, where I have only seen it in one or two large Mango groves" Subsequently, Bingham (1903) mentioned its distribution as "The whole of India, Burma and Ceylon within our limits, except the desert and treeless tracts. The range of this species extends through the Malayan subregion to Australia and New Guinea."

38. Genus *Myrmecocystus* Wesmael

1838. *Myrmecocystus* Wesmael, *Bull. Acad. Sc. Brux.*, **5** : 770.

Type-species : *Formica. melligera* Llave, 1832, from America.

155. *Myrmecocystus setipes* Forel

1894. *Myrmecocystus viaticus* race *setipes* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 401, ☿.

1903. *Myrmecocystus setipes*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 312, ☿.

1930. *Cataglyphis bicolor* subsp. *setipes*, Negi *et al.*, *J. Bombay Nat. Hist. Soc.*, **34** (1) : 186.

1951. *Myrmecocystus setipes*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 203.

1994. *Myrmecocystus setipes*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 278.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Punjab, Central India, West Bengal. Elsewhere : Persia.

Remarks : No material of this species could be available for this study. However, Negi *et al.* (1930) recorded *setipes* as a subspecies from Salem, Tamil Nadu.

39. *Genus Acantholepis* Mayr

1861. *Acantholepis* Mayr, *Europ. Formicid.*, : 42.

Type-species : *Hypoclinea frauenfeldi* Mayr, 1855, from Europe.

*156. *Acantholepis frauenfeldi* (Mayr)

1855. *Hypoclinea frauenfeldi* Mayr. *Verh. zool.-bot. Ges. Wien*, **5** : 378, ☿.

1903. *Acantholepis frauenfeldi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 316, ☿, ♀.

1925. *Acantholepis frauenfeldi*, Emery, *Genera Insect.*, **183** : 25.

1994. *Acantholepis frauenfeldi*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 282.

Material examined : SOUTH INDIA : Andhra Pradesh : Nagerjunkonda, 6 workers, 25.vii.1962, coll. T. N. Maligi.

Distribution : INDIA : Andhra Pradesh, West Bengal. Elsewhere : Southern Europe and Northern Africa.

Remarks : This is a variable species and is reported by a number of varieties and subspecies extending to North Africa and Southern Europe. Its habitat is within the limits spread irregularly in one form or another through Continental India, confined chiefly to the hills but procured by Mr. Rothney at Barrackpore, West Bengal (Bingham, 1903).

157. *Acantholepis opaca* Forel

1892. *Acantholepis opaca* Forel, *Ann. Soc. Ent. Belge.*, **36** : 42.

1903. *Acantholepis opaca,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 318, ☿.

1951. *Acantholepis opaca,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 210.

Material examined : Nil.

Distribution : INDIA : Karnataka, Goa.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from Kanara and Goa. Later on, Chapman and Capco (1951) also reported this species from 'Kanara"

158. *Acantholepis fergusoni* Forel

1895. *Acantholepis fergusoni* Forel, *J. Bombay Nat. Hist. Soc.*, **9** : 459, ☿.

1903. *Acantholepis fergusoni,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 319, ☿.

1951. *Acantholepis fergusoni,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 210.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) and Chapman and Capco (1951) reported this species from Travancore, South India.

40. Genus *Camponotus* Mayr

1861. *Camponotus* Mayr, *Europ. Formicid.*, : 35.

Type-species : *Formica ligniperdus* Latreille, 1798, from Europe.

Key to the Species of *Camponotus*

1. Thorax viewed from side forming a regular arch 2

— Regular arch of the thorax interrupted at the meso-metanotal suture by the metanotum forming an angle with mesonotum .... *sericeus*

2. Head, thorax and abdomen black 3

— Head, thorax and abdomen never all black or all yellow ..... *rufoglaucus*

3. Tibiae of the legs prismatic 4

— Tibiae of the legs compressed, but not prismatic ..... *dolendus*

4. ☿ maj. Length 11-16 mm.; ☿ min. with head posteriorly narrow but not constricted to form a collar ..... *compressus*

— ☿ maj. Length 17-21 mm.; ☿ min. with head posteriorly constricted so as to form a collar ..... *angusticollis*

159. *Camponotus angusticollis* (Jerdon)

1851. *Formica angusticollis* Jerdon, *Madras J. Lit. Sci.,* **17** : 120, ☿, ♃.

1858. *Formica ardens* Smith, *Cat. Hym. Brit. Mus.,* **6** : 17.

1858. *Frmica impetuosa* Smith, *Cat. Hym. Brit. Mus.,* **6** : 17.

1858. *Formica callida* Smith, *Cat. Hym. Brit. Mus.,* **6** : 18.

1862. *Camponotus prismaticus* Mayr. *Verh. zool.-bot. Ges. Wien,* **12** : 669, ☿.

1903. *Camponotus angusticollis,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** ; 366, ☿ maj., ☿ min., ♀.

1925. *Camponotus (Tanaemyrmex) angusticollis,* Emery, *Genera Insect.,* **183** : 89.

1951. *Camponotus (Dinomyrmex) angusticollis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 229.

1994. *Camponotus angusticollis,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part **8** ; 272.

Material examined : SOUTH INDIA : Tamil Nadu : 15 workers (maj. and min.), Coimbatore (Sugarcane Research Institute compound),

15.ii.1969; Tudiyalur, 16.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Western and Central India, Assam, West Bengal. Elsewhere : Nepal, Burma.

Remarks : Jerdon (1851) first described this species under the genus *Formica* in the forests in Malabar. Donisthorpe (1942) also reported this species under the genus *Camponotus* from South India. This ant has been collected here from trunks of *Acacia* sp. and an unknown tree and also on ground.

160. *Camponotus compressus* (Fabricius)

1787. *Formica compressa* Fabricius, *Mant. Insect.*, **1** : 307, ☿.

1892. *Camponotus maculatus* Fabricius, race *compressus*, Forel, *J. Bombay Nat. Hist.* Soc., **7** : 229 & 240.

1903. *Camponotus compressus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 351, ☿ maj., ☿ min., ♀, ♂.

1925. *Camponotus (Tanaemyrmex) compressus*, Emery, *Genera Insect.*, **183** : 98.

1951. *Camponotus (Tanaemyrmex) compressus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 244.

1994. *Camponotus compressus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 273.

Material examined : SOUTH INDIA : Tamil Nadu : Several workers (maj. and min.), Salem, 10.ii.1969; Yercaud, 13.ii.1969, coll. O.B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Assam, West Bengal. Elsewhere : Sri Lanka, Nepal, Burma, Philippines, Borneo, Russia, Arabia and Africa.

Biological notes : This is the common black ant in India. The nests are in soil and heaps of earth are brought out in the form of small files. In Southern India, it was collected from soil and from a tree the wood of which is used in making the match sticks. Their food is chiefly vegetable secretions, sugar etc. They bite rather severely, but the pain is quite momentary. This species is plentiful where it occurs. It is one of the ants noted for tending and keeping "ant-cattle"

Remarks : Jerdon (1851) and Donisthorpe (1943) also reported this species from South India under the genera *Formica* and *Camponotus* respectively. Negi *et al.* (1930) also recorded this species under the genus *Camponotus* from Tamil Nadu (Salem).

161. *Camponotus sericeus* (Fabricius)

1798. *Formica sericeus* Fabricius, *Ent. Syst. Suppl.* : 297.

1851. *Formica cinerascens* Fabr. ?, Jerdon, *Madras J. Lit. Sci.*, **17** : 123, ☿, ♀, ♂.

1858. *Formica obtusa* Smith, *Cat. Hym. Brit. Mus.*, **6** : 30.

1878. *Camponotus opaciventris* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 648, ☿.

1892. *Camponotus sericeus*, Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 223 & 231, ☿.

1903. *Camponotus sericeus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 376, ☿ maj., ☿ min., ♀.

1925. *Camponotus (Orthonotomyrmex) sericeus*, Emery, *Genera Insect.*, **183** : 125.

1951. *Camponotus (Orthonotomyrmex) sericeus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 242.

1994. *Camponotus sericeus*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 275.

Material examined : SOUTH INDIA : Tamil Nadu, 20 workers, Coimbatore, 15. ii. 1969, Mumdanthorai Tiger Sanctuary near Ambasamudrum, 17.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka, West Bengal and more or less common throughout the country. Elsewhere : Burma, Sri Lanka, Indochina, Arabia, Egypt and Tropical Africa.

Remarks : Jerdon (1851) reported *Formica cinerascens* Fabr. ? from Karnataka, South India which was later considered as a synonym of *C. sericeus* (Fabr.) by Bingham (1903). Subsequently,

Donisthorpe (1941 : 458) also reported this species *sericeus* under the genus *Camponotus (Orthonotomyrmex)* from Tamil Nadu, South India.

162. *Camponotus rufoglaucus* (Jerdon)

1851. *Formica rufoglaucus* Jerdon, *Madras J. Lit. Sci.*, **17** : 124.

1862. *Camponotus redtenbacheri* Mayr., *Verh. zool.-bot. Ges. Wien*, **12** : 667 & 770, ☿.

1903. *Camponotus rufoglaucus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 363, ☿ maj., ☿ min.

1925. *Camponotus (Myrmosericus) rufoglaucus*, Emery, *Genera Insect.*, **183** : 105.

1943. *Camponotus (Myrmosericus) rufoglaucus*, Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 204.

1951. *Camponotus (Myrmosericus) rufoglaucus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 238.

Material examined : SOUTH INDIA : Tamil Nadu : Yercaud, 7 workers, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Karnataka, Kerala, Delhi, Central India, Assam, Deccan Plateau. Elsewhere : Nepal, Burma, Sri Lanka.

Remarks : Jerdon (1851) first described this species under *Formica* and found this ant only in Karnataka in small societies living in hole in the ground. Later on, Bingham (1903) and Donisthorpe (1943) also reported this species under the genus *Camponotus* from Kerala, South India.

*163. *Camponotus dolendus* Forel

1892. *Camponotus rufoglaucus* race *dolendus* Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 227 & 238, ☿.

1903. *Camponotus dolendus*, Bingham *Fauna Brit. India, Hymenoptera*, **2** : 364, ☿ maj., ☿ min.

1925. *Camponotus (Myrmosericus) dolenda*, Emery, *Genera Insect.*, **183** : 106.

1951. *Camponotus (Myrmosericus) dolenda*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 238.

1994. *Camponotus rufoglaucus dolenda*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 274.

Material examined : SOUTH INDIA : Tamil Nadu : Yercaud, several workers, 12.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Sikkim, N. W. Himalayas (above 5000 ft.), West Bengal.

164. *Camponotus paria* Emery

1889. *Camponotus micans* Nyl., race *paria* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **27** : 513, ☿.

1892. *Camponotus rufoglaucus*, race *paria*, *J. Bombay Nat. Hist. Soc.*, **7** : 226 & 238, ☿.

1903. *Camponotus paria*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 364, ☿ maj., ☿ min., ♀.

1951. *Camponotus (Myrmosericus) rufoglaucus* subsp. *paria*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 238.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar), Assam and apparently throughout India. Elsewhere : Burma, Sri Lanka.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1942) reported this species and mentioned its locality as "Nadangayam, Malabar"

165. *Camponotus mendax* Forel

1895. *Camponotus sericeus* var. *mendax* Forel, *J. Bombay Nat. Hist. Soc.*, **9** : 454, ☿.

1903. *Camponotus mendax*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 370, ☿ maj., ♀.

1951. *Camponotus (Orthonotomyrmex) sericeus* var. *mendax*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 242.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No material of this species could be available for this study. However, Bingham (1903)

reported this species from Mysore, Southern India. But Chapman and Capco (1951) also recorded this species as a variety from the same locality of South India.

166. *Camponotus puniceps* Donisthorpe

1942. *Camponotus puniceps* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 458, ☿.

1951. *Camponotus (Orthonotomyrmex) puniceps,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 242.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1942c) mentioned its locality as "Dohnavur, 350 ft., Tinnelvelly Dist., South India"

167. *Camponotus barbatus* Roger

1863. *Camponotus barbatus* Roger, *Berl. ent. Zeit.*, **7** : 138, ☿, ♀.

1903. *Camponotus barbatus,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 362, ☿, ♀.

1951. *Camponotus (Tanaemyrmex) barbatus,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 243.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Sri Lanka, Philippines.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1943) mentioned its locality as "Tenamalai, 500-800 ft., Travancore, South India"

168. *Camponotus taylori* Forel

1892. *Camponotus maculatus* Fabr., race *taylori* Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 229 & 241, ☿.

1903. *Camponotus taylori,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 353, ☿ maj., ☿ min.

1942. *Camponotus barbatus* subsp. *taylori,* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 458.

1951. *Camponotus (Tanaemyrmex) barbatus* subsp. *taylori,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** ; 243.

Material examined : Nil.

Distribution : INDIA : Kerala, Tamil Nadu, Maharashtra, Orissa, Sikkim, the N. W. Himalayas and distributed mostly throughout India. Elsewhere : Sri Lanka, Burma and China.

Remarks : No material of this species could be available for this study. Bingham (1903), however, recorded this species from the Nilgiris of South India. But Donisthorpe (1942) reported *taylori* as a subspecies from Tenamalai, Travancore.

169. *Camponotus similis* Donisthorpe

1943. *Camponotus similis* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 198, ☿.

1951. *Camponotus (Tanaemyrmex) similis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 250.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Burma, Sri Lanka.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1943) described this species and mentioned its locality as "Tenamalai, Travancore"

170. *Camponotus variegatus* (Smith)

1858. *Formica variegatus* Smith, *Cat. Hym. Brit. Mus.*, **6** : 20, ☿, ♀.

1903. *Camponotus variegatus,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 359, ☿ maj., ☿ min., ♀.

1951. *Camponotus (Tanaemyrmex) variegatus,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 251.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu. Elsewhere : Sri Lanka, Upper Burma, Singapore, Indonesia (Java).

Remarks : The material of this species could not be available for this study. Donisthorpe (1942), however, mentioned its locality as "Dohnavur, Tirunelvelly Dist., South India"

171. *Camponotus variegatus somifica* Forel

1902. *Camponotus variegatus* subsp. *somifica* Forel, *Ann. Soc. Ent. Belg.*, **46** : 287, ☿.

1951. *Camponotus (Tanaemyrmex) variegatus* subsp. somifica, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 252.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Kerala, Elsewhere : Sri Lanka.

Remarks : No specimens of this subspecies could be available for this study. However, Chapman and Capco (1951) recorded this subspecies from The Nilgiris, South India.

172. *Camponotus mitis* (Smith)

1858. *Formica mitis* Smith, *Cat. Hym. Brit. Mus.*, **6** : 20, ☿.

1858. *Formica ventralis* Smith, *Cat. Hym. Brit. Mus.*, **6** : 20, ♀.

1858. *Formica bacchus* Smith, *Cat. Hym. Brit. Mus.*, **6** : 21, ☿.

1892. *Camponotus maculatus* Fabr., race *mitis*, Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 230 & 242, ☿.

1903. *Camponotus mitis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 355, ☿ maj., ☿ min., ♀.

1930. *Camponotus mitis*, Negi *et al.*, *J. Bombay Nat. Hist. Soc.*, **34** (1) : 186.

1951. *Camponotus (Tanaemyrmex) variegatus* var. *mitis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 252.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu. Elsewhere : Sri Lanka, China, Indonesia (Java, Sumatra, Timor, Celebes), New Guinea, Prince Island.

Remarks : The specimens of this species could not be available for this study. Negi *et al.* (1930), however, recorded this species from Salem, Tamil Nadu. It is a variable species.

173. *Camponotus thraso* Forel

1893. *Camponotus maculatus* Fabr., race *thraso* Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 432, ☿.

1903. *Camponotus thraso*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 356, ☿ maj., ☿ min.

1951. *Camponotus (Tanaemyrmex) thraso*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 251.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Sri Lanka, Burma.

Remarks : No material of this species could be available for this study. Donisthorpe (1943) first reported this species from India (Travancore, South India) which was later recorded in the Check List by Chapman and Capco (1951).

174. *Camponotus phragmaticola* Donisthorpe

1943. *Camponotus phragmaticola* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 205.

1951. *Camponotus (Colobopsis) phragmaticola*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 225.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this species could not be available for this study. Donisthorpe (1943) first described this species and mentioned its locality as "Tenamalai, 500-800 ft., Travancore, South India"

175. *Camponotus strictus* (Jerdon)

1851. *Formica stricta*, Jerdon, *Madras J. Lit. Sci.*, **17** : 123, ☿.

1903. *Colobopsis stricta*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 343, ☿ maj., ☿ min., ♀.

1951. *Camponotus (Colobopsis) strictus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 227.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar). Elsewhere : Burma, extending to Borneo.

Remarks : The specimens of this species could not be available for this study. However, Jerdon (1851) first described this species under the genus *Formica* from Malabar. he (*op. cit.*) also mentioned that he had found this ant on flowers. Later on, Bingham (1903) also mentioned its distribution as "Malabar; Burma; extending to Borneo"

176. *Camponotus confucii* Forel

1894. *Camponotus confucii* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 396, ☿.

1903. *Camponotus confucii,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 375, ☿ maj., ☿ min.

1951. *Camponotus (Myrmentoma) confucii,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 235.

Material examined : Nil.

Distribution : INDIA Karnataka and Western India. Elsewhere : Upper Burma.

Remarks : No material of this species could be available for this study. However, Bingham (1903) mentioned its distribution as "Western India, Kanara; Upper Burma" He (*op. cit.*) further noted that some specimens of the ☿ minor have the abdomen dark castaneous red.

177. *Camponotus varius* Donisthorpe

1943. *Camponotus varius* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 204, ☿.

1951. *Camponotus (Myrmentoma) varius,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 235.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The material of this species could not be available for this study. While describing this species from India, Donisthorpe (1943) mentioned its locality as "Muthikolam, 3000 ft., Coimbatore Dist."

178. *Camponotus nirvanae* Forel

1893. *Camponotus nirvanae* Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 433, ☿, ♀.

1903. *Camponotus nirvanae,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 377, ☿ maj., ☿ min., ♀.

1930. *Camponotus nirvanae,* Negi *et al., J. Bombay Nat. Hist. Soc.*, **34** (1) : 186.

1951. *Camponotus (Myrmamblys) nirvanae,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 233.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Karnataka, Western India.

Remarks : No specimens of this species could be available for this study. Bingham (1903) and Chapman and Capco (1951) mentioned its locality as "Kanara" But Negi *et al.* (1930) reported this species from Salem Dist., Tamil Nadu.

179. *Camponotus timidus* (Jerdon)

1851. *Formica timida* Jerdon, *Madras J. Lit. Sci.*, **17** : 122, ♃, ☿, ♀.

1951. *Camponotus (Myrmepomis) timidus,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 236.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar Coast).

Remarks : The material of this species could not be available for this study. While describing this species, Jerdon (1851) noted that it is very common ants in Malabar Coast, living chiefly on vegetable secretions and it has its nest under the ground.

180. *Camponotus velox* (Jerdon)

1851. *Formica velox* Jerdon, *Madras J. Lit. Sci.*, **17** : 124, ☿.

1951. *Camponotus (Myrmepomis) velox,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 236.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar), Karnataka.

Remarks : No material of this species could be available for this study. Jerdon (1851) first described this species which is mostly common in Malabar and also found in Karnataka. He (*op. cit.*) further noted "it frequents flowers, especially delighting in those that have great quantities of pollen, such as Cucurbitaceae, *Hibiscus* sp. etc. It runs very speedily, and is very easily alarmed, dropping to the ground on being touched"

181. ***Camponotus radiatus*** Forel

1892. *Camponotus radiatus* Forel, *J. Bombay Nat. Hist. Soc.*, **7** : 225 & 233, ☿.

1903. *Camponotus radiatus*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 371, ☿ min.

1951. *Camponotus radiatus*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 253.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species and mentioned its locality as "Western India, Kanara" Later on, it was further recorded in the Check List by Chapman and Capco (1951) from South India and mentioned the same locality as "Kanara"

41. Genus ***Polyrhachis*** Smith

1858. *Polyrhachis* (Part) Smith, *J. Proc. Linn. Soc. Lond. Zool.*, **2** : 58.

1862. *Polyrhachis*, Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 677.

Type-species : *Formica bihamata* Drury, 1773, from Malay Peninsula.

Key to the Species of *Polyrhachis*

1. Thorax more or less rounded above, the sides not margined along their whole length; pubescence sparse or dense.....2

— Thorax more or less flat above, the sides margined along their whole length; pubescence very dense.....*mayri*

2. Pubescence sparse, almost entirely wanting; node of pedicel without median spines ....*simplex*

— Pubescence dense, silky, recumbent and bronzy yellow or golden; 2 small teeth between spines on upper lateral angles of node of pedicel .....*dives*

182. ***Polyrhachis mayri*** Roger

1863. *Polyrhachis mayri* Roger, *Verz. Formicid. Berlin ent. Zeit.*, **7** : 7, ☿.

1862. *Polyrhachis relucens* Mayr (nec Latr.), *Verh. zool.-bot. Ges. Wien*, **12** : 685.

1903. *Polyrhachis mayri*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 404, ☿ ♀.

1925. *Polyrhachis (Myrma) mayri*, Emery, *Genera Insect.*, **183** : 201.

1951. *Polyrhachis (Myrma) mayri*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 272.

1994. *Polyrhachis mayri*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 276.

Material examined : SOUTH INDIA : Tamil Nadu : Madras, Top-Slip, 10 workers, 17.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Kerala, Karnataka, Assam, Sikkim, West Bengal. Elsewhere : Sri Lanka, Nepal, Burma, China, Philippines, Formosa (Taiwan), Gulf of Siam, Krakatau, Indonesia (Java, Sumatra, Borneo, Celebes).

Remarks : Donisthorpe (1943) treated *P. mayri* Roger, 1863 as a synonym of *P. (Myrma) illaudata* Walker, 1859, but Collingwood (1970) considered *mayri* as a valid species under *Polyrhachis*. As the author has no access to the types of these species, it is not possible to give any opinion by him. The

present specimens come to *mayri* when run through Bingham's (1903) key.

Prior to this, Bingham (1903) also reported this species and mentioned its distribution as "Bengal, Sikkim, Kanara, Travancore; Ceylon, Burma; extending down to the Malayan subregion" Later on, Donisthorpe (1943) and Chapman and Capco (1951) mentioned its habitat as 'S. India' along with other localities.

*183. ***Polyrhachis dives*** Smith

1857. *Polyrhachis dives* Smith, *J. Proc. Linn. Soc. London, Zool.*, **2** : 64, ☿.

1903. *Polyrhachis dives*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 396, ☿.

1925. *Polyrhachis (Myrmhopla) dives*, Emery, *Genera Insect.*, **183** : 195.

1951. *Polyrhachis (Myrmhopla) dives*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 289.

1988. *Polyrhachis dives*, Kohout, *Mem. Queensl. Mus.*, **25** (2) : 433.

Material examined : SOUTH INDIA : Tamil Nadu : Lower Camp, 6 workers, 22.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, Sikkim and Eastern Himalayas. Elsewhere : Sri Lanka, Burma, Thailand, Indo-China, China, Philippines, Malay, Molucca, Siam, Formosa, Krakatau, Mainan, Japan, Indonesia (Java, Sumatra, Celebes), New Guinea, Singapore.

*184. ***Polyrhachis simplex*** Mayr

1862. *Polyrhachis simplex* Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 682, ♀.

1879. *Polyrhachis spiniger* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 653, ☿, ♂.

1903. *Polyrhachis simplex*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 394, ☿, ♀, ♂.

1951. *Polyrhachis (Myrmhopla) simplex*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 297.

1994. *Polyrhachis simplex*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 277.

Material examined : SOUTH INDIA : Tamil Nadu : Madras, Top-Slip, 5 females, 17.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal and also throughout the country. Elsewhere : Burma, Sri Lanka.

Remarks : This species is nearly the most common species of this genus and widely distributed throughout the country (Bingham, 1903).

185. ***Polyrhachis clypeata*** Mayr

1862. *Polyrhachis clypeata* Mayr, *Verh. zool.-bot. Ges. Wien*, **12** : 683, ♀.

1903. *Polyrhachis clypeata*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 411, ☿, ♀.

1951. *Polyrhachis (Campomyrma) clypeata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 257.

1994. *Polyrhachis clypeata*, Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 276.

Material examined : Nil.

Distribution : INDIA : Kerala, Western India, West Bengal. Elsewhere : Sri Lanka.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) reported this species from Travancore of South India.

186. ***Polyrhachis clypeata*** var. ***obtusisquama*** Forel

1902. *Polyrhachis clypeata* var. *obtusisquama* Forel, *Ann. Soc. Ent. Belg.*, **46** : 289, ☿.

1951. *Polyrhachis (Campomyrma) clypeata* var. *obtusisquama*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 257.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No specimens of this variety could be available for this study. Chapman and Capco (1951) mentioned its locality as 'India : Konkan'

187. *Polyrhachis exercita* Walker

1859. *Polyrhachis exercita* Walker, *Ann. Mag. Nat. Hist.*, (3) **4** : 370, ☿.

1942. *Polyrhachis exercita*, Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 461.

1951. *Polyrhachis (Campomyrma) exercita*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 258.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu.

Remarks : The material of this species could not be available for this study. However, Donisthorpe (1942c) reported this species from Dohnavur, South India.

188. *Polyrhachis rastellata* Latreille

1802. *Polyrhachis rastellata* Latreille, *Hist. Nat. Fourmis*, **1802** : 130, ♀.

1861. *Polyrhachis busiris* Smith, *J. Proc. Linn. Soc.*, **5** : 98, ☿.

1863. *Polyrhachis euryalus* Smith, *J. Proc. Linn. Soc.*, **7** : 16, ☿.

1903. *Polyrhachis rastellata*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 414, ☿, ♀.

1951. *Polyrhachis (Cyrtomyrma) rastellata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 265.

Material examined : Nil.

Distribution : INDIA : Karnataka. Elsewhere : Sri Lanka, Burma, Thailand, Philippines, Indonesia (Java, Sumatra, Borneo), Lang Is., New Guinea, Australia (Queensland).

Remarks : The specimens of this species could not be available for this study. Bingham (1903) recorded this species and mentioned its distribution from South India as "South Konkan, Kanara" along with other localities.

189. *Polyrhachis rastellata* var. *corporaali* Santschi

1928. *Polyrhachis rastellata var. corporaali* Santschi, *Tijdschr. v. Ent.*, **71** : 134, fig. 2a, ☿, ♀.

1928. *Polyrhachis rastellata* var. *pagans* Santschi, *Tijdschr. v. Ent.*, **71** : 134, fig. 2c, ☿.

1951. *Polyrhachis (Cyrtomyrma) rastellata* var. *corporaali*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 265.

Material examined : Nil.

Distribution : INDIA : Karnataka, Elsewhere : Sumatra.

Remarks : No material of this variety could be available for this study. The variety *pagans* Santschi, 1928 of *P. rastellata* was synonymised with the variety *corporaali* Santschi, 1928 of the same species by Chapman and Capco (1951 : 265) and at the same time they mentioned the habitat of the variety *pagans* as 'Kanara'

190. *Polyrhachis duodentata* Donisthorpe

1942. *Polyrhachis duodentata* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 461.

1951. *Polyrhachis (Myrma) duodentata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 271.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The material of this species could not be available for this study. Donisthorpe (1942c) described this species and mentioned its locality as "Nadungayam, 200 ft., Malabar, South India", which was later recorded with the same locality in the Check list by Chapman and Capco (1951).

191. *Polyrhachis illaudata* Walker

1859. *Polyrhachis illaudata* Walker, *Ann. Mag. Nat. Hist.*, (3) **4** : 373, ☿.

1951. *Polyrhachis (Myrma) illaudata*, Chapmana and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 271.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, West Bengal. Elsewhere : Sri Lanka, Indo-China, Sunda Is., Waegeu,

Remarks : No specimens of this species could be available for this study. However, Donisthorpe (1943) mentioned its locality as "Nadghani Ghaut, Gudulur Dist., South India" Chapman and Capco (1951) also mentioned its distribution as "S. India, Bengal" and other localities.

192. ***Polyrhachis latispinosa*** Donisthorpe

1942. *Polyrhachis latispinosa* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 460.

1951. *Polyrhachis (Myrma) latispinosa*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 272.

Material examined : Nil.

Distribution : INDIA ; Kerala.

Remarks : The specimens of this species could not be available for this study. Donisthorpe (1942c) described this species and mentioned its locality as "Tenamalai, 500-800 ft., Travancore, South India"

193. ***Polyrhachis punctillata*** Roger

1863. *Polyrhachis punctillata* Roger, *Berl. ent. Zeit.*, **7** : 152, ☿, ♀.

1894. *Polyrhachis punctillata* Roger, var. *smythiesi* Forel, *J. Bombay Nat. Hist. Soc.*, **9** : 456.

1894. *Polyrhachis subpilosa* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **34** : 480, ☿.

1903. *Polyrhachis punctillata*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 409, ☿, ♀.

1951. *Polyrhachis (Myrma) punctillata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 275.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, Karnataka and North-West Provinces. Elsewhere : Sri Lanka, Burma, Java.

Remarks : No material of this species could be available for this study. Donisthorpe (1943) mentioned its locality as "Muthikalam, 300 ft., Coimbatore Dist." Prior to this, Bingham (1903) also recorded this species from Kanara of South India along with other localities.

194. ***Polyrhachis punctillata fergusoni*** forel

1902. *Polyrhachis punctillata* race *fergusoni* Forel, *Ann. Soc. Ent. Belg.*, **46** : 289, ☿.

1951. *Polyrhachis (Myrma) punctillata* subsp. *fergusoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 275.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : The material of this subspecies could not be available for this study. Bingham (1903 : 410) considered *P. punctillata* race *fergusoni* Forel, 1902 as a synonym of *P. punctillata* Roger, 1863. But later on, Chapman and Capco (1951) treated *fergusoni* as separate subspecies under the same species and mentioned its habitat as "India : Travancore"

195. ***Polyrhachis dives belli*** Forel

1912. *Polyrhachis dives* subsp. *belli* Forel, *Zool. Jahrb. Suppl.*, (15) **1** : 74, ☿.

1951. *Polyrhachis (Myrmhopla)* subsp. *belli*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 289.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No specimens of this subspecies could be available for this study. While recording this subspecies in the Check list, Chapman and Capco (1951) mentioned its locality as "India : Kanara"

196. ***Polyrhachis binghami*** Forel

1893. *Polyrhachis binghami* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 25 & 33, ☿.

1903. *Polyrhachis binghami*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 399, ☿.

1951. *Polyrhachis (Myrmhopla) binghami*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 287.

Material examined : Nil.

Distribution : INDIA : Kerala. Elsewhere : Burma.

Remarks : No material of this species could be available for this study. However, Donisthorpe

(1942) reported this species from South India and mentioned its locality as "Tenamalai, 500-800 ft., Travancore" which was further noted in the Check list by Chapman and Capco (1951).

197. *Polyrhachis furcata gracilior* Forel

1893. *Polyrhachis furcata* Smith, 1858, race *gracilior* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 25 & 33, ☿.

1903. *Polyrhachis gracilior*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 388, ☿.

1951. *Polyrhachis (Myrmhopla) furcata* subsp. *gracilior*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 290.

Material examined : Nil.

Distribution : INDIA : Kerala, Assam.

Remarks : The material of this subspecies could not be available for this study. Bingham (1903) recorded *gracilior* as a species from Travancore, South India, but Chapman and Capco (1951) treated it as a subspecies from the same locality.

198. *Polyrhachis indificans* (Jerdon)

1851. *Formica indificans* Jerdon, *Madras J. Lit. Sci.*, **17** : 125, ☿, ♀.

1951. *Polyrhachis (Myrmhopla) indificans*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 293.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : The specimens of this species could not be available for this study. While describing this species under the genus *Formica* from Malabar, South India, Jerdon (1851) noted "This ant makes a small nest about $^1/_2$ inch or more in diameter, of some papyraceous material, which it fixes on a leaf. Each of the nests contains one female and 8 or 10 workers. It is very rare species"

199. *Polyrhachis sylvicola* (Jerdon)

1851. *Formica sylvicola* Jerdon, *Madras J. Lit. Sci.*, **17** : 126, ☿, ♀.

1951. *Polyrhachis (Myrmhopla) sylvicola*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 298.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar).

Remarks : No material of this species could be available for this study. Jerdon (1851) described this species under the genus *Formica* from Malabar, South India and noted that this ant has the same habits as the last species *indificans*, but is not found except in the jungles.

200. *Polyrhachis tibialis* Smith

1858. *Polyrhachis tibialis* Smith, *Cat. Hym. Brit. Mus.*, **6** : 63, ☿.

1903. *Polyrhachis tibialis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 396, ☿, ♀.

1951. *Polyrhachis (Myrmhopla) tibialis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 298.

1994. *Polyrhachis tibialis*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 277.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala (Malabar), West Bengal. Elsewhere : Burma, Indonesia (Borneo, Celebes).

Remarks : The material of this species could not be available for this study. Bingham (1903) mentioned its distribution as "India : Kanara, Bengal; Ceylon, Burma and extending to the Malayan subregion" Subsequently, Donisthorpe (1942) also reported this species from Tenamalai (500-800 ft.), Travancore and Nadungayam (200 ft.), Malabar of South India.

201. *Polyrhachis tibialis* var. *parsis* Emery

1901. *Polyrhachis tibialis* var. *parsis* Emery, *Ann. Mus. Civ. Stor. Nat. Genova*, **40** : 717, ☿.

1951. *Polyrhachis (Myrmhopla) tibialis* var. *parsis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 299.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar). Elsewhere : Celebes, Singapore.

Remarks : The specimens of this variety could not be available for this study. However, Donisthorpe (1942) reported this variety and mentioned its locality as "Nadungayam, 200 ft., Malabar, South India"

202. *Polyrhachis weberi* Donisthorpe

1943. *Polyrhachis weberi* Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **10** : 206, ☿.

1951. *Polyrhachis (Myrmhopla) weberi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 300.

Material examined : Nil.

Distribution : INDIA : Kerala.

Remarks : No material of this species could be available for this study. Donisthorpe (1943) described this species from Travancore, South India, which was again recorded in the Check list from the same locality by Chapman and Capco (1951).

203. *Polyrhachis wroughtoni* Forel

1894. *Polyrhachis wroughtoni* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 398, ☿.

1903. *Polyrhachis wroughtoni*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 401, ☿, ♀, ♂.

1951. *Polyrhachis (Myrmhopla) wroughtoni*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 300.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Remarks : No specimens of this species could be available for this study. This species previously reported from 'Kanara' South India by Bingham (1903) and Chapman and Capco (1951).

204. *Polyrhachis thrinax* Roger

1863. *Polyrhachis thrinax* Roger, *Berl. ent. Zeitschr.*, **7** : 152, ☿.

1903. *Polyrhachis thrinax*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 410, ☿, ♀, ♂.

1951. *Polyrhachis (Myrmothrinax) thrinax*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 302.

1959. *Polyrhachis (Myrmothrinax) thrinax* var. *mucronis* Donisthorpe, 1942, Brown, *Ent. News, Lancaster*, **70** : 104.

1994. *Polyrhachis thrinax*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 277.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala (Malabar), West Bengal. Elsewhere : Sri Lanka, Burma, Java.

Remarks : The material of this species could not be available for this study. Bingham (1903) recorded the species *P. thrinax* Roger, 1863 and mentioned its distribution as "India : Bengal, Kanara, Travancore; Ceylon, Burma, Java", which was again reported by Donisthorpe (1942) from Nadungayam (200 ft.), Malabar, South India. Donisthorpe, in the same year, also described another new variety *mucronis* under the same species from Malabar, which was later considered as a new synonym of *P. (Myrmothrinax) thrinax* Roger, 1863 by Brown (1959).

205. *Polyrhachis indica* Mayr

1870. *Polyrhachis indica* Mayr, *Verh. zool.-bot. Ges. Wien*, **20** : 945, ☿.

1951. *Polyrhachis indica*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 305.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu (Pondicherry).

Remarks : The specimens of this species could not be available for this study. Bingham (1903 : 411) treated this species *P. indica* Mayr, 1870 as a synonym of *P. clypeata* Mayr, 1862, but later on, Chapman and Capco (1951) gave *P. indica* as a separate species status in their Check list and mentioned its locality as "Pondicherry, South India"

42. Genus *Hemioptica* Roger

1862. *Hemioptica* Roger, *Berl. ent. Zeitschr.*, **6** : 238, ☿.

Type-species : *H. scissa* Roger, 1862, from Sri Lanka (formerly Ceylon).

206. *Hemioptica scissa* Roger

1862. *Hemioptica scissa* Roger, *Berl. ent. Zeitschr.*, **6** : 240, ☿, ♀.

1893. *Polyrhachis scissa*, Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 17 & 27, ☿, ♂.

1903. *Hemioptica scissa*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 380, ☿, ♀.

1942. *Hemioptica scissa*, Donisthorpe, *Ann. Mag. Nat. Hist.*, (11) **9** : 461.

1951. *Hemioptica scissa*, Chapman and Capco, *Monogr. Inst, Sci. Tech., Manila* (Check List Ants Asia), 1 : 256.

Material examined : Nil.

Distribution : INDIA : Kerala, Tamil Nadu.

Remarks : No material of the species could be available for this study. However, Donisthorpe (1942) mentioned its localities as "Tenamalai, Travancore (Kerala) and Dohnavur, Tinnelvelly Dist. (Tamil Nadu)"

207. ***Hemioptica aculeata*** (Mayr)

1878. *Polyrhachis aculeata* Mayr, *Verh. zool.-bot. Ges. Wien*, **28** : 657, ☿.

1903. *Hemioptica aculeata*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 382, ☿, ♀, ♂.

1951. *Hemioptica aculeata*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 255.

Material examined : Nil.

Distribution : INDIA : Karnataka, Kerala. Elsewhere : Burma, Sri Lanka, Java, Malacca.

Remarks : The material of this species could not be available for this study. While reporting this species under the genus *Hemioptica*, Bingham (1903) mentioned its distribution as "Kanara, Travancore" of South India along with other localities.

43. Genus ***Paratrechina*** Motschoulsky

1863. *Paratrechina* Motschoulsky, *Bull. Soc. Nat. Moscou.*, **36** : 13.

Type-species : *Paratrechina currens* Motschoulsky, 1863.

Key to the Species of *Paratrechina*

1. The scape of antennae hardly extending upto the top of the head ..... *bourbonica*

— The scape of antennae clearly extending beyond the top of the head ..... *longicornis*

*208. ***Paratrechina bourbonica*** (Forel)

1886. *Prenolepis nodifera bourbonica* Forel, *Ann. Soc. Ent. Belg.*, **30** : 210, ☿, ♀, ♂.

1894. *Prenolepis bourbonica* Forel, race *bengalensis* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 406.

1903. *Prenolepis bengalensis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 328, ☿.

1925. *Paratrechina (Nylanderia) bourbonica bengalensis*, Emery, *Genera Insect.*, **183** : 219.

1951. *Nylanderia bourbonica*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 214.

1951. *Nylanderia bourbonica* subsp. *bengalensis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 215.

1967. *Paratrechina (Nylanderia) bourbonica*, Wilson and Taylor, *Pacific Insects Monogr.*, **14** : 88.

1987. *Paratrechina bourbonica*, Taylor, *CSIRO Aust. Div. Entomol.*, Rep. No. **41** : 52.

1994. *Paratrechina bourbonica*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 280.

Material examined : SOUTH INDIA : Tamil Nadu : Several workers, Salem, 12.ii.1969, Coimbatore, 15.ii.1969, Top-Slip, 18.ii.1969, coll. O. B. Chhotani and R. N. Tiwari.

Distribution : INDIA : Tamil Nadu, West Bengal. Elsewhere ; Burma, Seychelles, Pemba Is., Oceania.

Biological notes : This species of ant has been collected from the trees, *Mangifera indica* and *Peltophorum pterocarpum* and from a dead stump of an unknown plant.

Remarks : Taylor (1987) also treated *Paratrechina* as a genus and made a list of some species along with some synonyms under the genus *Paratrechina.*

*209. ***Paratrechina longicornis*** (Latreille)

1802. *Formica longicornis* Latreille, *Hist. Nat. Fourm.*, : 113, ☿.

1903. *Prenolepis longicornis*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 326, ☿, ♀, ♂.

1925. *Paratrechina (Paratrechina) longicornis*, Emery, *Genera Insect.*, **183** : 217.

1951. *Paratrechina (Paratrechina) longicornis*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 218.

1987. *Paratrechina longicornis*, Taylor, *CSIRO Aust. Div. Entomol.*, Rep. No. **41** : 52.

1994. *Paratrechina longicornis*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 280.

Material examined : SOUTH INDIA : Tamil Nadu : 13 workers, Salem, 11.ii.1969, Sanyasimalai Res. Forest, Yercaud, 13.ii.1969, coll. O. B. Chhotani and R. N. Tiwari,

Distribution : INDIA : Tamil Nadu, West Bengal and mostly throughout the country.

210. *Paratrechina assimilis* (Jerdon)

1851. *Formica assimilis* Jerdon, *Madras J. Lit. Sci.*, **17** : 125, ☿.

1951. *Nylanderia assimilis,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 214.

Material examined : Nil.

Distribution : INDIA : Kerala (Malabar)

Remarks : No specimens of this species could be available for this study. While describing this species under the genus *Formica*, Jerdon (1851) noted that he found it frequenting flowers in Malabar, but not abundant. Chapman and Capco also mentioned its locality as "S. Hindustan"

211. *Paratrechina yerburyi* (Forel)

1894. *Prenolepis yerburyi* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 408, ☿, ♀, ♂.

1903. *Prenolepis yerburyi,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 329, ☿, ♀, ♂.

1951. *Nylanderia yerburyi,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), 1 : 218.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Kerala (The Nilgiris). Elsewhere : Sri Lanka.

Remarks : The material of this species could not be available for this study. Bingham (1903) mentioned its distribution as "Ceylon; Southern India, the Nilgiris"

44. Genus *Plagiolepis* Mayr

1861. *Plagiolepis* Mayr, *Europ. Formicid.* : 42, ☿, ♀, ♂.

Type-species : *Formica pygmeae* Latreille, 1798, from Europe.

212. *Plagiolepis jerdoni* Forel

1894. *Plagiolepis jerdoni* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 416, ☿.

1903. *Plagiolepis jerdoni,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 324, ☿.

1951. *Plagiolepis jerdoni,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 214.

Material examined : Nil.

Distribution : INDIA : Kerala, Maharashtra.

Remarks : The specimens of this species could not be available for this study. However, Bingham (1903) and Chapman and Capco (1951) also recorded this species under the genus *Plagiolepis* from Travancore, Southern India and Poona, Western India.

213. *Plagiolepis rogeri* Forel

1894. *Plagiolepis rogeri* Forel, *J. Bombay Nat. Hist. Soc.*, **8** : 417, ☿.

1903. *Plagiolepis rogeri,* Bingham, *Fauna Brit. India, Hemenoptera,* **2** : 324, ☿.

1951. *Plagiolepis rogeri,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 214.

Material examined : Nil.

Distribution : INDIA : Karnataka, Western India. Elsewhere : Burma.

Remarks : No material of this species could be available for this study. Bingham (1903) mentioned its distribution as "Western India, Kanara; Tenasserim, Mergui"

214. *Plagiolepis wroughtoni* Forel

1902. *Plagiolepis rothneyi* Forel, 1894, race *wroughtoni* Forel, *Ann. Soc. Ent. Belg.*, **46** : 292, ☿.

1903. *Plagiolepis wroughtoni,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 321, ☿.

1951. *Anacantholepis rothneyi* subsp. *wroughtoni,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 213.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu and Kerala (The Nilgiris).

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species so far only from 'The Nilgiris'

45. Genus *Anoplolepis* Santschi

1914. *Plagiolepis,* Subg. *Anoplolepis* Santschi, *Voy. Alluand and Jeannel, Afr. or. Hym.* : 123.

1925. *Anoplolepis,* Emery, *Genera Insect.,* **183** : 16.

Type-species : *Formica longipes* Jerdon, 1851, from India.

215. *Anoplolepis longipes* (Jerdon)

1851. *Formica longipes* Jerdon, *Madras J. Lit. Sci.,* **17** : 122, ☿.

1903. *Plagiolepis longipes,* Bingham, *Fauna Brit. India, Hymenoptera,* **2** : 320, ☿.

1951. *Anoplolepis longipes,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 213.

1987. *Anoplolepis longipes,* Taylor, *CSIRO Aust. Div. Entomol.,* Rep. No. **41** : 56.

1994. *Anoplolepis longipes,* Tiwari *et al., State Fauna Series* 3 : *Fauna of West Bengal,* Part 8 : 283.

Material examined : Nil.

Distribution : INDIA : Kerala, West Bengal and mostly throughout the country except in the hot dry portions of the North-Western Provinces, the Punjab and parts of Central India.

Remarks : The specimens of this species could not be available for this study. Jerdon (1851), while describing this species under the genus *Formica,* mentioned its habitat as "Tellicherry" of South India. He (*op. cit.*) further noted "this ant is found in all the forests of India living in holes in the ground, in tolerable numerous societies, and feeding on vegetable secretions"

46. Genus *Formica* Linnaeus

1758. *Formica* Linnaeus, *Syst. Nat.* ed. 10, **1** : 579.

Type-species : *F. rufa* Linnaeus, 1758, from Europe.

216. *Formica phyllophila* Jerdon

1851. *Formica phyllophila* Jerdon, *Madras J. Lit. Sci.,* **17** : 125, ☿.

1951. *Formica phyllophila,* Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 200.

Material examined : Nil.

Distribution : INDIA : South India.

Biological notes : The little species forms a temporary nest between two leaves usually, or sometimes in a head of flowers; it lives in small societies, and feeds entirely on vegetable secretions (Jerdon, 1851).

Remarks : No material of this species could be available for this study. Jerdon (1851) described this species from South India, but no specific locality mentioned. Later on, Chapman and Capco (1951) also mentioned its locality as "South India".

217. *Formica vagans* Jerdon

1851. *Formica vagans* Jerdon, *Madras J. Lit. Sci.,* **17** : 124, ☿, ♀.

Material examined : Nil.

Distribution : INDIA : Karnataka.

Biological notes : It takes up its quarters in any sheltered spot in a house, under a box, a stone, a hole in the wall, or such like places, and when disturbed flits with great speed to another suitable spot. It's society is very numerous in individuals and there are many females and males, sometimes with wings, at other times without wings. It feeds both on vegetable and animal substances (Jerdon, 1851).

Remarks : The material of this species could not be available for this study. While describing this species under the genus *Formica* from South India, Jerdon (1851) mentioned that this little ant was exceedingly common in the Karnataka.

VII. Subfamily DOLICHODERINAE Forel

The species belonging to this subfamily can be distinguished at a glance from the subfamily Ponerinae on the one hand by there being no constriction between the 1st and 2nd segment of the abdomen, and on the other hand from the subfamily Formicinae by the anal aperture being transverse, and not circular nor ciliated. The head is short and broad; the thorax robust, the metanotum often compressed and raised (*Dolichoderus*) or spinous (*Aneuretus*); pedicel 1-jointed, the node placed closer to the abdomen than to the thorax, sometimes inclined anteriorly, and often impinging on the front of the abdomen, which has a hollow anteriorly for its reception; abdomen generally

gibbous in front (except in *Liometopum*), broadly oval (*Dolichoderus, Iridomyrmex*); sting not modified, but only in one genus (*Aneuretus*) exerted; legs slender (*Aneuretus*), long and robust (*Iridomyrmex, Tapinoma*), but short and stout (*Bothriomyrmex, Technomyrmex*).

47. Genus *Tapinoma* Förster

1850. *Tapinoma* Förster, *Hym. Stud.*, **1** : 43, ☿, ♀.

Type-species : *Formica erraticum* Latreille, 1798, from Europe.

218. *Tapinoma melanocephalum* (Fabricius)

1793. *Formica melanocephala* Fabricius, *Ent. Syst.*, **2** : 353, ☿.

1851. *Formica nana* Jerdon, *Madras J. Lit. Sci.*, **17** : 125, ☿.

1858. *Myrmica pellucida* Smith, *Cat. Hym. Brit. Mus.*, **6** : 124, ☿.

1903. *Tapinoma melanocephalum*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 304, ☿.

1930. *Tapinoma melanocephalum*, Negi *et al.*, *J. Bombay Nat. Hist. Soc.*, **34** (1) : 186.

1951. *Tapinoma (Micromyrma) melanocephalum*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 192.

1987. *Tapinoma melanocephalum*, Taylor, *CSIRO Aust. Div. Entomol.*, Rep. No. **41** : 77.

Material examined : Nil.

Distribution : INDIA : Karnataka, Tamil Nadu and mostly throughout the country. Elsewhere : Oceania, South America (Cayenne) and spread through the tropics of both hemispheres.

Remarks : No specimens of this species could be available for this study. Jerdon (1851) described the species *Formica nana* from Mysore, South India, which was later considered as a synonym of *T. melanocephalum* (Fabr., 1793) by Bingham (1903). Subsequently, Negi *et al.* (1930) also recorded this species from Salem Dist., Tamil Nadu, South India.

48. Genus *Bothriomyrmex* Emery

1865. *Bothriomyrmex* Emery, *Ann. Mus. Zool. Univ. Nap.*, **5** : 117.

Type-species : *Tapinoma meridionalis* Roger, 1863, from Italy and Spain.

219. *Bothriomyrmex dalyi* Forel

1895. *Bothriomyrmex wroughtoni* Forel, 1895, race *dalyi* Forel, *J. Bombay Nat. Hist. Soc.*, **9** : 471, ☿.

1903. *Bothriomyrmex dalyi*, Bingham, *Fauna Brit. India, Hymenoptera*, **2** : 307, C.

1951. *Bothriomyrmex wroughtoni* subsp. *dalyi*, Chapman and Capco, *Monogr. Inst. Sci. Tech., Manila* (Check List Ants Asia), **1** : 188.

1994. *Bothriomyrmex wroughtoni dalyi*, Tiwari *et al.*, *State Fauna Series* 3 : *Fauna of West Bengal*, Part **8** : 249.

Material examined : Nil.

Distribution : INDIA : Tamil Nadu, West Bengal, Western India and mostly spread throughout India.

Remarks : The material of this species could not be available for this study. However, Bingham (1903) recorded this species from 'Coonoor' of South India.

DISTRIBUTIONAL ANALYSIS OF THE SPECIES RECORDED

Altogether 219 species of ants have been reported from Southern India till date. Of these, 98 species (about 44.75%) are found to be *Endemic in nature*. Of the rest 121 species (55.25%), about 26 species (21.49%) are found to be cosmopoliton and hence are widely distributed throughout India. Three other major zones of India, i.e., Eastern India, Western India and Northern India, share about 20 species (16.53%), 35 species (28.93%) and 2 species (1.65%) respectively of the non-endemic species. Central India, however, does not share any of the non-endemic species except the cosmopoliton species. 38 of the non-endemic species, comprising about 31.40% are found to be sharing more than one major zones of India—along with Southern India.

The strong endemism (44.75%) indicates certain factors or barriers, which kept these species confined to Southern India only. In order to establish the nature of the endemism, zoogeographical and ecological study of the Endemic species is suggested. Above analysis is based on illustrative data in Distributional Table No. 1 and Figs. 10 A-B.

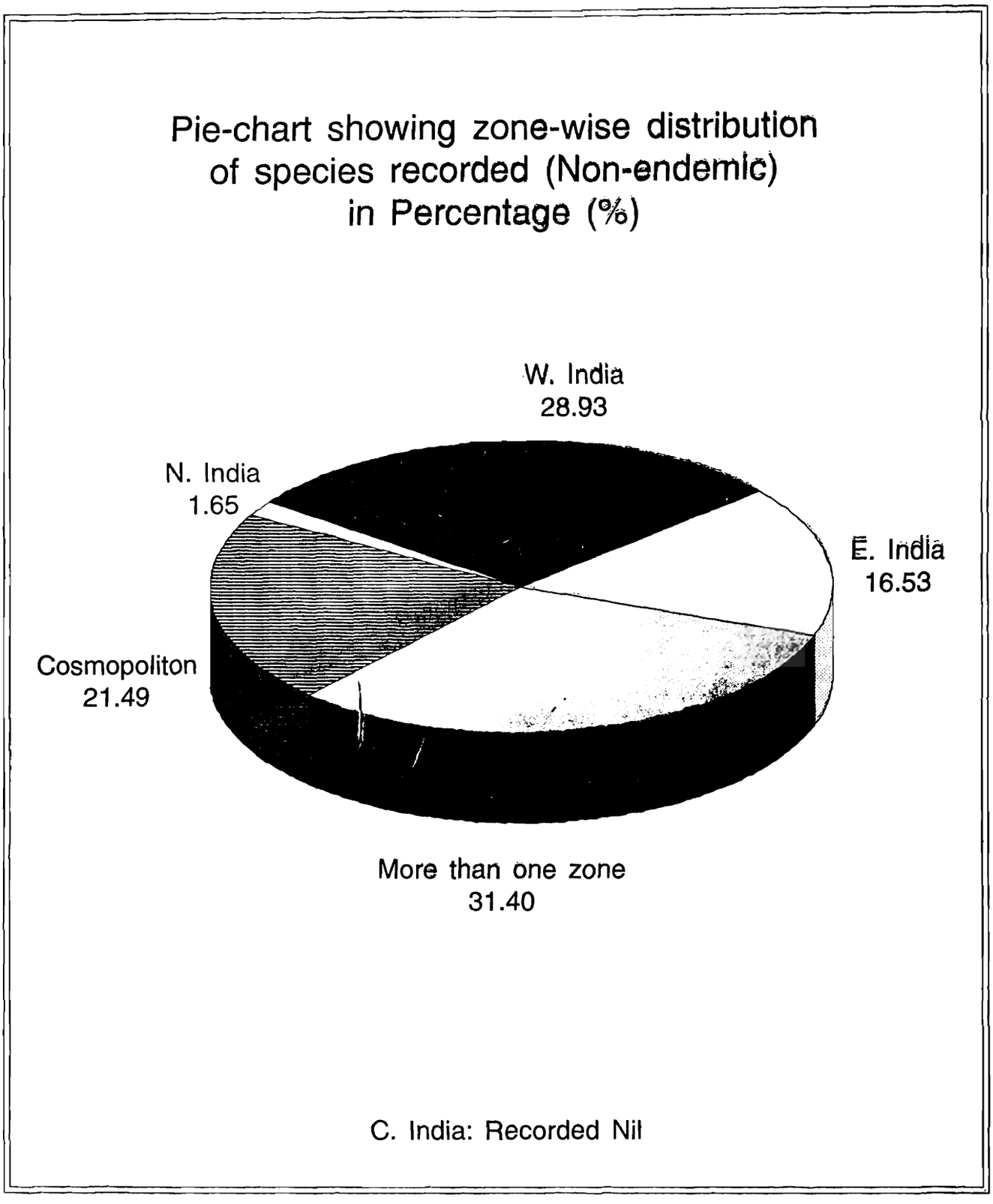
Pie-chart showing zone-wise distribution of species recorded (Non-endemic) in Percentage (%)
W. India
28.93
N. India
1.65
E. India
16.53
Cosmopoliton
21.49
More than one zone
31.40
C. India: Recorded Nil

Figure 10 A

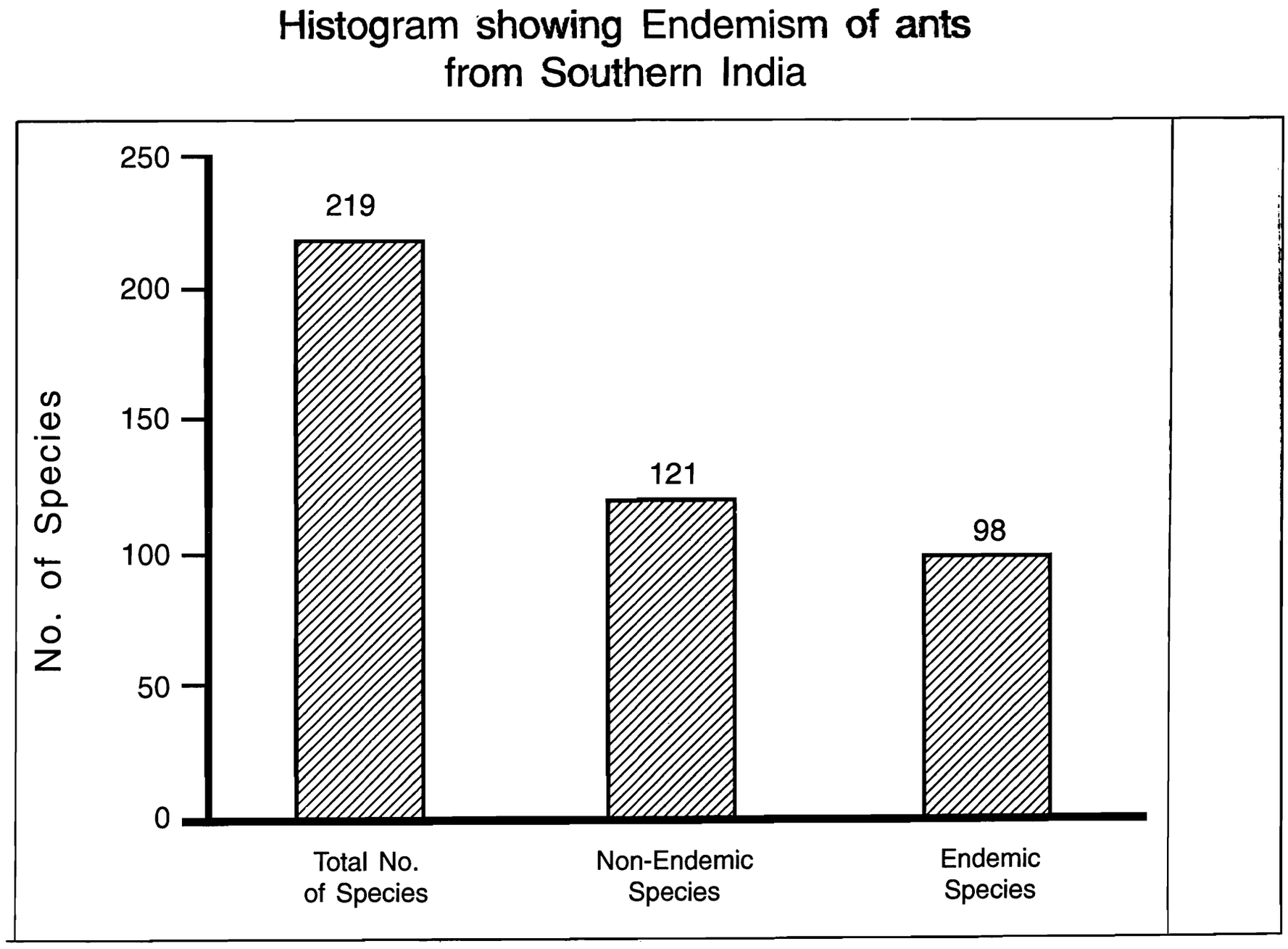
Histogram showing Endemism of ants
from Southern India
No. of Species
250
200
150
100
50
0
219
121
98
Total No.
of Species
Non-Endemic
Species
Endemic
Species

Figure 10 B

Table 1: Ant Fauna of Southern India (Insecta : Hymenoptera : Formicidae) Along with their Distribution in other regions in India.

Sl. No.	Name of the species	Eastern India	Western India	Central India	Northern India	Southern India
1	2	3	4	5	6	7
1.	*Dorylus (Alapone) orientalis* Westwood	*	*	—	—	*
2.	*Aenictus aratus* Forel	—	*	—	*	*
3.	*Aenictus brevicornis* (Mayr)	*	*	—	*	*
4.	*Aenictus fergusoni* Forel	*	*	—	—	*
5.	*Aenictus pachycerus* (Smith)	—	*	—	*	*
6.	*Aenictus ceylonicus* (Mayr)	—	*	—	—	*
7.	*Aenictus arya* Forel	—	—	—	—	*
8.	*Aenictus clavatus* Forel	*	*	—	—	*
9.	*Aenictus clavatus* var. *kanarensis* Forel	—	—	—	—	*
10.	*Aenictus wroughtoni* Forel	—	*	*	—	*
11.	*Aenictus gleadowi* Forel	—	—	—	—	*
12.	*Anochetus sedilloti* Emery	—	*	—	—	*
13.	*Anochetus mordax* Donisthorpe	—	—	—	—	*
14.	*Anochetus orientalis kanariensis* Forel	—	*	—	—	*
15.	*Anochetus punctiventris* Mayr	*	*	—	—	*
16.	*Anochetus punctiventris taylori* Forel	—	*	—	—	*
17.	*Anochetus ruginotis* Stitz	—	—	—	—	*
18.	*Anochetus rufus* (Jerdon)	—	—	—	—	*
19.	*Odontomachus haematodes* (Linnaeus)	*	—	—	—	*
20.	*Harpegnathus saltator* Jerdon	*	*	—	—	*
21.	*Harpegnathus venator* (Smith)	*	—	—	*	*
22.	*Leptogenys (Lobopelta) birmana* Forel	*	—	—	—	*
23.	*Leptogenys (Lobopelta) ocellifera* (Roger)	*	—	—	—	*
24.	*Leptogenys (Lobopelta) dentilobis* Forel	—	*	—	—	*
25.	*Leptogenys (Lobopelta) diminuta* (Smith)	*	*	*	*	*
26.	*Leptogenys (Lobopelta) diminuta palliseri* Forel	—	*	—	—	*
27.	*Leptogenys (Lobopelta) carinata* Donisthorpe	—	—	—	—	*
28.	*Leptogenys (Lobopelta) roberti coonoorensis* Forel	—	*	—	—	*

1	2	3	4	5	6	7
29.	*Leptogenys (Lobopelta) longiscapus* Donisthorpe	—	—	—	—	*
30.	*Leptogenys (Lobopelta) dalyi* Forel	—	—	—	—	*
31.	*Diacamma vagans* (Smith)	*	*	—	—	*
32.	*Diacamma rugosum ceylonensis* Emery	—	—	—	—	*
33.	*Diacamma rugosum* var. *jerdoni* Forel	—	—	—	—	*
34.	*Diacamma rugosum* var. *sculptum* (Jerdon)	*	—	—	—	*
35.	*Diacamma cyaniventre* André	—	—	—	—	*
36.	*Ectomyrmex annamitus* (André)	—	—	—	—	*
37.	*Ectomyrmex leeuwenhoeki* (Forel)	*	—	—	—	*
38.	*Bothroponera henryi* Donisthorpe	—	—	—	—	*
39.	*Bothroponera rubiginosa* (Emery)	—	*	—	—	*
40.	*Bothroponera sulcata* (Frauenfeld)	*	*	*	—	*
41.	*Bothroponera tesserinoda* (Mayr)	*	*	*	*	*
42.	*Bothroponera rufipes* (Jerdon)	*	*	—	—	*
43.	*Ponera truncata* Smith	*	—	—	—	*
44.	*Ponera confinis* Roger	*	*	—	—	*
45.	*Ponera stenocheilos* Jerdon	—	—	—	—	*
46.	*Ponera sulcato-fossulatus* Forel	—	—	—	—	*
47.	*Ponera affinis* Jerdon	—	—	—	—	*
48.	*Euponera (Trachymesopus) darwini* (Forel)	—	—	—	—	*
49.	*Cryptopone testacea* (Motschulsky)	—	—	—	—	*
50.	*Cryptopone rufotestaceus* Donisthorpe	—	—	—	—	*
51.	*Brachyponera jerdoni* (Forel)	*	*	—	—	*
52.	*Brachyponera luteipes* (Mayr)	*	*	*	*	*
53.	*Brachyponera luteipes* var. *continentalis* Karawajew	—	—	—	—	*
54.	*Mesoponera melanaria* Emery	—	*	—	—	*
55.	*Platythyrea sagei* Forel	—	—	—	*	*
56.	*Platythyrea wroughtoni* Forel	—	—	—	—	*
57.	*Platythyrea wroughtoni* var. *victoriae* Forel	*	*	—	—	*
58.	*Amblyopone belli* Forel	—	*	—	—	*
59.	*Lioponera longitarsus* Mayr	*	*	—	—	*
60.	*Lioponera parva* Forel	*	*	—	*	*

1	2	3	4	5	6	7
61.	*Tetraponera (Tetraponera) aitkeni* (Forel)	—	*	—	—	*
62.	*Tetraponera (Tetraponera) allaborans* Walker	*	*	—	—	*
63.	*Tetraponera (Tetraponera) rufonigra* (Jerdon)	*	*	*	*	*
64.	*Tetraponera (Tetraponera) nigra* (Jerdon)	*	*	*	*	*
65.	*Tetraponera (Tetraponera) nigra fergusoni* (Forel)	—	—	—	—	*
66.	*Tetraponera (Tetraponera) difficilis longiceps* (Forel)	—	—	—	—	*
67.	*Tetraponera (Tetraponera) rufipes* (Jerdon)	—	—	—	—	*
68.	*Aphaenogaster rothneyi* Forel	*	—	*	*	*
69.	*Apahenogaster beccarii* (Emery)	—	*	—	—	*
70.	*Messor barbarus* (Linnaeus)	*	—	—	*	*
71.	*Pheidole (Pheidole) malinsi* Forel	*	—	—	—	*
72.	*Pheidole (Pheidole) phipsoni* Forel	—	*	—	—	*
73.	*Pheidole (Pheidole) spathifera* Forel	*	*	—	—	*
74.	*Pheidole (Pheidole) sharpi* Forel	—	*	—	—	*
75.	*Pheidole (Pheidole) hoogwerfi* Forel	—	*	—	—	*
76.	*Pheidole (Pheidole) constanciae* Forel	—	*	—	—	*
77.	*Pheidole (Pheidole) fergusoni* Forel	—	—	—	—	*
78.	*Pheidole (Pheidole) mus* Forel	*	—	—	—	*
79.	*Pheidole (Pheidole) minor* (Jerdon)	—	—	—	—	*
80.	*Pheidole (Pheidole) roberti* Forel	*	—	—	—	*
81.	*Pheidole (Pheidole) providens* (Sykes)	—	—	—	—	*
82.	*Pheidole (Pheidole) malabarica* (Jerdon)	—	—	—	—	*
83.	*Pheidole (Pheidole) diffusa* (Jerdon)	—	—	—	—	*
84.	*Myrmica caeca* Jerdon	—	—	—	—	*
85.	*Myrmicaria brunnea* Saunders	*	*	*	*	*
86.	*Crematogaster wroughtoni* Forel	*	*	—	—	*
87.	*Crematogaster dohrni* Mayr	—	—	—	—	*
88.	*Crematogaster rogenhoferi* Mayr	*	*	—	—	*
89.	*Crematogaster flava* Forel	*	—	—	—	*

1	2	3	4	5	6	7
90.	*Crematogaster rothneyi* Mayr	*	*	—	—	*
91.	*Crematogaster subnuda* Mayr	*	*	*	*	*
92.	*Crematogaster ransonneti* Mayr	*	—	—	—	*
93.	*Crematogaster diffusa* (Jerdon)	*	*	*	*	*
94.	*Crematogaster rufa* (Jerdon)	—	—	—	—	*
95.	*Crematogaster brunnea* var. *nilgirica* Forel	—	—	—	—	*
96.	*Crematogaster brunnea contemta* var. *notabilis* Forel	—	*	—	—	*
97.	*Crematogaster aberrans* Forel	—	*	—	—	*
98.	*Crematogaster aberrans* var. *inglebyi* Forel	—	—	—	—	*
99.	*Crematogaster ebenina* Forel	*	*	—	—	*
100.	*Crematogaster travancorensis* Forel	—	—	—	—	*
101.	*Crematogaster dalyi* Forel	—	—	—	—	*
102.	*Crematogaster biroi* Mayr	*	—	—	*	*
103.	*Crematogaster biroi* var. *aitkeni* Forel	—	—	—	—	*
104.	*Crematogaster pradipi* sp. nov.	—	—	—	—	*
105.	*Strumigenys godeffroyi* Mayr	—	*	—	—	*
106.	*Myrmecina urbanii* Tiwari	—	—	—	—	*
107.	*Myrmecina vidyae* Tiwari	—	—	—	—	*
108.	*Monomorium indicum* Forel	*	*	*	*	*
109.	*Monomorium glyciphilum* (Smith)	—	—	—	—	*
110.	*Monomorium mayri* Forel	—	—	—	—	*
111.	*Monomorium floricola* (Jerdon)	*	*	*	*	*
112.	*Monomorium latinode* Mayr	*	*	*	*	*
113.	*Monomorium dichroum* Forel	—	—	—	—	*
114.	*Monomorium pharaonis* (Linnaeus)	*	*	*	*	*
115.	*Monomorium wroughtoni* Forel	—	*	—	—	*
116.	*Monomorium criniceps* (Mayr)	—	*	—	—	*
117.	*Monomorium scabriceps* (Mayr)	—	—	—	*	*
118.	*Monomorium crinicipitoscabriceps* (Forel)	—	—	—	—	*
119.	*Monomorium nigrum* (Forel)	—	*	—	—	*
120.	*Monomorium glabrum* (André)	—	*	—	—	*
121.	*Monomorium glabrocriniceps* (Forel)	—	*	—	—	*
122.	*Monomorium destructor* (Jerdon)	*	*	*	*	*

1	2	3	4	5	6	7
123.	*Monomorium schurri* Forel	—	—	—	—	*
124.	*Monomorium minutum* Mayr	—	—	—	—	*
125.	*Oligomyrmex leei* Forel	—	—	—	—	*
126.	*Oligomyrmex lamellifrons* (Forel)	—	—	—	—	*
127.	*Solenopsis geminata* (Fabricius)	*	*	*	*	*
128.	*Lophomyrmex quadrispinosus* (Jerdon)	*	—	—	*	*
129.	*Pheidologeton affinis* (Jerdon)	*	*	—	—	*
130.	*Pheidologeton diversus* (Jerdon)	*	*	—	—	*
131.	*Meranoplus bicolor* (Guérin)	*	*	*	*	*
132.	*Meranoplus belli* Forel	—	*	—	—	*
133.	*Meranoplus carinatus* Donisthorpe	—	—	—	—	*
134.	*Meranoplus flaviventris* Donisthorpe	—	—	—	—	*
135.	*Meranoplus levis* Donisthorpe	—	—	—	—	*
136.	*Meranoplus rothneyi* Forel	—	—	—	—	*
137.	*Triglyphothrix decamera* Forel	—	—	—	—	*
138.	*Triglyphothrix musculus* Forel	—	—	—	—	*
139.	*Triglyphothrix obesa* (Andre)	*	*	—	—	*
140.	*Tetramorium guineense* (Fabr.)	—	*	—	—	*
141.	*Tetramorium pilosus yerburyi* Forel	—	—	—	—	*
142.	*Tetramorium fergusoni* Forel	—	—	—	—	*
143.	*Tetramorium inglebyi* Forel	—	—	—	—	*
144.	*Tetramorium coonoorense* Forel	—	—	—	—	*
145.	*Tetramorium mixtum* Forel	—	—	—	—	*
146.	*Tetramorium wroughtoni* (Forel)	—	*	—	—	*
147.	*Tetramorium rothneyi* (Forel)	*	—	—	—	*
148.	*Tetramorium smithi* Mayr	*	*	—	—	*
149.	*Tetramorium tortuosum* var. *belli* Forel	—	*	—	—	*
150.	*Tetramorium belgaense* Forel	—	*	—	—	*
151.	*Cataulacus (Cataulacus) latus* Forel	*	—	—	—	*
152.	*Atta domicola* Jerdon	—	—	—	—	*
153.	*Atta dissimilis* Jerdon	—	—	—	—	*
154.	*Oecophylla smaragdina* (Fabricius)	*	*	*	*	*
155.	*Myrmecocystus setipes* Forel	*	—	*	*	*

1	2	3	4	5	6	7
156.	*Acantholepis frauenfeldi* (Mayr)	*	—	—	—	*
157.	*Acantholepis opaca* Forel	—	*	—	—	*
158.	*Acantholepis fergusoni* Forel	—	—	—	—	*
159.	*Camponotus angusticollis* (Jerdon)	*	*	*	*	*
160.	*Camponotus compressus* (Fabricius)	*	*	*	*	*
161.	*Camponotus sericeus* (Fabricius)	*	*	*	*	*
162.	*Camponotus rufoglaucus* (Jerdon)	*	—	*	*	*
163.	*Camponotus dolendus* Forel	*	—	—	*	*
164.	*Camponotus paria* Emery	*	*	*	*	*
165.	*Camponotus mendax* Forel	—	—	—	—	*
166.	*Camponotus puniceps* Donisthorpe	—	—	—	—	*
167.	*Componotus barbatus* Roger	—	—	—	—	*
168.	*Camponotus taylori* Forel	*	*	*	*	*
169.	*Camponotus similis* Donisthorpe	—	—	—	—	*
170.	*Camponotus variegatus* (Smith)	—	—	—	—	*
171.	*Camponotus variegatus somifica* Forel	—	—	—	—	*
172.	*Camponotus mitis* (Smith)	—	—	—	—	*
173.	*Camponotus thraso* Forel	—	—	—	—	*
174.	*Camponotus phragmaticola* Donisthorpe	—	—	—	—	*
175.	*Camponotus strictus* (Jerdon)	—	—	—	—	*
176.	*Camponotus confucii* Forel	—	*	—	—	*
177.	*Camponotus varius* Donisthorpe	—	—	—	—	*
178.	*Camponotus nirvanae* Forel	—	*	—	—	*
179.	*Camponotus timidus* (Jerdon)	—	—	—	—	*
180.	*Camponotus velox* (Jerdon)	—	—	—	—	*
181.	*Camponotus radiatus* Forel	—	*	—	—	*
182.	*Polyrhachis mayri* Roger	*	—	—	—	*
183.	*Polyrhachis dives* Smith	*	—	—	*	*
184.	*Polyrhachis simplex* Mayr	*	*	*	*	*
185.	*Polyrhachis clypeata* Mayr	*	*	—	—	*
186.	*Polyrhachis clypeata* var. *obtusisquama* Forel	—	—	—	—	*
187.	*Polyrhachis exercita* Walker	—	—	—	—	*
188.	*Polyrhachis rastellata* Latreille	—	—	—	—	*

1	2	3	4	5	6	7
189.	*Polyrhachis rastellata* var. *corporaali* Santschi	—	—	—	—	*
190.	*Polyrhachis duodentata* Donisthorpe	—	—	—	—	*
191.	*Polyrhachis illaudata* Walker	*	—	—	—	*
192.	*Polyrhachis latispinosa* Donisthorpe	—	—	—	—	*
193.	*Polyrhachis punctillata* Roger	—	*	—	*	*
194.	*Polyrhachis punctillata fergusoni* Forel	—	—	—	—	*
195.	*Polyrhachis dives belli* Forel	—	—	—	—	*
196.	*Polyrhachis binghami* Forel	—	—	—	—	*
197.	*Polyrhachis furcata gracilior* Forel	*	—	—	—	*
198.	*Polyrhachis indificans* (Jerdon)	—	—	—	—	*
199.	*Polyrhachis sylvicola* (Jerdon)	—	—	—	—	*
200.	*Polyrhachis tibialis* Smith	*	—	—	—	*
201.	*Polyrhachis tibialis* var. *parsis* Emery	—	—	—	—	*
202.	*Polyrhachis weberi* Donisthorpe	—	—	—	—	*
203.	*Polyrhachis wroughtoni* Forel	—	—	—	—	*
204.	*Polyrhachis thrinax* Roger	*	—	—	—	*
205.	*Polyrhachis indica* Mayr	—	—	—	—	*
206.	*Hemioptica scissa* Roger	—	—	—	—	*
207.	*Hemioptica aculeata* (Mayr)	—	—	—	—	*
208.	*Paratrechina bourbonica* (Forel)	*	—	—	—	*
209.	*Paratrechina longicornis* (Latreille)	*	*	*	*	*
210.	*Paratrechina assimilis* (Jerdon)	—	—	—	—	*
211.	*Paratrechina yerburyi* (Forel)	—	—	—	—	*
212.	*Plagiolepis jerdoni* Forel	—	*	—	—	*
213.	*Plagiolepis rogeri* Forel	—	*	—	—	*
214.	*Plagiolepis wroughtoni* Forel	—	—	—	—	*
215.	*Anoplolepis longipes* (Jerdon)	*	*	*	*	*
216.	*Formica phyllophila* Jerdon	—	—	—	—	*
217.	*Formica vagans* Jerdon	—	—	—	—	*
218.	*Tapinoma melanocephalum* (Fabricius)	*	*	*	*	*
219.	*Bothriomyrmex dalyi* Forel	*	*	*	*	*

SUMMARY

The monograph deals with the ants collected from several states of Southern India, *viz.*, Andhra Pradesh, Kerala, Karnataka and Tamil Nadu. Main collection on which work is based, is from Tamil Nadu and Kerala. Jerdon (1851) worked on Indian ants, particularly from Southern India and recorded 46 species under 8 genera from this region. Later on Rothney (1889), Forel (1900a, b, c), Donisthorpe (1942c, 1943) contributed much to the ant fauna of Southern India. Bingham (1903) also made a significant contribution in this direction and recorded 498 species from this region. Although several workers have contributed to the knowldge of ant fauna of Southern India, no one has exclusively studied the ant fauna of this region.

This is the first attempt by the present author to consolidate the knowledge of ant fauna of Southern India. Altogether 219 species under 48 genera and 7 subfamilies have been reported in this monograph. Out of these, 22 species are reported for the first time from Southern India and 2 species are new records from India. This also includes the descriptions of Worker and Female of a new species, *Crematogaster pradipi* sp. nov., along with a new description of Female of a known species, *Crematogaster flava* Forel, 1886 separately. The taxa marked with single asterisk (*) in "the list of Taxa in Systematic Account" are new records from the states of Southern India and those marked with double asterisks (**) are new records from India. Key to the identification of the subfamilies, genera and species dealt in the monograph from this region have also been incorporated. A separate table showing the distributional pattern of recorded species zone-wise, along with distributional analysis of the same is also provided to have a glimpse of the distribution of the species at a glance.

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