Records of the Zoological Survey of India

Ants (Formicidae) of Rajasthan

NEENA TAK
RECORDS
OF THE
ZOOLOGICAL SURVEY OF INDIA

Ants (Formicidae) of Rajasthan

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CITATION


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CONTENTS

INTRODUCTION .................................................................................................................... 1

ABBREVIATION USED ........................................................................................................ 3

REVIEW ................................................................................................................................... 3

SYSTEMATICS ....................................................................................................................... 4

IDENTIFICATION KEY IS BASED ON THE WORKER CASTE OF AN ANT ........... 6

Dorylus (Typhlopone) labiatus Shuckard........................................................................ 8
Dorylus (Alaopone) orientalis Westwood ......................................................................... 9
Aenictus (Aenictus) brevicornis worker (♀) ..................................................................... 9
Tapinoma (Micromyrma) melanocephalum Fabricius ....................................................... 10
Cerapachys longitarsus Mayr .......................................................................................... 10
Cerapachys (Cerapachys) risi Forel ................................................................................ 11
Anochetus punctiventris Mayr .......................................................................................... 11
Anochetus taylori Forel ..................................................................................................... 12
Anochetus yerburyi Forel .................................................................................................. 12
Leptogenys (Lobopelta) processionalis Jerdon ................................................................ 13
Tetraponera (Tetraponera) rufonigra Jerdon .................................................................... 13
Crematogaster (Acrocoelia) brunnea var. contenta Mayr .................................................. 15
Crematogaster (Acrocoelia) rothneyi Mayr .................................................................... 16
Crematogaster (Orthocrema) walshi Forel ..................................................................... 16
Meranoplus bicolor Guerin ............................................................................................... 17
Monomorium (Lampromyrmex) atomus Forel ................................................................. 19
Monomorium (Monomorium) latinode Mayr ................................................................... 19
Monomorium (Monomorium) pharaonis Linne ................................................................. 20
Monomorium (Monomorium) wroughtoni Forel .............................................................. 20
Monomorium (Holcomyrmex) criniceps Mayr ................................................................. 21
Monomorium (Holcomyrmex) glabrum Em Andre ........................................................ 21
Monomorium (Holcomyrmex) scabriceps Mayr ............................................................ 22
Monomorium (Parholcomyrmex) destructor Jerdon ....................................................... 23
Monomorium (Parholcomyrmex) gracilimum var. mayri Forel .................................... 23
Monomorium (Xeromyrmex) salomonis indicum Forel ................................................ 24
Monomorium (Xeromyrmex) longi Forel ........................................................................ 25
Monomorium sagei Forel ............................................................................................... 26
Solenopsis geminata Fabricius ....................................................................................... 26
Messor barbarus subsp. himalayana Forel ..................................................................... 27
Pheidole (Pheidole) sulciceps Roger ............................................................................. 28
Pheidole (Pheidole) wroughtoni Forel ......................................................................... 28
Pheidologeton affinis Jerdon ........................................................................................ 29
Tetramorium walshi Forel ............................................................................................. 30
Camponotus (Dinomyrmex) angusticollis Jerdon .......................................................... 32
Camponotus (Tanaemyrmex) compressus Fabricius ...................................................... 33
Camponotus (Tanaemyrmex) irritans Fred. Smith ......................................................... 34
Camponotus (Tanaemyrmex) carin Emery .................................................................. 35
Camponotus (Tanaemyrmex) mitis Smith .................................................................... 35
Camponotus (Tanaemyrmex) invidus Forel .................................................................. 35
Camponotus (Tanaemyrmex) taylori Forel .................................................................. 36
Camponotus (Tanaemyrmex) variegatus Smith ............................................................ 36
Camponotus dichrous Forel ........................................................................................... 37
Camponotus (Orthonotomyrmex) sericeus Fabricius ..................................................... 37
Polyrhachis (Myrmhopla) simplex Mayr ....................................................................... 38
Cataglyphis bicolor setipes Emery ............................................................................. 38
Oecophylla smaragdina Fabricius ................................................................................ 39
Paratrechina taylori Forel ......................................................................................... 40
Acantholepis frauenfeldi Emery ............................................................................... 41
Anoplolepis jerdoni Forel ............................................................................................ 42

SUMMARY ...................................................................................................................... 42
ACKNOWLEDGEMENT ................................................................................................. 42
REFERENCES .................................................................................................................. 43
INTRODUCTION

Rajasthan is the second largest state of India (3,42,239 Sq.Kms.) situated in the north-western part of Indian Union (23°31' and 30°11' North latitude and 69°29' and 78°17' East longitude) is largely an arid state for most of its part. The tropic of cancer passes through south of Banswara town. Presenting an irregular rhomboid shape, the state has a maximum length of 869 kms. from west to east and 826 kms. from north to south. The western boundary of the state is part of the Indo-Pak international boundary, running to an extent of 1,070 kms. It touches four main districts of the region, namely Barmer, Jaisalmer, Bikaner and Ganganagar. The state as girdled by Punjab and Haryana states in the north, Uttar Pradesh in the east, Madhya Pradesh in the south-east and Gujarat in the south-west.

The presence of Great Indian Thar Desert in its western position makes Rajasthan a unique state of India. Annual rainfall varies from 100mm in Jaisalmer to 1000mm in Jhalawar. Marked variations in diurnal and seasonal range of temperature occurs at all places in the state, exhibiting the most characteristic phenomenon of warm dry continental climate (49°C in Summer to even less than 2°C in Winter). Vegetation can be divided into two distinct groups one comprising the arid vegetation falling into western parts of the state while other belonging to semi-arid to sub-humid one of eastern and southern Rajasthan. Main crops of the state are millet, sorghum, maize, guar, paddy, wheat and barley. South West (Mt. Abu) however receives the highest rainfall in the state.

The state has been administratively divided into following districts of Rajasthan:

1. Ajmer  
2. Alwar  
3. Banswara  
4. Baran  
5. Barmer  
6. Bharatpur  
7. Bhilwara  
8. Bikaner  
9. Bundi  
10. Chittorgarh  
11. Churu  
12. Dausa  
13. Dholpur  
14. Dungarpur  
15. Ganganagar  
16. Hanumangarh  
17. Jaipur  
18. Jaisalmer  
19. Jalore  
20. Jhalawar  
21. Jhunjhunu  
22. Jodhpur  
23. Karauli  
24. Kota  
25. Nagaur  
26. Pali  
27. Rajsamand  
28. Sawai Madhopur  
29. Sikar  
30. Sirohi  
31. Tonk  
32. Udaipur
Among all the wide variety of insect life on the earth, ants are one of the few forms universally recognised. This is because they are found in all terrestrial habitats from swamp to harsh desert, from sea coast to great altitude and from deep in the soil to the tips of the highest trees. Their morphology is varied as their habitat preference and their range of life is enormous.


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REVIEW


Out of 51 species of ants eight species of Ranthambore National Park, Sawai Madhopur are new records from Rajasthan.
SYSTEMATICS

Order HYMENOPTERA
Family FORMICIDAE
Sub-family DORYLINAE Leach
   Tribe Dorylini Fabricius

1. Dorylus (Typhlopone) labiatus Shuckard
2. Dorylus (Alaopone) orientalis Westwood

   Sub-family AENICTINAE
   Tribe Ecitonini Forel

3. Aenictus (Aenictus) brevicornis Mayr

   Sub-family DOLICHODERINAE Forel
   Tribe Tapinomini Emery

4. Tapinoma (Micromyrma) melanocephalum Fabricius

   Sub-family CERAPACHYINAE Forel
   Tribe Cerapachini Forel

5. Cerapachys longitarsus Mayr
6. Cerapachys (Cerapachys) risi Forel

   Sub-family PONERINAE Lepeletier
   Tribe Odontomachini Mayr

7. Anochetus punctiventris Mayr
8. Anochetus taylori Forel
9. Anochetus yerburyi Forel

   Tribe Leptogenyini Forel

10. Leptogenys (Lobopelta) processionalis Jerdon

    Sub-family PSEUDOMYRMECINAE Emery
    Tribe Pseudomyrmecini Forel

11. Tetraponera (Tetraponera) rufonigra Jerdon
Sub-family MYRMICINAE Lepeletier
   Tribe Crematogasterini Emery
12. Crematogaster (Acrocoelia) brunnea var. contemta Mayr
13. Crematogaster (Acrocoelia) rothneyi Mayr
14. Crematogaster (Orthocrema) walshi Forel
   Tribe Meronoplini Emery
15. Meranoplus bicolor Guerin
   Tribe Solenopsidini Forel
16. Monomorium (Lampromyrmex) atomus Forel
17. Monomorium (Monomorium) latinode Mayr
18. Monomorium (Monomorium) pharaonis Linne
19. Monomorium (Monomorium) wroughtoni Forel
20. Monomorium (Holcomyrmex) criniceps Mayr
21. Monomorium (Holcomyrmex) glabrum Ern Andre
22. Monomorium (Holcomyrmex) scabriceps Mayr
23. Monomorium (Parholcomyrmex) destructor Jerdon
24. Monomorium (Parholcomyrmex) gracillimum var. mayri Forel
25. Monomorium (Xeromyrmex) salomonis indicum Forel
26. Monomorium (Xeromyrmex) longi Forel
27. Monomorium sagei Forel
28. Solenopsis geminata Fabricius
   Tribe Pheidolini Emery
29. Messor baabar subsp. himalayana Forel
30. Pheidole (Pheidole) sulciceps Roger
31. Pheidole (Pheidole) wroughtoni Forel
   Tribe Pheidologetini Emery
32. Pheidologeton affinis Jerdon
   Tribe Tetramorini Emery
33. Tetramorium salvatum Forel
34. Tetramorium walshi Forel
Sub-family FORMICINAE

Tribe Camponotini Forel

35. Camponotus (Dinomyrmex) angusticollis Jerdon
36. Camponotus (Tanaemyrmex) compressus Fabricius
37. Camponotus (Tanaemyrmex) irritans Fred-Smith.
38. Camponotus (Tanaemyrmex) carin Emery
39. Camponotus (Tanaemyrmex) mitis Smith
40. Camponotus (Tanaemyrmex) invidus Forel
41. Camponotus (Tanaemyrmex) taylori Forel
42. Camponotus (Tanaemyrmex) variegatus Smith
43. Camponotus dichrous Forel
44. Camponotus (Orthonotomyrmex) sericeus Fabricius
45. Polyrhachis (Myrmhopla) simplex Mayr

Tribe Formicini Forel

46. Cataglyphis bicolor setipes Emery

Tribe Oecophyllini Forel

47. Oecophylla smaragdina Fabricius

Tribe Prenolepidini Forel

48. Paratrechina longicornis Latreille
49. Paratrechina taylori Forel

Tribe Plagiolepidini Forel

50. Acantholepis frauenfeldi Emery
51. Anoplolepis jerdoni Forel

Ants are polymorphic social insects having three distinct forms – the perfect and fertile female (♀), the male (♂) and worker (♀) major or minor. The largest forms are soldiers. Identification of ants is mainly based on the worker caste of ants.

IDENTIFICATION KEY IS BASED ON THE WORKER CASTE OF AN ANT

Key to the subfamilies of family FORMICIDAE

1. Petiole of the abdomen one or two jointed .................................................................
   1. A more or less marked constriction between basal two segment of abdomen Petiole one jointed...........................................................................................................................................
i) Frontal lobe very narrow so that the antennal sockets are completely visible in frontal view ................................................ Subfamily CERAPACHINAE

ii) Frontal lobe not narrow so, that the antennal sockets are not visible in frontal view ................................................ Subfamily PONERINAE

2. No constriction between basal two segment of abdomen.

i) Opening at posterior end of gaster (acidopore) slit like.

a. Eyes never present, blind
   a₁ Petiole one jointed ................................................ subfamily DORYLINAE.
   a₂ Petiole two jointed ................................................ subfamily AENICTINAE.

b. Eyes always present Petiole one jointed ................................................ subfamily DOLICHODERINAE.

ii) Opening at posterior end of gaster (acidopore) terminal, circular and usually surrounded by a fringe of hairs. Petiole one jointed ................................................ subfamily FORMICINAE.

II Petiole of the abdomen two jointed

i) Petiole remarkably elongate, generally the anterior node is elongated petiolate, sometimes the posterior node is also petiolate, giving flexibility to the abdomen ................................................ subfamily PSUEDOMYRMECINAE.

ii) Petiole not so elongate, the anterior node with a long petiole anteriorly and a short petiole posteriorly ................................................ subfamily MYRMICINAE

Subfamily PONERINAE

Key to genera of the subfamily PONERINAE

Petiole free with a flexible joint between it and the abdomen

i) Mandibles articulated close together in middle of front margin of head .............. ................................................ genus Anochetus

ii) Mandibles articulated wide apart at the lateral angles of front margin of head ......

Key to species of the genus Anochetus

A. Basal abdominal segments closely punctured, opaque.

i) Punctures on head and alitrunk more distinct not running into longitudinal striae ..

.......................................................... A. punctiventris
B. Basal abdominal segment smooth, shining not opaque.

i) Pro-meso and metanotum not striate .................................................... *A. yerburyi*

ii) Pro-, meso-and metanotum striate ..................................................... *A. taylori*

Family FORMICIDAE
Sub-Family DORYLINAE Leach
Tribe Dorylini Forel

Genus *Dorylus* Fabricius

*Dorylus (Typhlopone) labiatus* Shuckard


**Diagnostic characters**: Length Worker maj. 6-8 mm; Worker min. 3.5 Worker (maj) : Castaneous yellow, polished smooth, shining and blind. Head rectangular, longer than its breadth, broader in front than posteriorly. No longitudinally impressed line on the head. Mandible with two teeth. Antennae worker maj. 11 and worker min. 10 jointed. Alitrunk rectangular depressed slightly constricted at the pro-mesonotal suture. Node of petiole longer than its breadth.

**Distribution**: India : Rajasthan – Alwar, Barmer, Bundi, Ganganagar, Jalore, Jodhpur, Karauli, Kota, Sawai Madhopur, Sikar and Udaipur; Gujarat, Maharashtra, Chandigarh, Karnataka, Punjab, Dehli, West Bengal, Orissa, Sikkim, Manipur, Uttar Pradesh, Himachal Pradesh.

**Elsewhere**: Myanmar, Countries East of Bay of Bengal.
Sub-Family DORYLINAЕ Leach
Tribe Dorylini Forel

Genus Dorylus Fabricius
*Dorylus (Alaopone) orientalis* Westwood


Diagnostic characters: Length Worker maj. : 5.5 mm. Worker (maj): Castaneous brown with the abdomen generally lighter in colour than the head and alitrunk. Head rectangular occiput deeply emarginate, the head slightly wider anteriorly than posteriorly. A deeply impressed medial line present on the head. Alitrunk elongate, rounded anteriorly depressed and flat above, constricted at the pro-mesonotal suture. Node of the petiole broader than long, united with the abdomen.

Distribution: India: Rajasthan – Udaipur, Jaisalmer; Gujarat, Maharashtra, West Bengal, Uttar Pradesh, Assam, Karnataka, Kerala, Tamil-Nadu, Chandigarh, Orissa, Punjab, Meghalaya, Delhi, Sikkim.


Sub-Family AENICTINAЕ
Tribe Ecitonini Forel

Genus Aenictus Shuckard Mayr
*Aenictus (Aenictus) brevicornis* worker (♀)


Diagnostic Characters: Length Worker : 2.5-3 mm. Worker: Reddish yellow, head smooth and shining, alitrunk sculptured. Head rectangular very broad posteriorly, mandibles with three distinct teeth. Antennae very short and massive. Scape of the antennae about half length of the head. Alitrunk narrower than the head, pronotum convex smooth and shining basal portion of the metanotum passing by a gradual curve with sloping apical portion. Nodes of petiole rounded shining. Abdomen elongate oval.

Distribution: India: Rajasthan – Dungarpur; Gujarat, Maharashtra, Chandigarh, Karnataka, Kerala, West Bengal, Uttar Pradesh, Meghalaya, Tamil-Nadu, Assam, N.W. Provinces.
Sub-Family DOLICHODERINAE Forel
Tribe Tapinomini Emery
Genus Tapinoma Forster

**Tapinoma (Micromyrma) melanocephalum** Fabricius


**Diagnostic characters**: Length Worker: 1.5 mm. Worker: Head and alitrunk dark brown in colour abdomen yellowish white. Head longer than broad. Oval, not emarginate, rounded posteriorly. Mandibles triangular broad with the masticatory margin equal to the outer margin and armed with minute teeth. Clypeus evenly convex, broader than high, its anterior margin slightly arched. Antennae thick the scape extending beyond the top of the head. The joints of the flagellum longer than broad. Alitrunk viewed from the side not emarginate, the pro-meso and meso-metanotal sutures distinct slightly constricted at the latter suture. Petiole with a distinct node. Base of the abdomen overhanging the pedicel.

**Distribution**: India: Rajasthan–Alwar, Bharatpur, Dungarpur, Jodhpur, Kota, Sawai Madhopur and Udaipur; Gujarat, Maharashtra, Meghalaya, Tripura, Chandigarh, Karnataka, Tamil-Nadu, West Bengal, Orissa.

**Elsewhere**: Spread through both the hemispheres, S. America

Sub-Family Cerapachyinae Forel
Tribe Cerapachyini Forel
Genus Cerapachys Smith

**Species of the Genus Cerapachys**

1. Eyes remarkably large, lateral, placed below middle of head ...................... *longitarsus*
2. Eyes small, lateral, placed about or above middle of head ....................... *risi*

*Cerapachys longitarsus* Mayr


Diagnostic Characters: Length Worker: 4mm Head and abdomen black, alitrunk, pedicel and legs brownish red Mandibles triangular, masticatory margin broad, obsoletely dentate antennae 12-jointed, subapical joint of the flagellum longer than broad. Eyes rounded and proportionately very large. Alitrunk short, pro-meso and meso-metanotal sutures obsolete. Petiole one jointed, node slightly convex above, broader than long, Abdomen longer than the alitrunk, the constriction between the basal two segments very deep.

Distribution: India: Rajasthan-Udaipur; Maharashtra, Meghalaya, Kerala, West Bengal, Karnataka.

Elsewhere: Sumatra.

Sub-Family CERAPACHYINAE Forel
Tribe Cerapachyini Forel

Genus Cerapachys Smith
Cerapachys (Cerapachys) risi Forel


Diagnostic Characters: Length Worker: 5.5 to 6.5 mm. Black and shining, the whole body is covered rather abundantly with fine long erect yellowish hairs, most dense towards the apex of the abdomen. Head convex in front, slightly narrower posteriorly. Mandibles triangular, masticatory margin obsoletely dentate. Antennae 12-jointed, the apical joint of flagellum distinctly much longer than preceding three joints. Alitrunk strongly rounded, and convex above, the posterior face of the metanotum flat. Petiole one jointed, node longer than broad convex above, rounded posteriorly. Abdomen elongate the constriction between the basal two segments broad and well marked.

Distribution: India: Rajasthan-Udaipur; Sikkim, Punjab, Haryana, Meghalaya.

Sub-Family PONERINAE Lepeletier
Tribe Odontomachini Mayr

Genus Anochetus Mayr
Anochetus punctiventris Mayr


Diagnostic Characters: Length Worker 3.5–4 mm. Worker Brownish, the abdomen a little dark in colour. Head convex in front, posteriorly a little emarginate. Mandibles placed very close together in the middle of the front of the head, elongate parallel the apex bent suddenly at right with three teeth, the intermediate tooth very small. Antennal carinae short, wide apart covering the base of the antennae. Antennae 12 jointed filiform. Alitrunk densely punctured, obliquely truncate posteriorly. Node of the petiole ovate rounded above smooth. Abdomen stout.

Distribution: India: Rajasthan–Jodhpur; Gujarat, Maharashtra, West Bengal, Sikkim, Meghalaya, Southern India.

Elsewhere: China.

Sub-Family PONERINAE Lepeletier
Tribe Odontomachini Mayr

Genus Anochetus Mayr

Anochetus taylori Forel


Diagnostic characters: Length worker: 4.8 mm. Worker: Dark castaneous brown, shining. Head, alitrunk and abdomen covered with scattered erect pale hairs. Head irregularly rectangular, posteriorly constricted, mandibles placed very close together in the middle of the front of the head. Mandibles tridentate at apex, the intermediate tooth very small. Antennal carinae short, wide apart, covering the base of the antennae. Antennae 12 jointed, filiform. Alitrunk broad and convex in front, rounded and slightly compressed posteriorly, the pronotum constricted into neck anteriorly, the metanotum truncate posteriorly. Node of the petiole smooth, thick, convex in front, flat almost concave posteriorly.

Distribution: India: Rajasthan–Sawai Madhopur; Gujarat, Maharashtra, Karnataka, Tamil Nadu, Orissa, Western India.

Remarks: Recorded for the first time from Rajasthan.

Sub-Family PONERINAE Lepeletier
Tribe Odontomachini Mayr

Genus Anochetus Mayr
Anochetus yerburyi Forel


Diagnostic characters: Length worker: 4.8 mm. Worker: Dark castaneous brown, shining. Head, alitrunk and abdomen covered with scattered erect pale hairs. Head irregularly rectangular, posteriorly constricted, mandibles placed very close together in the middle of the front of the head. Mandibles tridentate at apex, the intermediate tooth very small. Antennal carinae short, wide apart, covering the base of the antennae. Antennae 12 jointed, filiform. Alitrunk broad and convex in front, rounded and slightly compressed posteriorly, the pronotum constricted into neck anteriorly, the metanotum truncate posteriorly. Node of the petiole smooth, thick, convex in front, flat almost concave posteriorly.

Distribution: India: Rajasthan–Sawai Madhopur; Gujarat, Maharashtra, Karnataka, Tamil Nadu, Orissa, Western India.

Remarks: Recorded for the first time from Rajasthan.

Sub-Family PONERINAE Lepeletier
Tribe Odontomachini Mayr

Genus Anochetus Mayr
Anochetus yerburyi Forel


Diagnostic characters: Length Worker 4–4.5 mm. Worker: Head with mandibles, antennae and legs testaceous yellow, alitrunk and abdomen light shining castaneous red. Head smooth convex in front, fan shaped area faintly longitudinally striate, posteriorly not so deeply emarginate. Mandibles placed very close together in the middle of the front of the head. Mandibles tridentate at apex, the intermediate tooth very small. Antennae 12–jointed Alitrunk somewhat coarsely longitudinally rugose in front the meso and metanotum punctate. Petiole one jointed and flat, slightly convex in front, the margin is subacute and rounded Abdomen smooth and shining with the base punctured.


Remarks: Recorded for the first time from Rajasthan.

Sub-Family PONERINAE Lepeletier
Tribe Leptogenyini Forel

Genus Leptogenys Roger
Leptogenys (Lobopelta) processionalis Jerdon

1951. Leptogenys (Lobopelta) processionalis Jerdon, Madras Jour. Lit. Sc., 17 : 118, worker (Ponera)


Diagnostic characters: Length worker: 8-9 mm. Worker Dark castaneous brown, smooth polished and shining. Head broad, rectangular as broad posteriorly as in front. Mandibles broad, longitudinally striate armed at the apex with four unequal teeth and denticulate along the inner margin. Antennal carinae short very close together, antennae stout, the scape just passing the top of the head, Alitrunk slightly narrower than the head, pro-meso and meso-metanotum sutures deeply marked. Claws pectinate. Node of petiole convex in front, flat posteriorly, abdomen massive.


Sub-Family PSEUDOMYRMECINAE Emery
Tribe Pseudomyrmecini Forel

Genus Tetraponera Smith
Tetraponera (Tetraponera) rufonigra Jerdon


Diagnostic characters: Length worker: 12 mm. Worker: Head, 2nd joint of petiole black, the mandibles, antennae, alitrunk and 1st joint of the petiole more or less red. Head rectangular, a little longer than broad and slightly narrow in front then posteriorly. Mandibles with six teeth. Clypeus transverse, narrow raised in the middle which is slightly produced, giving the anterior margin a bisinuate appearance. Antennae short and stout, 12 segmented. Ocelli present. Alitrunk elongate, the pronotum broad its anterior lateral angles dentate, a medial, small longitudinal tubercle at its posterior margin, small longitudinal tubercle at its posterior margin, promesonotal suture arched to the front, mesonotum small flat, a deep emargination at the meso-metanotual suture. Metanotum longer than the pro and meso together. Petiole elongate, the 1st node oval with a long petiole, 2nd node conical with a short petiole.

Distribution: India: Rajasthan–Baran, Bhilwara, Bundi, Dausa, Dungarpur, Jodhpur, Sawai Madhopur; Gujarat, Tripura, Chandigarh, Karnataka, Tamil Nadu, Kerala, Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, Meghalaya, West Bengal, Orissa, Manipur.

Elsewhere: Myanmar, Sri Lanka, China, Singapore, Indonesia, Cambodia, Java, Sumatra.

Subfamily MYRMICINAE

Key to genera of Subfamily MYRMICINAE

A. Antennae with less than 12 joints.
   i) Antennae 11 jointed. Metanotum armed with two spines. Petiole attached to dorsal surface of abdomen .................................................. Crematogaster
   ii) Antennae 9-jointed. Pronotum and metanotum armed with two teeth. Petiole attached to the middle of abdomen .................................................. Meranoplus
   iii) Antennae 10-jointed. Metanotum unarmed. Petiole attached to the middle of abdomen .................................................. Solenopsis

B. Antennae 12-jointed
   i) Clypeus bicarinate .................................................. Monomorium
ii) Clypeus not bicarinate
   a) Mandibles with or without teeth. Neuters or workers strongly dimorphous ........ 
     ................................................................................................................................. Pheidole
   b) Mandibles with 5-7 teeth. Workers monomorphous ............... Tetramorium

Species of Crematogaster

1) Head smooth and shining with a few striae anteriorly, Club of flagellum of antennae 3 jointed.
   i) Metanotal spines stout, acute, curved a little downwards and inwards ................. 
   ii) Pronotum sculptured ................................................................................................. C. contenja
   i) Pronotum not sculptured smooth .............................................................................. C. walshia

2. Head not smooth entirely sculptured.
   i) Metanotal spines very thick at base, apex directed backwards and inwards ............. 
   ........................................................................................................................................ C. rothneyia

Sub-Family MYRMICINAE Lepeletier
Tribe Crematogasterini Emery

Genus Crematogaster Lund
Crematogaster (Acrocoelia) brunnea var. contenja Mayr


Diagnostic characters: Length Worker : 3.5 –4 mm. Worker : Shining chestnut red, abdomen darkening posteriorly into dark brown, the base being chestnut red. Head very highly polished and shining, very globose and strongly convex in front thick and narrow longitudinally striate at base, the masticatory margin with generally 4 teeth. Antennae 11 jointed the club formed of the apical three joint, Alitrunk the pronotum convex anteriorly with the lateral angles very prominent, mesonotum slightly oblique, longer than broad, meso-metanotal suture broad and very well marked, basal portion of metanotum slightly oblique steeply sloped, metanotal spines short acute, curved a little downward and inwards and placed on the sides a little down the oblique sloping portion of the metanotum. Petiole the
1st joint widened transversely concave and with a small rounded tubercle at apex above; 2nd joint short, longitudinally furrowed, the furrow widening posteriorly. Abdomen smooth slightly shining.

*Distribution*: India: Rajasthan – Barmer and Jaisalmer, Jhunjhunu; Gujarat, West Bengal, Uttar Pradesh, Himachal Pradesh, Chandigarh, Haryana, Punjab.

*Elsewhere*: Sri Lanka, Myanmar.

**Sub-Family** MYRMICINAE Lepeletier

**Tribe** Crematogasterini Emery

**Genus** Crematogaster Lund

*Crematogaster (Acrocoelia) rothneyi* Mayr


**Diagnostic Characters**: Length Worker 3–3.5 m.m. Worker: Rufo-feruginous, abdomen fuscos brown to black, pilosity fairly abundant. Head longitudinally striate a little longer than broad. Mandibles finely striate with 4 teeth. Antennae slender but short, the scape not quite reaching the top of the head, the club of the flagellum formed of apical three joints. Alitrunk pronotum flat above, rounded anteriorly, mesonotum slightly, concave meso-metanotal suture very distinct, basal portion of the metanotum transversely rectangular, longitudinally striate, metanotal spines very thick at base, apex directed backwards and inwards. Petiole two-jointed 1st joint broad, flat above; broader in front than posteriorly, the sides rounded, 2nd joint seen from above trituberculate on upper side, the tubercles rounded, the anterior one small, the other two larger side by side, subequal, abdomen broadly cordate.

**Distribution**: India: Rajasthan – Sawai Madhopur district; Gujarat, Maharashtra, Tamil-Nadu, Sikkim, West Bengal, Punjab, Haryana, Himachal Pradesh, Meghalaya, Orissa, Uttar Pradesh.

**Remarks**: Recorded for the first time from Rajasthan.

**Sub-Family** MYRMICINAE Lepeletier

**Tribe** Crematogasterini Emery

**Genus** Crematogaster Lund

*Crematogaster (Orthocrema) walshi* Forel


Diagnostic Characters: Length Worker: 3-3.5 m.m. Worker: Dark piceous, smooth and shining, the basal portion of the metanotum longitudinally striate pilosity fairly abundant and pale yellowish in colour. Head rectangular, slightly longer than broad. Mandibles longitudinally striate with 4 teeth. Antennae short and thick, the scape not extending to the posterior margin of the head, the club formed of the apical three joints, but somewhat indistinct. Alitrunk raised in front and a little compressed pro-mesonotal suture obsolete, meso—metanotal suture deep. Basal portion of metanotum sculptured, metanotal spines very short, triangular, not divergent. Petiole two jointed 1st joint slightly broadened, flat anteriorly and narrowed posteriorly, 2nd joint with a rounded, slightly raised node divided longitudinally by a broad groove. Abdomen short and broad.

Distribution: India: Rajasthan—Sawai Madhopur district; Chandigarh, Punjab, Haryana, Uttar Pradesh, Meghalaya, Orissa, Sikkim, Himachal Pradesh, West Bengal.

Remarks: Recorded for the first time from Rajasthan.

Sub-Family MYRMICINAE Lepeletier
Tribe Meranoplini Emery

Genus Meranoplus Fred Smith
Meranoplus bicolor Guerin


Diagnostic Characters: Length Worker: 4-5 mm. Worker: Head, alitrunk, legs and petiole of the abdomen bright ferruginous red. Abdomen black. Pilosity very long soft, abundant and of a grey colour. Head a little longer than broad, broader posteriorly than the front. Mandibles narrow armed with 4 teeth. Clypeus convex in the middle, inclined downwards. Alitrunk the pro-mesonotal shield about as broad as long, with the anterior angles prominent and acute, the sides posteriorly with a small incision, and beyond that produced backwards into a long laminate spine on each side overhanging the metanotum, the latter, vertical, slightly convex with a carina on each side ending above in an acute spine, Petiole the 1ST node smooth, triangular 2ND node globose, Abdomen cordate.

Distribution: India: Rajasthan—Ajmer, Dungarpur; Gujarat, Maharashtra, Manipur, Tripura, Chandigarh, Karnataka, Kerala, Tamil Nadu, Punjab, West Bengal, Delhi, Orissa, Uttar Pradesh.
Elsewhere: Nepal, Myanmar, Indonesia, Sri Lanka, Pakistan, Bhutan, Thailand, China, Singapore, Malaysia.

Clypeus bicarinate. Club of flagellum formed of the apical three joints Monomorium.

Key to species of Genus Monomorium

A. Head opaque
i) Seen from above 2nd node of petiole distinctly broader than 1st node.
   a) Yellow, abdomen posteriorly black........................................... M. pharaonis
   b) Head, alitrunk and abdomen brown
      b₁) Antennae long, scape reaching beyond top of head, sides of the head very convex ................................................................. M. longi
      b₂) Antennae shorter, scape not attaining top of head, sides of head straight .... ................................................................. M. wroughtoni
ii) Seen from above 2nd node of petiole not broader than 1st. Nodes subequal .......... ................................................................. M. indicum

B. Head smooth and shining.
   a) Antennae 11 jointed - M. atomus
   b) Antennae 12-jointed, scape extending beyond top of the head.
      b₁) Thorax convex above, not submargined ........................................ M. sagei
      b₂) Thorax somewhat depressed and flat laterally submargined .......... M. destructor
   c) Antennae 12-jointed, scape of antennae not extending beyond top of the head.
      c₁) Second node of petiole not broader than 1st node .................... M. gracillimum
      c₂) Second node of petiole broader than 1st node ......................... M. latinode

C) Head striate
i) Head entirely striate ................................................................. M. scabriceps
ii) Anterior half or one-third of head striate.
   a) Posterior half or two-third of head finely, closely but not densely punctate ....
      .................................................................................................. M. criniceps
b) Posterior half or two-thirds of head smooth, polished and shining.................
.................................................................................................................. M. glabrum

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Monomorium Mayr
Monomorium (Lampromyrmex) atomus Forel


Diagnostic Characters: Length Worker: 1.5-1.8 mm. Pale yellow, the legs of a shade paler than the head and alitrunk; entirely smooth and polished, shining. Head rectangular a little broader posterior than in front, mandibles narrow, the masticatory margin with 4 teeth. Antennae 11 jointed, scape not attaining the posterior margin of the head. Pro-mesonotum very convex, the basal portion of metanotum rectangular. Petiole-the nodes from above equal. 1st node not higher than the 2nd. Abdomen oval.

Distribution: India: Rajasthan-Jodhpur; Western India, Maharashtra, Punjab, Assam, Karnataka, N.W. Himalayas.

Elsewhere: Myanmar, Bangladesh.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Monomorium Mayr
Monomorium (Monomorium) latinode Mayr


Diagnostic characters: Length Worker: 3-3.7 mm. Light castaneous brown, mandibles, antennae and legs yellowish, entirely smooth, polished and shining. Head longer than broad, mandible smooth, armed with 4 teeth, antennae moderately long. 12 jointed, the scape nearly reaching the top of the head. Alitrunk elongate, promesonotum convex, broad nearly as broad as head, emarginate at the mesonotal suture. Petiole long, 1st node petiolate in front, little higher than the 2nd which is very much broader then the 1st. Abdomen long oval.

Distribution: India: Rajasthan-Jodhpur; Tamil Nadu, West Bengal, Orissa, Manipur

Elsewhere: Sri Lanka, Myanmar, Extending to Borneo, Formosa, Oceania.
Sub-Family MYRMICINAE Lepeletier
Tribe Solenospidini Forel

Genus *Monomorium* Mayr


*Diagnostic characters*: Length Worker: 2.5-3 mm. Worker: Reddish yellow, posterior two third of the abdomen black, shining. Head half as long again as broad, the sides slightly convex; the posterior margin transverse. Mandibles narrow, linear, slightly broadened at the masticatory margin with 3-4 teeth. Antennae long and thick, scape reaching nearly up to posterior margin of the head. Alitrunk pro-mesonotum convex rounded in front and at the sides narrowing posteriorly, mesometanotal suture very distinct, slightly emarginate metanotum seen from above rectangular, somewhat flat, the posterior lateral angles of the basal portion scarcely tuberculate. Petiole 1st node little thick and rounded at the top, anteriorly with a long petiole, 2nd node from above globose, slightly broader than long and broader than the 1st node. Abdomen oval, truncate anteriorly.


*Remarks*: Spread over the tropical region of both the hemispheres.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenospidini Forel

Genus *Monomorium* Mayr


*Diagnostic characters*: Length Worker: 2.0 mm. Worker: Blackish brown with the abdomen dark brown. Abdomen opaque except at the base which is smooth and shining. Head longer than broad, narrow posteriorly, slightly emarginate Mandibles narrow armed with 4 teeth. Antennae moderately long, the scape nearly reaching the top of the head. Alitrunk depressed sub-margined, the meso-metanotal suture distinct, basal portion of metanotum rectangular, apex truncate. Petiole 1st node conical, rounded above, anteriolry petiolate, the petiole thickening and sloping posteriorly, 2nd node globose broader than the 1st node. Abdomen broadly oval, truncate anteriorly, acute posteriorly.
**Distribution**: India: Rajasthan-Jodhpur; Gujarat, Maharashtra, Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Karnataka.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus *Monomorium* Mayr


**Material Examined**: Workers: Jodhpur 6 exs., 4.9.64, V.C.A., Coll.

**Diagnostic characters**: Length Worker: 3.5-5.5 mm. Worker: Head and alitrunk chesnut brown, abdomen dark red. Head rectangular sides straight, posterior lateral angles rounded. Head striate anteriorly. Mandibles very thick, much curved, the masticatory margin indistinctly dentate. Alitrunk the promesonotum forming raised convexity, promesonotal suture obsolete meso-metanotal suture distinct. The basal portion of the metanotum shorter than the promesonotum. Petiole the 1st node petiolate in front higher than the 2nd, sub-triangular, conical and rounded at the top, 2nd node sub-globose as broad as long, attached to the abdomen by the whole of its posterior face. Abdomen broad, truncate anteriorly.

**Distribution**: India: Rajasthan-Jodhpur; Gujarat, Western India, Chandigarh, Karnataka, Himalayas.

**Elsewhere**: Sri Lanka, Myanmar, Pegu, Yoma.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus *Monomorium* Mayr


Diagnostic Characters: Length Worker: 3.5-7.5 mm. Worker: Brownish red to brownish black in colour. Pilosity more or less abundant. Head rectangular, sides straight, posterior lateral angles rounded and longitudinally striate, Mandibles very thick, much curved and masticatory margin indistinctly dentate. Alitrunk the pro-mesonotum forming raised convexity, pro-mesonotal suture obsolete, mesometanotal suture distinct. Petiole 1st node petiolate in front higher than the 2nd node, sub triangular, conical and rounded at the top, 2nd node subglobose as broad as long, attached to the abdomen by the whole of its posterior face. Abdomen broad truncate anteriorly.

Distribution: India: Rajasthan—Alwar, Barmer, Bharatpur, Dholpur, Jaipur, Jodhpur, Karauli, Udaipur; Gujarat, Western India, Punjab, Tamil Nadu.

Elsewhere: Sri Lanka, Myanmar.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Monomorium Mayr


Diagnostic Characters: Length Worker: 3.5-7 mm. Worker: Reddish ferruginous with the abdomen dark brown in colour. Head rectangular, sides straight, the posterior lateral angles rounded with a median impressed line. Mandibles very thick, much curved and masticatory margin indistinctly dentate. Antennae 12 jointed with the club formed of apical three joints. Pilosity very sparse. Alitrunk the pronotum narrower than the head, rounded anteriorly, the basal portion of the metanotum nearly as long as the pro-mesonotum, the posterior face of the metanotum obliquely truncate. Petiole the 1st node petiolate in front, higher then the 2nd subtriangular, conical and rounded at the top; 2nd node subglobose, as broad as long. Abdomen broad, truncate anteriorly.

Distribution: India: Rajasthan—Ajmer, Alwar, Barmer, Churu, Jaisalmer, Karauli; Gujarat, Chandigarh, Punjab, Orissa, Karnataka, Kerala, Tamil Nadu.

Elsewhere: Myanmar
Sub-Family MYRMICINAE
Tribe Solenopsidini Forel

Genus Monomorium Mayr

Monomorium (Parholcomyrmex) destructor Jerdon


Diagnostic Characters: Length Worker: 1.8-2.3 mm. Worker: Reddish yellow, apical three-fourth of abdomen from chestnut brown to dark brown. Head rectangular, slightly emarginate posteriorly. Mandibles narrow armed with 4 teeth; the apical longest and acute. Antennae 12 jointed, the scape just reaching the top of the head. Aliturunk-elongate anteriorly as broad as the back of the head, the pro-mesonotum convex, meso-metanotal suture deeply impressed, basal portion of metanotum narrow passing by the rounded curve into the apical portion. Petiole elongate the 1st node squami-form, anteriorly petiolate 2nd node globose, a little broader than long, not as high as the 1st node, Abdomen oval.

Distribution: India: Rajasthan–Barmer, Jaisalmer; Gujarat, Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, West Bengal, Karnataka.

Elsewhere: Torrid regions of both hemispheres.

Sub-Family MYRMICINAE
Tribe Solenopsidini Forel

Genus Monomorium Mayr

Monomorium (Parholcomyrmex) gracillimum var. mayri Forel


Diagnostic Characters: Length Worker: 2.5-3 mm. Worker: Dark brown with the mandibles, antennae and legs pale yellow in colour. Abdomen with a patch of pale yellow at the base. Head convex, a little longer than broad, the posterior lateral angle rounded. Mandibles with the masticatory margin very oblique armed with four teeth. Antennae short slender the scape falling short of the top by one fourth of its length. Alitrunk narrower than the head, emarginate at the meso-metanotal suture, mesonotum convex, narrower anteriorly slightly convex apical portion obliquely truncate. Petiole 1st node conical rounded above, higher than the 2nd and anteriorly petiolate, 2nd node subglobose not broader than the 1st node. Abdomen oval.

Distribution: India: Rajasthan—Ajmer, Barmer, Bikaner, Jaisalmer, Jodhpur, Kota, Sawai Madhopur, Sikar, Tonk; Gujarat, Tamil Nadu, Kerala


Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel
Genus Monomorium Mayr

TAK : Ants (Formicidae) of Rajasthan


**Diagnostic Characters**: Length Worker : 3-3.5 mm., Worker : Ferruginous red with abdomen dark brown. Head opaque almost as broad as long, broader anteriorly than posteriorly. Mandibles narrow with three to four teeth, when closed partially concealed under the projecting margin of the clypeus. Antennae moderately long, the scape not quite reaching the posterior margin of the clypeus. Alitrunk anteriorly rounded moderately broad, the meso-metanotal suture distinct, the basal portion of the metanotum broadening posteriorly, Petiole the nodes seen from above equal. The rounded 1st node higher than the 2nd node and petiolate anteriorly. Abdomen oval.

**Distribution**: India : Rajasthan—Ajmer, Alwar, Banswara, Barmer, Bharatpur, Bhilwara, Churu, Dholpur, Hanumangarh, Jaipur, Jaisalmer, Jhalawar, Jodhpur, Jhunjhunu, Karauli, Kota, Sawai Madhopur, Tonk, Udaipur; Gujarat, Maharashtra, Chandigarh, Karnata, Punjab, West Bengal, Andhra Pradesh, Tamil Nadu.

*Elsewhere* : Myanmar.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Monomorium Mayr

*Monomorium (Xeromyrmex) longi* Forel


**Material Examined**: Workers : Banswara 15 exs., Daylab talab, 28.8.84, N.S.R., Coll.

**Diagnostic characters**: Length Worker—2.5 mm. Dull chestnut brown. Head more or less rugulose, opaque. Mandibles opaque with four teeth antennae long, scape reaching beyond the top of the head. Alitrunk long, pro-mesonotum very convex, meso-metanotal suture well marked, the alitrunk emarginate at the suture, the metanotum rectangular, sub-marginated at base sloping to the mesometanotal suture. Petiole the 1st node rounded at the apex petiolate anteriorly, 2nd node globose, broader than long, seen from above broader than the 1st node, abdomen elongate, oval.

**Distribution**: India : Rajasthan—Banswara; Assam, Tripura, Punjab, Chandigarh
Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Monomorium Mayr
Monomorium sagei Forel


Diagnostic characters: Length Worker 2.2-2.5mm. Pale yellow, smooth and shining. Mandible narrow with four acute teeth, Antennae 12-jointed, scape extending beyond the top of head, flagellum with a distinct club. Alitrunk convex above not sub-margined, alitrunk seen in profile deeply emarginate at the meso-metanotal suture. Petiole the 1st node squamiform, anteriorly petiolate, 2nd node from above circular, smoothly rounded a little broader in front than posteriorly, abdomen more than twice as long as broad.

Distribution: India: Rajasthan--Banswara; Karnataka, North-West Himalayas.

Sub-Family MYRMICINAE Lepeletier
Tribe Solenopsidini Forel

Genus Solenopsis Westwood
Solenopsis geminata Fabricius


Diagnostic characters: Length Worker : 3-4.5 mm. Worker: Reddish yellow, smooth and shining, the abdomen and borders of the mandibles marked with yellow. Head more or less square, posteriorly slightly emarginate. Mandibles 4-dentate apical tooth long and acute. Alitrunk pro-mesonotal suture obsolete, alitrunk seen in profile emarginate at meso- metanotal suture. Petiole 1st node squamiform, shortly petiolate, 2nd node seen from above oval, broader than long abdomen oval.

Distribution: India: Rajasthan--Udaipur; Gujarat, Karnataka, Kerala, Tamil Nadu, Punjab, Orissa, Andamans.

Elsewhere: Spread over both the Hemispheres, Sri Lanka, Philippines, Oceania.
TAK : Ants (Formicidae) of Rajasthan

Sub-Family MYRMICINAE Lepeletier
Tribe Pheidolini Emery

Genus Messor Forel

*Messor barbarus* subsp. *himalayana* Forel


**Diagnostic Characters:** Length Worker-4-10 mm. Black shining, the mandibles reddish brown, the flagellum of the antennae and legs castaneous, the scape brown. Head without the mandibles square longitudinally striate, masticatory margin of mandibles dentate. Alitrunk narrower than the head, the posterior lateral angles of the metanotum dentate, 1st node of the petiole conical, rounded above with a long petiole anteriorly, 2nd node broader, rounded above, about as broad as its length. Abdomen oval.

**Distribution:** India : Rajasthan—Ajmer, Banswara, Barmer, Bikaner, Churu, Dausa, Hanumangarh, Jaipur, Jaislmer, Jodhpur, Jhunjhunu, Kailaui, Nagaur, Sikar, Udaipur; Punjab, Chandigarh, N.W. Himalayas, Himachal Pradesh.

**Key to the Genus**

1 Club of antennae formed of apical three joints which together are as long as the remainder of the flagellum. Antennae 12 jointed.............................................................. *Pheidole*
Key to species of genus Pheidole-Soldier

A. First joint of petiole with no projection beneath. Pro and mesonotum not forming a single convexity. Whole head sculptured.

i) Frontal groove for reception of scape of antennae obsolete. Head including mandibles very large as long as or longer than alitrunk and petiole united ................................................................. P. wroughtoni

ii) Frontal groove for reception of scape of antennae distinct. Abdomen finally striate at base ............................................................................................................ P. sulcaticeps

Sub-Family MYRMICINAE Lepeletier
 Tribe Pheidolini Emery

Genus Pheidole Westwood

Pheidole (Pheidole) sulcaticeps Roger


Soldier: Reddish brown shining, the head and abdomen darker than the alitrunk. Head rectangular as broad posteriorly as in front longitudinally striate, the striae curving laterally outwards and becoming transverse on the posterior lobes, a distinct transverse depression on the vertex, mandibles triangular smooth and shining, sparsely punctured. Clypeus smooth and slightly depressed in the middle, its anterior margin incised. Antennal groove very well marked, scape of the antennae not reaching quite half way from the insertion to the top of the head. Alitrunk transversely striate, anteriorly convex, the mesonotal transverse groove and ridge very distinct, the metanotum flat above, the metanotal spines short, erect, acute. Petiole the 1st node squamifom above, transverse not emarginate 2nd node transverse rounded above, opaque. Abdomen broadly oval.

Distribution: India: Rajasthan–Bundi, Jaipur, Jaisalmer; Gujarat, Western India, West Bengal.

Elsewhere: Sri Lanka, N.W. Provinces.

Sub-Family MYRMICINAE Lepeletier
 Tribe Pheidolini Emery

Genus Pheidole Westwood

Pheidole (Pheidole) wroughtoni Forel


Diagnostic Characters: Length Soldiers: 5.5-6mm.

Soldier: Head, alitrunk, petiole and the extreme base of the abdomen chestnut red, the rest of the abdomen, the mandibles and clypeus, dark brown or black. Body covered with soft erect hairs. Head proportionately very large rectangular, anteriorly longitudinally and coarsely, and posteriorly on the lateral lobes transversely striate. Mandibles triangular, punctate. Clypeus medially slightly emarginate. No antennal groove. The scape of the antennae short not reaching quite half the distance between their insertion at the top of the head. Alitrunk transversely striate, anteriorly rounded and convex with no lateral tubercles, mesonotum with a transverse groove and posterior to it a transverse ridge, metanotum broad, base transversely striate posteriorly smooth, the metanotal spines short, stout, erect and acute. Petiole with the first node emarginated above with no appendix beneath, 2nd node transverse twice as long as broad, convex., Abdomen oval, opaque.

Distribution: India: Rajasthan–Barmer, Jodhpur; Gujarat, Karnataka.

Sub-Family MYRMICINAE Lepeletier
Tribe Pheidologetini Emery

Genus Pheidologeton Mayr
Pheidologeton affinis Jerdon


Diagnostic Characters: Length Soldier: 5 to 11 mm. Chestnut red colour, polished and shining, the mandibles black, sculpture more feeble and the median longitudinal furrow less deeply impressed. Head proportionately much longer with no ocellus on the front. Mandibles large, smooth, the masticatory margin with two strong teeth at apex Antennae 11 jointed, scape short, club of the antennae formed of 2 apical joints of flagellum. Alitrunk smaller, scutellum prominent and gibbous, pronotum not armed. Petiole with 1ST node narrower, more conical and not emarginate above, the keel below less strongly marked.

Distribution: India: Rajasthan–Udaipur: Maharashtra, Kerala, Karnataka, West Bengal, Assam, Tamil Nadu, Manipur.
1. Club of flagellum formed of the apical three joints which together are as long as the remainder of the flagellum. Antennae 11 or 12 jointed....................... *Tetramorium*

**Key to species of Genus Tetramorium**

i) Antennae 12-jointed  Pronotum not armed

a) Erect hairs on body trifid ................................................................. *T tetramorium walshi*

b) Erect hairs on body not trifid, simple ......................... *Tetramorium salvatum* Forel

Sub-Family MYRMICINAE Lepeletier

Tribe Tetramorini Emery

Genus *Tetramorium* Mayr


*Diagnostic characters*: Length Workers: 2.3-2.4 mm. Worker: reddish yellow in colour, abdomen dark brown. Head rectangular a little broader posteriorly than in front the sides convex. Mandibles armed with 7 teeth. The eyes are large and more convex. Antennae 11 jointed, Alitrunk Pronotum broad anteriorly, not emarginate at the meso-metanotal suture. Metanotal spines as long as about two-thirds of the space between them. First node of petiole as broad as long, second node narrowed anteriorly, broadened posteriorly. Abdomen convex.

*Distribution*: India: Rajasthan-Barmer, Karauli; Gujarat, Western India, N.W. Himalayas.

Sub-Family MYRMICINAE Lepeletier

Tribe Tetramorini Emery

Genus *Tetramorium* Forel

*Tetramorium walshi* Forel


*Diagnostic Characters*: Length Worker: 2.5 mm. Dull brown, abdomen black. Pilosity very dense and woolly, whitish in colour and somewhat concealing the sculpture. Head narrowed anteriorly. Posterior margin of clypeus produced between the basis of antennae. Mandibles broad with 5-7 teeth. Antennae 12-jointed, short, the scape not reaching the top
of the head. Alitrunk short and broad, curved and convex above, pronotum unarmed, the metanotal spine sub-triangular and acute at apex pointing obliquely back. Erect hairs on body trifid. First node of petirole distinctly transverse, much broader than long. Petirole of 1st node nearly as long as node.

**Distribution**: India: Rajasthan-Dungarpur, Kota, Udaipur; Karnataka, Kerala, Tamil Nadu, Meghalaya, Arunachal Pradesh, Orissa, West Bengal, Himachal Pradesh.

**Elsewhere**: Sri Lanka.

Sub-Family **FORMICINAE** Lepeletier

**Tribe** _Camponotini_ Forel

**Genus** _Componotus_ Mayr

**FORMICINAE**

**Key to genera of subfamily FORMICINAE**

A. Antennae 12 jointed, Maxillary palpi 6 jointed.

1. Antennae inserted at perceptible distance from posterior margin of clypeus.

   i) Alitrunk and node of petirole not spinous, basal two abdominal segments equal in length ................................................................. _Camponotus_

   ii) Alitrunk and node of petirole spinous, basal segment much longer than the 2nd..

2. Antennae inserted immediately above posterior margin of clypeus, almost touching it.

   i) Antennal and clypeal hollows not confluent, distinct .................... _Paratrechina_

   ii) Antennal and clypeus hollows confluent.

      a) Ocelli present. Node of petirole rounded. 4th joint of maxillary palpi nearly twice as long as 5th ...................................................... _Cataglyphis_

      b) Antennae 12 jointed, maxillary palpi 5 jointed ..................... _Oecophylla_

B. Antennae 11 jointed, maxillary palpi 6 jointed.

   i) Metanotum and node of petirole bispinous or bidentate .............. _Acantholepis_

**Key to species of the genus Camponotus**

A. Alitrunk viewed from side forming a regular arch.

  1. Head, alitrunk and abdomen black.
i) Tibia of the legs prismatic. Head posteriorly narrow but not confluent to form a collar .......................................................... C. compressus

ii) Tibia of the legs prismatic. Head posteriorly constricted so as to form a collar .......................................................... C. angusticollis

2. Head, alitrunk and abdomen yellow. C. invidus

3. Head, alitrunk and abdomen never all black or all yellow.

1) Tibia cylindrical without spines.
   a) Worker major with 7 teeth ..................................................... C. taylori
   b) Worker major with 6 teeth ..................................................... C. variegatus

2) Tibia compressed
   i) Tibia spined beneath.
      a) Head much broader posteriorly than in front ......................... C. dichrous
      b) Head only as broad posteriorly as in front ........................... C. irritans
   ii) Tibia without spines beneath.
      a) Head, alitrunk and abdomen dark castaneous brown .............. C. carin
      b) Head and abdomen fuscous brown or black, alitrunk honey yellow ... C. mitis

B. Regular arch of the alitrunk interrupted at the meso-metanotal suture by the metanotum forming an angle with the mesonotum, basal portion of metanotum horizontal flat or concave, apical portion excavate.

i) Tibia of legs spinous beneath node of petiole thick, globose .......... C. sericeus

Camponotus (Dinomyrmex) angusticollis Jerdon

1851. Camponotus (Dinomyrmex) angusticollis Jerdon, Madras Jour. Lit. Sc., 17 : 120, Worker, Female, Soldier, 4. (Formica angusticollis)


Diagnostic characters: Length Worker: min : 12 mm. Worker: Black opaque Head subtriangular mandibles with 6 teeth. Clypeus with a very prominent medial vertical carina.
Alitrunk elongate constricted to form a collar. Node of the petiole thick, the front at base flat, above very convex, the upper margin transverse and notched, posteriorly flat and truncate, tibia of the legs prism shaped, abdomen oval and massive.

**Distribution**: India: Rajasthan—Jaisalmer, Jodhpur, Udaipur; Gujarat, Maharashtra, Western India, Karnataka, Tamil Nadu, Kerala, Meghalaya, Assam, Central India, Orissa, West Bengal, Andaman and Nicobar Islands.

**Elsewhere**: Myanmar, Nepal.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

**Genus Camponotus** Mayr

*Camponotus (Tanaemyrmex) compressus* Fabricius


**Diagnostic characters**: Length Worker: 13 mm. Worker: Black opaque. Head sub triangular, very broad posteriorly. Mandibles triangular with seven teeth. Clypeus medially vertically carinate. Alitrunk narrower than the head, anteriorly produced into a collar, Node of the petiole oval, transverse convex in front, flat posteriorly. Tibia of the legs prismative. Abdomen broad and massive.

**Distribution**: India: Rajasthan—Alwar, Barmer, Bharatpur, Bilwara, Dungarpur, Hanumangarh, Jaisalmer, Jhunjhunu, Jodhpur, Nagaur, Pali, Sawai Madhopur, Sikar, Udaipur; Gujarat, Maharashtra, Tripura, Andamans, Chandigarh, Karnataka, Tamil Nadu, Assam, West Bengal, Meghalaya, Punjab, Orissa, Sikkim, Manipur.
Elsewhere: Sri Lanka, Myanmar, Russia, Arabia, Africa, Borneo, Philippines, Nepal, Malayan subregion.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus Camponotus Mayr

Camponotus (Tanaemyrmex) irritans Fred. Smith


Diagnostic characters: Length Worker maj. 8-10 mm. Worker: Head and abdomen dark castaneous brown, antennae, alitrunk petiole and legs honey yellow. Head subtriangular, very convex in front with 7 teeth, clypeus raised along the medial carina. Alitrunk longer, narrower more compressed in front, flat posteriorly. Node of petiole narrow conical convex in front, flat posteriorly. Abdomen short and narrow.

Distribution: India: Rajasthan-Barmer, Jodhpur; Gujarat, Karnataka, West Bengal.

Elsewhere: Sri Lanka, Malay Peninsula, Bangkok, Borneo, China, Java, Sumatra.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus Camponotus Mayr

Camponotus (Tanaemyrmex) carin Emery


Diagnostic Characters: Length Worker maj.=11–12 m.m. Worker: Head and scape of antennae black, alitrunk and abdomen dark fuscous brown. Head elongate, broader in front narrower oval, the posteriorly occiput transverse but the occipital angles not prominent, mandibles with six teeth. Clypeus rather narrow, vertically carinate down the middle, median lobe slightly produced. Alitrunk seen from side forming a regular arch. Pronotum remarkable long, narrowed anteriorly forming a neck, about twice as long as broad. Petiole one jointed and the node of the petiole very thick at base, low and conical. Abdomen narrow, oval.

Distribution: India: Rajasthan-Sawai Madhopur, Maharashtra.
Elsewhere: Myanmar, Tenasserim, China.

Remarks: Recorded for the first time from Rajasthan.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Farel

Genus Camponotus Mayr
Camponotus (Tanaemyrmex) mitis Smith


Diagnostic Characters: Length Worker: 8-10 mm. Worker Major Head, scape of antennae and abdomen opaque dark fuscous brown, flagellum of the antennae, alitrunk and legs yellowish brown. Head sub-triangular, broad posteriorly, mandibles with 7 teeth. Distance between antennal carinae equal to distance between eyes and antennal carina. Alitrunk viewed from side forming a regular arch. Legs moderately long, tibia prism shaped without spines, Abdomen broad, long and massive.

Distribution: India: Rajasthan-Jodhpur; Maharashtra, Chandigarh, Orissa, Sikkim, Tamil Nadu, Andaman & Nicobar Islands.

Elsewhere: Myanmar, Tenasserim, the Malay Peninsula and islands down to Borneo.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus Camponotus Mayr
Camponotus (Tanaemyrmex) invidus Forel


Diagnostic Characters: Length Worker: 5-6 m.m. Worker Head, alitrunk and abdomen entirely pale yellow with sparse erect yellowish pubesceus. Head more or less elongate, sides of the head straight not convex. Mandibles with 6 teeth; clypeus comparatively broad. Antennae 12 segmented, comparatively long and thick. Alitrunk convex anteriorly, strongly laterally compressed posteriorly, with the pro-meso and metanotum more strongly curved. Legs stout, tibia cylindrical. Petiole one jointed, node low, convex in front, flat posteriorly, abdomen comparatively long and massive.
**Distribution**: India: Rajasthan–Sawai Madhopur; Orissa, Himachal Pradesh, Uttaranchal, Sikkim, West Bengal, Delhi.

**Remarks**: Recorded for the first time from Rajasthan.

**Sub-Family FORMICINAE Lepeletier**
**Tribe Camponotini Farel**

Genus *Camponotus* Mayr

*Camponotus (Tanaemyrmex) taylori* Forel


**Diagnostic Characters**: Length Worker maj. 7–8 m.m. Worker: Castaneous brown in colour. Head subtriangular, mandibles with 7 teeth. Antennae 12 jointed, scape of antennae cylindrical. Median lobe of clypeus with its anterior margin transverse. Alitrunk very broad and short viewed from side forming a regular arch. Tibia cylindrical and without spines. Abdomen short and broad. Petiole one jointed, node of petiole oval, transverse, convex in front, flat posteriorly.

**Distribution**: India: Rajasthan–Jodhpur, Sawai Madhopur; Maharashtra, Sikkim, Orissa, Kerala, Tamil Nadu, West Bengal, Himalayas.

**Elsewhere**: Myanmar, China, Sri Lanka.

**Genus Camponotus Mayr**

*Camponotus (Tanaemyrmex) variegatus* Smith

1858. *Camponotus (Tanamyrmex) variegatus* Smith (*Formica*) Cat., VI : 19, Worker, Female.


**Diagnostic Characters**: Length Worker maj.: 9–10 m.m. Worker: Yellowish red without lusture. Head subtriangular, rather elongate, the posterior lateral angles not prominent, mandibles with 6 teeth. Scape of antennae cylindrical. Median lobe of clypeus with its anterior margin transverse. Alitrunk narrow rather compressed, seen from side forming a
regular arch. Tibia cylindrical and without spines beneath. Petiole one jointed and the node of the petiole small, remarkably thick, very convex in front, flat posteriorly, abdomen broadly oval.

**Distribution**: India: Rajasthan–Sawai Madhopur; Tamil Nadu


Remarks: Recorded for the first time from Rajasthan.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus *Camponotus* Mayr

*Camponotus dichrous* Forel


**Diagnostic Characters**: Worker: 9–11 m.m. Worker: Head and 3rd and following segments of the abdomen pitch–black, basal two segments yellow, the alitrunk brown. Head triangular much broader posteriorly than in front, the lateral occipital angles very prominent, mandibles with 7 teeth, clypeus carinate with a median anteriorly produced rectangular lobe. Scape of antennae cylindrical. Tibia compressed and spined beneath. Altrunk anteriorly narrowed into a collar, seen from side forming a regular arch. Petiole one jointed and node of petiole convex in front, flat posteriorly. Abdomen oval not broader than the head.

**Distribution**: India: Rajasthan–Alwar, Sawai Madhopur; Punjab, Uttar Pradesh, West Bengal, Himalayas.

Remarks: Recorded for the first time from Rajasthan.

Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus *Camponotus* Mayr

*Camponotus (Orthonotomyrmex) sericeus* Fabricius


Diagnostic characters: Length Worker maj. 10 mm. Worker: Black with the head blood red in colour. Abdomen with a dense silky golden pubescence hiding the sculpture. Head very broad, emarginate posteriorly, mandibles with 5 teeth. The anterior border of clypeus emarginate in the middle. Alitrunk broad in front, strongly compressed posteriorly, emarginate at the meso-metanotal suture, the basal face of the metanotum horizontal, flat the sides margined posterior face excavate. Node of petiole rounded knob like. Abdomen very broad globose.

Distribution: India: Rajasthan–Dungarpur, Jaipur, Kota; Gujarat, Maharashtra, Chandigarh, Karnataka, Tamil Nadu, West Bengal, Meghalaya, Punjab, Orissa, Manipur, Delhi.


Sub-Family FORMICINAE Lepeletier
Tribe Camponotini Forel

Genus Polyrhachis Smith

Polyrhachis (Myrmhopla) simplex Mayr


Diagnostic characters: Length Worker: 4.5-7 mm. Worker: Black, head and alitrunk punctured, granulate, abdomen opaque, pubescence almost entirely absent. Head broadly oval, clypeus with a distinct medial vertical carina, the anterior margin incised in the middle, antennal carinae wide apart. Alitrunk narrower than the head, compressed posteriorly, pronotum and mesonotum longer than broad, pronotal spines very short and thick directed obliquely outwards, metanotal spines erect, slightly divergent, the apex slightly bent outwards, legs stout tibia without hairs. Node of the petiole broader than long, biconvex, with two spines on the upper lateral angles and two obtuse teeth in the middle between them, abdomen short, very convex above, globose.

Distribution: India: Rajasthan–Sawai Madhopur, Udaipur; Gujarat, Tamil Nadu, Chandigarh.

Sub-Family FORMICINAE Lepeletier
Tribe Formicini Forel

Genus Cataglyphis Forster

Cataglyphis bicolor setipes Emery


**Diagnostic characters**: Length Worker: 10-12 mm. Worker: Head, alitrunk, legs and node of petiole dark red, legs and abdomen black. Head quadrangular not emarginate posteriorly, mandibles comparatively large, strongly dentate, the apical tooth remarkably long, curved and acute. Three ocelli present. Alitrunk viewed from the side constricted in the middle, saddle shaped; pronotum convex, mesonotum long, narrow rounded above, metanotum short gibbous. Petiole one jointed, node rounded, not much raised. Abdomen oval.

**Distribution**: India: Rajasthan–Barmer, Bhilwara, Bikaner, Churu, Jaisalmer, Jodhpur, Karauli; Gujarat, Chandigarh, Punjab, Delhi, West Bengal, Tamil Nadu.

**Elsewhere**: Persia, North Eastern and Northern Africa, South Europe, Iran.

**Sub-Family** FORMICINAE Lepeletier  
**Tribe** Oecophyllini Forel  
**Genus** Oecophylla Smith


**Diagnostic characters**: Length Worker maj. 9.5-11 mm. Worker min. 7-8 min. Worker: Rusty red. Head of maj. and min. relatively the same size, roundly quadrangular, posteriorly not emarginate and slightly broader than in front. Mandibles long with masticatory margin very broad in proportion to length, dentate, the apical tooth acute and curved, clypeus strongly convex about two third as high as broad, its anterior margin strongly arched. Antennae 12-jointed originating from the anterior margin of the clypeus. Alitrunk elongate,
pronotum convex, anteriorly narrowed into a collar, mesonotum constricted, narrow, saddle shaped. Metanotum rounded above, gibbous. Petiole elongate, incrassate in the middle scarcely nodiform. Abdomen short oval.

**Distribution**: India: Rajasthan—Banswara; Gujarat, Maharashtra, Uttar Pradesh, Sikkim, Uttarakhand, Assam, Chandigarh, Meghalaya, Orissa, Tamil Nadu, Karnataka, Kerala, Andamans, N.W. Himalayas.

**Elsewhere**: Myanmar, Sri Lanka, S. China, Malaya, New Guinea, Australia, Java.

Sub-Family FORMICINAE Lepeletier
Tribe Prenolepidini Forel

Genus Paratrechina Motschoulsky
**Species of the Genus Paratrechina (Prenolepis)**

Scape of antennae remarkably long, extending beyond top of head by more than half its length ........................................................................................................... *P. longicornis*

a) Scape of antennae extending beyond top of head by less than half its length..........

.................................................................................................................................................*P. taylori*


**Diagnostic characters**: Length Worker: 2.5–3mm. Dull coppery brown in colour, with fairly abundant, long, erect, somewhat coarse hairs. Head oval as broad in front as posteriorly. Mandible small with 5-6 teeth. Antennae 12 jointed, scape of antennae remarkably long, extending beyond the top of the head by more than half its length. Alitrunk elongate, rounded above viewed from side lightly emarginate at the mesonotum, not constricted at the mesometanotal suture. Node of the petiole not so broad as high. Abdomen anteriorly gibbous oval and massive.

**Distribution**: India: Rajasthan—Alwar, Jhalawar: Western India, Maharashtra, Orissa, West Bengal, Uttar Pradesh, Tamil Nadu.

**Elsewhere**: All tropical countries (Europe).

Sub-Family FORMICINAE Lepeletier
Tribe Prenolepidini Forel

Genus Paratrechina Motschoulsky
**Paratrechina taylori** Forel


Diagnostic Characters: Length Worker: 1.5-2mm. Pale yellow in colour, body covered with scattered, short semi-erect pale hairs. Head oval longer than broad very convex in front. Mandibles narrow, the masticatory margin oblique scape of antennae extending beyond top of head by less than half its length. Eyes rather small. Alitrunk elongate, the pro-meso and meso-metanotal sutures distinct, meso-notum not constricted. Node of petiole low, inclined forward, flat, rounded above. Abdomen massive, convex above, gibbous in front.

Distribution: India: Rajasthan-Alwar; West Bengal, Orissa, Western India

Elsewhere: Sri Lanka.

Sub-Family FORMICINAE Lepeletier
Tribe Plagiolepidini Forel

Genus Acantholepis Mayr
Acantholepis frauenfeldi Emery


Diagnostic Characters: Length Worker: 3.5 mm. Worker: Head brown, mandibles, antennae alitrunk, legs and node of petiole brownish yellow abdomen dark brown, Head distinctly longer than broad, rounded above, mandibles narrow, curved with the apical tooth long and acute, clypeus strongly convex, Scape of antennae remarkably long extending for more than half its length beyond the top of the head. Alitrunk the pronotum from above appears circular, the mesonotum strongly constricted in front forming a cylindrical neck, widening posteriorly, the metanotal teeth thick and broad at base, the meso-metanotal suture deep and distinct. Node of petiole pentagonal the upper border slightly emarginate. Abdomen oval.
Distribution: India: Rajasthan–Ajmer, Barmer, Bhilwara, Churu, Dausa, Jodhpur, Jaisalmer, Karauli; Maharashtra, Chandigarh, Punjab, Andhra Pradesh, Meghalaya, West Bengal, Karnataka.

Elsewhere: Southern Europe, N. Africa.

Sub-Family FORMICINAE Lepeletier
   Tribe Plagiolepidini Forel

Genus Anoplolepis Santschi
   Anoplolepis jerdoni Forel


Diagnostic characters: Length Worker: 1.5 mm. Worker: Brownish black, head smooth polished and shining. Head a little longer than broad, slightly emarginate posteriorly. Mandibles narrow, masticatory margin with five teeth, the apical tooth long and acute. Antennae 11-jointed slender scape extending slightly more beyond the top of the head. Alitrunk short and broad pronotum large convex mesonotum from above circular, convex meso-metanotal emargination well-marked, metanotum nearly as broad as the pronotum. Node of the petiole low transverse above, inclined to the front. Abdomen oval.

Distribution: India: Rajasthan–Banswara, Dungarpur; Maharashtra, Gujarat, West Bengal, Karnataka, Kerala.

SUMMARY

The manuscript deals with 51 ant species distributed under 22 genera of the Family Formicidae. The Family Formicidae comprises eight sub-families namely Dorylinae with 1 genera and 2 species, Aenictinae with 1 genera and 1 species, Dolichoderinae with 1 genera and 1 species, Cerapachyinae with 1 genera and 2 species, Ponerinae with 2 genera and 4 species, Pseudomyrmecinae with 1 genera and 1 species, Myrmicinae with 8 genera and 23 species, Formicinae with 7 genera and 17 species.

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ANTS COLLECTION SITES
1. *Dorylus (Typhlopane) labiatus* Shuckard
2. *Dorylus (Alaopone) orientalis* Westwood
3. *Aenictus (Aenictus) brevicornis* Mayr
4. *Tapinoma (Micromyrma) melanocephalum* Fabricius
5. *Cerapachys longitarsus* Mayr
6. *Cerapachys (Cerapachys) risi* Forel
7. *Anochetus punctiventris* Mayr
8. *Anochetus taylori* Forel
11. Tetraponera (Tetraponera) nifon (Jerdon)

10. Leptogenys (Lobopelta) processionalis Jerdon

12. Crematogaster (Acrocoelia) Brunnea var. Contemta Mayr

14. Crematogaster (Orthocrema) walshi Forel

15. Meranoplus bicolor Guerin

16. Monomorium (Lampromyrmex) atomus Forel
17. *Monomorium (Monomorium) latentode* Mayr

18. *Monomorium (Monomorium) pharaonis* Linne

19. *Monomorium (Monomorium) wroughtoni* Forel

20. *Monomorium (Holcomyrmex) criniceps* Mayr

21. *Monomorium (Holcomyrmex) glabrum* Em. André

22. *Monomorium (Holcomyrmex) scabriceps* Mayr

23. *Monomorium (Parholcomyrmex) destructor* Jerdon

24. *Monomorium (Parholcomyrmex) gracillimum var. Mayri* Forel
25. *Monomorium* (*Xeromyrmex*) *salomonis indicum* Forel

26. *Monomorium* (*Xeromyrmex*) *longi* Forel

27. *Monomorium sagei* Forel

28. *Solenopsis geminata* Fabricius

29. *Messor baabarus* subsp. *himalayana* Forel

30. *Pheidole* (*Pheidole*) *sulciceps* Roger

31. *Pheidole* (*Pheidole*) *wroughtoni* Forel

32. *Pheidolgeton affinis* Jerdon
PLATE-5

33. Tetramorium salivatum Forel
35. Camponotus (Dinomyrmex) angusticollis Jerdon
37. Camponotus (Tanaemyrmex) irritans Fred-Smith
39. Camponotus (Tanaemyrmex) mitis Smith

34. Tetramorium walschi Forel
36. Camponotus (Tanaemyrmex) compressus Fabricius
38. Camponotus (Tanaemyrmex) carin Emery
40. Camponotus (Tanaemyrmex) invidus Forel
49. *Parataechina taylori* Forel

50. *Acantholepis frauenfeldi* Emery

51. *Anopialepis jerdoni* Forel