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# FIRST REPORT ON THE FORMICID FAUNA (HYMENOPTERA) OF CHANDIGARH

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## ABSTRACT

Sixtythree species of family Formicidae belonging to 5 subfamilies and 26 genera have been collected from Chandigarh and adjoining hilly areas. Out of these, 8 species appear to be new additions. The habitats and the original references of the already-known species have been recorded.

## INTRODUCTION

The family Formicidae includes hymenopterans commonly called ants. A taxonomic account of ants of this country including Sri Lanka and Burma has been given by Bingham (1903) in a volume of *Fauna of British India*; he described 497 species under five subfamilies. Hardly any other attempt has been made to study the dispersal and limits of formicid fauna by making intensive collections in different climatic areas. Mukherji and Ribeiro (1925) and Donisthorpe (1929) have only listed the species of ants collected from Andaman Islands and Mount Everest Expedition respectively. The present report deals with 63 species of ants collected from Chandigarh and adjoining hilly areas. Eight species reported as new species are being described in detail separately.

A list of the identified and new species together with their original references and the habitats is given below:—

### Subfamily Myrmecinae

1. *Tetramorium pilosum* Emery  
*Tetramorium (Xiphomyrmex) pilosum*, Emery, Ann. Soc. Ent. Fr. lxii (1893),  
p. 247 worker  
Habitat : Soil
2. *Tetramorium wroughtoni* Forel  
(*Rhoptromyrmex*), Rev. Suisse Zool. x (1902), p. 231.  
Habitat : Soil  
A very common species in this area.
3. *Tetramorium nursei* Bingham  
Fauna of British India, Hymenoptera, Vol. ii, 1903.  
Habitat : Soil
4. *Tetramorium christiei* Forel  
Rev. Suisse Zool. x (1902), p. 232.  
Habitat : Soil

5. *Meranoplus bicolor* Guer

(*Cryptocerus*) Cuv. Iconogr. Regn. Anim. Ins. iii (1838), p. 425; Smith, Trans. Ent. Soc. Lond. 1875, p. 34, pl. i, Figs. 1-3 worker female male.

Habitat : Grass

According to Bingham (1903), this species avoids hot and temperate zones, but this species is very common in Chandigarh.

6. *Cataulacus taprobanae* Smith

Trans. Ent. Soc. Ser. 2, ii (1853), p. 225.

Habitat : *Eucalyptus* sp.

7. *Cataulacus simoni* Emery

Ann. Soc. Ent. Fr. lxii (1893), p. 248, worker.

Habitat : Soil

8. *Cremastogaster dohrni* Mayr

Verh. zool.-bot.-Ges. Wien., xxviii (1878), pp. 681 & 682, worker.

Habitat : *Mangifera Indica* (mango)

9. *Cremastogaster* sp. nov. I

Habitat : *Ficus glomerata*

10. *Cremastogaster wroughtoni* Forel

Rev. Suisse zool. x (1902), p. 206, worker female.

Habitat : Soil

11. *Cremastogaster contemta* Mayr

Verh. zool.-bot. Ges. Wien., xxviii (1878), pp. 681 and 685, worker.

Habitat : *Mangifera indica* (mango)

12. *Cremastogaster* sp. nov. 2

Habitat : *Eucalyptus* sp.

13. *Cremastogaster buddhae* Forel

Rev. Suisse Zool. x (1902), p. 206, worker.

Habitat : *Psidium guaiava* (amrood)

14. *Cremastogaster hodgsoni* Forel

Rev. Suisse Zool. x (1902), p. 204, worker.

Habitat : Soil

15. *Cremastogaster anTHRacina* Smith

Jour. Linn. Soc. ii (1857), p. 75, worker.

Habitat : *Eucalyptus* sp.

16. *Cremastogaster subnuda* Mayr

Verh. zool.-bot. Ges. Wien. xxviii (1878), pp. 680 and 682, worker.

Habitat : *Acaela arabica* (kiker)

17. *Cremastogaster* sp. nov. 3

Habitat : Crevices in walls.

18. *Cremastogaster walshi* Forel

Rev. Suisse Zool. x (1902), p. 205, worker.

Habitat : Soil

19. *Cremastogaster aberrans* Forel

Ann. Soc. Ent. Belg. xxxvi (1892), p. 531, worker.

Habitat : *Citrus aurantium* (orange)

20. *Cremastogaster ransonneti* Mayr

Verh. zool.-bot. Ges. Wien., xviii (1868), p. 287, worker.

Habitat : *Mangifera indica* (mango)

21. *Cremastogaster dalvi* Forel

Rev. Suisse Zool. x (1902), p. 201.

Habitat : Grass

Species of the genus *Cremastogaster* are generally plant dwellers and when they are touched they raise their abdomens vertically on the long axis of body. Some of these species are very common in Chandigarh.

22. *Lophomyrmex quadrispinosus* Jerdon

(*Ociodoma*), Madr. Jour. L.S. xvii (1851), p. 111, worker; Emery, Ann. Mus. Civ. Gen. xxxii (1892), p. 114.

Habitat : Soil

This species is common in hilly areas only.

23. *Sima rufonigra* Jerdon

(*Eciton*), Madr. Jour. L. S. xvii (1851), p. 111; id. A.M.N.H. (2) xiii (1854), p. 53.

Habitat : *Mangifera indica* (mango)

24. *Sima allaborans* Walker

(*Pseudomyrma*), A.M.N.H. (3) iv (1859), p. 375, male.

Habitat : *Populus* sp.

25. *Sima fergusoni* Forel

*Sima nigra*, Smith, race *fergusoni*, Forel, Rev. Suisse Zool. x (1902), p. 248.

Habitat : *Mangifera indica* (mango)

The species of this genus are most virulent. Their sting is most painful and sometimes causes considerable inflammation. They make their nests in the hollows of trees.

26. *Holcomyrmex scabriceps* Mayr

Verh. zool.-bot. Ges. Wien, xxviii (1878), p. 672, worker.

Habitat : Soil

27. *Holcomyrmex criniceps* Mayr

Verh. zool.-bot. Ges. Wien, xxviii (1878) p. 672 worker.

Habitat : Soil

The species of this genus are vegetarian and harvesters (seed collectors). They can be seen returning home laden with seeds.

28. *Messor barabarus* var. *instabilis* Linn.

(*Formica*) Syst. Nat. 12th ed. i (1767), p. 962.

Habitat : Crevices in stones.

29. *Messor* sp. nov. 1  
 Habitat : Soil  
 These two species of *Messor* are very common in Chandigarh.
30. *Messor himalyanus* Forel  
*Stenamma*, (*Messor*) *barbarum*, race *himalyanum*, Forel, Rev. Suisse Zool. x (1902), p. 220.  
 Habitat : Crevices of walls
31. *Messor* sp. nov. 2  
 Habitat : Crevices in stones.  
 The species of genus *Messor* are harvester (seed collecting) ants, and seeds can be seen near the entrance of their colony.
32. *Aphaenogaster sagei* Forel  
 Rev. Suisse Zool. x (1902), p. 221, worker female male.  
 Habitat : Soil
33. *Monomorium aberrans* Forel  
 Rev. Suisse Zool. x (1902), p. 209.  
 Habitat : Soil
34. *Monomorium longi* Forel  
 Rev. Suisse Zool. x (1902), p. 212.  
 Habitat : Soil
35. *Monomorium indicum* Forel  
*Monomorium salomonis*, Linn., race *indicum*, Forel,  
 Rev. Suisse Zool. x (1902), p. 213.  
 Habitat : Soil  
 A very common species in Chandigarh.
36. *Phidole Smythiesi* Forel  
 Rev. Suisse Zool. x (1902), p. 165 & 185, worker female ; id. Jour. Bomb. N.H. Soc. xiv (1902), pp. 523 & 538.  
 Habitat : Crevices in stones.
37. *Phidole watsoni* Forel  
 Rev. Suisse Zool. x (1902), pp. 171 and 189, 4 female male ; Jour. Bomb. N.H. Soc. xiv. (1902), pp. 527 & 541.  
 Habitat : Grass
38. *Phidole* sp. nov.  
 Habitat : Soil
39. *Phidole malinsi* Forel  
 Rev. Suisse Zool. x (1902), pp. 167 & 187, 4 worker ; id. Jour. Bomb. N.H. Soc. xiv (1902), pp. 524 & 539.  
 Habitat : Soil

## Subfamily—Ponerinae

40. *Odontoponera transversa* Smith  
 Jour. Linn. Soc. ii (1857), p. 68, worker; Forel, Jour. Bomb. N. H. Soc. xiii (1900), p. 314, worker.  
 Habitat : *Mangifera indica* (mango)
41. *Brachyponera nigrita* Emery  
 Ann. Mus. Civ. Gen. XXXiv (1894), p. 459, worker; Forel (*Ponera*), Jour. Bomb. N. H. Soc. xiii (1900), pp. 324 & 326, worker.  
 Habitat : Soil

## Subfamily—Formicinae

42. *Oecophylla smaragdina* Fabr.  
 (*Formica*) Syst. Ent. (1775), p. 828 female ; Forel, Jour. Bomb. N. H. Soc. viii (1894) p. 400.  
 Habitat : *Mangifera indica* (mango)  
 This is the notorious and vicious "red ant" of India. It inhabits trees and makes a nest of leaves.
43. *Polyrhachis simplex* Swains & Shuck  
 Verh. zool.-bot. Ges. Wien, xii (1869), p. 882 female ; Forel, Jour. Bomb. N. H. Soc. viii (1893), pp. 26 & 34 worker female.  
 Habitat : *Prunus persicicum* (aru)
44. *Camponotus sericeus* Fabr.  
 (*Formica*) Ent. Syst. Suppl. (1798), p. 279; Forel, Jour. Bomb. N. H. Soc. vii (1892), pp. 223 and 231, worker.  
 Habitat : *Gossypium indicum* (cotton)
45. *Camponotus mitis* Smith  
 (*Formica*), Cat. vi (1856), p. 20, worker. *Formica ventralis* female and *bacchus* worker, Smith, Cat. vi (1858), pp. 20 & 21.  
 Habitat : *Hollows of Acacia arabica* (kiker).
46. *Camponotus Compressus* Fabr.  
 (*Formica*), Mant. ins. i (1787), p. 307, worker ; Smith (*Formica*), Cat. vi (1858), p. 13 female male. Habitat : Soil & stems of cultivated plants
47. *Camponotus paria* Emery  
*Camponotus micans* Nyl., race *paria*, Emery, Ann. Mus. Civ. Gen. xxvii (1889), p. 513, worker.  
 Habitat : *Mangifera indica* (mango)
48. *Colobopsis* sp. nov.  
 Habitat : *Mangifera indica* (mango)  
 A rare species.
49. *Prenolepis naorjii* Forel  
 Ann. Soc. Ent. Belg. x I vi (1902), p. 290.  
 Habitat : Hollows of rotten wood

50. *Myrmecocystus setipes* Forel

*Myrmecocystus viaticus* race *setipes*, Forel, Jour. Bomb. N. H. Soc. viii (1894), p. 401. worker.

Habitat : Soil

This is a long-legged and fast-running species and its workers also possess three triangularly placed ocelli. A common species in Chandigarh.

51. *Formica gagates* Latr.

Ess. Host. Fourm. Fr. (1798), p. 36; Forel, Jour. Bomb. N. H. Soc. viii (1894), p. 402.

Habitat : Crevices in walls

52. *Acantholepis frauenfeldi* Mayr

(*Hypolinea*), Verh. zool.-bot. Ver. Wien, v (1855), p. 378, worker; Forel, Jour. Bomb. N. H. Soc. viii (1894), pp. 411, 413, worker.

Habitat : *Eugenia jambolina* (*jaman*)

The author (Bingham, 1903) has not described the presence of ocelli in the workers of this species, although each of them does possess three ocelli arranged in a triangle.

53. *Acantholepis capensis* Mayr

Verh. zool.-bot. Ges. Wien, xii (1862), p. 699, worker; Forel, Jour. Bomb. N. H. Soc. viii (1894), pp. 412 & 414; i (1895), p. 458.

Habitat : Pine tree

54. *Acantholepis simplex* Forel

Ann. Soc. Ent. Belge., xxxvi (1892), p. 43, worker; Jour. Bomb. N. H. Soc. viii (1892), p. 412, worker.

Habitat : Household

A common species in Chandigarh.

55. *Plagiolepis* sp. nov.

Habitat : Soil

## Subfamily—Dorylinae

56. *Dorylus laevigatus* Smith

(*Typhlopone*), Jour. Linn. Soc. ii (1857), p. 70, worker; Forel, Jour. Bomb. N. H. Soc. xiii (1901), p. 464, worker male.

Habitat : Soil

57. *Dorylus labiatus* Shuck

Ann. N. H. V. (1840), p. 319, male ; Forel, Jour. Bomb. N. H. Soc. xiii (1901), p. 464, male worker.

Habitat : Soil

58. *Dorylus orientalis* Westw.

P. Z. S. V. (1835), p. 72, male ; Forel, Jour. Bomb. N. H. Soc. xiii (1901), p. 463, male worker.

Habitat : Soil

59. *Aenictus brevicornis* Mayr

(*Typhlatta*) Verh. Zool.-bot. Ges. Wien, xxviii (1878), pp. 668 and 669, worker; Forel, Jour. Bomb. N. H. Soc. xiii (1901), p. 466 worker.

Habitat : Grass.

This a unique form with a two-jointed pedicel. It can, however, be separated from Myrmecinae by the absence of eyes.

#### Subfamily—Dolichoderinae

60. *Technomyrmex albipes* Smith.  
(*Tapinoma*), Jour. Linn. Soc. vi (1861), p. 38, worker; Forel, Jour. Bomb. N. H. Soc. ix (1895), p. 466.  
Habitat : *Mangifera indica* (mango)
61. *Technomyrmex brunneus* Forel  
Jour. Bomb. N. H. Soc. ix (1895), p. 467.  
Habitat : *Psidium guaiava* (*amrood*)
62. *Tapinoma melanocephalum* Fabr.  
(*Formica*), Ent. Syst. ii (1793), p. 353; Forel, Jour. Bomb. N. H. Soc. ix (1895), p. 472; worker.  
Habitat : Walls, and stems of some cultivated plants
63. *Tapinoma indicum* Forel  
Jour. Bomb. N. H. Soc. ix (1895); p. 472 worker.  
Habitat : *Eugenia jambolana* (*jaman*)  
A common species in Chandigarh.

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