

A LIST OF MENOPONIDAE (PHTHIRAPTERA) FROM INDIA

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INTRODUCTION

Mallophaga are small, dorsoventrally flattened parasitic insect group infesting mostly birds. Several workers, viz., Kellong and Nakayama (1915), Hopkins & Clay (1953), Ansari (1956), Lakshinarayan (1979) worked on this group. Under the family Menoponidae about 115 spp have been recorded from India. Here an attempt has been made to make a list of these species with host name and distributional range within Indian sub-continent and also to provide keys and brief description in some cases.

Order : PHTHIRAPTERA
Suborder : AMBLYCEROPHTHIRINA
Family : MENOPONIDAE

1. Genus *Actornithophilus* Ferris

1. *Actornithophilus grandiceps* (Piaget, 1880)
2. *Actornithophilus himantopi* Blagoveshtehensky, 1951
3. *Actornithophilus hoplopteri* (Mjoberg, 1910)
4. *Actornithophilus limosae* (Kelloogg, 1908)
5. *Actornithophilus lyallpurensis* Ansari, 1955
6. *Actornithophilus paludosus*, Clay, 1962
7. *Actornithophilus patellatus* (Piaget, 1890)
8. *Actornithophilus pustulosus* (Piaget, 1880)
9. *Actornithophilus spinulosus* (Piaget, 1880)
10. *Actornithophilus totani* (Scrank, 1803)
11. *Actornithophilus umbrinus* (Burmeister, 1838)

2. Genus *Amyrsidea* Euing

12. *Amyrsidea minuta* Emerson, 1961
13. *Amyrsidea phaeostoma* (Nitzsch, 1866)

3. Genus *Ardeiphilus* Bedford

14. *Ardeiphilus mirzai* (Quadri, 1935)
15. *Ardeiphilus trochioxus* (Burmeister, 1838).

4. Genus *Austromenopon* Bedford

16. *Austromenopon crocatum* (Nitzsch, 1866)
17. *Austromenopon leucurae* Timmerman, 1955
18. *Austromenopon limosae* Timmerman, 1955

5. Genus *Chapinia* Ewing

19. *Chapinia acutovulvata* (Piaget, 1881)
20. *Chapinia clayae* Elbel, 1967

6. Genus *Ciconiphilus* Bedford

21. *Ciconiphilus decimfasciatus* (Boisduval & Lacordaire, 1835)
22. *Ciconiphilus matosai* (Tendeiro, 1958)
23. *Ciconiphilus quadripustulatus* (Burmeister, 1838)
24. *Ciconiphilus temporalis* (Piaget, 1880)

7. Genus *Colpocephalum* Nitzsch

25. *Colpocephalum aethiopicae* Price & Beer, 1965
26. *Colpocephalum apivorus* Tendeiro, 1953
27. *Colpocephalum asiatici* Price & Beer, 1965
28. *Colpocephalum cooki* Price & Beer, 1963
29. *Colpocephalum flavescens* (Haan, 1829)
30. *Colpocephalum fregili* Denny, 1842
31. *Colpocephalum heterosoma* Piaget, 1880
32. *Colpocephalum impressum* Rudow, 1866
33. *Colpocephalum indi* Price & Beer, 1963
34. *Colpocephalum leucocephali* Price & Beer, 1965
35. *Colpocephalum longicaudum* Nitzsch, 1866
36. *Colpocephalum malanocephalae* Price & Beer, 1965
37. *Colpocephalum occipitale* Nitzsch, 1864
38. *Colpocephalum oscitansi* Price & Beer, 1965
39. *Colpocephalum pectinatum* Osborn, 1902
40. *Colpocephalum percnopteri* Price & Beer, 1963

41. *Colpocephalum plataleae* Price & Beer, 1965
42. *Colpocephalum polybori* Rudbow, 1869
43. *Colpocephalum rosai* Price & Emerson, 1974
44. *Colpocephalum salimalii* Clay, 1951
45. *Colpocephalum sinensis* Price, 1968
46. *Colpocephalum tansi* (Ansari, 1951)
47. *Colpocephalum tirkhan* (Ansari, 1951)
48. *Colpocephalum turbinatum* Denny, 1842
49. *Colpocephalum uchidi* (Quadri, 1936)
50. *Colpocephalum zerafae* Ansari, 1955

8. Genus *Ctenigogus* Eichler & Zlatorzycka

51. *Ctenigogus erinaceimorphus* Eichler & Zlatorzycka

9. Genus *Cuculiphlius* Uchida

52. *Cuculiphlius cathertaepapae* (Nitzsch, 1861)
53. *Cuculiphlius gypsis* (Eichler, 1944)
54. *Cuculiphlius snodgrassi* (Kellog & Kuwana, 1902)
55. *Cuculiphlius upak* Ansari, 1951

10. Genus *Dennyus* Neumann

56. *Dennyus cypsiurus* Thompson, 1948
57. *Dennyus giganteus* Emerson & price, 1968
58. *Dennyus hirundinis* (Linn., 1761)
59. *Dennyus vonarxi* Buttikar, 1954

11. Genus *Eidmanniella* Kelar

60. *Eidmanniella subrotundata* (Piaget, 1880)

12. Genus *Eucolpocephalum* Bedford

61. *Eucolpocephalum femorale* (Piaget, 1880)

13. Genus *Heleonomus* Ferris

62. *Heleonomus elbeli* Price, 1970
63. *Heleonomus laveryi* Price, 1970
64. *Heleonomus macilentus* (Nitsch)
65. *Heleonomus semiluctus* (Gervais, 1866)

14. Genus *Holomenopon* Eichler

- 66. *Holomenopon leucoxanthum* (Burmeister, 1838)
- 67. *Holomenopon tadornae* (Gervais, 1844)

15. Genus *Kelerimenopon* Council

- 68. *Kelerimenopon psittaculae* Price & Emerson, 1966

16. Genus *Kurodia* Uchida

- 69. *Kurodia deignani* Elbel & Emerson, 1960
- 70. *Kurodia fulvofasciata* (Piaget, 1880)
- 71. *Kurodia punjabensis* (Ansari, 1951)

17. Genus *Menacanthus* Newmann

- 72. *Menacanthus annulatus* (Giebel, 1874)
- 73. *Menacanthus gonophocus* (Burmeister, 1838)
- 74. *Menacanthus masudi* Qudri, 1935
- 75. *Menacanthus monochromateus* (Kellog & Paine, 1914)
- 76. *Menacanthus safedgal* Ansari, 1951
- 77. *Menacanthus stramineus* (Nitzsch, 1818)
- 78. *Menacanthus tristisi* Quadri, 1935
- 79. *Menacanthus unicolor* (Piaget, 1880)

18. Genus *Menopon* Nitzsch

- 80. *Menopon gallinae* (Linne., 1758)
- 81. *Menopon productum* Piaget, 1880

19. Genus *Myrsidea* Waterston

- 82. *Myrsidea amandava* Clay, 1970
- 83. *Myrsidea assamensis* Tandon, 1972
- 84. *Myrsidea bharat* Tandon & Clay, 1971
- 85. *Myrsidea bhutanensis* Tandon, 1972
- 86. *Myrsidea brunnea* (Nitzsch, 1866)
- 87. *Myrsidea chilchil*, Ansari, 1951
- 88. *Myrsidea clayae* Klockenhoff, 1969
- 89. *Myrsidea cornicis* (De Geer, 1778)
- 90. *Myrsidea cucularis* (Nitzsch, 1818)
- 91. *Myrsidea cyrtostigma* (Kellog & Chapman, 1902)

92. *Myrsidea dukhunensis* Ansari, 1951
93. *Myrsidea flavirostratus*, Ansari, 1951
94. *Myrsidea himalayensis* Klockenhoff, 1969
95. *Myrsidea ishizawai* Uchida, 1926
96. *Myrsidea isostoma* (Nitzsch, 1866)
97. *Myrsidea macraidoia* Tandon, 1972
98. *Myrsidea manipurensis* Tandon, 1972
99. *Myrsidea nigra* (Kellog & Paine, 1911)
100. *Myrsidea orientalis* Tandon, 1972
101. *Myrsidea pycnonoti* Eichler, 1947
102. *Myrsidea salimalii* Tandon & Clay, 1971
103. *Myrsidea satbhai* Ansari, 1951
104. *Myrsidea sehri* Ansari, 1951
105. *Myrsidea sikkimensis* Tandon, 1972
106. *Myrsidea singularis* Tandon, 1972
107. *Myrsidea srivastavai* Clay, 1970
108. *Myrsidea sultanpurensis* Ansari, 1951
109. *Myrsidea thoracica* (Giebel, 1874)

20. Genus *Piagetiella* Neumann

110. *Piagetiella titan* (Plaget, 1880)

21. Genus *Pseudomenopon* Mjoberg

111. *Pseudomenopon concretum* (Plaget, 1880)
112. *Pseudomenopon dolium* (Rudow, 1869)
113. *Pseudomenopon lanceolatum* (Tendeiro, 1965)
114. *Pseudomenopon phoenicuri* Price, 1974
115. *Pseudomenopon pilosum* (Scopoli, 1763)

Key to the species of genus *Actornithophilas Ferris*

- Metanotum with long anterior setae 1
- Metanotum without long anterior setae 2
1. Abdominal pleurites without pattern of internal thickening; internal anterior processes undeveloped, tergites with never more than one row of anterior setae, tergum of last segment without anterior setae, shape of head characteristic (prosternal plate with 1-2 elongated setae).
..... *patellatus* (Plaget)

- Without above combination of character D.P.S. I relatively long and stout 2
- 2. Male tergite with row of stout elongated submarginal setae and rows of smaller setae. Female penultimate sternite broad and interrupted medially 3
- 3. Lingual selerite and epipharyngeal crest reduced; tergum of last segment of female usually without anterior setae. *pustulosus* (Piaget)
- Lingual selerite and epipharyngeal crest not reduced, tergum of last segment of female with anterior setae *umbrinus* (Burmeister)
- 4. Tergum of last abdominal segment without anterior setae 5
- Tergum of last abdominal segment with anterior setae 10
- 5. Tergite vi & vii at least with tergal pattern A 6
- Tergite vi & vii with more central setae 8
- 6. Pre ocular and occipital nodi small; d.p.s. minute, central setae of viii long and stout, tergite ii-viii each with a well marked row of anterior setae *lyallpurensis* Ansari
- Nodi well developed, tergites i-vii with setal pattern A, viii with A1 prosternal setae surrounded by prosternal plate, post spiracular setae i & iii and tergal setae shorter *hoploperi* (Mjoberg)
- 7. Marginal prothoracic seta 5 and marginal metathoracic seta 2 not short and fine, dorsal prothoracic seta 1 not minute
- All tergites normally with 6 central setae *himantopi* Blagoveshtchensky
- 8. Tergite I with one marginal and one anterior row of setae *grandiceps* (Piaget)
- 9. Pleurites not narrow, tergites I-VII with not setal pattern A.
- 10. Prosternal setae surrounded by prosternal plate; genital selerites short, usually not more than 4-5 mesosernal setae *totani* (Schrank)
- Stout submarginal setae of tergite VIII thicker relative to rest of dorsal setae *spinulosus* (Piaget)
- 11 Tergite VII with 8 or less central setae. Mesosternum with 7-11 setae, prosternal setae not surrounded by prosternal plate; Head nodi small; At least three tergites with a row of anterior setae *limosae* (Kellogg)

1 Genus *Actornithophilus* Ferris

1916. *Actornithophilus* Ferris, Canad. Ent., 48 : 303.

1 *Actornithophilus grandiceps* (Piaget), 1880, Pediculines, 558.

Diagnosis : Head nodi larger. In females there are two to three inner posterior setae each side of the last abdominal segment.

Hosts : *Ibidorhyncha struthersii* Vigors

Distribution : India (Kashmir). Elsewhere : China.

2. *Actornithophilus himantopi* Blagoveshtchensky 1951, Mag. Parasit., 13 : 281.

Diagnosis : Total central setae on tergites II to VII less than 44. Dorsal prothoacic seta I rather stout; marginal metathoracic seta 2 stout.

Host : *Himantopus* (h) *himantopus* (Linne.).

Distribution : India.

3. *Actornithophilus hoplopteri* (Mjoberg) 1910. Ark. Zool., 6(13) : 40.

Diagnosis : Large size of preocular, occipital and thoracic nodi, marginal prothoacic seta 5 and metathoracic seta 2 short and fine, tergites with well developed internal anterior processes. Some of the tergites have one or more anterior setae and some segments have a definite row.

Host : *Vanellus malabaricus* (Boddaert).

Distribution : India.

4. *Actornithophilus limosae* (Kellogg) 1908. Wytaman's Gen. Ins. (Mallophaga), 56.

Host : *Limosa lapponica* (Linne.)

Distribution : India.

5. *Actornithophilus lyallpurensis* Ansari 1955. Proc. VII. Pak. Sci. Conf. Agri., 55.

Diagnosis : On segment III to VI the central setae vary from six to eight, segment VIII usually has setal pattern A but may have fine central setae. All the tergites may have a row of anterior setae but on I and VIII the anterior setae may be reduced in number or absent.

Host : *Tringa O. ochropus* Linne.

Distribution : India. Elsewhere : Pakistan.

6. *Actornithophilus paludosus* Clay 1962. Bull. Br. Mus. nat. Hist. (Ent.) 11(5) : 219.

Diagnosis : Presence of long dorsal setae on the metathorax, the prosternal plate not enclosing the prosternal setae and the form of the sclerite of the genital sac.

Host : *Tringa nebularia* (Gunnerus)

Distribution India. Elsewhere : Sri Lanka.

7. *Actornithophilus patellatus* (Piaget) 1890. Tijdschr. Ent. 33 : 254.

Host *Numenius (a) arquata* (Linne.)

Distribution : India.

8. *Actornithophilus pustulosus* (Piaget) 1880. Pediculines, 522.

Host *Philomachus pugnax* (Linne.).

Distribution India.

9. *Actornithophilus spinulosus* (Piaget) 1880. Pediculines, 523.

Host : *Limosa limosa* (Linne.).

Distribution : India. Elsewhere : Sri Lanka.

10. *Actornithophilus totani* (Schrank)

Pediculus totani (Schrank) 1803, Fauna Boica, 191.

Actornithophilus totani (Schrank) 1962. Bull. Br. Mus. nat. Hist. 11(5) : 215.

Diagnosis : Anterior dorsal setae on the last segment of abdomen in male, prosternal plate surrounding the prosternal setae. In females at least two or more tergites have seven or more central setae and tergites II-VIII have a row of anterior setae.

Host : *Tringa totanus* (Linne.).

Distribution : India. Elsewhere : Pakistan, Sri Lanka.

11. *Actornithophilus umbrinus* (Burmeister)

Colpocephalum umbrinus Burmeister 1838. Handb. Ent. 2 : 438.

Actornithophilus umbrinus (Burmeister) 1962. Bull. Br. Mus. nat. Hist. 11(5) : 212,

Diagnosis : Thoracic setae is long and stout, the metanotum has long anterior setae. In male, the tergites have a row of stout elongate submarginal setae and rows of smaller setae, the last tergite has anterior dorsal setae.

Host : *Calidris m. minuta* (Leister).

Distribution : India. Elsewhere Pakistan.

2. Genus *Amyrsidea* Ewing

1927. *Amyrsidea* Ewing, J. Wash. Acad. Sci., 17 : 90.

1. *Amyrsidea minuta* Emerson 1961. *Florida Entomol.*, 44(3) : 117.

Host : *Pavo cristatus* Linne.

Distribution : India (M.P.) Elsewhere : Bangladesh.

2. *Amyrsidea phaeostoma* (Nitzsch) 1866. *Z. ges. Nat. Wiss.*, 28 : 391.

Host : *Pavo cristatus* Linne.

Distribution : India, (M.P.). Elsewhere : Burma.

3. Genus *Ardeiphilus* Bedford

1939. *Ardeiphilus* Bedford, Onderstepoort J. Vet. Sci., 12 : 139.

1. *Ardeiphilus trochioxus* (Burmeister) 1838. *Handb. Ent.* 2 : 438.

Host : *Ardeola grayii* (Sykes).

Distribution : India.

2. *Ardeiphilus mirzai* (Quadri) 1935. *Z. Parasitenk.*, 8 : 232.

Host : *Ardeola grayii* (Sykes).

Distribution : India.

4. Genus *Austromenopon* Bedford

1939. *Austromenopon* Bedford, J. Vet. Sci. 12 : 122.

1. *Austromenopon crocatum* (Nitzsch) 1866. *Z. ges. Nat. Wiss.*, 28 : 392.

Host : *Numenius arquata* (Linne.).

Distribution : India.

2. *Austromenopon leucurae* Timmernan 1955. *Bonn. Zool. Beitr.*, 5 : 200.

Host : *Vanellus leucurus* (Lichtenstein).

Distribution : India. Elsewhere : Pakistan.

3. *Austromenopon limosae* Timerman 1955. Born. Zool. Beitr., 5 : 202.

Host *Limosa limosa* (Linne.).

Distribution : India (Rajasthan).

5. Genus *Chapinia* Ewing

1927. *Chapinia* Ewing, J. Wash. Acad. Sci., 17 : 88.

Key to the species of *Chapinia* Ewing

1. Venter of the 3rd femora and posterolateral margins of abdominal sternites IV-VI each have large thick brushes of normal setae. Male genitalia have endomeres possessing on each outer rim a triangular internal knob that is longer than wide *acutovulvata* (Piaget)

Venter of 3rd femora and postero lateral margin of abdominal sternite IV-VI each have small scattered brushes of normal setae. Male genitalia have endomeres possessing on each outer rim a triangular knob that is wider than long *clayae* Elbel

1. *Chapinia acutovulvata* (Piaget) 1881. Tijdschr. Ent., 24 : 5.

Diagnosis : Male larger in size, lateral margin of abdominal II-VI with a short setae. Abdominal sternite II with 42-54 setae and a median row of setae on posterior margin.

Host : *Anthracoseros coronotus* (Boddart).

Distribution : India (M.P., Bihar). Elsewhere : Sri Lanka, Nepal, Thailand, Burma.

2. *Chapinia clays* Elbel 1967. Proc. U.S. Nat. Hist. Mus., 120 (3558) : 21.

Diagnosis : Male smaller in size. Lateral margin of abdominal tergites II-VI with a short setae. Abdominal sternite II with 38-50 setae and a median row on posterior margin.

Host : *Tockus birostris* (scopoli).

Distribution : India (Rajasthan, M.P., U.P.). Elsewhere : Nepal.

6. Genus *Ciconiphilus* Bedford

1939. *Ciconiphilus* Bedford, Onderstepoort J. Vet. Sci., 12 : 141

1. *Ciconiphilus decimfasciatus* (Boisduval & Lacordaire) 1835. Fauna ent. Environs, Paris : 123

Host *Ardea purpurea* Linne.

Distribution : India. Elsewhere : Pakistan.

2. *Ciconiphilus matosi* (Tendeiro) 1958. Publ. Cult. Cia Diament, Angola, 40 : 92.

Host : *Ibis leucocephalus* (Pennant).

Distribution : India.

3. *Ciconiphilus quadripustulatus* (Burmeister) 1838. Handb. Ent., 2 : 438.

Host : *Ciconia e. episcopus* (Proddaert).

Distribution : India.

4. *Ciconiphilus temporalis* (Piaget) 1880. Pediculines : 487.

Host : *Leptoptilos dubius* (Gmelin).

Distribution : India.

7. Genus *Colpocephalum* Nitzsch

1818. *Colpocephalum* Nitzsch, Germer's Mag. Ent., 3 : 298.

1. *Colpocephalum aethiopicae* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 121.

Host : *Threskiornis m. molucca* (Cuvier).

Distribution : India.

2. *Colpocephalum apivorus* Tendeiro 1953. Publ. Cult. de camp: Diam. Angola, No. 40 : 89.

Host : *Pernis ptilorhynchus ruficollis* Lesson.

Distribution : India.

3. *Colpocephalum asiatici* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 114.

Diagnosis : In female mid dorsal head setae short. Tergite II-V with long marginal setae, shorter anterior setae on tergite I-VII.

Host : *Xenorhynchus a. asiaticus* (Latham).

Distribution : India.

4. *Colpocephalum cooki* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 116.

Diagnosis : In female median tergal setae shorter on III-VII, post spiracular setae very long on I-III, VIII, short on IV-VII, sternal setae fine.

Host : *Leptoptilos javanicus* (Horsfield).

Distribution India. Elsewhere : Burma.

5. *Colpocephalum flavescens* (Hann) 1829. Mem. Mus. Hist. nat. Paris., 18 : 309.

Host : *Haliastur indus* (Boddaert).

Distribution : India.

6. *Colpocephalum fregili* Denny 1842. Mon. Anopl. Brit., 198 : 208.

Host : *Corvus splendens* Vieillot.

Distribution : India.

7. *Colpocephalum heterosoma* Piaget 1880. Pediculines, 572.

Host : *Phonicopterus roseus* Pallas.

Distribution : India.

8. *Colpocephalum impressum* Rudow 1866. Z. ges. Nat. Wiss. 27 : 475.

Host : *Aquila n. nipalensis* (Hodson).

Distribution : India.

9. *Colpocephalum indi* Price & Beer 1963. Canad. Ent. 95(7) : 751.

Host : *Haliastur indus* (Boddaert).

Distribution : India.

10. *Colpocephalum leucocephali* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 116.

Diagnosis : In female Tergocentral setae on II of uniform median length.

Host *Ibis leucocephalus* (Pennant).

Distribution : India. Elsewhere : Thailand, Sri Lanka.

11. *Colpocephalum longicaudum* Nitzsch 1866. Z. ges. Nat. Wiss., 28 : 39.

Host : *Columba livia* (domestica) (Gmelin).

Distribution : India.

12. *Colpocephalum malanocephalae* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 121.

Host : *Threskiarnis melanocephala* (Latham).

Disrtibution : India.

13. *Colpocephalum occipitale* Nitzsch 1864. Z. Ges. Nat. Wiss., 28 : 394.

Diagnosis : In female mid dorsal head setae of equal length. Metanotum with 10 marginal setae, post spiracular setae very long on I-III, V-VI & Viii, shorter on IV & VII. Marginal pair of setae on medianplate of VIII usually as long as corresponding setae on preceeding tergites.

Host : *Anastomus oscitans* (Boddaert).

Distribution : India. Elsewhere : Thailand.

14. *Colpocephalum oscitansi* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 126.

Host : *Anastomus oscitans* (Boddart).

Distribution : India.

15. *Colpocephalum peetinum* Osborn 1902. Ohio. Nat., 2 : 201.

Host : *Athene Brama indica* (Franklin).

Distribution : India.

16. *Colpocephalum percnopteri* Price & Beer 1963. Canad. Ent., 95(7) : 758.

Host : *Neophron percnopteri* (Linne.)

Distribution : India.

17. *Colpocephalum plataleae* Price & Beer 1965. Ann. Ent. Soc. Amer., 58(1) : 123.

Host : *Platalea leucordia* (Linne.).

Distribution : India.

18. *Colpocephalum polybori* Rudow 1869. Z. Ges. Nat. Wiss., 34 : 397.

Host : *Aegypocetus monachus* (lionne.).

Distribution : India.

19. *Colpocephalum rosai* Price & Emerson 1974. J. Kans. Ent. Soc., 47(1) : 63-66.

Host : *Phoenicopterus rosae* (Pallas).

Distribution : India.

20. *Colpocephalum salimalii* Clay 1951. Ann. Mag. nat. Hist., 12(4) : 1162.

Host : *Phoenicopteus roseus* Pallas.

Distribution : India.

21. *Colpocephalum sinensis* Price 1968. Ann. Ent. Soc. Amer., 61(4) : 419.

Host : *Centropus sinensis sinensis* (Stephens).

Distribution : India.

22. *Colpocephalum tausi* (Ansari) 1951. Proc. nat. Inst. Sci. India, 17(2) : 151.

Host : *Pavo cristatus* (Linne.).

Distribution : India.

23. *Colpocephalum tirkhan* (Ansari) 1951. Proc. nat. Inst. Sci. India, 7(2) : 164.

Host : *Picus squamatus squamatus* Vigor.

Distribution : India.

24. *Colpocephalum turbinatum* Denny 1842. Mon. Anopl. Brit., 198 : 209.

Host : *Gyps indicus* (Scopli).

Distribution : India.

25. *Colpocephalum uchidi* (Quadri) 1936. Z. Parasitenk., 8 : 64.

Host : *Ciconia e. episeopus* (Boddaert).

Distribution : India.

26. *Colpocephalum zerafae* (Ansari) 1955. Proc. 7th. Pak. Sci. Conf. Sec. Agri., 52.

Host : *Falco tinnunculus* Linne.

Distribution : India.

8. Genus *Ctenigogys* Eichler & Zlotorzycska

1963. *Ctenigogys* Eichler & Zlotorzycska, *Angew. Parasitol.*, 4 : 40.

1. *Ctenigogys erjnaceimorphus* Eichler & Zlotorzycska 1963. *Angew. Parasitol.*, 4 : 40.

Host : *Gyps bengalensis* (Gmelin).

Distribution : India.

9. Genus *Cuculiphlius* Uchida

1926. *Cuculiphlius* Uchida, *J. Coll. Agri, Tokyo*, 9(1) : 47.

1. *Cuculiphlius cathertaepapae* (Nitzsch) 1861. *Z. ges. Nat. Wiss.*, 17 : 518.

Host : Domestic duck.

Distribution : India.

2. *Cuculiphlius gypsis* (Eichler) 1944. *Dtsch. ent. Ztg.* 57.

Host : *Gyps bengalensis* (Gmelin).

Distribution : India.

3. *Cuculiphlius snodgrassi* (Kellog & Kuwana) 1902. *Proc. nat. Acad. Sci. Wash.*, 4 : 486.

Host : *Centropus sinensis* (Stephens).

Distribution : India.

4. *Cuculiphlius upak* Ansari 1951. *Proc. nat. Inst. Sci. India*, 17(2) : 156.

Host : *Cuculus varius* Vahl.

Distribution : India (Punjab).

10. Genus *Dennyus* Neumann

1906. *Dennyus* Neumann, *Bull. Soc. Zool. Fr.*, 20 : 60.

1. *Dennyus cypsiurus* Thompson 1948. *Bol. Ent. Venezol.*, 7 : 4.

Host : *Cypsiurus parvus batasinensis* (Gray).

Distribution : India (Andhra Pradesh, Maharashtra). Elsewhere : Sri Lanka.

2. *Dennyus giganteus* Emerson & Price 1968. Proc. Biol. Soc. Wash., 81 : 87.

Host : *Chaetura gigantea indica* (Hume).

Distribution : Indica (Punjab).

3. *Dennyus hirundinis* (Linne.) 1761. Fauna Suceica., 2 : 479.

Host : *Apus affinis affinis* (Gray).

Distribution : India (West Bengal, Utter Pradesh, Madhya Pradesh). Elsewhere : Nepal, Sri Lanka.

4. *Dennyus vonarxi* Buttikar 1954. Acta. trop., 11(2) : 161.

Host : *Apus melba bakeri* Hartert.

Distribution : India (M.P.). Elsewhere : Sri Lanka.

11. Genus *Eidmanniella* Keler

1938. *Eidmanniella* Keler, Ann. Mus. Zool. Polon., 13 : 81.

1. *Eidmanniella subrotundata* (Piaget) 1880. Pediculines., 453:

Host : *Phalacrocorax nigar* (Vieillot).

Distribution : India. Elsewhere : Sri Lanka.

12. Genus *Eucolpocephalum* Bedford

1930. *Eucolpocephalum* Bedford, Rep. Vet. Res. S. Afr., 16, 161.

1. *Eucolpocephalum femorale* (Piaget) 1880. Pediculines., 484.

Host : *Platalea leucordia* Linne.

Distribution : India.

13. Genus *Heleonomus* Ferris

1916. *Heleonomus* Ferris, Canad. Ent., 48 : 305.

Key to the species of genus *Heleonomus* Ferris

1. Sternite V either fused with pleurites or narrowly separated from them *laveryi* Price
- Pleurites widely separated from sternite V 2

2. Short mesosternal plate. Very short preocular seta 11. Female ventral preanal plate usually divided. Male with 18 or fewer marginal setae on tergite 11 *semiluctus* (Gerecis)
- Long mesosternal plate. Female ventral preanal plate entire 3
3. Female tergite III not transversely divided. Margin of pronotum with fewer than 18 setae ..
..... *elbeli* Price
- Female tergite III transversely divided. *macilantus* (Nitzsch)

1. *Heleonomus elbeli* Price 1970. Ann. Ent. Soc. Amer., 63 (4) : 1170.

Diagnosis : Margin of pronotum with less than 18 setae; ventral preanal plate in female deeply notched.

Host : *Anthropoides virgo* (Linne.).

Distribution : India (Andhra Pradesh).

2. *Heleonomus laveryi* Price 1970. Ann. Ent. Soc. Amer., 63(4) : 1171.

Diagnosis : Pleurites narrowly separated from sternites, marginal terget seta lateral to post spiracular setae on II to V. Prosternum without additional setae.

Host : *Grus antigone* (Linne.).

Distribution : India (Rajasthan).

3. *Heleonomus macilentus* (Nitzsch) 1866. Z. ges. Nat. Wiss., 28 : 394.

Diagnosis : Tergite III in female transversely divided. In male sternal setae on V & VI usually 71-80.

Host : *Grus grus* (Linne.).

Distribution : India.

4. *Heleonomus semiluctus* (Gervais) 1844. Hist. nat. Ins., 3 : 322.

Diagnosis : Female tergite III without transverse division and post spiracular setae on tergite VI not extending to spiracle of following segment.

Host : *Balearica pavonina* (Linne.).

Distribution : India (West Bengal).

14. Genus *Holomenopon* Eichler

1941. *Holomenopon* Eichler, Stethiner Entomol. Ztg., 102 : 125.

1. *Holomenopon leucoxanthum* (Burmeister) 1838. Handb. Ent., 2 : 440.

Host : *Netta rufina* (Pallas).

Distribution : India (Rajasthan).

2. *Holomenopon tadornae* (Gervais) 1844. Hist. Nat. Inst., 3 : 323.

Host : *Tadorna ferruginea* (Pallas).

Distribution : India (Rajasthan).

15. Genus *Kelerimenopon* Conci

1942. *Kelerimenopon* Conci, Ann. Mus. Civ. Stor. nat. genova, 61 : 262.

1. *Kelerimenopon psittaculae* Price & Emerson 1966. Pacific Insects, 8(2) : 360.

Host : *Psittacula krameri manillensis* (Bechstein).

Distribution : India (Uttar Pradesh).

16. Genus *Kurodia* Uchida

1926. *Kurodia* Uchida, J. Coll. Agric. Tokyo, 9(1) : 50.

1. *Kurodia deignani* Elbel & Emerson 1960. Proc. Biol. Soc. Wash., 73 : 119.

Host : *Glaucidium Cuculoides* (Vigors).

Distribution : India (Sikkim).

2. *Kurodia fulvofasciata* (Piaget) 1880. Pediculines : 417.

Host : *Buteo buteo* (Linne.).

Distribution : India.

3. *Kurodia punjabensis* (Ansari) 1951. Proc. nat. Inst. Sci. India, 17(2) : 160.

Host : *Athene brama indica* (Franklin).

Distribution : India. Elsewhere : Pakistan.

17. Genus *Menacanthus* Neumann

1912. *Menacanthus* Neumann, Arch. Parasit, Paris, 15 : 353.

1. *Menacanthus annulatus* (Giebel) 1874. Insecta epizoa : 285.

Host : *Passer indicus* Jardine et Salby.

Distribution : India (Punjab).

2. *Menacanthus gonophoeus* (Burmeister) 1838. Handb. Ent., 2 : 440.

Host : *Corvus corax laurencei* Hume.

Distribution : India (West Bengal). Elsewhere : Nepal.

3. *Menacanthus masudi* Quardi 1935. Z. Parasit., 8 : 227.

Host : *Corvus s. splendens* Vieill.

Distribution : India (U.P.).

4. *Menacanthus monochromateus* (Kellog & Paine) 1914. Rec. Indian Mus., 10(4) : 240.

Diagnosis : In female head wider than long, clypeus with two fine hairs, occiput concave, prothorax with 12 hairs and the sides and posterior margin continuous.

Abdomen all segments except the last of about equal length, the last longer and with a fringe of hairs. Each abdominal segment with a transverse, sub marginal series of hairs, the lateral one largest.

Host : *Garrulus lanceolatus* Vigors.

Distribution : India (H.P.).

5. *Menacanthus safedgal* Ansari 1951. Proc. nat. Inst. Sci. India, 17(2) : 141.

Diagnosis : In male head large, preantennal region almost twice as long as post antennal region, occipital margin concave, bearing 8 hairs. Antennae 4 segmented.

Prethorax large, posterior lateral margin straight, with two long hairs and a spine; Meso thorax fused with the posterior segment, bearing a spine and 2-3 dorsal hairs on each half. Meta thorax short, posterior lateral angle with a spine and a long hair.

Abdomen elliptical, widest at the III segment, length of segment almost equal, posterior angles produced, each bearing one short and a long hair; last segment flatly rounded with 8-10 marginal hairs. Pleural plates well developed, with several spinous hairs on the posterior margin.

Host : *Pycnonotus l. leucogenys* (Gray).

Distribution : India (H.P.).

6. *Menacanthus stramineus* (Nitzsch) 1818. Germars Mag. Ent., 3 : 300.

Host : *Gallus domesticus* (Linne.).

Distribution : India (Punjab, West Bengal). Elsewhere Pakistan.

7. *Menacanthus tristisi* Quadri 1935. Z. Parasitenk., 8 : 226.

Host : *Acridotheres tristis* Quadri.

Distribution : India (Punjab).

8. *Menacanthus inucolor* (Piaget) 1880. pediculines, 471.

Host : *Phasianus colchicus torquatus* Gmelin.

Distribution : India.

18. Genus *Menopon* Nitzsch

1818. *Menopon* Nitzsch, Germer's Mag, Ent., 3 : 299.

1. *Menopon gallinae* (Linne.) 1758. Syst. Nat., 10 : 613.

Host : *Gallus gallus* (domesticus) (Linne.).

Distribution : India (Punjab, Sikkim, West Bengal).

2. *Menopon productum* (Piaget) 1880. Pediculines, 461.

Host : *Houppier erythrophtha imus* (Raffles).

Distribution : India (Karnataka, West Bengal).

19. Genus *Myrsidea* Waterston

1915. *Myrsidea* Waterston, Ent. mon. Mag., 51 : 12.

1. *Myrsidea amandava* Clay 1970. H. D. Srivastava Commen. Vol. 565.

Host : *Estrilde amandava* (Linne.).

Distribution : India (Andhra Pradesh).

2. *Myrsidea assamensis* Tandon 1972. Bull. Br. Mus. nat. Hist. (Ent.), 27(7) : 390.

Host : *Gerrulax l. leucolophus* (Hardwicke).

Distribution : India (Uttar Pradesh).

3. *Myrsidea bharat* Tandan & Clay 1971. Trans R. Ent. Soc. London., 123(2) : 216.

Host : *Turdoides malcolmi* (Sykes).

Distribution : India (Andhra Pradesh, Rajasthan).

4. *Myrsidea bhutanensis* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.), 27(7) : 385.

Host : *Garrulax ruficollis* (Jerdine & Selby).

Distribution : India (Manipur). Elsewhere : Bhutan.

5. *Myrsidea brunnea* (Nitzsch) 1866. Z. ges. Natwiss., 28 : 120.

Host : *Nucifraga caryocatectes hemispilla* Vigors.

Distribution : India (H.P.). Elsewhere : Pakistan.

6. *Myrsidea chilchil* Ansari 1951. Proc. nat. Ins. Sci. India., 17(2) : 181.

Diagnosis : Head broad, front rounded, a short hair on each side of the middle.

Prothorax hexagonal in outline, lateral angles produced, each with two spines and a hair. Mesothorax distinct, lateral margin bare, Metathorax, latero posterior angles, each with two spines and a hair.

Abdomen elliptical, widest at IV segment, each segment almost equal in length, posterior angles projecting, each with a hair and two spines, II sternite with five, belonoid spines on a callosity. Genital plate distinct.

Host : *Turdoides c. caudatus* (Dumont).

Distribution : India (Rajasthan). Elsewhere : Pakistan.

7. *Myrsidea clayae* Klockenhoff 1969. Zool. Anz. 183(5/6) : 393.

Host : *Corvus macrorhynchos culminatus* Sykes.

Distribution : India (Maharashtra, Kerala).

8. *Myrsidea cornicis* (De Geer) 1778. Mem. Hist. Ins., 7 : 76.

Host : *Corvus (coronae) cornix* Linne.

Distribution : India (J. & K.).

9. *Myrsidea cucularies* (Nitzsch) 1818. Germar's Mag. Ent., 3 : 300.

Host : *Sturnus vulgaris indicus* Blyth.

Distribution India.

10. *Myrsidea cyrtostigma* (Kellogg & Chapmann) 1902. J. N. Y. ent. Soc., 10, 65.

Host *Lonchura punctulata* (Linne.).

Distribution : India (Andhra Pradesh). Elsewhere : Nepal.

11. *Myrsidea dukhunensis* Ansari 1951. Proc. nat. Inst. Sci. India., 17(2) : 174.

Diagnosis : In male Head is broader than the body, lateral margins bearing two long, one short and a minute hair. Prothorax large, posterolateral margins convex, each bearing a small hair. Mesothorax distinct, posterior margin straight with a transverse row of short hairs. Meta thorax trapezoidal, posterior lateral angles produced, each bearing two spines and a long hair. Abdomen elongate, elliptical, length of segments I-VIII almost equal, segment IX broader and segment X shortest, I- VI segments with a single transverse row of hairs on the posterior margin, VII segment with two hairs on each side, VIII segment with only one hair, IX segment with three long hairs in the posterior angles and host hair on the posterior margin, last segment flatly rounded and bare, II segment with asters of three heavy spines on each side of the sternite. Genitalia composed of an exceedingly long basal plate, parameres short and broad with pointed distal ends.

Host : *Metacilla alba dukhunensis* Sykes.

Distribution : India (H.P.).

12. *Myrsidea flavirostratus* Ansari 1951. Proc. nat. Inst. Sci. India, 17(2) : 174.

Host : *Kitta f. flavirostris* (Blyth).

Distribution : India (H.P.).

13. *Myrsidea himalayensis* Klockenhoff 1969. Zool. Anz., 183(5/6) : 386.

Host *Corvus macrorhynchus intermedius* Adama.

Distribution India (Bihar, U.P.).

14. *Myrsidea ishizawai* Uchida 1926. J. Coll. Agric. Tokyo, 9 : 8.

Host *Zoothera d. dauma* (Latham).

Distribution : India (Manipur).

15. *Myrsidea isostoma* (Nitzsch) 1866. Z. ges. Natwiss, 27 119.

Host : *Corvus f. frugilegus* Linne.

Distribution India (Punjab).

16. *Myrsidea macraidoia* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.), 27(7) : 400.

Host : *Gerrulax a. albogularis* (Gould).

Distribution : India (Punjab, Sikkim). Elsewhere : Nepal.

17. *Myrsidea manipurensis* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.), 27(7) : 377.

Host : *Gerrulax squamatus* (Gould).

Distribution : India (Assam, Manipur).

18. *Myrsidea nigra* (Kellogg & Paine) 1911. Bull. Ent. Res., 2 : 151.

Host : *Corvas (s) splendens* Vieillot.

Distribution : India (M.P., W.B.).

19. *Myrsidea orientalis* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.), 27(7) : 398.

Host : *Garrulax p. pectoralis* (Gould).

Distribution : India (Manipur). Elsewhere : Burma.

20. *Myrsidea pycnonoti* Eichler 1947. Ark. zool., 39A(2) : 18.

Host : *Pycnonotus cafer* (Linne.).

Distribution : India. Elsewhere : Bhutan.

21. *Myrsidea salimalii* Tandan & Clay 1971. Trans. R. ent. Soc. Lond., 123(2) : 222.

Host : *Turdoides earlii* (Blyth).

Distribution : India (Delhi). Elsewhere : Pakistan.

22. *Myrsidea satbhai* Ansari 1951. Proc. nat. Inst. Sci. India, 17(2) : 178.

Diagnosis : In female head board, front broadly rounded. Temples expanded, antero-laterally produced, occipital margin flatly concave, with one hair on each side of the middle line.

Prothorax short, hexagonal in out line, lateral angles produced, each with a spine and a short spinous hair, Mesothorax distinct, lateral margin bare. Metathorax trapezoidal, lateral margin bare.

Abdomen elliptical, widest at segment V, each lateroposterior angles with a long hair and two spinous hairs, last segment with rounded posterior margin, furnished with a group of three long marginal hairs and one towards middle line. Each abdominal sternite with rows of short hairs, segment II with six heavy needle like spines. Genital plate with a row of short hairs along posterior margin.

Host *Turdoides striatus* (Dumont).

Distribution India (Maharashtra, Rajasthan, U.P.). Elsewhere : Nepal.

23. *Myrsidea sehri* Ansari 1951. Proc. nat. Inst. Sci. India, 17(2) : 177.

Diagnosis : Female, head broad, a short hair on fronto lateral margin, temples expanded, margins rounded, each with four very long, four short and a few minute hairs.

Prothorax short, lateral angles with two small spines. meso thorax narrow, metathorax trapezoidal, posterior lateral angles produced, each with three spines.

Abdomen elliptical, widest at IV segment, lateroposterior angles each with a long hair and 2-3 spines, posterior margin of each segment with a transverse row of 6-10 short hairs, last segment broadly rounded, with one minute, one long and a small hair. Ventral surface of each abdominal segment bearing rows of weak hairs.

Host : *Garrulax lineatus lineatus* (Vigors).

Diagnosis : India (H.P.).

24. *Myrsidea sikkimensis* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.) 27(7) : 382.

Host : *Gerrulax striatus sikkimensis* (Ticehurst).

Distribution : India (Sikkim).

25. *Myrsidea singularis* Tandan 1972. Bull. Br. Mus. nat. Hist. (Ent.) 27(7) : 382.

Host : *Gerrulax* s. *subunicolor* (Blyth).

Distribution : India (Sikkim).

26. *Myrsidea srivastavai* Clay 1970. H. D. Srivastava Commen. Vol. 563.

Host : *Lonchura malabarica* (Linne.).

Distribution : India.

27. *Myrsidea sultanpurensis* Ansari 1951. Proc. nat. Inst. Sci. India, 17(2) : 183.

Diagnosis : Female head broad, front rounded. Temples expanded, each bearing four long, two slightly short and several short marginal hairs.

Prothorax hexagonal in outline, postero lateral margin slightly concave each bearing one minute and one short spinous hair, mesothorax distinct, a minute marginal spine on each side. Metathorax trapezoidal, posterior lateral angles produced, each with three spines.

Abdomen elliptical, broad at IV segment, posterior margin of last segment broadly rounded

with two long and two short hairs on each side of a fringe of fine hairs. Ventral surface of I-VII abdominal segments with a transverse row of short hairs, II with an aster of six spinosus hairs, segment VIII with numerous hairs confined in the middle. Last segment with 24 short hairs on genital plate.

Host : *Myiophoneus caeruleus temminckii* (Vigors).

Distribution : India (H.P.).

28. *Myrsidea thoracica* (Giebel) 1874. Insecta epizoa : 287.

Host : *Turdus ruficollis astrogularis* Jerocki.

Distribution : India (Rajasthan). Elsewhere : Nepal.

20. Genus *Piagetiella* Neumann

1906. *Piagetiella* Neumann, Bull. Soc. Zool. Fr., 20 : 60.

1. *Piagetiella titan* (Piaget) 1880. Pediculines, 503.

Host : *Pelecanus onocrotalus* Linne.

Distributaion : India (Rajasthan).

21. Genus *Pseudomenopon* Mjoberg

1880. *Pseudomenopon* Mjoberg, Ark. Zool. 6(13) : 50.

Key to the species of genus *Pseudomenopon* Mjoberg

1. Principal genital selerite conspicuously bifarcate *Concretum* (Piaget)
- Principal genital selerite not conspicuously bifarcate 2
2. Principal genital selerite very long, broadened basally and with straight transverse median selerite *lanceolatum* Tendeiro
- Principal genital selerite shorter, usually at most 1/2 length of genitalia 3
3. Broadly rounded median gular plate. Head seta 7 shorter (not extending to base of seta 9) *pilosum* (Scopoli)
- Median gular plate tapering. Head seta 7 longer 4
4. Principal genital selerite at least 0.30 long, straight *phoenicuri* Price
- Principal genital selerite less than 0.30 long *dolium* (Rodow)

1. *Pseudomenopon concretum* (Piaget) 1880. Pediculines, 481.

Diagnosis : Male, median gular plate pointed. Marginal pronotal setae 3 at least twice length of setae I. Genitalia with unique forked sclerite.

Host : *Porphyrio (P.) poliocephalus* (Latham).

Diagnosis : India (Rajasthan).

2. *Pseudomenopon dolium* (Rudow) 1869. Z. ges. Nat. Wiss., 34 : 393.

Diagnosis : Male, genitalia with unique principal sclerite, slightly flexed at apex with short barb and vague forking terminally and conspicuous accessory basal sclerite.

Host : *Podiceps ruficollis* (Pallas).

Distribution : India.

3. *Pseudomenopon lanceolatum* Tendeiro 1965. Revta Estud. Gerais Univ. Mocambique 2 : 41.

Diagnosis : Male median gular plate narrow and pointed. Head seta 7 almost reaching base of seta 9. Marginal pronotal seta 3 & 1 subequal. Genitalia, principal sclerite broader basally and not heavily pigmented.

Host : *Metropidius indicus* (Latham).

Distribution : India.

4. *Pseudomenopon phoenicuri* Price 1974. Ann. ent. Soc. Amer., 67(1) : 79.

Diagnosis : Male metanotum with 11 or 12 marginal setae. Genitalia long, with long straight slender principal sclerite and with basal accessory sclerite about 1/2 of this length.

Host : *Amaurornis phoenicurus* (Pennant).

Distribution : India.

5. *Pseudomenopon pilosum* (Scopoli) 1763. Ent. Carniolica, 384.

Diagnosis : Male median portion of gular plate broadly rounded. Marginal pronotal seta 3 about as long as to twice length of seta 1. Head seta 7 less than 1/2 way to base of seta 9. Genitalia with principal sclerite variably flexed.

Host : *Gallinula chloropus* (Linne.).

Distribution : India (Rajasthan).

SUMMARY

A total of 115 sps. under 21 genera have been recorded so far. Among these, genus Myrsidae is the largest with 28 sps. Next genus Calpocephalum with 26 sps. Rest are all minor groups with lesser number of species.

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