

RESEARCH NOTES

STUDIES ON PHTHIRAPTERAN PARASITES (MALLOPHAGA) INFESTING BIRDS IN THE PANJAB

Taxonomic studies of Pthirapteran parasites of Indian birds may be said to have really commenced in 1914 with the work of Kellogg and Paine [*Rec. Ind. Mus.*, 10 (4-12): 217-43]. Since then numerous papers have been published in various journals of repute in India and abroad. At the suggestion of Professor M. Afzal Husain, the author of this note developed a keen interest in these interesting though loathsome insects and first recorded his findings in the *Proceedings of National Institute of Sciences, India* [1947, 13 (6): 253-303; 1951, 17 (2): 127-203]. During recent years our knowledge of these parasites has tremendously expanded involving radical changes in the systematics of the group. During 1952-53, the author had an opportunity of working at the British Museum (Natural History), London, and comparing his specimens with the authenticated collection there. In his earlier communication, he had lumped numerous closely allied species under one name, primarily because with the facilities available at the Imperial Agricultural Research Institute, New Delhi, it was not possible for him to put the doubtful forms into the correct groupings. Harrison's classical work "The Genera and Species of Mallophaga with Synonymy" (*Parasitology*, Cambridge, 1916, 9: 1-156) which was then available for reference, was also not clear about the specific status of several forms. The present note has been prepared to rectify these errors. Detailed descriptions of the new forms, briefly mentioned herein, are proposed to be presented, at a later date, in this Journal.

The author wishes to thank Mr. N. D. Riley and Miss T. Clay for very kindly giving him every facility to make use of the splendid collection at the British Museum. Special gratitude is due to Professor M. Afzal Husain for interest, advice and encouragement shown throughout these studies. He is also indebted to Mrs. Zohra Rahman, Mr. Saliem and Milles. Athar and Tasneem for much help rendered during these studies.

Suborder; Ischnocera (Kellogg, 1896)

1. *Brüelia sehri*, sp. nov., from *Trochalopteron lineatum grisescenter* (Hartert): Male with one tergo-central seta on III to VII tergites, tergites IV to VII with two tergo-lateral setae, VIII tergite with one tergo-lateral seta, tergite IX and the last tergite with 3 and 6 setae.
2. *Brüelia chilchil*, sp. nov., from *Turdoides c. caudata* (Dumont): Male with one tergo-central seta on Tergites III to VIII, V with one, VI to VII with 2 + 1 and VIII with 2 tergo-lateral setae. Tergite IX and the last with 2 and 4 setae respectively.
3. *Brüelia guldum*, sp. nov., from *Pycnonotus cafer intermedius* (Blyth): Male with one tergo-central seta on IV to VII, 2 to 3 on VIII and IX tergites,

Tergites VI to VII with 2 + 1, VIII with 1 — 1 and IX and the last with one tergo-lateral seta.

4. *Brüelia cambayensis*, sp. nov., from *Saxicoloides fulvicata cambaiensis* (Lath.): This species is similar to *B. guldum* but has an extremely pointed head and a sparse abdominal chaetotaxy.
5. *Brüelia gulabitilyar*, sp. nov., from *Sturnus roseus* (Linn.): Male with one tergo-central seta on V, VI and the last tergites; tergites VI and VIII with one and VII and IX with two tergo-lateral setae.
6. *Brüelia chittlatilyar*, sp. nov., from *Sturnus vulgaris humei* Brooks: This species is similar to *B. gulabitilyar*, but the shape of its head and abdominal chaetotaxy warrant it to be considered a distinct form.
7. *Brüelia pagodarum*, sp. nov., from *Temenuchus pagodarum* (Gmel.): This species is also similar to the above two species but the head is narrower and the abdomen is very elongate with sparse chaetotaxy.
8. *Brüelia chayanh*, sp. nov., from *Acridothores t. tristis* (Linn.): The male of this species differs from the above three species in genital armature and abdominal chaetotaxy.
9. *Brüelia ginginianus*, sp. nov., from *Acridothores ginginianus* (Latham): Male with 2 tergo-central setae on VI to VIII tergites, 4 on IX and 1 on the last tergite. VIII tergite with 1 tergo-lateral seta.
10. *Brüelia munia*, sp. nov., from *Uroloncha malabarica* (Linn.): The head is very typical. Male with 1 tergo-central seta on VI, VII and the last tergites and 4 on IX.
11. *Brüelia xanthocollis*, sp. nov., from *Gymnoris x. xanthocollis* (Burt.): This species is allied to *B. gulabitilyar*, but the head is greatly modified and wedge-shaped.
12. *Brüelia subtilis* (Nitzsch), from *Passer domesticus indicus* (Jard. and Selby): It is of common occurrence on this bird in our country.
13. *Brüelia parae*, sp. nov., from *Anthus richardi rufulus* Vieillot: This species resembles *B. munia*. The metathorax is considerably reduced.
14. *Brüelia pakistanaise*, sp. nov., from *Lanius vittatus* Valche: An elongate form with narrow and long clypeal region. In male, parameres short and delicate. Abdominal chaetotaxy sparse.
15. *Brüelia dicruri*, sp. nov., from *Dicrurus macrocercus* (Vieill): Elongate species with ovate head. Male genitalia very delicate.
16. *Brüelia meinertzhageri* Ansari from *Dendrocitta rufa vagabunda* and *Dendrocitta vagabunda pallida* Blyth. Shot in Sind.
17. *Philopterus atratus* Nitzsch, from *Corvus frugilegus tschusii* Hartert: It is of common occurrence.
18. *Philopterus lahorensis*, sp. nov., from *Corvus s. splendens* (Vieillot): Male with 1 seta on I, 9 to 12 on II to VIII, 7 on IX and 2 on last tergite. Male genitalia characteristic.
19. *Philopterus fuscicollis* (Burmeister) is of common occurrence on *Lanius excubitor lahtora* (Sykes).

20. *Philopterus bijae*, sp. nov., from *Lanius schach erythronotus* (Vigors): It resembles *P. fuscicollis*. Female with 1 seta on I, 10 to 12 on II to VI, 7 to 8 on VII, 5 on VIII and 1 on IX tergite. IV to VII tergites with 1 lateral seta in addition.
21. *Philopterus kalkalichi*, sp. nov., from *Dicrurus macrocerus peninsularis* Ticehurst: This species differs from all the allied forms in the shape of the head, pterothorax and abdominal chaetotaxy.
22. *Philopterus fringillae* (Scopoli), from *Passer domesticus indicus* (Jard. and Selby): It is of common occurrence on our birds.
23. *Philopterus zohree*, sp. nov., from *Emberiza brunneiceps* Brandt.: It resembles *P. fringillae*, but considerably differs in male genitalia.
24. *Philopterus ornatus* (Nitzsch) is of most common occurrence on *Oriolus oriolus kundoo* (Sykes).
25. *Philopterus passerinus* (Denny) is of common occurrence on *Motacilla alba dukhunensis* (Sykes).
26. *Philopterus benedictae*, sp. nov., from *Megalaima virens marshallorum* (Swinh): The male genitalia of this species does not resemble any allied form.
27. *Philopterus vagabunda*, sp. nov., from *Dendrocitta vagabunda pallida* Blyth.: This species differs from the crow-infesting *Philopterus* in the shape of the head, pterothorax and abdominal chaetotaxy. The male genitalia is also of different pattern.
28. *Philopterus extraneus* (Piaget) was collected from the type host, *Corvus macrorhynchus* Walger.
29. *Philopterus vittati*, sp. nov., from *Lanius vittatus* Valche: This species differs from *P. bijae* in the clypeal region. The clypeal signature is considerably pulled backwards.
30. *Sturnidoecus chilchil*, sp. nov., from *Turdoides c. caudata* (Dumont): This species is furnished with very long abdominal hairs. Male genital armature very characteristic.
31. *Sturnidoecus guldum*, sp. nov., from *Pycnonotus cafer intermedius* (Jardou): This is a very typical species and cannot be confused with any species so far described.
32. *Sturnidoecus bituberculatus* (Giebel) is of common occurrence on *Dicrurus macrocerus peninsularis* Ticehurst.
33. *Sturnidoecus chendoola*, sp. nov., from *Galarida cristata chendoola* (Franklin): It differs from all the allied species in male genitalia. Basal plate very elongate, mesosomal plate heart-shaped.
34. *Sturnidoecus irritans*, sp. nov., from *Saxicola torquata indica* (Blyth): The pleural plates in this species are club shaped. Genital armature typical.
35. *Sturnidoecus saleimi*, sp. nov., from *Oenanthe picata* (Blyth): Genitalia characteristic, parameres extremely short with greatly modified proximal heads.
36. *Sturnidoecus atharae*, sp. nov., from *Cyanosylvia s. suecica* (Linn.): Prothorax very strongly angulate. Tergal plates well developed running right across the breadth of the segments.

37. *Sturnidoecus capitis*, sp. nov., from *Saxicoloides fulicata cambalensis* (Latham): Very hairy species. Basal plate short and broad.
38. *Sturnidoecus pastoris* (Denny) is commonly found on *Sturnus roseus* (Linn.).
39. *Sturnidoecus sturni* (Schrank) was taken off *Sturnus vulgaris humei* Brooks.
40. *Sturnidoecus affinis* (Piaget) was obtained from *Acridotheres t. tristis* (L.).
41. *Sturnidoecus bannoo*, sp. nov., from *Acridotheres ginginianus* (Lath.): The parameres are short and squat, not even reaching the posterior margin of the mesosomal plate.
42. *Degeeriella masumae*, sp. nov., from *Falco jugger* Gray: Basal plate oblong and narrow, at least 7 to 8 times as long as the parameres.
43. *Degeeriella splendens*, sp. nov., from *Cerchneis tinnunculus interstinctus* McClell: Basal plate elongate but not more than 5 times as long as the parameres.
44. *Degeeriella beaufacies*, sp. nov., from *Butastur teesa* (Franklin): It is allied to *D. masumae*, but differs in the shape of the head. Genitalia in male long and slender.
45. *Degeeriella vittata* (Giebel) commonly occurs on *Milvus migrans govinda* (Sykes.)
46. *Strigiphilus rostratus* (Burmeister) was taken from *Tyto alba stratens* Hart.
47. *Strigiphilus nudipes* (Piaget) was obtained from *Asio o. otus* (Linn.).
48. *Strigiphilus cursor* (Burmeister): Specimens were collected from *Asio o. otus* (Linn.)
49. *Strigiphilus goniodecercus* Eichler from *Bubo bubo bengalensis* (Franklin).
50. *Strigiphilus strigis* (Pontoppidan) from *Bubo bubo bengalensis* (Franklin).
51. *Strigiphilus boomae*, sp. nov., from *Otus bekkamoena plumipes* (Hume): This differs from the allied forms in the shape of the head and especially in the narrow clypeus.
52. *Cuculicola concolor*, sp. nov., from *Clamator j. jacobinus* (Boddaert): Basal plate elongate, parameres rod-like with typical heads.
53. *Cuculicola jamilae*, sp. nov., from *Eudynamis s. scolopaceus* (Linn.): Basal plate long and broad, mesosomal plate transverse.
54. *Cuculoecus distinctus*, sp. nov., from *Clamator j. jacobinus* (Boddaert): Male genitalia characteristic, parameres considerably more reduced than in other species.
55. *Upupicola upupae* (Schrank) commonly occurs on *Upupa epops orientalis* Stuart Baker.
56. *Alcedoecus annularis*, sp. nov., from *Halcyon s. smyrnensis* (Linn.): Male genitalia with long basal plate, mesosomal plate with long tubular penis, parameres well developed, short sickle-shaped.
57. *Alcedoffula mahirgir*, sp. nov., from *Halcyon s. smyrnensis* (Linn.): Very feebly sclerotised species, pleural and tergal plates well formed.
58. *Alcedoffula machera*, sp. nov., from *Ceryle rudis leucomelanura* Reichten: In this species the tergal and pleural plates are well formed and

- sclerotised. The basal plate is slightly longer than the parameres, which are curved inwards at the tips.
59. *Capraiella sabzak*, sp. nov., from *Coracias b. benghalensis* (Linn.): It differs from the allied forms in the shape of the head, pterothorax and abdominal chaetotaxy. Male genitalia typical.
 60. *Capraiella masumae*, sp. nov., from *Coracias b. benghalensis* (Linn.): In this species the head is elongate, clypeal region truncate.
 61. *Columbicola fulmeki* Eichler from *Streptopelia chinensis suratensis* (Gmel.).
 62. *Columbicola theresae*, sp. nov., from *Streptopelia senegalensis cambayensis* (Gmel.): It differs from the allied forms in III antennal segment, and male genitalia.
 63. *Columbicola confusissimus* Eichler was collected from *Streptopelia decaocta decaocta* (Fribaldsky).
 64. *Columbicola hopkinsi*, sp. nov., from *Oenanthe picata* Blyth: In this species the clypeal region is comparatively longer than in other species.
 65. *Coloceras aegypticum* (Kellogg et Paine) was collected from *Columba livia intermedia* (Strick).
 66. *Coloceras lativentre* (Uchida) was taken from *Streptopelia chinensis suratensis* (Gmel.).
 67. *Coloceras softoticus* Eichler from *Streptopelia d. decaocta* (Fribaldsky).
 68. *Campanulotes compar* (Burmeister) is common on *Columba livia intermedia* (Strick).
 69. *Falcolipeurus gallivalerioi* Eichler from *Gyps himalayensis* Hume.
 70. *Falcolipeurus yasmiae* Ansari was obtained from the Booted Eagle—*Hieraaetus pennatus* (Gmelin) shot in Shujawal (Tatta: Sind).
 71. *Craspedorrhynchus spathulatus* (Giebel) was obtained from *Milvus migrans govinda* (Sykes).
 72. *Craspedorrhynchus chicquerae*, sp. nov., from *Falco c. chicquera* Daudin: Head truncate, with squarish clypeal signature. Tergal plates entire and feeble.
 73. *Craspedorrhynchus triangularis* (Rudow) was taken off *Circaetus gallicus* (Gmelin).
 74. *Craspedorrhynchus ranjhae*, sp. nov., from *Hieraaetus pennatus* (Gmelin): This species differs from the allied forms in the shape of tergal plates, male genitalia and tergal chaetotaxy.
 75. *Carduiceps scalaris* (Piaget) was collected from *Philomachus pugnax* (Linn.).
 76. *Luniceps holophaeus* (Burmeister) was taken from *Philomachus pugnax* (Linn.).
 77. *Luniceps husaini*, sp. nov., from *Erolia m. minuta* (Leist.): It differs from the allied forms in the shape of the head and slender body. The basal plate is short and narrow, parameres long and curved, mesosomal plate projecting as far as the parameres.
 78. *Quadriceps lotus* (Nitzsch) commonly occurs on *Cursorius cursor cursor* (Latham).
 79. *Quadriceps dasi* Tandon from *Lobivanellus i. indicus* (Boddaert).

80. *Quadriceps semifissus* (Nitzsch) was obtained from *Himantopus h. himantopus* (Linn.).
81. *Quadriceps hemichrous* (Nitzsch) was taken from *Himantopus h. himantopus* (Linn.).
82. *Quadriceps ochropi* (Denny) was collected from *Tringa ochropus ochropus* (Linn.).
83. *Quadriceps lahorensis*, sp. nov., from *Philomachus pugnax* (Linn.): Pre-antennal area and hind head more or less equal in length. Parameres well developed, dagger-like with simple proximal heads.
84. *Anaticola magnificus*, sp. nov., from *Casarca ferruginea* (Vroeg): The shape of the head, III antennal segment and male genital armature will distinguish this species from allied forms.
85. *Anaticola sordidus* (Giebel) was taken from *Nettion c. crecca* (Linn.).
86. *Anaticola fulviculae* (T. Muller) was collected from *Nyroca f. ferina* (Linn.).
87. *Anatoecus difficilis* Cummings was obtained from *Nyroca f. ferina* (Linn.).
88. *Anatoecus regina*, sp. nov., from *Casarca ferruginea* (Vroeg.): Pterothoracic chaetotaxy and shape of head will separate this species from the allied forms.
89. *Incidifrons fulicae* (Linn.) was collected from *Fulica a. atra* (Linn.).

Suborder: Amblycera (Kellogg. 1896)

90. *Ciconiphilus nyctardis* (Denny) from *Nycticorax n. nycticorax*: (Linn.).
91. *Colpocephalum bengalensis*, sp. nov., from *Corvus macrorhynchus* Wagler: Abdominal tergites with 2 rows of hairs. IX without downwardly and upwardly turned setae, IV sternite with 2 combs, and III: femora with 3 combs of setae.
92. *Colpocephalum laurencei*, nom. nov. (= *C. subaequale* nec Haan 1829), from *Corvus corax laurencei* Hume.
93. *Colpocephalum splendens*, sp. nov., from *Corvus splendens splendens* Vieill: Male genital armature long, basal plate slender, parameres straight, genital sac complex.
94. *Colpocephalum griffonae*, sp. nov., from *Gyps himalayensis* Hume: Head broad than long, prothorax narrow, pterothorax short. III femora with 4 subequal combs of setae, III abdominal sternite with 2 combs of 10 to 11 setae.
95. *Colpocephalum zerfae*, sp. nov., from *Falco jugger* Gray: Prothorax well developed. III femora with 3 subequal combs of setae, III abdominal sternite with 2 combs of 13 to 18 setae.
96. *Myrsidea anaspila* (Nitzsch) was taken from *Corvus corax laurencei* Hume.
97. *Myrsidea splendens*, sp. nov., from *Corvus s. splendens* Vieill: Prothorax large, III femora with a patch of 37 to 40 setae. II abdominal sternite with 3 to 4 heavy spines, IV to VII: with definite patches of setae.
98. *Myrsidea isostoma* (Nitzsch) was recorded from *Corvus frugilegus tschusii* (Hart.).

99. *Myrsidea brunnea* (Nitzsch) was collected from *Nucifraga caryocatactes hemispila* Vigors.
100. *Myrsidea peninsularis*, sp. nov., from *Dicrurus macrocercus peninsularis* Tiech., III: femora with a patch of 25 to 30 setae, II: sternite with 5 heavy spines, III to VII: with definite patches of setae.
101. *Myrsidea trithorax* (Piaget) from *Corvus macrorhynchus*: Wagler.
102. *Myrsidea sindianus*, sp. nov., from *Dicrurus h. hottentotta* (Linn.): Posterior femora with a patch of 23 hairs, III: sternite with 5 to 6 heavy spines, V to VII: with definite patches of hairs.
103. *Menacanthus Mamola*, sp. nov., from Mamola: Western Spotted Fork-tail—*Enicurus maculata maculata* (Vigors): III femora and IV to VI: sternites with definite patches of setae.
104. *Menacanthus laticeps* Blagov. commonly occurs on *Corvus frugilegus tshusii* (Hartert).
105. *Menacanthus tristis* Qadri was found from *Acridotheres t. tristis* (Linn.).
106. *Menacanthus annulatus* (Giebel) was collected from *Passer domesticus indicus* Jard. and Selby.
107. *Kurodaia subpachygaster* (Piaget) from *Tyto alba stratens* Hartert.
108. *Kurodaia longipes* (Giebel) was collected from *Bubo bubo benghalensis* (Frank).
109. *Actornithophilus lyallpurensis*, sp. nov., from *Tringa o. ochrophus* Linn.: Head little longer than long, III femora with a patch of 18 to 20 setae, Tergites with 2 rows of setae, IV to VI sternites with definite patches of setae.
110. *Actornithophilus raviensis*, sp. nov., from *Himantopus h. himantopus* (Linn.): Head broader than long, III: femora with a patch of 28 setae, V to VI: sternites with definite patches of setae.
111. *Austromenopon mohni*, sp. nov., from *Himantopus h. himantopus* (Linn.): III: femora with patch of setae, IV to VI: sternites with dense submarginal setae.
112. *Austromenopon sohni*, sp. nov., from *Tringa o. ochrophus* Linn.: Head triangular with rounded front, tergal setae of irregular size, ventrum profusely hairy.
113. *Trinoton nyrocae* Eichler was collected from *Nyroca f. ferina* (Linn.).
114. *Trinoton casarcae* Eichler was obtained from *Casarca ferruginea* (Vroeg).
115. *Laemobothrion aquab.* sp. nov., from *Falco jugger* Gray: Clypeal region trapezoidal, gular setae wanting. Inferior setae in I and II femora of specific importance.
116. *Laemobothrion siddiqii*, sp. nov., from *Circaetus ferox* (Gmelin): Resembles *L. aquab.* but differs in chaetotaxy and tergal plates.
117. *Laemobothrion hieraaeti* Eichler was collected from *Hieraaetus pennatus* (Gmel.).

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Lahore, 15th December 1954.