INDIAN LOUSE FLIES (INSECTA: DIPTERA: HIPPOBOSCIDAE)

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Any errors for correction or suggestions for the improvement of this checklist are welcome. Please contact the corresponding author at dhritibanerjee@gmail.com

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INTRODUCTION

Flies of family Hippoboscidae are commonly known as louse flies, bat flies and keds, inhabiting both mammals (bats, cattle, deer, sheep) and birds (pigeon, dove). They are medium sized, leathery dark brown, and flattened. Head is rounded completely from posterior side and separated from anterior margin of thorax. Antennal pits completely enclosed by a continuous rim, containing the small, sub-globular antennae. Pronotum well developed dorsally, visible between the head and the mesonotum. Humeral angles rounded off, not projecting. Claws simple, apparently bidentate, without additional tooth between the sharp apex and the flattened heel of the base. The family has both winged species (*Hippobosca equina* Linnaeus, 1758) as well as flightless species with vestigeal or no wings (*Melophagus ovinus* Linnaeus, 1758). The larvae completes its development in uterus of female where they are nurtured internally until fully developed and then pupating at birth. (Maa & Peterson 1987). Both sexes are blood suckers and are obligate ectoparasites, chiefly on various kinds of birds and mammals (carnivores, equines, and artiodactyls).

The hippoboscids are cosmopolitan in distribution and found in the Afro-tropical, Neo-tropical and Oriental regions as well as in many isolated islands. And even reported to be parasitic upon some birds in Siberia (Whitman & Wilson). They are one of the important groups of fly vectors, having a parasitic mode of life and involved in transmission of Bartonellosis in ruminants (Halos, 2004) and also serve as potential vectors for pigeon malaria (Hindle, 2011).

Previously 3 families *viz.* Hippoboscidae, Nycteribiidae and Streblidae were under the superfamily Hippoboscoidea. Recently Nycteribiidae and Streblidae have been included in the family Hippoboscidae and the family as a whole is represented by 778 species under 67 genera belonging to 8 subfamilies worldwide. 66 species under 23 genera belonging to 7 subfamilies namely Ascodipterinae, Cyclopodiinae, Hippoboscinae, Lipopteninae, Nycteribiinae, Nycteriboscinae and Ornithomyinae are recorded from in India.

The genus Hippobosca occupies an isolated position in the family Hippoboscidae, forming a subfamily of its own, which was first defined by Speiser (1908). After that all the species of subfamily Hippoboscinae under the family Hippoboscidae were well described by Bequaert (Bequaert, 1930), followed by Nelson (1981), Halos (2004), Harkonen (2010). The first Hippoboscidae (Lipoptena axis Maa, 1969) was documented from mammals in Kanha National Park, MP, India (Mitchell, 1966) and later different aspects of the biology of these flies were recorded from India by Bhat *et al.* (1974), Advani & Vazirani (1981) and Parashar *et al.* (1991). Abd Rani & Sundari (2011-12) have made a notable contribution on Indian Hippoboscidae. Jeyathilakan (2011) reported *Strebla vespertilionis* and *Nycteribia pedicularia* as ectoparasites of bats from Tamil Nadu and Rani *et al.* (2011) established *Hippobosca longipennis* as potential intermediate host of species *Acanthocheilonema* in dogs in Northern India.

The present list has been compiled following the classification scheme of T. C. Maa (963, 1966, 1969), a Catalogue of Diptera of the Oriental region(1975),State Fauna Series (2003-2010),keeping in mind the resultant nomenclatural changes in the higher level taxonomic categories, and in accordance with the Catalogue of life, 2014, Systema Dipterorum Version 1.5: 2013.

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Family – Hippoboscidae

Sub-family – Ornithomyinae

I. Genus *Craterina* Von olfers, 1816
   ➢ **Subgenus Stenepteryx** Leach, 1817
   1. *Craterina* (Stenepteryx) *hirundinis* (Linnaeus, 1758)

II. Genus *Lynchia* Weyenbergh, 1881
   ➢ **Subgenus Arddoea** Maa, 1969
   2. *Lynchia* (Arddoea) *ardeae* (Macquart, 1835)
      ➢ **Subgenus Icosa Speiser, 1905**
         ➢ **Subgenus Ornithoponus Aldrich, 1923**

III. Genus *Ornithoctona* Speiser, 1902
   6. *Ornithoctona plicata* (Von Olfers, 1816)

IV. Genus *Ornithoica* Rondani, 1878
   ➢ **Subgenus Ornithoica Rondani, 1878**

V. Genus *Ornithomya* Latreille, 1802
   8. *Ornithomya biloba* (Dufour, 1827)
   10. *Ornithomya fuscipennis* Bigot, 1885

VI. Genus *Ornithophila* Rondani, 1879
   11. *Ornithophila metallicà* (Schiner, 1864)

VII. Genus *Phthona* Maa, 1969

VIII. Genus *Pseudolynchia* Bequaert, 1926
   13. *Pseudolynchia canariensis* (Macquart, 1840)

Sub-family Hippoboscinae

IX. Genus *Hippobosca* Linnaeus, 1758
   14. *Hippobosca equina* Linnaeus, 1758
   15. *Hippobosca longipennis* Fabricius, 1805
   16. *Hippobosca variegata* Megerle Von Muhlfeld, 1803

Sub-family – Lipopteninae

X. Genus *Lipoptena* Nitzsch, 1818
   17. *Lipoptena axis* Maa, 1969
   18. *Lipoptena capreoli* Rondani, 1878

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XI. Genus Melophagus Latreille, 1802
23. Melophagus ovinus Linnaeus, 1758

Sub-family – Cyclopodiinae

XII. Genus Cyclopodia Kolenati, 1863
24. Cyclopodia horsfieldi de Meijere, 1899
25. Cyclopodia sykesii (Westwood, 1834)

XIII. Genus Eucampsipoda Kolenati, 1857
26. Eucampsipoda latisternum Stekhoven & Hardenberg, 1938
27. Eucampsipoda sundaica Theodor, 1955

XIV. Genus Leptocyclopodia Theodor, 1959
➤ Subgenus Leptocyclopodia Theodor, 1959
28. Leptocyclopodia (Leptocyclopodia) ferrarii (Rondani, 1878)
29. Leptocyclopodia (Leptocyclopodia) thaii Maa, 1968

Sub-family – Nycteribiinae

XV. Genus Basilia Miranda Ribeiro, 1905
➤ Subgenus Acrocholidia Kolenati 1857
30. Basilia (Acrocholidia) chlamydophora Speiser, 1903
➤ Subgenus Basilia Miranda Ribeiro, 1905
31. Basilia (Basilia) amiculata Speiser, 1907
32. Basilia (Basilia) bathybothyra Speiser, 1907
33. Basilia (Basilia) brevipes (Theodor, 1956)
34. Basilia (Basilia) flechieri (Scott, 1914)
35. Basilia (Basilia) majuscula (Edwards, 1919)
36. Basilia (Basilia) peali (Scott, 1925)
37. Basilia (Basilia) pumila (Scott, 1914)
38. Basilia (Basilia) punctata Theodor, 1956
39. Basilia (Basilia) roylii (Westwood, 1834)
40. Basilia (Basilia) seminuda Theodor, 1956

XVI. Genus Nycteribia Latreille, 1796
41. Nycteribia allotopa Speiser, 1901
42. Nycteribia lindbergi Aellen, 1959
43. Nycteribia parvula Speiser, 1901
44. Nycteribia parvuloides Theodor, 1963
➤ Subgenus Nycteribia Latreille, 1796
45. Nycteribia (Nycteribia) dentata Theodor, 1967
46. Nycteribia (Nycteribia) latreillii Kumaonica Theodor, 1967
47. Nycteribia (Nycteribia) pedicularia Latreille, 1805
XVII. Genus *Penicillida* Westwood, 1834
48. *Penicillidia dufourii* (Westwood, 1834)

49. *Penicillidia indica* Scott, 1925

XVIII. Genus *Phthiridium* Hermann, 1804
50. *Phthiridium annandalei* (Scott, 1925)
52. *Phthiridium nuditerga* (Theodor, 1967)
53. *Phthiridium phillipsi* (Scott, 1925)

Sub-family – Nycteriboscinae

XIX. Genus *Brachytarsina* Macquart, 1851
54. *Brachytarsina amboinensis* Rondani, 1878
55. *Brachytarsina diversa* (Frauenfeld, 1857)
57. *Brachytarsina maai* Advani & Vazirani, 1981
58. *Brachytarsina sinhai* Vazirani & Advani, 1976

➢ Subgenus *Brachytarsina* Macquart, 1851
60. *Brachytarsina (Brachytarsina) modesta* Jobling, 1934

XX. Genus *Megastrebla* Maa, 1971

➢ Subgenus *Aoroura* Maa, 1971

XXI. Genus *Raymondia* Frauenfeld, 1856
63. *Raymondia pagodarum* Speiser, 1900

XXII. Genus *Speiserella* Kishida, 1931
64. *Speiserella lobulata* (Speiser, 1900)
65. *Speiserella molossa* (Giglioli, 1864)

Sub-family- Ascodipterinae

XXIII. Genus *Paraascodipteron* Advani & Vazirani, 1981
REFERENCES


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