

DIPTERA FROM N.E.F.A.* AND ASSAM FOOT HILLS
PART II, KAMENG FRONTIER DIVISION, SUBANSIRI
FRONTIER DIVISION, NORTH LAKHIMPUR
AND ASSAM FOOT HILLS

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(With 1 Text-figure)

I—INTRODUCTION

This part deals with the Diptera collections made by A. N. T. Joseph and party during the second N. E. F. A. Survey (April-May, 1966), which surveyed Kameng Frontier Division, Subansiri Frontier Division, North Lakhimpur and Assam Foot Hills. Kameng Frontier Division was resurveyed because it had not been possible to carry out a detailed survey during the previous one, *i. e.*, December 1965 to January 1966, owing to the extreme winter, whereas Assam Foot Hills was taken up again to explore the summer fauna.

II—SYSTEMATIC ACCOUNT

Family TIPULIDAE

1. *Tipula (Vestiplex) subtinctoria* Brunetti

1912. *Tipula subtinctoria* Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 326.
1961. *Tipula (Vestiplex) subtinctoria* Brunetti : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 23.

Material.—1 ex., N. E. F. A, Subansiri Division, Ziro, 1585 m., 14. v. 1966.

Remarks.—Brunetti (*l. c.*) based his description from a single male from Kurseong, Darjeeling District.

2. *Tipula (Indotipula) flavescens* Brunetti

1923. *Tipula flavescens* Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 334.
1961. *Tipula (Indotipula) flavescens* Brunetti : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 23

Material.—1 ex., N. E. F. A, Subansiri Division, Chukru, 1128 m., 22. v. 1966.

* Since named as Arunachal Pradesh

Remarks.—Brunetti (*l. c.*) described the species from a single female from Hakgalla, Ceylon.

3. *Nephrotoma concolorithorax* (Brunetti)

1912. *Pachyrhina concolorithorax* Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 346.
 1961. *Nephrotoma concolorithorax* (Brunetti) : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 21.

Material.—1 ex., N. E. F. A, Subansiri Division, Kimin, 198 m., 9. v. 1966.

Remarks.—Damaged; legs missing. Described from a male from Khasi Hills, Assam; and one female from Sylhet, Bangladesh.

4. *Nephrotoma consimilis* (Brunetti)

1911. *Pachyrhina consimilis* Brunetti, *Rec. Indian Mus.*, 6 : 268.
 1912. *Pachyrhina consimilis* Brunetti : Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 346.
 1961. *Nephrotoma consimilis* (Brunetti) : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 21.

Material.—(i) 1 ex., N. E. F. A, Kameng Division, Dunn Bridge, 1524 m., 1. v. 1966 ; (ii) 1 ex., N. E. F. A, Subansiri Division, Hapoli, 1585 m., 15. v. 1966.

Remarks.—Reported from Mussoorie ; Kurseong; Darjeeling; also from Sikkim. Brunetti (1912) considers it as the commonest species to be found in the hilly parts of North India.

5. *Pachyrhina javensis* (Doleschall)

1856. *Tipula javensis* Doleschall (nec *T. javana* Wied.), *Nat. Tijds. Ned. Ind.*, 10 : 406.
 1912. *Pachyrhina javensis* (Doleschall) : Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 348.

Material.—1 ex., N. E. F. A, Kameng Division, Tipi, 213 m., 6. v. 1966.

Remarks.—Brunetti (*l. c.*) redescribed the species from the collections taken at the base of the hills in the Naini Tal District. Also reported from Java; Sumatra; Ceylon.

6. *Antocha (Antocha) indica* Brunetti

1912. *Antocha indica* Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 426.
 1961. *Antocha (Antocha) indica* Brunetti : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 27.

Material.—1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21. iv. 1966.

Remarks.—Described from Phagu and Theog, Simla Hills; Kurseong, Darjeeling District; Mangaldai District, Assam-Bhutan border.

7. *Teucholabis fenestrata* Osten Sacken

1887. *Teucholabis fenestrata* Osten Sacken, *Beitr. Ent. Zeit.*, **31** : 198.
 1912. *Teucholabis fenestrata* Osten Sacken : Brunetti, *Fauna Brit. India*,
 Diptera, Nematocera, : 429.

Material.—2 exs., N. E. F. A., Subansiri Division, Pamir, 16. v. 1966.

Remarks.—Recorded from Nainital; Khasi Hills, Assam; also from Peradeniya, Ceylon.

8. *Symplecta punctipennis* (Meigen)

1818. *Limnophila punctipennis* Meigen, *Syst. Besch.*, **1** : 117, pl. 5, figs. 2, 3, 7.
 1912. *Symplecta punctipennis* (Meigen) : Brunetti, *Fauna Brit. India*, Diptera,
 Nematocera, : 486.

Material.—1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 22. iv. 1966.

Remarks.—Brunetti (*l. c.*) redescribed the species from specimens collected from Matiana, Simla District; Darjeeling. It occurs throughout Europe.

9. *Pseudolimnophila (Pseudolimnophila) fusca* (Brunetti)

1918. *Limnophila fusca* Brunetti, *Rec. Indian Mus.*, **15** : 326.
 1961. *Pseudolimnophila (Pseudolimnophila) fusca* (Brunetti) : Alexander,
Rec. Indian Mus., **59** (1 & 2) : 28.

Material.—7 exs., N. E. F. A., Kameng Division, Shaitan Bridge, 1524 m., 23. iv. 1966.

Remarks.—Brunetti (*l. c.*) described the species from Sureil, Darjeeling District.

10. *Eriocera nepalensis* (Westwood)

1835. *Caloptera nepalensis* Westwood, *Ann. Soc. Ent. France*, **4** : 681.
 1912. *Eriocera nepalensis* (Westwood) : Brunetti, *Fauna Brit. India*,
 Diptera, Nematocera, : 543.

Material.—5 exs., N. E. F. A., Subansiri Division, Hapoli, 1585 m., 15. v. 1966.

Remarks.—Reported from Simla ; Naini Tal ; Kurseong ; also from Nepal.

Family BIBIONIDAE

11. *Penthetria japonica* Wiedemann

1830. *Penthetria japonica* Wiedemann, *Aussereurop. Zweifl. Ins.*, **2** : 618.
 1967. *Penthetria japonica* Wiedemann : Hardy, *Pacific Insects*, **9** (3) : 522.

Material.—(i) 49 exs., N. E. F. A., Kameng Division, Bomdila, 2621 m., 22. iv. 1966 ; (ii) 1 ex., N. E. F. A., Kameng Division, Tawang, 3200 m., 28. iv. 1966.

Remarks.—Reported from Japan; China; India ; Formosa.

12. *Dilophus graciosus* Bigot

1890. *Dilophus graciosus* Bigot, *J. Asiat. Soc. Beng.*, 59 : 265.
 1912. *Dilophus graciosus* Bigot : Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 178.
 1967. *Dilophus graciosus* Bigot : Hardy, *Pacific Insects*, 9 (3) : 526.

Material.—9 exs., N. E. F. A., Kameng Division, Tse La, 3657 m., 25. iv. 1966.

Remarks.—In males no white hairs below head. Thorax with a broad ferrugineous line; scutellar region rather dark; stems of halteres black. Abdomen generally black.

Recorded from Amangarh, Bijnor District; Kumaon District; Darjeeling District (several localities); also from Sadon, Upper Burma.

13. *Bibio fuscitibia* Brunetti

1911. *Bibio fuscitibia* Brunetti, *Rec. Indian Mus.*, 4 : 279.
 1912. *Bibio fuscitibia* Brunetti : Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 175.
 1967. *Bibio fuscitibia* Brunetti : Hardy, *Pacific Insects*, 9 (3) : 532.

Material.—2 exs., N. E. F. A., Kameng Division, Tse La, 3657 m., 25. iv. 1966.

Remarks.—Reported from Phakia, Kumaon; Tonglu, Darjeeling.

Family SIMULIIDAE

14. *Simulium indicum* Becher

1844. *Simulium indicum* Becher, *J. Asiat. Soc. Beng.* 53 : 191.
 1912. *Simulium indicum* Becher : Brunetti, *Fauna Brit. India*, Diptera, Nematocera, : 191.

Material.—(i) 12 exs., N. E. F. A. Kameng Division, Tipi, 213 m., 3. v. 1966 ; (ii) 9 exs., N. E. F. A., Subansiri Division, Chukru, 1128 m., 22. v. 1966.

Remarks.—Recorded from Simla; Tons Valley, N. W. Himalaya; Kurseong and Darjeeling, Darjeeling District; Khasi Hills, Assam; also from Sylhet, E. Pakistan.

Family STRATIOMYIDAE

15. *Ptilocera fastuosa* Gerstaecker

1857. *Ptilocera fastuosa* Gerstaecker, *Linn. Ent.*, -11 : 332.
 1920. *Ptilocera fastuosa* Gerstaecker : Brunetti, *Fauna Brit. India*, Diptera, Brachycera, 1 : 34.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 6. v. 1966 ; (ii) 3 exs., N. E. F. A., Subansiri Division, Dejo, 183 m., 10. v. 1966 ; (iii) 1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 20. v. 1966.

Remarks.—Reported from India; Ceylon; Burma.

16. *Eudmeta marginata* (Fabricius)

1805. *Hermetia marginata* Fabricius, *Syst. Antl.*, : 63.
 1920. *Eudmeta marginata* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, Brachycera, 1 : 42.

Material.—4 exs., Kameng Division, Tipi, 213 m., 6. v. 1966.

Remarks.—Pleura apple green in colour. Tips of scutellum green. Brunetti (*l.c.*) omitted to mention the presence of two narrow tubercles extending from the anterior extremities of scutellum towards the mesonotum.

Recorded in India from Darjeeling. Also known to occur from Burma; Java; Borneo; Sumatra.

17. *Negritomyia maculipennis* (Macquart)

1849. *Ephippium maculipenne* Macquart, *Dipt. Exot. Suppl.*, 4 : 54.
 1920. *Negritomyia maculipennis* (Macquart) : Brunetti, *Fauna Brit. India*, Diptera, Brachycera, 1 : 47.

Material.—(i) 1 ex., N.E.F.A., Subansiri Division, Dejoo, 183 m., 10. v. 1966; (ii) 1 ex., N.E.F.A., Subansiri Division, Tamen, 457 m., 18.v. 1966.

Remarks.—Palpi brownish. The indistinct whitish mark above each antenna absent. Facial region above the antennal base with two small patches of white hairs. Clubs of halteres snow-white.

Previously reported from Coorg, S. India; also from Kandy, Ceylon.

18. *Ptecticus aurifer* (Walker)

1854. *Sargus aurifer* Walker, *List. Dipt. Brit. Mus.*, 5 : 96.
 1920. *Ptecticus aurifer* (Walker) : Brunetti, *Fauna Brit. India*, Diptera, Brachycera, 1 : 78.

Material.—1 ex., N. E. F. A., Subansiri Division, Pamir, 564 m., 17. v. 1966.

Remarks.—Hind tarsi brownish. Reported from India; Sikkim; Borneo.

19. *Rosapha bicolor* (Bigot)

1879. *Calochaetis bicolor* Bigot, *Ann. Soc. Ent. France* : 189.
 1907. *Rosapha bicolor* (Bigot) : Brunetti, *Rec. Indian Mus.*, 1 : 93.

Material.—1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 18. v. 1966.

Remarks.—Known to occur in Tura, Garo Hills and Sadiya, Assam; Kohima, Nagaland; Karkurghat, Nilgiri Hills.

Family TABANIDAE

20. *Tabanus nephodes* Bigot

1892. *Tabanus nephodes* Bigot, *Mem. Soc. Zool. France*, 5 : 656.
 1911. *Tabanus nephodes* Bigot : Ricardo, *Rec. Indian Mus.*, 4 : 145.

Material.—3 exs., N. E. F. A., Kameng Division, Tipi, 213 m., 6. v. 1966.

Remarks.—One specimen (ZSI Reg. No. 4201/H6) with a broad black lateral stripe on either side of thorax.

Previously recorded from Sibsagar, Assam; Naga Hills, Nagaland.

21. *Tabanus auriflamma* Walker

1848. *Tabanus auriflamma* Walker, *List Dipt. Brit. Mus.*, 1 : 155.

1911. *Tabanus auriflamma* Walker : Ricardo, *Rec. Indian Mus.*, 4 : 148.

Material.—1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11. v. 1966.

Remarks.—Reported from Sibsagar and Cachar, Assam; Naga Hills, Nagaland; also from Sylhet, Bangladesh.

22. *Tabanus albimediis* Walker

1850. *Tabanus albimediis* Walker, *Dipt. Saund.*, : 48.

1911. *Tabanus albimediis* Walker : Ricardo, *Rec. Indian Mus.*, 4 : 156.

Material.—2 exs., Assam, Sonai Rupai Forest, 79 m., 28. v. 1966.

Remarks.—Palpi with black hairs. The fore legs comparatively darker.

National Zoological Collections contain specimens from Kashmir; Punjab; Orissa; Bihar; W. Bengal. Also known to occur in Nepal; Ceylon.

23. *Tabanus monotaeniatus* (Bigot)

1892. *Atylotus monotaeniatus* Bigot, *Mem. Soc. Zool. France*, 5 : 655.

1911. *Tabanus monotaeniatus* (Bigot) : Ricardo, *Rec. Indian Mus.*, 4 : 159.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Denling Forest, 229 m., 5. v. 1966 ; (ii) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 11. v. 1966 ; (iii) 1 ex., Assam, Sonai Rupai Forest, 79 m., 28. v. 1966.

Remarks.—Specimens comparatively darker. Reported from several localities of Assam.

24. *Tabanus jucundus* Walker

1848. *Tabanus jucundus* Walker, *List. Dipt.*, 1 : 187.

1911. *Tabanus jucundus* Walker : Ricardo, *Rec. Indian Mus.*, 4 : 164.

Material.—2 exs., Assam, Sonai Rupai Forest, 79 m., 28 v. 1966.

Remarks.—Reported from Uttar Pradesh; Punjab; Western Ghats. Also recorded from Ceylon; Hongkong.

25. *Tabanus sanguineus* Walker

1850. *Tabanus sanguineus* Walker, *Dipt. Saund.*, 1 : 54.

1911. *Tabanus sanguineus* Walker : Ricardo, *Rec. Indian Mus.*, 4 : 194.

Material.—2 exs., Assam, Sonai Rupai Forest, 79 m., 28.v.1966,

Remarks.—Palpi with abundant black hairs. In one specimen with the ZSI Registration No. 4093/H6, the grey haired tomentose hind border interrupted on either side of the triangle.

Reported from Pusa, Bihar; Khasi Hills, Assam, also from Hongkong; Burma; Malaya; Java; Sumatra.

26. *Haematopota assamensis* Ricardo

1911. *Haematopota assamensis* Ricardo, *Rec. Indian Mus.*, 4 : 343.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Denling Forest, 229 m., 5.v.1966 ; (ii) 1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966.

Remarks.—Recorded from Nangpoh and Shillong, Assam.

27. *Chrysops dispar* (Fabricius)

1798. *Tabanus dispar* Fabricius, *Ent. Syst. Suppl.* : 567.

1911. *Chrysops dispar* (Fabricius) : Ricardo, *Rec. Indian Mus.*, 4 : 380.

Material.—(i) 3 exs., N.E.F.A., Subansiri Division, Kimin, 198 m., 9.v.1966 ; (ii) 1 ex., N.E.F.A., Subansiri Division, Dejoo, 183 m., 10.v.1966 ; (iii) 1 ex., Assam, Sonai Rupai Forest, 79 m., 28.v.1966 ;

Remarks.—Widely distributed in India. Also reported from Ceylon; Nepal; Singapore; Rangoon; Hongkong; Java; Sumatra; Thailand ; Taiwan.

28. *Chrysops designata* Ricardo

1911. *Chrysops designata* Ricardo, *Rec. Indian Mus.*, 4 : 383.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966 ; (ii) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 9.v.1966 ; (iii) 1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966 ; (iv) 1 ex., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966.

Remarks.—In the second abdominal tergum of male, the black colour not forming a complete hind margin and so the yellow triangle touches the hind border. The females differ in that, the black colour begins a little away from the anterior margin of the second tergum, at the same time they agree with the named general National Collections.

Reported from Jaulasal, Naini Tal District. The National Zoological Collections also contain specimens from Kashmir.

29. *Chrysops flavocincta* Ricardo

1902. *Chrysops flavocincta* Ricardo, *Ann. Mag. nat. Hist.*, (7) 9 : 380.

1911. *Chrysops flavocincta* Ricardo : Ricardo, *Rec. Indian Mus.*, 4 : 395.

Material.—1 ex., Assam, North Lakhimpur, 91 m., 26.v.1966.

Remarks.—Abundant on the western side of Western Ghats. Reported from Khasi Hills; Sarawak; Trincomalee.

Family BOMBYLIIDAE

30. *Hyperalonia tantalus* (Fabricius)

1794. *Anthrax tantalus* Fabricius, *Ent. Syst.*, 4 : 260.
 1920. *Hyperalonia tantalus* (Fabricius) : Brunetti, *Fauna Brit. India*,
 Diptera, *Brachycera*, 1 : 181.

Material.—2 exs., N. E. F. A., Kameng Division, Tipi, 213 m.,
 3.v.1966.

Remarks.—Reported from India; Nepal; Sumatra; Java; Borneo;
 Celebes, China; Japan.

31. *Hyperalonia oenomaus* Rondani

1875. *Hyperalonia oenomaus* Rondani, *Ann. Mus. Gen.*, 7 : 453.
 1920. *Hyperalonia oenomaus* Rondani : Brunetti, *Fauna Brit. India*,
 Diptera, *Brachycera*, 1 : 185.

Material.—1 ex., N. E. F. A., Kameng Division, Tipi, 213 m.,
 3.v.1966 and 1 ex., 6.v.1966.

Remarks.—Reported from Peshoke Spur, Darjeeling District;
 Sadiya, Assam; also from Rungpo, Sikkim; Mergui, Burma; Phil-
 ippines.

32. *Argyramoeba distigma* (Wiedemann)

1828. *Anthrax distigma* Wiedemann, *Aussereurop. Zweifl. Ins.*, 1 : 309.
 1920. *Argyramoeba distigma* (Wiedemann) : Brunetti, *Fauna Brit. India*,
 Diptera, *Brachycera*, 1 : 218.

Material.—1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m.,
 19.v.1966.

Remarks.—Wings with a well marked fuscous spot well separated
 from the anterior dark band of the wing.

Widely distributed in India.

33. *Anthrax paniscus* (Rossi)

1790. *Bibio paniscus* Rossi, *Fauna Etrus.*, 2 : 256.
 1920. *Anthrax paniscus* (Rossi) : Brunetti, *Fauna Brit. India*, Diptera,
Brachycera, 1 : 248.

Material.—1 ex., N. E. F. A., Kameng Division, Dunn Bridge,
 524 m., 1.v.1966.

Remarks.—Reported from Simla; Naini Tal.

Family ASILIDAE

34. *Michotamia aurata* (Fabricius)

1794. *Asilus aurata* Fabricius, *Ent. Syst.*, 4 : 387.
 1960. *Michotamia aurata* (Fabricius) : Ratan Lal, *Catalogue Indian*
Insects, part 29, Asilidae, Diptera : 9.

Material.—1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966.

Remarks.—Recorded from Darjeeling; Madras; also from Celebes.

35. *Merodontina robusta* Rao & Parui

1969. *Merodontina robusta* Rao & Parui, *Zool. Anz.*, **182** : 110.

Material.—1 ex., N. E. F. A., Subansiri Division, Pinjuli, 244 m., 4.v.1966.

Remarks.—Hind tibia dorsally with 5 bristles, all black in colour. Originally described from Denzi, Kameng Division, N. E. F. A.,

36. *Philodicus femoralis* Ricardo

1921. *Philodicus femoralis* Ricardo, *Ann. Mag. nat. Hist.*, (9) **8** : 190.

1960. *Philodicus femoralis* Ricardo : Ratan Lal, *Catalogue Indian Insects*, part 29, Asilidae, Diptera, : 35.

Material.—5 exs., Assam, Charduar, 79 m., 29.v.1966.

Remarks.—New to Z. S. I. collections. Known to occur in Pusa and Chapra, Bihar; Sadiya, Assam; also in Burma.

Family CONOPIDAE

37. *Physocephala calopus* (Bigot)

1887. *Conops calopus* Bigot, *Ann. Soc. Ent. France*, (6) **7** : 133.

1923. *Physocephala calopus* (Bigot) : Brunetti, *Fauna Brit. India*, Diptera, **3** : 364.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 20.5.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 19.v.1966.

Remarks.—Originally described from Pondicherry. Distributed in Almora, Kumoan District; Deesa, Gujarat; Abu, Rajasthan; several localities of Darjeeling District; also in Quetta, W. Pakistan.

Family SYRPHIDAE

38. *Paragus serratus* (Fabricius)

1805. *Mulio serratus* Fabricius, *Syst. Antliat.*, : 186.

1923. *Paragus serratus* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, **3** : 31.

Material.—(i) 5 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966. (ii) 1 ex., Assam, Tezpur, 79 m., 30.v.1966.

Remarks.—This species exhibits much variation in the abdominal colouration.

Widely distributed in India; also commonly occurring in Africa.

39. *Paragus indicus* (Brunetti)

1908. *Pipizella indica* Brunetti, *Rec. Indian Mus.*, **2** : 52.

1923. *Paragus indicus* (Brunetti) : Brunetti, *Fauna Brit. India*, Diptera, **3** : 33.

Material.—2 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv. 1966.

Remarks.—Originally described from Simla District; and Kathmandu, Nepal. Reported from Simla; Mussoorie; Allahabad; Darjeeling; Chapra; Pusa; Tenmalai, S. India.

40. *Melanostoma orientale* (Wiedemann)

1824. *Syrphus orientalis* Wiedemann, *Analec. Ent.*, : 36.

1923. *Melanostoma orientale* (Wiedemann) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 48.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Bomdila, 2621 m., 22.iv.1966; (ii) 11 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (iii) 2 exs., Subansiri Division, Ziro, 1585 m., 14.v.1966; (iv) 9 exs., Subansiri Division, Hapoli, 1585 m., 15.v.1966; (v) 3 exs., Subansiri Division, Chukru, 1128 m., 22.v.1966; (vi) 2 exs., Subansiri Division, Godak, 915 m., 23.v.1966.

Remarks.—The extension of black and orange yellow spots of abdominal terga varying; in some examples the orange yellow almost hidden below the black colour, others with the mediolongitudinal black mark absent in third, fourth and rarely in second.

Widely distributed species of the genus in the East.

41. *Melanostoma univittatum* (Wiedemann)

1824. *Syrphus univittatus* Wiedemann, *Analec. Entom.*, : 36.

1923. *Melanostoma univittatum* (Wiedemann) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 50.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966; (ii) 3 exs., N. E. F. A., Kameng Division, Pinjuli, 244 m., 4.v.1966; (iii) 1 ex., N. E. F. A., Subansiri Division, Chukru, 1128 m., 22.v.1966.

Remarks.—Recorded from Darjeeling; Chapra and Pusa, Bihar; Sadiya, Dibrugarh and Shillong, Assam; Coorg, Nedungadu and Coromander, S. India; also from Ceylon; Lower Burma; Sumatra; Queensland.

42. *Asarcina ericetorum* (Fabricius)

1781. *Syrphus ericetorum* Fabricius, *Spec. Ins.*, 2 : 425.

1923. *Asarcina ericetorum* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 63.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (ii) 13 exs., Subansiri Division, Kimin, 198 m., 11.v.1966; (iii) 3 exs., N. E. F. A., Subansiri Division, Tamen, 457 m., 18.v.1966.

Remarks.—The orange-yellow abdomen masked with fuscous in varying degrees and hence only a few show typical colouration. In one male specimen, with the ZSI Registration No. 4204/H6, the semicircular spot on the upper side of the antennal prominence brownish.

Widely distributed in India and the East in both hills and plains throughout the greater part of the year.

43. *Asarcina aegrota* (Fabricius)

1805. *Eristalis aegrota* Fabricius, *Syst. Antl.*, : 243.
 1923. *Asarcina aegrota* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 64.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966 and 3 exs., 6.v.1966; (ii) 1 ex., N. E. F. A., Kameng Division, Pinjuli, 244 m., 4.v.1966; (iii) 2 exs., N. E. F. A., Kameng Division, Denling Forest, 229 m., 5. v.1966; (iv) 4 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966; (v) 1 ex., N.E.F.A., Subansiri Division, Ziro, 1585 m., 14.v.1966; (vi) 1 ex., N. E. F. A., Subansiri Division, Pamir, 564 m., 17.v.1966; (vii) 8 exs., N.E.F.A., Subansiri Division, Tamen, 457 m., 18. v.1966 and 2 exs., 20.v.1966; (viii) 4 exs., Assam, Sonai Rupai Forest, 79 m., 28.v.1966.

Remarks.—Widely distributed in India and the East.

44. *Syrphus balteatus* (De Geer)

1776. *Musca balteata* De Geer, *Mem. Insectes*, 6 : 116.
 1923. *Syrphus balteatus* (De Geer) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 82.

Material.—(i) 3 exs., N. E. F. A., Kameng Division, Tipi, 213m., 3.v.1966 and 2 exs., 6.v.1966; (ii) 4 exs., N. E. F. A., Kameng Division, Pinjuli, 244 m., 4.v.1966; (iii) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 9.v.1966; (iv) 4 exs., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (v) 20 exs., N.E.F.A., Subansiri Division, Kimin, 198 m., 11.v.1966; (vi) 6 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (vii) 5 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 14.v.1966; (viii) 5 exs., N.E.F.A., Subansiri Division, Hapoli, 1585 m., 15. v. 1966; (ix) 1 ex., N.E.F.A., Subansiri Division, Pamir, 564 m., 17.v.1966; (x) 6 exs., N.E.F.A., Subansiri Division, Tamen, 457 m., 18.v.1966 and 5 exs., 20.v.1966; (xi) 2 exs., N.E.F.A., Subansiri Division, Tamen, 305 m., 19.v.1966; (xii) 1 ex., N. E. F. A., Subansiri Division, Chukru, 1128 m., 22.v.1966.

Remarks.—Extremely common throughout the East in Hills and plains; also known to occur in Europe; Maderia; Canaries; N.Africa; Asia to Japan.

45. *Syrphus corollae* (Fabricius)

1794. *Scaeva corollea* Fabricius, *Ent. Syst.*, 4 : 306.
 1923. *Syrphus corollae* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 85.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Hapoli, 1585 m., 5.v.1966.

Remarks.—In the specimen bearing Z. S. I. Registration No. 4206/H6, the hind femur without black marking.

The range of distribution includes all Europe; Madeira and Canaries; N. Africa; Asia to Japan.

46. *Ischiodon scutellaris* (Fabricius)

1805. *Scaeva scutellaris* Fabricius, *Syst. Antl.*, : 252.
 1923. *Ischiodon scutellaris* (Fabricius) : Brunetti, *Fauna Brit. India*,
 Diptera, 3 : 97.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 1.v.1966; (ii) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 6.v.1966; (iii) 1 ex., Subansiri Division, Tamen, 457 m., 20.v.1966; (iv) 1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 18.v.1966 and 1 ex., 19.v.1966.

Remarks.—In the specimen with the ZSI Registration No. 4202/H6, the hind margin of abdomen predominately black.

Very common in India, especially in Assam; widely distributed in the East; common in North Africa.

47. *Miogramma javana* (Wiedemann)

1824. *Syrphus javanus* Wiedemann, *Anal. Ent.*, : 34.
 1923. *Sphaerophoria javana* (Wiedemann) : Brunetti, *Fauna Brit. India*,
 Diptera, 3 : 100.
 1945. *Miogramma javana* (Wiedemann), Frey, *Notul. ent.*, 25 : 165.

Material.—(i) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (iii) 1 ex., Subansiri Division, Pamir, 564 m., 17.v.1966; (iv) 3 exs., N. E. F. A., Subansiri Division, Tamen, 457 m., 18.v.1966.

Remarks.—Distributed in Tura, Assam; Coorg, South India; also in Ceylon; Java; Sumatra; New Guinea.

48. *Sphaerophoria nigratarsis* Brunetti

1915. *Sphaerophoria* "Form 3 *nigratarsis*", Brunetti, *Rec. Indian Mus.*,
 11 : 216.
 1923. *Sphaerophoria indiana* Bigot : Brunetti, *Fauna Brit. India*, Diptera,
 3 : 102.
 1967. *Sphaerophoria nigratarsis* Brunetti : Joseph, *Oriental Insects*, 1
 (3 & 4) : 244.

Material.—(i) 3 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.v.1966; (ii) 3 exs., Kameng Division, Pinjuli, 244 m., 4.v.1966; (iii) 3 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966.

Remarks.—Brunetti erected this as a form in 1915, which he himself later on synonymised with *Sphaerophoria indiana* Bigot. Joseph (*l.c.*) in his recent paper raised this to species and type designated.

So far known to occur from Simla; Kurseong.

49. *Baccha dispar* Walker

1860. *Baccha dispar* Walker, *Proc. Linn. Soc. London*, 4 : 121.
 1923. *Baccha dispar* Walker : Brunetti, *Fauna Brit. India*, Diptera, 3 : 115.

Material.—1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966.

Remarks.—Much more darker than those described in Fauna ; the yellowish spots on the third and fourth abdominal segments rather indistinct.

Reported from Nilgiris, South India; also from Celebes,.

50. *Baccha amphithoe* Walker

1849. *Baccha amphithoe* Walker, *List Diptera Brit. Mus.*, 3 : 549.

1923. *Baccha amphithoe* Walker : Brunetti, *Fauna Brit. India*, Diptera, 3 : 126.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division; Kimin, 198 m., 11.v.1966.

Remarks.—Recorded from Cherrapunji, Assam; Sibpur and Calcutta, Bengal; also from Sikkim; Ceylon.

51. *Eristalis tenax* (Linnaeus)

1758. *Musca tenax* Linnaeus, *Syst. Nat. Ed.* 10 : 591.

1923. *Eristalis tenax* (Linnaeus) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 173.

Material.—(i) 4 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 1.v.1966; (ii) 2 exs., N. E. F. A., Kameng Division, Bomdila, 2621 m., 22.iv.1966; (iii) 2 exs., N. E. F. A., Kameng Division, Shaitan Bridge, 1524 m., 23.iv.1966; (iv) 3 exs., N. E. F. A., Kameng Division, Tawang, 3200 m., 27.iv.1966 and 1 ex., 28. iv. 1966; (v) 6 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (vi) 20 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 14.v.1966; (vii) 21 exs., N. E. F. A., Subansiri Division, Hapoli, 1585 m., 15.v.1966; (viii) 1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 18.v.1966 and 1 ex., 20. v.1966; (ix) 1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 19.v.1966.

Remarks.—In the variety *campestris* mentioned by Brunetti (*l.c.*), the basal half of the hind femora is pale. In fact this portion exhibits such colour variations from black to pale that it is difficult to establish the variety definitely. So here no attempt has been made to separate out the variety. The specimen bearing the ZSI Registration No. 4203/H6 differs as follows : basal half of the hind tibia distinct yellow; wing and face blacker; and scutellum brownish yellow covered with matching hairs. The genitalic study confirms the species.

The most cosmopolitan species of the family occurring in the East. India; Ceylon; Burma; the Malay Peninsula and eastwards to Japan.

52. *Eristalis arvorum* (Fabricius)

1787. *Syrphus arvorum* Fabricius, *Mant. Ins.*, : 335.

1923. *Eristalis arvorum* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 181,

Material.—(i) 12 exs., N.E.F.A., Kameng Division, Tipi, 213 m., 3.v.1966 ; (ii) 2 exs., N. E. F. A., Kameng Division, Tipi, 213 m., 6.v.1966 ; (iii) 6 exs., N. E. F. A., Subansiri Division, Pamir, 564 m., 17.v.1966.

Remarks.—Common all over India; also occurring almost all parts of the Orient.

53. *Eristalis himalayensis* Brunetti

1880. *Eristalis ursinus* Bigot (*nec* Jaenicke), *Ann. Soc. Ent. France*, (5) 10 : 215.

1923. *Eristalis himalayensis* Brunetti : Brunetti, *Fauna Brit. India*, Diptera, 3 : 168.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tse La, 3657 m., 25.iv.1966 ; (ii) 1 ex., N. E. F. A., Kameng Division, Tawang, 320 m., 28.iv.1966.

Remarks.—Thorax without greyish band along the transverse suture or at the anterior margin.

Originally described by Bigot from India. It is of common occurrence along Himalaya at about 1500 m. and upwards during the summer.

54. *Eristalis quinquelineatus* (Fabricius)

1781. *Syrphus quinquelineatus* Fabricius, *Spec. Ins.*, 2 : 425.

1830. *Eristalis quinquelineatus* (Fabricius) : Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 185.

Material.—(i) 2 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv.1966 ; (ii) 1 ex., N.E.F.A., Subansiri Division, Pamir, 564 m., 12.v.1966 ; (iii) 1 ex., N.E.F.A., Subansiri Division, Tamen, 457 m., 20.v.1966.

Remarks.—Reported from Kasauli, Theog and Phagu, Simla District; Naini Tal and Bijnor, Uttar Pradesh; Kurseong, Darjeeling district ; Mysore, Ootacamund and Yercaud, South India.

55. *Megaspis errans* (Fabricius)

1787. *Syrphus errans* Fabricius *Mant. Ins.*, 2 : 337.

1923. *Megaspis errans* (Fabricius) : Brunetti, *Fauna Brit. India*, Diptera, 3 : 199.

Material.—1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 19.v.1966.

Remarks.—Very common throughout the East.

56. *Chrysotoxum baphyrus* Walker

1849 *Chrysotoxum baphyrus* Walker, *List Dipt. Brit. Mus.*, 3 : 542.

1923. *Chrysotoxum baphyrus* Walker ; Brunetti, *Fauna Brit. India*, Diptera, 3 : 296.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966 ; (ii) 2 exs., N. E. F. A., Subansiri Division, Chukru, 22.v.1966.

Remarks.—In these three females, the extension of orange brown and black colour of abdomen variable. In the second tergum of the specimens bearing ZSI Registration Nos. 4107/H6 and 4108/H6, the lateral black marks small and not united with the broad mediolongitudinal mark. The specimen registered under 4112/H6, with a broad mediolongitudinal black stripe with which unite the wide lateral marks in 2nd, 3rd and 4th tergites.

Reported from Simla and Rampore Chaka, Uttar Pradesh; Khasi Hills, Assam; North Bengal; Nilgiris, Yercaud and Salem, South India ; also from Ceylon.

Family SEPSIDAE

57. *Sepsis indica* Wiedemann

1830. *Sepsis indica* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 467.

1909. *Sepsis indica* Wiedemann : Brunetti, *Rec. Indian Mus.*, 3 : 357.

Material.—1 ex., N. E. F. A., Subansiri Division, Godak, 975 m., 23. v. 1966.

Remarks.—Recorded from Calcutta; Rajmahal, Bihar ; Sadiya, Assam; Maddathorai and Pallode, South India ; also from Sikkim.

58. *Sepsis rufa* Macquart

1850. *Sepsis rufa* Macquart, *Dipt. Exot. Suppl.*, 4 : 269.

1909. *Sepsis rufa* Macquart : Brunetti, *Rec. Indian Mus.*, 3 : 359.

Material.—2 exs., N. E. F. A., Subansiri Division, Godak, 975 m., 23.v.1966.

Remarks.—Reported from Simla; Kurseong, Darjeeling and Calcutta, W. Bengal; Shillong, Assam; Puri, Orissa; also from Rangoon.

Family TEPHRITIDAE

59. *Dacus (Strumeta) cucurbitae* Coquillett

1899. *Dacus cucurbitae* Coquillett, *Ent. News.* : 129.

1913. *Bactrocera cucurbitae* (Coquillett) : Bezzi, *Mem. Indian Mus.*, 3 : 96.

1960. *Dacus (Strumeta) cucurbitae* Coquillett : Narayanan and Batra, *Fruitflies and their control.* : 26.

Material.—1 ex., Sta. No. 7, N. E. F. A., Kameng Division, Tipi, 213 m., 6.v.1966.

Remarks.—This species attacks a large variety of cucurbits, other vegetables and occasionally fruits.

Widely distributed in India; also recorded from Nepal; Pakistan; Ceylon ; Burma ; Thailand ; Federated Malay States ; Java ; China ; Taiwan ; Philippines ; Hawaiian Islands ; Australia ; East Africa.

60. *Ptilona nigriventris* Bezzi

1913. *Ptilona nigriventris* Bezzi, *Mem. Indian Mus.*, 3 : 110.

Material.—1 ex., N. E. F. A., Subansiri Division, 198 m., 9.v.1966.

Remarks.—Reported from Khasi Hills, Assam; also from Sylhet, Bangladesh

61. *Tephrostola acrostacta* (Wiedemann)

1824. *Trypeta acrostacta* Wiedemann, *Anal. Entom.*, 54 : 119.

1913. *Tephrostola acrostacta* (Wiedemann) : Bezzi, *Mem. Indian Mus.*, 3 : 153.

Material.—1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 18.v.1966.

Remarks.—Reported from Calcutta; Ranchi, Bihar; Puri, Orissa; also from Sikkim; Bangladesh ; Burma.

Family MUSCIDAE

62. *Musca (Musca) domestica* Linnaeus

1758. *Musca domestica* Linnaeus, *Syst. nat.*, 10 : 596.

1965. *Musca (Musca) domestica* Linnaeus : Emden, *Fauna India*, Diptera, 7(1) : 54.

Material.—1 ex., N. E. F. A., Kameng Division, Dahung, 1524 m., 23.iv.1966.

Remarks.—Found in the houses throughout the year and popularly known as the housefly.

Distribution world-wide.

63. *Musca (Musca) domestica vicina* Macquart

1851. *Musca vicina* Macquart, *Mem. Soc. Sc. Agric. Arts Lille* : 226.

1965. *Musca (Musca) domestica vicina* Macquart : Emden, *Fauna India*, Diptera, 7 (1) : 55.

Material.—(i) 4 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 1.v.1966; (ii) 6 exs., N. E. F. A., Kameng Division, Dahung, 1524 m., 23.iv.1966.

Remarks.—World-wide in tropical and subtropical belt. Very common in the whole of Oriental region.

64. *Musca (Byomyia) sorbens* Wiedemann

1830. *Musca sorbens* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 418.

1965. *Musca (Byomyia) sorbens* Wiedemann : Emden, *Fauna India*, 7 (1) : 61.

Material.—1 ex., Assam, Tezpur, 79 m., 30.v.1966.

Remarks.—Distributed throughout the Ethiopian, Oriental and Australian regions.

65. *Musca (Philaematomyia) crassirostris* Stein

1903. *Musca crassirostris* Stein, *Mitt. Zool. Mus. Berlin*, 2 : 99.

1965. *Musca (Philaematomyia) crassirostris* Stein : Emden, *Fauna India*, Diptera, 7 (1) : 71.

Material.—(i) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 9.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966.

Remarks.—Reported to be a blood-sucking species attacking the legs and abdomen of cattle, horses and donkeys and is said to bite man occasionally.

Distributed in the whole of Oriental region; also in mediterranean; Socotra Sudan; Belgian Congo; S. Rhodesia; Transvaal.

66. *Musca (Viviparomusca) bezzii* Patton and Cragg

1913. *Musca bezzii* Patton and Cragg, *Ind. J. med. Res.*, 1 : 19.

1965. *Musca (Viviparomusca) bezzii*, Patton and Cragg : Emden, *Fauna India*, Diptera, 7 (1) : 83.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., 28.v.1966.

Remarks.—Haematophagous in habit and found on and around animals.

Widely distributed at altitudes of 500 m. and above.

67. *Orthellia fletcheri* Emden

1965. *Orthellia fletcheri* Emden, *Fauna India*, Diptera, 7 (1) : 122.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (ii) 2 exs., N. E. F. A., Subansiri Division, Ziro, 1585 m., 14.v.1966.

Remarks.—Emden (*l.c.*) erected the species on females. The male (ZSI Registration No. 4181/H6) is caught for the first time. It differs from the females in that the ocellars are not strongly developed and the eyes contiguous with strongly enlarged inner facets.

Recorded from Siliguri, Kurseong and Darjeeling, W. Bengal; Shillong, Assam; Kodaikanal, Madras; also from Ceylon; Burmae.

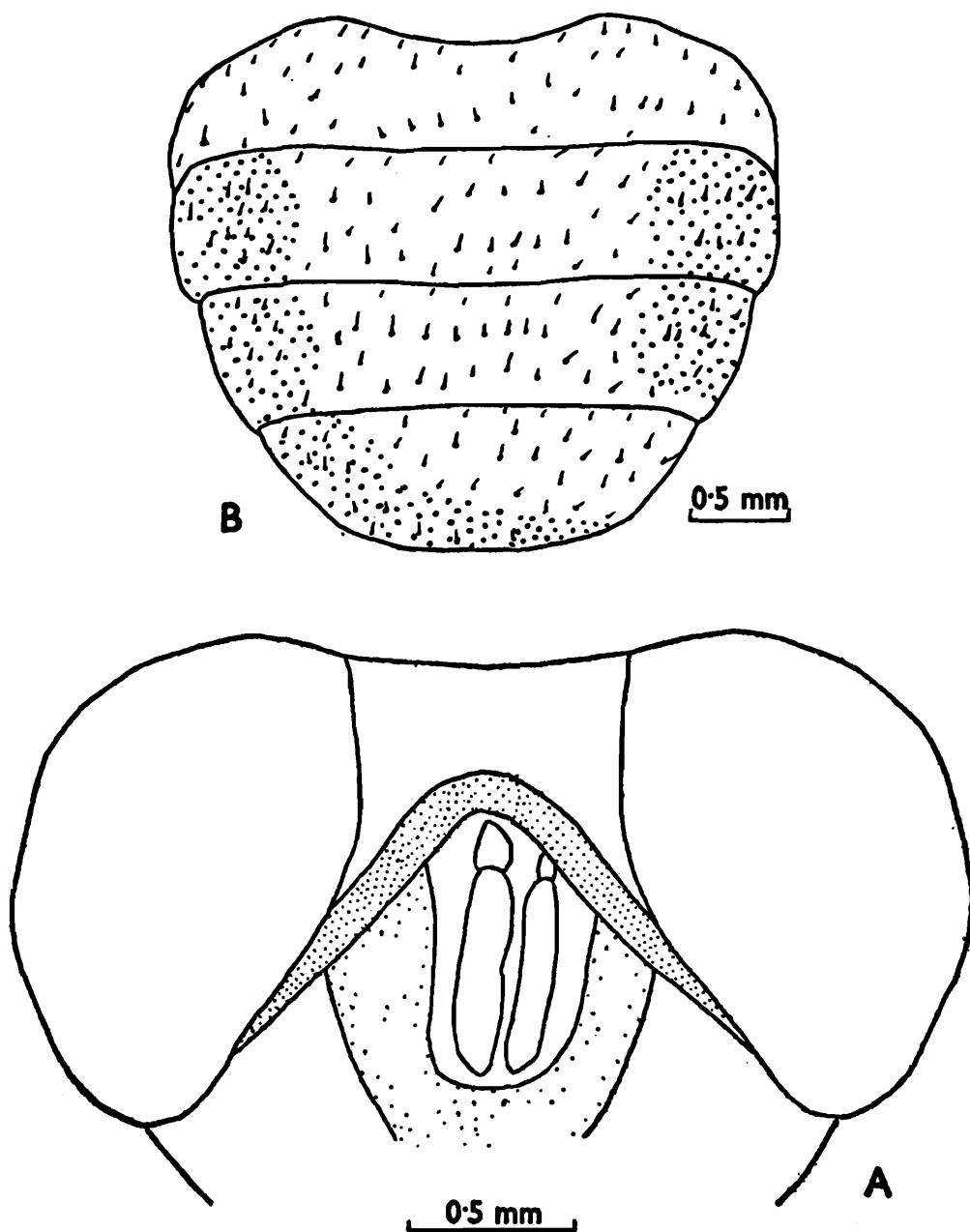
68. *Orthellia coerulea* (Wiedemann)

1819. *Musca coerulea* Wiedemann, *Zool. Mag.*, 3 : 23.

1965. *Orthellia coerulea* (Wiedemann) : Emden, *Fauna India*, 7 (1) : 124.

Material.—(i) 2 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv.1966 and 1 ex., 1.v.1966; (ii) 60 exs., N. E. F. A., Subansiri Division, Ziro, 1585m., 13.v.1966; (iii) 10 exs., N. E. F. A., Subansiri Division, Ziro, 1585m., 14.v.1966; (iv) 18 exs., N. E. F. A.,

Subansiri Division, Pamir, 564 m., 18.v. 1966; (v) 2 exs., N. E. F. A., Subansiri Division, Tamen, 457 m., 18. v. 1966; and 2 exs., 20.v.1966; (vi) 4 exs., N. E. F. A., Subansiri Division, Tamen, 305 m., 18.v. 1966; and 9 exs., 19.v. 1966 (vii) 3 exs., N. E. F. A., Subansiri Division, Chukru, 1128 m., 22.v.1966.



TEXT-FIG. 1A. *Orthellia coerulea* (Wiedemann), face from above of the unique specimen wherein the antennae rest in a deep facial socket; B. *Chlororhinia temenensis* sp. n., dorsal view of abdomen.

Remarks.—This species exhibits much intraspecific variations and some of the noteworthy features are as follows: In typical males the inner facets of compound eyes are strongly enlarged. The present collection contains male specimens wherein the facets are uniformly smaller in size, intermediate forms with slightly larger inner facets and finally typical forms with strongly enlarged facets.

Thus a complete evolutionary series can be traced starting from the uniformly smaller to the strongly enlarged facets of compound eyes.

In preserved specimens normally the antennæ can be seen clearly in side-view, but in an unique female specimen bearing ZSI Registration No. 4193/H6, the clypeus forms a deep socket (text-fig. 1A) within which rests the antennae. In lateral view only the arista are seen.

In a female specimen with ZSI Registration No. 4192/H6, there is a conical projection of lunula along with the base of antenna at its lower side. In the specimen registered under the No. 4191/H6, on one side with three conspicuous *prst dc*, the opposite side being normal.

Reported from India; Ceylon; Sikkim; Nepal; Burma; Malaya; Thailand/China; Taiwan; Japan; Indonesia to Australia; Solomon Islands.

69. *Orthellia indica* (Robineau-Desvoidy)

1830. *Lucilia indica* Robineau-Desvoidy, *Myodaires*, : 453.

1965. *Orthellia indica* (Robineau-Desvoidy) : Emden, *Fauna India*, Diptera, 7 (1) : 126.

Material.—(i) 1 ex., N.E.F.A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 20.v.1966; (iii) 1 ex., Assam, Tezpur, 79 m., 30.v.1966.

Remarks.—Reported from India; Ceylon; Burma; Malaya; also seen from Thailand; Laos; Sumatra; Java; Lombok; Flores; Taiwan.

70. *Orthellia lauta* (Wiedemann)

1830. *Musca lauta* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 410.

1965. *Orthellia lauta* (Wiedemann) : Emden, *Fauna India*, Diptera, 7 (1) : 128.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Tamen, 457 m., 20.v. 1966; (ii) 6 exs., Assam, Tezpur, 79 m., 30.v.1966.

Distributed widely in India; also recorded from Ceylon; W. Pakistan; Nepal; Burma; Malaya; Thailand; Laos; Sumatra; Borneo; Java; Lombok; Flores; Australia.

71. *Orthellia claripennis* Malloch

1923. *Orthellia claripennis* Malloch, *Ann. Mag. nat. Hist.*, (9) 12 : 515.

1965. *Orthellia claripennis* Malloch : Emden, *Fauna India*, Diptera, 7 (1) : 130.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Ziro, 1585 m., 13.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Godak, 975 m., 23.v.1966.

Remarks.—Reported from India; Sikkim; Nepal; W. Burma; Ceylon; Lombok; Taiwan.

72. *Orthellia chalybea faceta* (Enderlein)

1934. *Neomyia faceta* Enderlein, *Sitzber. Ges. naturf. Fr.*, 1934 : 420.
 1965. *Orthellia chalybea faceta* (Enderlein) : Emden, *Fauna India*, Diptera, 7 (1) : 131.

Material.—(i) 1 ex., N.E.F.A., Subansiri Division, Kimin, 198 m., 9.v.1966 ; (ii) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966.

Remarks.—Distributed in India; Ceylon; W. Pakistan; Sikkim; Nepal; Upper Burma; China; Sumatra; E. Java.

73. *Orthellia coeruleifrons* (Macquart)

1851. *Lucilia coeruleifrons* Macquart, *Dipt. Exot. Suppl.*, 4 : 248.
 1965. *Orthellia coeruleifrons* (Macquart) : Emden, *Fauna India*, Diptera, 7 (1) : 127.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 9.v.1966 ; (ii) 1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966.

Remarks.—Recorded from India; Ceylon; Nepal; Burma; Malaya; Thailand; Laos; Sumatra; Java; Lombok; Taiwan.

74. *Stomoxys calcitrans* (Linnaeus)

1758. *Conops calcitrans* Linnaeus, *Syst., nat. ed.* 10 : 604.
 1965. *Stomoxys calcitrans* (Linnaeus) : Emden, *Fauna India*, Diptera, 7 (1) : 160.

Material.—(i) 1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Godak, 975 m., 23.v.1966.

Remarks.—Distribution world-wide, including all parts of Oriental region.

Family CALLIPHORIDAE

75. *Lucilia fumicosta* Malloch

1926. *Lucilia (Luciliella) fumicosta* Malloch, *Ann. Mag. nat. Hist.*, (9) 17 : 507.
 1940. *Lucilia fumicosta* Malloch : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 48.

Material.—(i) 3 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv.1966; and 1 ex., 1.v.1966. (ii) 1 ex., N.E.F.A., Kameng Division, Tipi, 213 m., 3.v.1966.

Remarks.—Two pairs of posterior acrostichals present. All the specimens with the middle tibia with two anterodorsal bristles. Small hairs outside the frons continued to parafacialia in one specimen.

This species is a new to India and ZSI Collections. Originally described from Mt. Maquiling, Los Banos, Philippine Islands.

76. *Chrysomya megacephala* (Fabricius)1784. *Musca megacephala* Fabricius, *Syst. Ent.*, 4 : 317.1940. *Chrysomya megacephala* (Fabricius) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 138.

Material.—(i) 17 exs., N. E. F. A., Kameng Division, Tipi. 213 m., 3.v.1966 ; (ii) 9 ex., Assam, Sonai Rupai Forest, 79 m., 28.v.1966; (iii) 1 ex., Assam, Charduar, 79 m., 29.v.1966.

Remarks.—Very common in Oriental and Australian Regions.

77. *Chrysomya bezziana* Villeneuve1914. *Chrysomya bezziana* Villeneuve, *Rev. Zool. Afr.*, 3 : 430.1940. *Chrysomya bezziana* Villeneuve : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 140.

Material —(i) 1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 21.iv.1966 ; (ii) 5 exs., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966.

Remarks.—A fly producing myiasis both in man and animals.

Recorded from India; also from Ceylon; Tong-king; Philippine Islands; Ethiopian region.

78. *Strongyloneura delectans* (Walker)1860. *Isomyia delectans* Walker, *Proc. Linn. Soc. Lond.*, 4 : 134.1940. *Strongyloneura delectans* (Walker) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera : 6 : 159.

Material.—1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966.

Remarks.—Acrostichals 2 : 2. Abdomen without red or cup-reous reflections. Anterior region of first visible abdominal segment not black.

Reported from Mussoorie, Himalayan Foot Hills; also from Celebes; Laos; Philippine Islands.

79. *Cosmina bicolor* (Walker)1857. *Idia bicolor* Walker, *Proc. Linn. Soc.*, 1 : 23, 77.1940. *Cosmina bicolor* (Walker) : Senior-White, Aubertin and Smart, *Fauna British India*, Diptera, 6 : 173.

Material.—(i) 6 exs., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966; (ii) 2 exs., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966.

Remarks.—Palpi black throughout, only two stripes on the thorax conspicuous.

Reported from Indo-Gangetic plains, Assam, Coorg and Nilgiris, India; also from Ceylon; Burma; Malaya; Borneo; Java; Thailand.

80. *Cosmina biplumosa* (Senior-White)

1924. *Stomorhina biplumosa* Senior-White, *Spol. Zevl.*, 13 : 110.
 1940. *Cosmina biplumosa* (Senior-White) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 175.

Material.—1 ex., N. E. F. A., Subansiri Division, Dejoo, 183 m., 10.v.1966.

Remarks.—A good deal of white pile on vertex wanting. Pleura with yellowish pile in addition to the black hairs.

It is reported for the first time from India and is new to ZSI collections. Earlier reported from Thailand; Malaya.

81. *Cosmina simplex* (Walker)

1857. *Idia simplex* Walker, *Trans. Ent. Soc. Lond.* n.s., 4 : 212.
 1940. *Stomorhina simplex* (Walker) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 202.
 1952. *Cosmina simplex* (Walker) : Peris, *An. Estac. exp. Aula Dei*, 2 : 132.

Material.—(i) 4 exs., N. E. F. A., Kameng Division, Tipi, 213 m., 6.v.1966; (ii) 1 ex., N. E. F. A., Kameng Division, Pinjuli, 244 m., 4.v.1966; (iii) 1 ex., Subansiri Division, Kimin, 198 m., 11.v. 1966.

Remarks.—Apical region of the wing well marked with fuscous [colour.

Recorded from Kerala; Assam Bhutan Border; also from Sumatra; Borneo.

82. *Stomorhina discolor* (Fabricius)

1794. *Musca discolor* Fabricius, *Ent. Syst.*, 4 : 320.
 1940. *Stomorhina discolor* (Fabricius) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 192.

Material.—(i) 1 ex., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966 and 1 ex., 6.v.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Kimin, 198 m., 11.v.1966; (iii) 93 exs., N. E. F. A., Subansiri Division, Tamen, 457 m., 18.5.1966.

Remarks.—Distributed in India; also in W. Pakistan; Ceylon; Malaya, Java; Philippine Islands; Hong Kong; N. Australia; New Caledonia; Fiji.

83. *Chlororhinia exempta* (Walker)

1857. *Idia exempta* Walker, *Journ. Linn. Soc. Lond.*, 1 : 128.
 1940. *Chlororhinia exempta* (Walker) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 206.

Material.—7 exs., N. E. F. A., Subansiri Division, Tamen, 457 m., 18.v.1966.

Remarks.—Smaller in size than the type. Black setiferous dots on the thorax and abdomen less conspicuous.

84. *Chlororhinia tamenensis* sp.n.

♂ ♀ *Head* sub-holoptic in male; frons shining black with one and three fourths as broad as one of the parafrontalia in female; parafacialia shining black; antennae bright ochraceous. *Thorax* bright metallic green covered with black setiferous spots, with rufous suffusions on dorsal and lateral regions; prescutellar acrostichals 2; postsutural dorsocentrals 2; rest of the bristles inconspicuous; pleural hairs tawny with pale hairs at the posterior margin of mesopleura. *Abdomen* oval; dark blue at the discal region, the rest metallic green with reddish suffusions at the lateral and apical regions; covered all over with black setiferous spots (text-fig. 1B). *Wings* hyaline, basally slightly infuscated; apical cell petiolate in line with vein III (wings in paratype (♀) damaged). *Legs* with brownish femora, except the metallic front pair tibiae and tarsi ochraceous.

Remarks.—*Chlororhinia tamenensis* sp. n. resembles closely *Chlororhinia exempta* (Walker) but differs from it as well as from *Chlororhinia fuscohirta* Malloch, the only other known Indian species, in that the female frons is one and three fourths as broad as one of the parafrontalia. Further, thorax and abdomen in both the sexes with rufous suffusions all over, the latter being pitchy dark at the discal region.

Length ♂ 5.5 mm., of wings 3.5 - 4 mm.
♀ 6.5 mm., of wing 4.5 mm.

Holotype : ♂ in Z. S. I. Collections (Reg. No. 4198/H6);
Paratypes : ♂ (Reg. No. 4199/H6), ♀ (Reg. No. 4200/H6), both in Z. S. I. Collections.

All the types collected from N. E. F. A., Subansiri Division, Tamen by A. N. T. Joseph on 18.v.1966.

Family SARCOPHAGIDAE

85. *Sarcophaga haematodes* Meigen

1826. *Sarcophaga haematodes* Meigen, *Syst. Besch.*, 5 : 29.
1940. *Sarcophaga haematodes* Meigen : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 225.

Material.—1 ex., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 22.iv.1966. and 1 ex., 2.v.1966.

Remarks.—Hind tibia with two anterodorsal and two dorsal bristles.

A palaeartic species entering the Oriental region. So far known to occur in India in Kashmir and eastwards up to Darjeeling along the Himalaya. The present record of the species shows that its distribution further extends eastwards upto N. E. F. A.

86. *Sarcophaga albiceps* Meigen

1826. *Sarcophaga albiceps* Meigen, *Syst. Besch.*, 5 : 22.
1940. *Sarcophaga albiceps* Meigen : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 242.

Material.—(i) 1 ex., N. E. F. A., Kameng Division Tipi, 213 m., 3.v.1966; (ii) 1 ex., N. E. F. A., Subansiri, Division, Pamir, 564 m., 17.v.1966; (iii) 2 exs., N. E. A. F. Subansiri Division, Chukru, 1128m., 22.v.1966.

Remarks.—Posterior dorsocentrals 6, anteriormost very weak. Senior-White *et al.* (*l.c.*) mention the presence of only 4 posterior dorsocentrals. The named collections in Z. S. I., however, with 6 posterior dorsocentrals.

Distributed in Oriental Region throughout; Europe; Palestine; North China; New Guinea, Australian region.

87. *Sarcophaga orientaloides* Senior-White

1924. *Sarcophaga orientaloides* Senior-White, *Rec. Indian Mus.*, 26 : 244.
1940. *Sarcophaga orientaloides* Senior-White : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 251.

Material.—3 exs., Kameng Division, Tipi, 213 m., 3.v.1966.

Remarks.—Hind and mid-tibiae well fringed.

Distributed in Dehradun, Uttar Pradesh; Chapra, Bihar; Barkuda Islands, Orissa; Assam, several localities; Madras; several localities; Bombay; also from Ceylon, Burma; Thailand; Malaya.

88. *Sarcophaga brevicornis* Ho

1934. *Sarcophaga brevicornis* Ho, *Bull. Fan. inst. Biol.*, 5 : 23.
1940. *Sarcophaga brevicornis* Ho : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 262.

Material.—1 ex., N. E. F. A., Kameng Division, Tipi, 213m., 3.v.1966.

Remarks.—Recorded from Madras ; also from China; Hainan Island; Federated Malay States.

89. *Sarcophaga kempi* Senior-White

1924. *Sarcophaga kempi* Senior-White, *Rec. Indian Mus.*, 26 : 247.
1940. *Sarcophaga kempi* Senior-White : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 264.

Material.—2 exs., N. E. F. A., Kameng Division, Tipi, 213 m., 3.v.1966.

Remarks.—Recorded from Pusa, Bihar; Calcutta; also from Burma; Ceylon; China.

90. *Sarcophaga dux* Thomson

1868. *Sarcophaga dux* Thomson, *Dipt. Eugen. Reise*, 540.
1940. *Sarcophaga dux* Thomson : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 266.

Material.—(i) 1 ex., Kameng Division, Dunn Bridge, 1524 m., 21. iv.1966; (ii) 1 ex., N. E. F. A., Subansiri Division, Tamen, 305 m., 18.v.1966.

Remarks.—Widely distributed in all parts of the globe.

91. *Sarcophaga haemorrhoidalis* (Fallen)

1816. *Musca haemorrhoidalis* Fallen, *Vet.-Akad. Handl.*, : 237.

1940. *Sarcophaga haemorrhoidalis* (Fallen) : Senior-White, Aubertin and Smart, *Fauna Brit. India*, Diptera, 6 : 276.

Material.—(i) 2 exs., N. E. F. A., Kameng Division, Dunn Bridge, 1524 m., 1.v.1966; (ii) 1 ex., Subansiri Division, Ziro, 1585 m., 14.v.1966.

Remarks.—In India so far known to occur from Himalaya from Kulu to Darjeeling. The present record from NEFA, shows its presence further east along the Himalaya. Widely distributed in Palaearctic region; also recorded from Ethiopian region.

III—ACKNOWLEDGEMENTS

We are indebted to Dr. A. P. Kapur, Director, Zoological Survey of India, Calcutta, for the permission to study the material and for the valuable help extended to us during the course of this work. Our thanks are also due to Sri. K. S. Pradhan, Superintending Zoologist, Zoological Survey of India, Calcutta, for his constant interest in this work. We owe greatly also to our colleague, Sri. P. Parui, for his help in identifying the tipulids.

IV—SUMMARY

The paper deals with 91 species of Diptera, of which one *i. e.*, *Chlororhinia tamenensis* (Calliphoridae) is new. The male of *Orthellia fletcheri* Emden (Muscidae), is described for the first time; its differences with the female are pointed out. *Lucilia fumicosta* Malloch and *Cosmina biplumosa* (Senior-White) both belonging to the family Calliphoridae, are new Indian records. The total number of examples studied is 758.

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