

DIPTERA FROM NEFA AND ASSAM FOOT HILLS.
PART 1. KAMENG FRONTIER DIVISION AND
ASSAM FOOT HILLS

By

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(With 1 Text-figure)

I—INTRODUCTION

The Zoological Survey of India in collaboration with the Defence Research and Development Organisation (Ministry of Defence, Government of India), Field Laboratory, Tezpur, carried out a faunistic survey of insects of medical and veterinary importance and other allied fauna of Kameng Frontier Division of NEFA and Assam Foot Hills during December 1965 to January 1966. It is the first in the series of joint surveys to cover the whole NEFA. The object of the survey is to study the insects and other allied fauna which are deleterious to the defence personnel stationed there. Side by side with these forms a general faunistic survey was also conducted. The present paper deals with the collections of Diptera made during this survey. The collections were made by Dr. S. K. Bhattacharyya and the senior author.

The whole terrain is rough, densely forested with narrow approaches and has mostly undifferentiated forest and hill soils. The population is sparsely represented at higher altitude than at foot hills. The highest point touched was Tse La which is at an altitude of 4740 metres. The timber line roughly reaches 4300 metres with a sparse vegetation above 4000 metres. Snow cover is seen above 4000 metres onwards. The forest is typically mountainous type full of pines in the Subansiri Frontier Division ; whereas Assam Foot Hills is covered by dense tropical forests. The average rainfall in this area varies from 300 to 400 cms. The temperature varies from 25° to -3°C.

The area covered is a most strategic one so far as the defence of our country is concerned. The Kameng Frontier Division includes Bhalukpong, Tenga Valley, Bomdila, Tse La and Tawang.

II—SYSTEMATIC ACCOUNT

Family TIPULIDAE

1. *Nephrotoma dorsopunctata* (Brunetti)

1911. *Pachyrhina dorsopunctata* Brunetti, *Rec. Indian Mus.*, 6 : 265.
1961. *Nephrotoma dorsopunctata* (Brunetti) : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 23.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., Missamari, 29. xi. 65.

Remarks.—Comparatively small, the fork of the upper branch of the fourth longitudinal vein forming a short petiole, which is an important difference from the type. Since there is only one example, it is retained for the time being in the same species.

This species is earlier reported from Mangaldai district, Assam-Bhutan Frontier ; Katihar, Bhogaon (Purnea district), Pusa, and Madhupur, Bihar ; base of Western Himalaya ; also from Ceylon.

2. *Antocha (Antocha) indica* Brunetti

1912. *Antocha indica* Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 426–427, pl. 8, fig. 12.
 1961. *Antocha (Antocha) indica* : Alexander, *Rec. Indian Mus.*, 59 (1 & 2) : 27

Material.—1 ex., NEFA, Kameng Division, Tenga River Side, 1524 m., 19. xii. 65.

Remarks.—Damaged.

Recorded previously from Mangaldai district, Assam-Bhutan Frontier ; Kurseong and Simla Hills.

Family BIBIONIDAE

3. *Bibio obscuripennis* Meijere

1904. *Bibio obscuripennis* Meijere, *Bijdr. Dierk.*, 17 : 86.
 1912. *Bibio obscuripennis* : Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 170.

Material.—(i) 4 exs., Kameng Division, Tawang Camp, 3200 m., 15.xii.65. (ii) 1 ex., Kameng Division, Rupa Camp, 3657 m., 20.xii.65.

Remarks.—The extreme anterior corners of the dorsum black, not red as described in the Fauna.

Recorded from Kurseong ; Natiam, Simla district ; also from Nepal (Chitlong) and on the N. E. Burmese Frontier (Mount Tahepum).

4. *Bibio fuscitibia* Brunetti

1911. *Bibio fuscitibia* Brunetti, *Rec. Indian Mus.*, 4 : 279.
 1912. *Bibio fuscitibia* : Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 175.

Material.—3 exs., Kameng Division, Dukhampani, Bomdila, 2621 m., 5.xii.65.

Remarks.—Originally described from 2 specimens, one from Darjeeling and another from Phakia, Kumaon.

5. *Dilophus gratiosus* Bigot

1890. *Dilophus gratiosus* Bigot, *J. Asiat. Soc. Beng.*, 59 : 265.
 1912. *Dilophus gratiosus* : Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 178.

Material.—1 ex., Kameng Division, Tenga Valley, 1524 m., 21.xii.65.

Remarks.—Scutellar region rather dark instead of “bright brownish yellow.”

This has been reported from Kurseong, Darjeeling ; Amargarh, Bijnor district, Uttar Pradesh ; and also from Sadan, Upper Burma.

Family CULICIDAE

6. *Culex fatigans* Wiedemann

1828. *Culex (Culex) fatigans* Wiedemann, *Aussereurop. Zweifl. Ins.*, 1 : 10.

1934. *Culex (Culex) fatigans* : Barraud, *Fauna Brit. India*, Diptera, Culicidae, 5 : 420.

Material.—(i) 5 exs., Assam, Missamari, Officers' Mess, 79 m., 1. xii. 65. (ii) 1 ex., Rangapara fish market, 80 m., 1.xii.65.

Remarks.—Scales fallen in most of the specimens. All are females.

A domestic mosquito being common in tropics and sub-tropics of both new and old worlds. Occurs up to 1524 m., or more in the hills. It is concerned with the transmission of filariasis in man.

Family MYCETOPHILIDAE

7. *Sciara nigripennis* Brunetti

1912. *Sciara nigripennis* Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 131.

Material.—33 exs., Kameng Division, Dukhampani, Bomdila, 2621 m., 5.xii.65.

Remarks.—Earlier reported from Kurseong, Darjeeling ; Manipur ; Bhimtal, Kumaon ; also from Pashoka, Sikkim ; and Palipola, Ceylon.

Family SIMULIIDAE

8. *Simulium indicum* Becher

1884. *Simulium indicum* Becher, *J. Asiat. Soc. Beng.*, 53 : 199.

1912. *Simulium indicum* : Brunetti, *Fauna Brit. India*, Diptera, Nematocera : 191.

Material.—(i) 17 exs., Kameng Division, Elephant Flat, Bhalukpung, 213.3 m., 23.xi.65. (ii) 1 ex., Kameng Division, Pinjuli Minor Camp, 213.3 m., 24.xii.65.

Remarks.—Recorded from the following places : Khasi Hills, Assam ; Manipur ; Kurseong, Darjeeling ; Simla, Western Himalayas ; and also from Sylhet, Bangladesh.

Family TABANIDAE

9. *Tabanus (Theriopectes) hirtus* Walker

1850. *Tabanus hirtus* Walker, *Ins. Saund.*, 1 : 52.

1911. *Tabanus (Theriopectes) hirtus* : Ricardo, *Rec. Indian Mus.*, 4 : 228.

Material.—1 ex., Kameng Division, Tawang Camp, 3200 m., 13.xii.65.

Remarks.—The frontal callus indistinct.

This species has earlier been reported from Simla Hills and Naini Tal, Himalaya.

Family EMPIDAE

10. *Elaphropeza variegata* Brunetti

1913. *Elaphropeza variegata* Brunetti, *Rec. Indian Mus.*, 9 : 42.

1920. *Elaphropeza variegata* : Brunetti, *Fauna Brit. India*, Diptera, 1 : 387.

Material.—(i) 8 exs., Assam, Sonai Rupai Forest, 79 m., 28.xi.65. (ii) 1 ex., Assam, Missamari, grassy fields, 79 m., 1.xii.65. (iii) 2 exs., Kameng Division, Charduar, 79 m., 1,27, & 28.xii.65. (iv) 263 exs., Assam, Jamugiri, Balipara, 79 m., 29.xii.65.

Remarks.—In 10 exs. colour of venter of abdomen varies from pale yellow to black. 267 exs. damaged. They differ from the typical forms in the stumpy abdomen and brownish tibiae.

Reported from Dibrugarh, Assam; Darjeeling; Dumdum, Calcutta; Paresnath, Bihar; Khurdah Road and Puri, Orissa.

Family SYRPHIDAE

11. *Paragus indicus* (Brunetti)

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

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

Material.—1 ex., Kameng Division, Charduar, 79 m., 28.xii.65.

Remarks.—Comparatively small and less hairy.

Reported from Darjeeling; Chapra, Bihar; Travancore, and Simla. Also recorded from Kathmandu, Nepal.

12. *Asarcina ericetorum* (Fabricius)

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

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

Material.—(i) 2 exs., Assam, Sonai Rupai Forest, 79 m., 2 & 29.xii.65.

Remarks.—This species shows much variation in abdominal colouration.

Brunetti (1923) mentions about its wide distribution in India and the East and of its occurrence all round the year.

13. *Asarcina aegrota* (Fabricius)

1805. *Eristalis aegrota* Fabricius, *Syst. Antl.* : 243.

1923. *Asarcina aegrota* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 64.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., 28.xi.65.

Remarks.—Reported to be a widely distributed species in India at almost all seasons of the year.

14. *Lasiopticus seleniticus* (Meigen)

1822. *Syrphus seleniticus* Meigen, *Syst. Besch.*, 3 : 304.

1923. *Lasiopticus seleniticus* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 67.

Material.—(i) 2 exs., Kameng Division, Dukhampani, Bomdila, 2621 m., 5.xii.65 & 1 ex., 6.xii.65. (ii) 2 exs., Kameng Division, Tenga River Bed, 1524 m., 8.xii.65.

Remarks.—A common European species, previously recorded in Khasi Hills, Assam ; Simla and Dehra Dun.

15. *Syrphus serarius* Wiedemann

1830. *Syrphus serarius* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 128.

1923. *Syrphus serarius* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 73.

Material.—(i) 1 ex., Assam, Sonai Rupai Forest, 79 m., 28.xi.65. (ii) 1 ex., Kameng Division, Pinjuli Minor Camp, 213.3 m., 24.xi.65.

Remarks.—This is a very widely distributed species. So far it has been recorded from Mangaldai, Assam-Bhutan border ; Khasi Hills and Shillong, Assam ; Darjeeling ; Chapra, Bihar ; Mussoorie, Kumaon and Almora, Uttar Pradesh ; and also from Soondrijal, Nepal ; Java and Japan.

16. *Syrphus balteatus* (De Geer)

1776. *Musca balteata* De Geer, *Mem. Insectes*, 6 : 116.

1923. *Syrphus balteatus* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 82.

Material.—(i) 2 exs., Assam, Sonai Rupai Forest, Missamari, 79 m., 29.xi.65. (ii) 2 exs., Assam, Missamari, 79 m., 1.xii.65. (iii) 1 ex., Assam, Sonai Rupai Forest, 79 m., 2.xii.65. (iv) 2 exs., Kameng Division, Pinjuli Minor, 213.3 m., 24.xii.65. (v) 2 exs., Kameng Division, Charduar, 79 m., 28.xii.65.

Remarks.—In one example, the abdominal marking is indistinct. Its range of distribution includes all Europe, Madeira, Canaries, N. Africa and Asia to Japan.

17. *Syrphus corollae* (Fabricius)

1794. *Scaeva corollae* Fabricius, *Ent. Syst.*, 4 : 306.

1923. *Syrphus corollae* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 85.

Material.—(i) 1 ex., Kameng Division, Dukhampani, Bomdila, 2621 m., 5.xii.65. (ii) 2 exs., Kameng Division, Tenga River Bed, 1524 m., 18.xii.65. (iii) 2 exs., Kameng Division, Rupa Camp, 3657 m., 20.xii.65.

Remarks.—In typical cases the hind tibiae two thirds black in both sexes, where as in the specimens at hand, it is wholly darker in males and orange in females.

Reported from a wide range of regions, Europe, Madeira and Canaries, N. Africa, and Asia to Japan. Brunetti (1923) doubtfully presumes its distribution in N. America also.

18. *Syrphus confrater* Wiedemann

1830. *Syrphus confrater* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 120.
1923. *Syrphus confrater* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 92.

Material.—1 ex., Kameng Division, Pinjuli Minor Camp, 213.3 m., 24.xii.65.

Remarks.—The sides of the dorsum of thorax with dark pubescence instead of whitish.

Originally described from N. Guinea and is reported from India, Sumatra and China.

19. *Eristalis tenax* (Linnaeus)

1758. *Musca tenax* Linnaeus, *Syst. Nat.*, Ed. 10 : 591.
1923. *Eristalis tenax* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 173.

Material.—(i) 1 ex., Kameng Division, Circuit House, Bomdila, 2621 m., 4.xii.65. (ii) 8 exs., Dukhampani, Bomdila, 2621 m., 5.xii.65. (iii) 4 exs., Tenga River Bed, 1524 m., 18.xii.65.

Remarks.—It is the most cosmopolitan of all the species of Syrphidae occurring in both the hills and plains. Recorded from India, Ceylon, Burma, Malay Peninsula and Japan.

20. *Eristalis taeniops* Wiedemann

1818. *Eristalis taeniops* Wiedemann, *Zool. Mag.*, 1 : 2.
1923. *Eristalis taeniops* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 186.

Material.—1 ex., Pinjuli Minor Camp, 213.3 m., 24.xii.65.

Remarks.—In the second abdominal segment of male, the extension of the dark colour from the hind border joins the broad anterior border unlike that of typical case. In the third segment the dark colour of the anterior border extends to the lateral sides and not restricted to the middle as described in the Fauna.

Originally described from a male from Peshin and a female from Quetta. Recorded later from India the Canary Islands through Abyssinia to Khartorum, Rhodesia, the Transvaal and Natal. Also common around the shores of Mediterranean and recorded from Asia Minor and Arabia.

21. *Eristalis quinquestriatus* (Fabricius)

1805. *Syrphus quinquestriatus* Fabricius, *Ent. Syst.*, 4 : 289.
1923. *Eristalis quinquestriatus* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 187.

Material.—1 ex., Assam, Addaborie Tea Estate, Balipara, 79 m., 10.xii.65.

Remarks.—Face black, not with yellowish grey to mentum as described in the Fauna. Abdomen dark, the second and third with their yellow stripes indistinct.

This is a widely distributed species, having been reported from Mangaldai, Assam-Bhutan Frontier ; Sukna, Darjeeling ; Madhupur, Bihar ; Cheria Islands, Chilka Lake, Orissa ; Bangalore ; Jabalpur ; Kousamie, Kumaon ; and from Katmandu, Nepal ; and Sibolga, Sumatra.

Family SEPSIDAE

22. *Sepsis indica* Wiedemann

1830. *Sepsis indica* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 467.
1909. *Sepsis indica* : Brunetti, *Rec. Indian Mus.*, 3 : 357.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., 29.xi.65.

Remarks.—Mid and hind legs damaged. Thorax with a broad black stripe occupying the greater part of dorsum and of uniform width only with the rows of bristles, extending anteriorly from the dorsocentrals.

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

23. *Sepsis rufa* Macquart

1850. *Sepsis rufa* Macquart, *Dipt. Exot. Supp.*, 4 : 269.
1909. *Sepsis rufa* : Brunetti, *Rec. Indian Mus.*, 3 : 359.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., 29.xii.65.

Remarks.—Reported from Shillong ; Kurseong, Darjeeling ; Calcutta ; Pusa, Bihar ; Puri, Orissa ; Simla ; also from Tharbani, Nepal ; and Mandalay, Burma.

Family PIPUNCULIDAE

24. *Pipunculus biroi* Kertész

1903. *Pipunculus biroi* Kertész, *Ann. Hist. nat. Mus. Hung.*, 1 : 466.
1923. *Pipunculus biroi* : Brunetti, *Fauna Brit. India*, Diptera, 3 : 9.

Material.—(i) 1 ex., Kameng Division, Charduar Forest, 79 m., 29.xii.65. (ii) 1 ex., Assam, Jamugiri, 79 m., 29.xii.65.

Remarks.—1 ex. damaged.

Type described from Ceylon. Recorded further from Darjeeling, Port Canning and Calcutta, West Bengal ; U.P. ; Paresnath, Bhagalpur and Pusa, Bihar ; and also from Rangoon, Burma.

25. *Pipunculus major* Brunetti

1923. *Pipunculus major* Brunetti, *Fauna Brit. India*, Diptera, 3 : 10.

Material.—(i) 1 ex., Assam, Sonai Rupai Forest, 79 m., 28.xi.65. (ii) 1 ex., Kameng Division, Charduar Forest, 79 m., 27.xii.65. (iii) 1 ex., Assam, Tezpur, 26 LAA Mess, 79 m., 29.xi.65.

Remarks.—The specimen bearing the Register No. 4065/H6, has the fore and hind tarsi uniformly brown, instead of black apically. This is a new addition to ZSI collections. Originally described from Pusa, Bihar. There is no further record of this species till now.

Family TEPHRITIDAE

26. *Bactrocera caudata* (Fabricius)

1805. *Dacus caudata* Fabricius, *Syst. Antl.*, 16 : 276.
1913. *Bactrocera caudata* : Bezzi, *Mem. Indian Mus.*, 3 (3) : 97.

Material.—1 ex., Assam, Tezpur, 79 m., 1.i.66.

Remarks.—Originally described from Java. Reported later from Calcutta and Kurseong, West Bengal ; Shillong, Assam ; Dehra Dun and Bhowali, Uttar Pradesh ; also from Tenasserim, Burma ; and Formosa.

Family CHLOROPIDAE

27. *Anatrichus erinaceus* Loew

1860. *Anatrichus erinaceus* Loew, *Ofers. Vet. Akad. Forh.*, 13 : 97.
1910. *Anatrichus erinaceus* : Becker, *Ann. Hist. nat. Mus. Hung.*, 8 : 382.

Material.—8 exs., Assam, Jamugiri, Balipara, 79 m., 29.xii.65.

Remarks.—In Zoological Survey of India Collections this species is represented from the following places ; Calcutta ; Puri and Chilka Lake, Orissa ; Port Blair ; and Mandalay, Burma.

Family MUSCIDAE

28. *Musca (Musca) domestica vicina* Macquart

1851. *Musca vicina* Macquart, *Mem. Soc. Sc. Agric. Lille.* : 226.
1965. *Musca (Musca) domestica vicina* : Emden, *Fauna India*, Diptera, 7 (1) : 55.

Material.—(i) 8 exs., Kameng Division, Dukhampani, Bomdila, 2621 m., 5.xii.65. and 12 exs., 6.xii.65. (ii) 1 ex., Kameng Division, Tenga River Bed, 1524 m., 19.xii.65. (iii) 1 ex., Kameng Division, Rupa Camp, 3657 m., 20.xii.65. (iv) 1 ex., Kameng Division, Charduar, 79 m., 28.xii.65.

Remarks.—Its distribution is world-wide in tropical and sub-tropical belt. Very common in the whole Oriental Region : Baluchistan and Kashmir to Ceylon and Burma and eastward to the Fiji Islands.

29. *Musca (Musca) domestica nebulo* Fabricius

1784. *Musca nebulo* Fabricius, *Ent. Syst.*, 4 : 321.
1965. *Musca (Musca) domestica nebulo* : Emden, *Fauna India*, Diptera, 7 (1) : 55.

Material.—(i) 1 ex., Kameng Division, Missamari, Officers' Mess, 79 m., 1.xii.65. (ii) 1 ex., Kameng Division, Dukhampani, Bomdila, 2625 m., 6.xii.65. (iii) 1 ex., Kameng Division, Tenga River Bed, 1524 m., 18.xii.65.

Remarks.—Common in India and Ceylon. Recorded also from Egypt, Yemen, Palestine and Malaya.

30. *Musca (Byomyia) ventrosa* Wiedemann

1830. *Musca ventrosa* Wiedemann, *Aussereurop. Zweifl. Ins.* 2 : 256.
1965. *Musca (Byomyia) ventrosa* : Emden, *Fauna India*, Diptera, 7 (1) : 60.

Material.—(i) 1 ex., Assam, Sonai Rupai Forest, 79 m., 29.xi.65. (ii) 2 exs., Kameng Division, Dukhampani, Bomdila, 2621 m., 6.xii.65.

Remarks.—Widely distributed in the Ethiopian and Oriental Regions : from West and East Africa, India, Ceylon, Burma, Malaya to Formosa. Also reported from Celebes and N. Queensland.

31. *Musca (Byomyia) sorbens* Wiedemann

1830. *Musca sorbens* Wiedemann, *Aussereurop. Zweifl. Ins.*, 2 : 418.
1965. *Musca (Byomyia) sorbens* : Emden, *Fauna India*, Diptera, 7 (1) : 61.

Material.—(i) 1 ex., Assam, Sonai Rupai Forest, 79 m., 30.xi.65. (ii) 6 exs., Kameng Division, Charduar, 79 m., 28.xii.65. (iii) 2 exs., Assam, Tezpur, 79 m., 31.xii.65 & 1.i.66.

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

32. *Musca (Byomyia) pattoni* Austen

1910. *Musca pattoni* Austen, *Ann. Mag. nat. Hist.*, (8) 5 : 114.
1965. *Musca (Byomyia) pattoni* : Emden, *Fauna India*, Diptera, 7 (1) : 64.

Material.—1 ex., Kameng Division, Jamugiri, Balipara, 79 m., 29.xii.65.

Remarks.—Facets of eyes on dorsal side, a little enlarged. Reported from Assam, Uttar Pradesh to S. India and Ceylon.

33. *Musca (Philaematomyia) crassirostris* Stein

1903. *Musca crassirostris* Stein, *Mitt. Zool. Mus. Berlin*, 2 : 99.
1965. *Musca (Philaematomyia) crassirostris* : Emden, *Fauna India*, Diptera, 7 (1) : 71.

Material.—26 exs., Assam, Sonai Rupai Forest, 79 m., 30.xi.65, 30.xi.65 & 2.xii.65.

Remarks.—This is a very widely distributed species having been earlier reported from Eastern Mediterranean, Socotra, Sudan, Belgian Congo, S. Rhodesia and Transvaal and the whole of the Oriental Region. In India it is reported from Pusa, Bihar ; Gauhati, Assam and Coimbatore, Tamil Nadu.

34. *Musca (Eumusca) lusoria* Wiedemann

1824. *Musca lusoria* Wiedemann, *Analecta ent.* : 47.
 1965. *Musca (Eumusca) lusoria* : Emden, *Fauna India*, Diptera, 7 (1) : 79.

Material.—1 ex., Assam, Sonai Rupai Forest, Missamari, 79 m., 30.xi.65.

Remarks.—Recorded from the Eastern part of Ethiopian Region. In Oriental Region from Central and North India ; Ceylon and Burma.

35. *Musca (Viviparomusca) bakeri illingworthi* Patton

1923. *Musca illingworthi* Patton, *Phillip. J. Sci.*, 23 : 323.
 1965. *Musca (Viviparomusca) bakeri illingworthi* : Emden, *Fauna India*, Diptera, 7 (1) : 84.

Material.—1 ex., Kameng Division, Charduar, 79 m., 27.xii.65.

Remarks.—New to ZSI collections.

Reported from Western China, Malaya and Indonesia (upto Lombok and Celebes).

36. *Musca (Viviparomusca) gibsoni* Patton & Cragg

1913. *Musca gibsoni* Patton & Cragg, *Ind. J. med. Res.*, 1 : 14.
 1965. *Musca (Viviparomusca) gibsoni* : Emden, *Fauna India*, Diptera, 7 (1) : 86.

Material.—(i) 8 exs., Assam, Sonai Rupai Forest, 79 m., 30.xi.65, 2.xii.65. (ii) 1 ex., Assam, Jamugiri, Balipara, 79 m., 29.xii.65.

Remarks.—Recorded from Assam ; Darjeeling ; Calcutta ; Nilgiri Hills and Palni Hills, S. India ; and also from Ceylon, Burma, Malaya and Formosa.

37. *Dasyphora cyanicolor kempi* Emden

1965. *Dasyphora cyanicolor kempi* Emden, *Fauna India*, Diptera, 7 (1) : 144.

Material.—9 exs., Kameng Division, Tawang Camp, 3200 m., 13.xii.65.

Remarks.—New to ZSI collections, though reported in *Fauna* as represented in ZSI collections, the species is not traceable.

Recorded from Gulmarg, Kashmir ; Simla Hills, Himachal Pradesh ; Darjeeling, W. Bengal ; and from several localities in Assam.

38. *Stomoxys calcitrans* (Linnaeus)

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

Material.—3 exs., Assam, Sonai Rupai Forest, 79 m., 29.xii.65 & 30.xi.65.

Remarks.—Its distribution is world-wide including all parts of the Oriental Region.

39. *Lyperosia (Lyperosia) exigua* (de Meijere)

1903. *Haematobia exigua* de Meijere, *Meded. proefst. Oost.-Java*, (3), No. 44 : 17.

1965. *Lyperosia (Lyperosia) exigua* : Emden, *Fauna India*, Diptera, 7 (1) : 176.

Material.—(i) 37 exs., Assam, Sonai Rupai Forest, 79 m., 30.xi.65, & 2.xii.65. (ii) 16 exs., Assam, Jamugiri, 79 m., 29.xii.65.

Remarks.—Widely distributed in Australian and Oriental Regions.

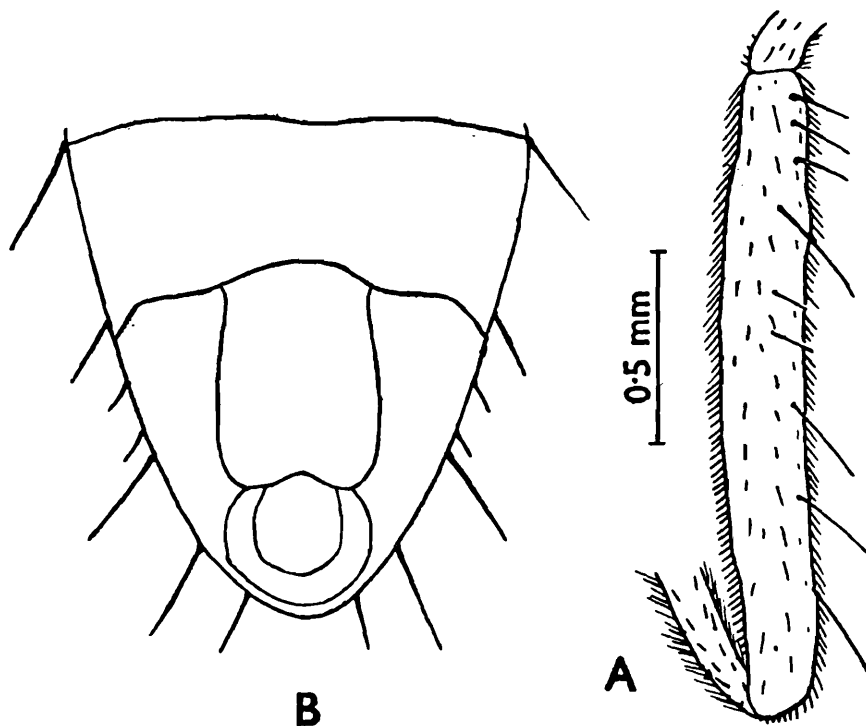
40. *Limnophora (Limnophora) conica* Stein

1915. *Limnophora conica* Stein, *Suppl. ent.*, : 30, 38.

1965. *Limnophora (Limnophora) conica* : Emden, *Fauna India*, Diptera, 7 (1) : 602.

Material.—2 exs., Assam, Sonai Rupai Forest, 79 m., 28.xi.65.

Remarks.—This species is characterised by an oblique row of a bristles (Text-fig. 1A) on the hind femur and the fourth ventrite being well exposed with a broad incision (Text-fig. 1B). New to India and ZSI collections. Known to occur in Formosa, Java, Malaya, N. E. Burma and Thailand.



TEXT-FIG. 1. *Limnophora (Limnophora) conica* Stein. A. The hind femur showing the oblique row of bristles. B. Ventral view of hind end of male abdomen.

Family CALLIPHORIDAE

41. *Chrysomya megacephala* (Fabricius)

1784. *Musca megacephala* Fabricius, *Syst. Ent.*, 4 : 317.

1940. *Chrysomya megacephala* : Senior-White, Aubertin & Smart, *Fauna Brit. India*, Diptera, 6 : 138.

Material.—2 exs., Assam, Missamari, Officers' Mess, 79 m., 1.xii.65.

Remarks.—Very common in Oriental and Australian Regions.

42. *Chrysomya rufifacies* (Macquart)

1842. *Lucilia rufifacies* Macquart, *Mem. Soc. Roy. Sci. Arts Lille* Annee :-303.

1940. *Chrysomya rufifacies* (Macquart) : Senior-White, Aubertin and Smart, *Fauna Brit. India*. Diptera, 6 : 141.

Material.—1 ex., Assam, Sonai Rupai Forest, 79 m., 28.xi.65.

Remarks.—Very common all over the Oriental and Australian Regions.

III—ACKNOWLEDGEMENTS

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IV—SUMMARY

The present paper deals with 551 examples of Diptera from NEFA and Assam Foot Hills. It comprises 42 species belonging to 14 families. Of these, 3 species of Muscidae, i.e., *Musca (Viviparomusca) bakeri illingworthi* Patton, *Dasyphora cyanicolor kempfi* Emden and *Limnophora (Limnophora) conica* Stein, are new to ZSI collections, the last one being also new to India.

V—REFERENCE

BRUNETTI, E. 1923. *The Fauna of British India, including Ceylon and Burma. Diptera, Pipunculidae, Syrphidae, Conopidae and Oestridae.* 3. xi + 424 pp., 85 figs., 6 pls.—London (Taylor & Francis).