

SARCOPHAGID FLIES FROM ASSAM AND ARUNACHAL  
PRADESH, INDIA. (DIPTERA : SARCOPHAGIDAE)

*By*

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(With 4 Text-figures)

INTRODUCTION

This paper is dealing with fifteen species of Sarcophagid flies under eight genera, collected by the authors during the years 1977-1978 from different parts of Assam and Arunachal Pradesh under the financial assistance of University Grants Commission, New Delhi. All the specimens are placed in a proper systematic position and the distributional records and bionomics of the species are mentioned in case if these are not mentioned in earlier papers of senior author (Nandi, 1977a, 1977b, 1978, 1979a, 1979b, 1979c). All the materials along with the type will be deposited in the National Collection of Zoological Survey of India, Calcutta in due course.

ABBREVIATIONS USED IN THE TEXT

*ac*—acrostichal bristles, *dc*—dorsocentral bristles. *ia*—intra-alar bristles, *h*—humeral bristles, *ph*—posthumeral bristles, *np*—notopleural bristles, *sa*—supra-alar bristles, *pa*—postalar bristles, *st*—sternopleural bristles, *mpl*—mesopleural bristles, *hpl*—hypo-pleural bristles.

SYSTEMATIC ACCOUNT

Subfamily : SARCOPHAGINAE

Tribe : **Sarcophagini**

Subtribe : **Parasarcophagina**

***Bercaea haemorrhoidalis* (Fallèn)**

1816. *Musca haemorrhoidalis* Fallèn, *Sevensk. Vet. Akad. Handl.*, p. 236.

1978. *Bercaea haemorrhoidalis* (Fallèn) : Nandi, *Oriental Ins.*, 12 (3) : 377.

*Material*.—1 ♂, Arunachal Pradesh : Subansiri, Likhali, 7. 1. 1978 ;  
1 ♂, Bomdila, 23. 12. 1977.

***Boettcherisca* (s. str.) *peregrina* (Robineau—Desvoidy)**

1830. *Myophora peregrina* Robineau-Desvoidy, *Essai Myodaires*, 1 : 356.

1977. *Boettcherisca* (s. str.) *peregrina* (Robineau—Desvoidy) : Nandi, *Rec. zool. Surv. India*, 73 : 211.

*Material*.—4 ♂ ♂, Assam : Tinsukia, Barpathar, 15. 1. 1978 ; 2 ♂ ♂,

Tinsukia, Tengapani Tea Estate, 16. 1. 1978 ; 2 ♂♂, Nowgang Circuit House Campus, 26. 1. 1978 ; 1 ♂, Tezpur, 21. 1. 1978.

Subtribe : **Hapragophallina**

**Harpagophalla kempfi** (Senior—White)

1924. *Sarcophaga kempfi* Senior—White, *Rec. Indian Mus.*, 26 (3) : 247.

1965. *Harpagophalla kempfi* (Senior—White) : Fan, *Key to the common synanthropic flies in China*, p. 261.

*Material*.—2 ♂♂, Assam : Dibrugarh University Campus, 14.1.1978 ; 2 ♂♂, Jorhat, 21. 1. 1978 ; 1 ♂, Tinsukia, Barpathar, 15. 1. 1978.

*Distribution*.—India : West Bengal, Kerala ; Trivancore ; Sri Lanka ; China. It is reported for the first time from Assam.

*Bionomics*.—According to Senior—White *et al.* (1940) this species has been bred from dead *Achatina fulica* and dead Sphingid larva. The female is known to attract to *Aristolochia ridicula*.

**Iranihindia futilis** (Senior—White)

1924. *Sarcophaga futilis* (Senior—White), *Rec. Indian Mus.*, 26 (3) : 246.

1979. *Iranihindia futilis* (Senior—White) : Nandi, *Oriental Ins.*, 13 (1-2) : 206.

*Material*.—1 ♂, Assam : Nowgang, 26. 1. 1978 ; 1 ♂, Kaziranga, 24. 1. 1978.

Subtribe : **Parasarcophagina**

**Parasarcophaga (s. str.) albiceps** (Meigen)

1825. *Sarcophaga albiceps* Meigen, *System. Besch.*, 5 : 22.

1979. *Parasarcophaga (s. str.) albiceps* (Meigen) : Nandi, *Oriental Ins.*, 13 (1-2) : 190.

*Material*.—3 ♂♂, Assam : Dibrugarh, 13-14. 1. 1978 ; 1 ♂, Jorhat, 21. 1. 1978 ; 3 ♂♂, Kaziranga, 24.1.1978 ; 5 ♂♂, Nowgang, 26, 1. 1978 ; 1 ♂, North Lakhimpur Circuit House Campus, 1. 1. 1978 ; 4 ♂♂, Tinsukia, 15. 1. 1978 ; 2 ♂♂, Tezpur, 21. 12. 1977 ; 4 ♂♂, Subansiri, Likhali, 7. 1. 1978 ; 1 ♂, Nowgang College Campus, 25. 1. 1978.

**Parasarcophaga (s. str.) knabi** (Parker)

1917. *Sarcophaga knabi* Parker, *Proc. U. S. natn. Mus.*, 54 : 96.

1979. *Parasarcophaga (s. str.) knabi* (Parker) : Nandi, *Oriental Ins.*, 13 (1-2) : 190.

*Material*.—2 ♂♂, Assam : Gauhati, 29. 1. 1978 ; 2 ♂♂, Jorhat, 21. 1. 1978 ; 3 ♂♂, Koziranga, 24. 1. 1978 ; 4 ♂♂, Dibrugarh, 14-15. 1. 1978 ; 6 ♂♂, Nowgang, 26. 1. 1978 ; 1 ♂, North Lakhimpur, 1. 1. 1978.

**Parasarcophaga (s. str.) orchidea (Böttcher)**

1918. *Sarcophaga orchidea* Böttcher, *Annl. hist. nat. Mus. natn. Hung.*, **11** : 375.

1979. *Parasarcophaga (s. str.) orchidea* (Böttcher) : Nandi, *Oriental Ins.*, **13** (1-2) : 190.

*Material*.—2 ♂♂, Assam : Dibrugarh, 13-14. 1. 1978 ; 2 ♂♂, Jorhat, 21. 1. 1978 ; 3 ♂♂, Kaziranga, 24.1.1978 ; 4 ♂♂, Nowgang, 26. 1. 1978 ; 3 ♂♂, Tezpur, 21. 12. 1977 ; 1 ♂, Arunachal Pradesh ; Subansiri, Likhali, 7. 1. 1978. This species is recorded for the first time from Assam.

**Parasarcophaga (Liopygia) ruficornis (Fabricius)**

1794. *Musca ruficornis* Fabricius, *Ent. Syst.*, **4** : 314.

1978. *Parasarcophaga (Liopygia) ruficornis* (Fabricius) : Nandi, *Oriental Ins.*, **12** (3) : 382.

*Material*.—1 ♂, Assam : Jorhat, 21. 1. 1978.

**Parasarcophaga (Liosarcophaga) dux (Thomson)**

1868. *Sarcophaga dux* Thomson, *Kongl. Seven. Freg. Eugen. Resa.*, p. 534.

1979. *Parasarcophaga (Liosarcophaga) dux* (Thomson) : Nandi, *Oriental Ins.*, **13** (1-2) : 190.

*Material*.—2 ♂♂, Assam : Dibrugarh University Campus, 14. 1. 1978. This is the first record of this species from Assam.

**Parasarcophaga (Liosarcophaga) brevicornis (Ho)**

1934. *Sarcophaga brevicornis* Ho, *Bull. Fan. meml. Inst. Biol.*, **5** : 23.

1977. *Parasarcophaga (Liosarcophaga) brevicornis* (Ho) : Nandi, *Rec. zool. Surv. India*, **73** : 213.

*Material*.—6 ♂♂, Assam : Dibrugarh University Campus, 14. 1. 1978 ; 1 ♂, Nowgang College Campus, 26. 1. 1978.

*Bionomics*.—This species has been bred in dead fish, meat and animal carcasses.

*Distribution*.—India : West Bengal, Orissa, Tamil Nadu. It is recorded for the first time from Assam.

**Parasarcophaga (Curranea) scopariformis (Senior-White)**

1927. *Sarcophaga scopariformis* Senior-White, *Spolia zeylan*, **14** (2) : 82.

1979. *Parasarcophaga (Curranea) scopariformis* (Senior-White) : Nandi, *Rev. Brasil Biol.*, **39** (2) : 459.

*Material*.—1 ♂, Assam : Dibrugarh University Campus, 14. 1. 1978 ; 1 ♂, Nowgang College Campus, 26. 1. 1978.

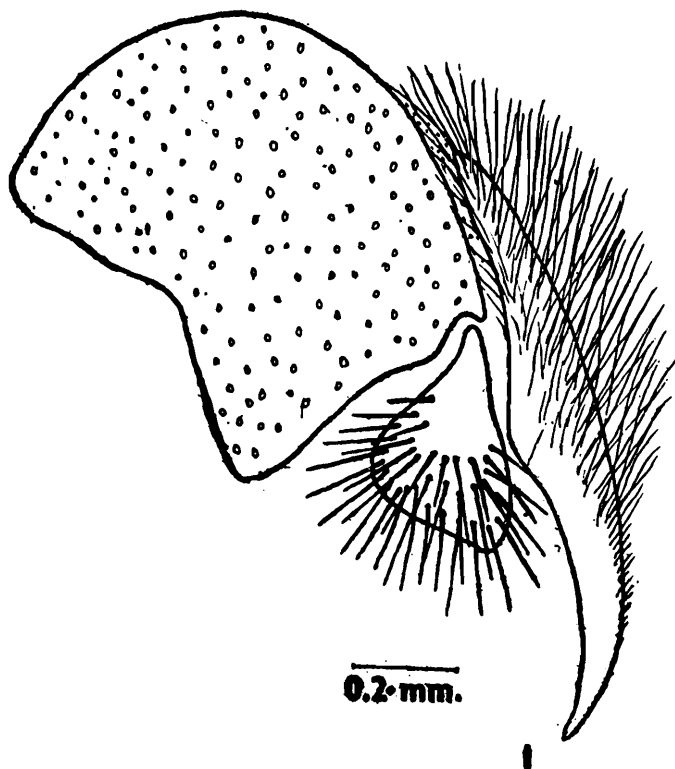
This species is recorded for the first time from Assam.

**Parasarcophaga (Pandelleisca) assamensis sp. nov.**

(Text-figs. 1-4)

*Male*.—Body length 8 mm.

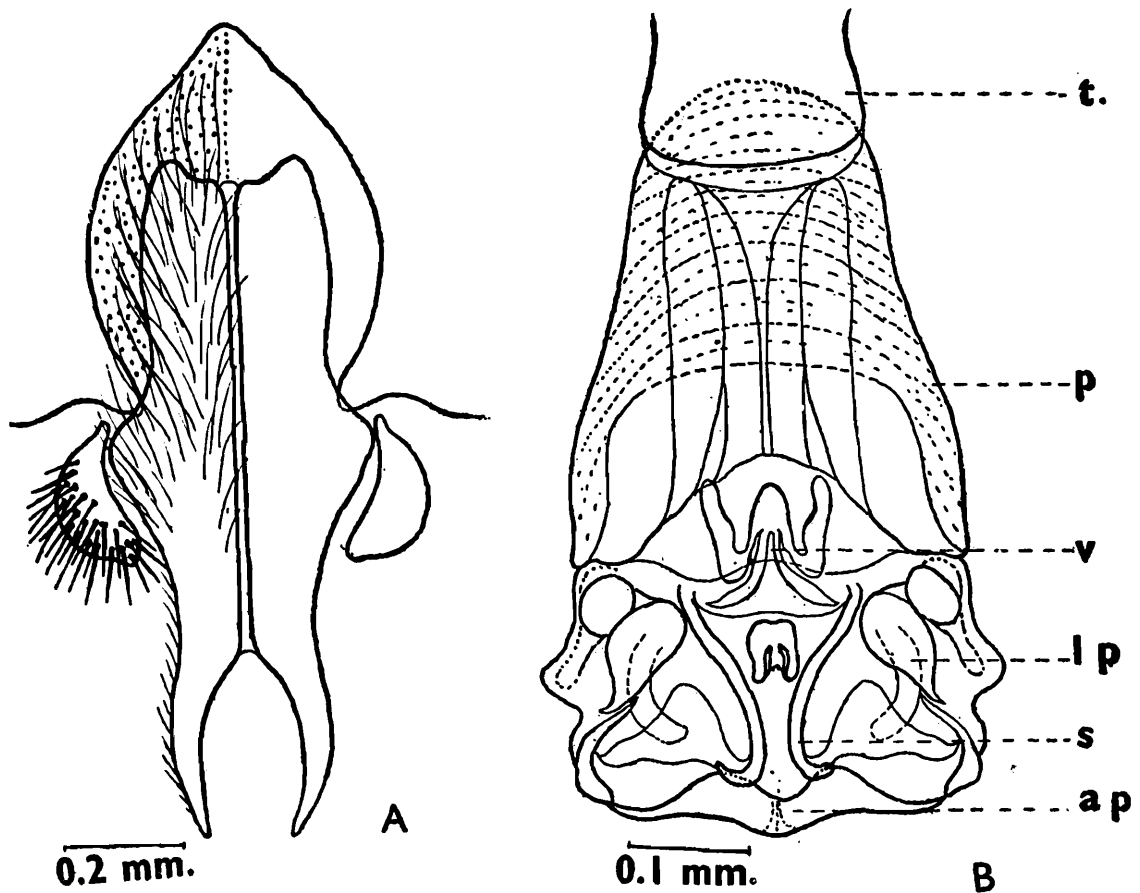
*Head*.—Width of frons about two-fifths that of one eye; frontal vitta black, its width at narrowest point of frons about double the width of each frontal; parafrontal and parafacial black with silvery to golden pollen, the latter with short hairs near the eye margin. Antennae blackish; 1st segment slightly brown, 2nd black, 3rd blackish with silvery pollen, about two times the length of 2nd antennal segment and reaching to about 0.85 distance to vibrissae; arista long plumose on basal two-thirds; vibrissae long, crossed, distance between vibrissae about parafacial width; facial ridge black with silvery pollen and with short hairs near the vibrissal base; gena brownish black with silvery

Text-fig. 1. *Parasarcophaga (Pandelleisca) assamensis*, sp. nov. cercus, lateral view

pollen; post gena black with black hairs; frontal bristles 11, arranged in a row on parafrontal, upper 2 reclinate, lower 4 below base of antennae and reaching to about two-thirds the distance of 2nd antennal segment; ocellar triangle black with black hairs; outer vertical short and equal to post vertical; inner vertical long about two and a half times that of the post vertical; ocellar and post ocellar short; only one row of post ocular setae beside post ocular cilia, rest of the area with black and white hairs; palpi slender, black; proboscis black.

*Thorax*.—Blackish-grey with three black longitudinal stripes ; *ac* 0+1 ; *dc* 5+6 ; *ia* 1+2 ; *ps* 1 ; *h* 3 ; *ph* 2 ; *np* 4 ; *sa* 3 ; *pa* 2 ; *st* 1+1+1 ; *mpl* 6 ; *hpl* 9 ; upper part of propleura brownish black ; prostigmatic and propleural bristles well developed and accompanied with short hairs ; apicoscutellar and discoscutellar bristles 1 pair each ; lateroscutellar bristle 1 pair ; pro- and meso-thoracic spiracles brown.

*Wings*.—Hyaline with brown veins ;  $R_1$  bare ;  $R_{4+5}$  with 7-8 short setae located dorsally and extending to about half the way of basal node to r-m and several short setae on ventral surface of basal node of



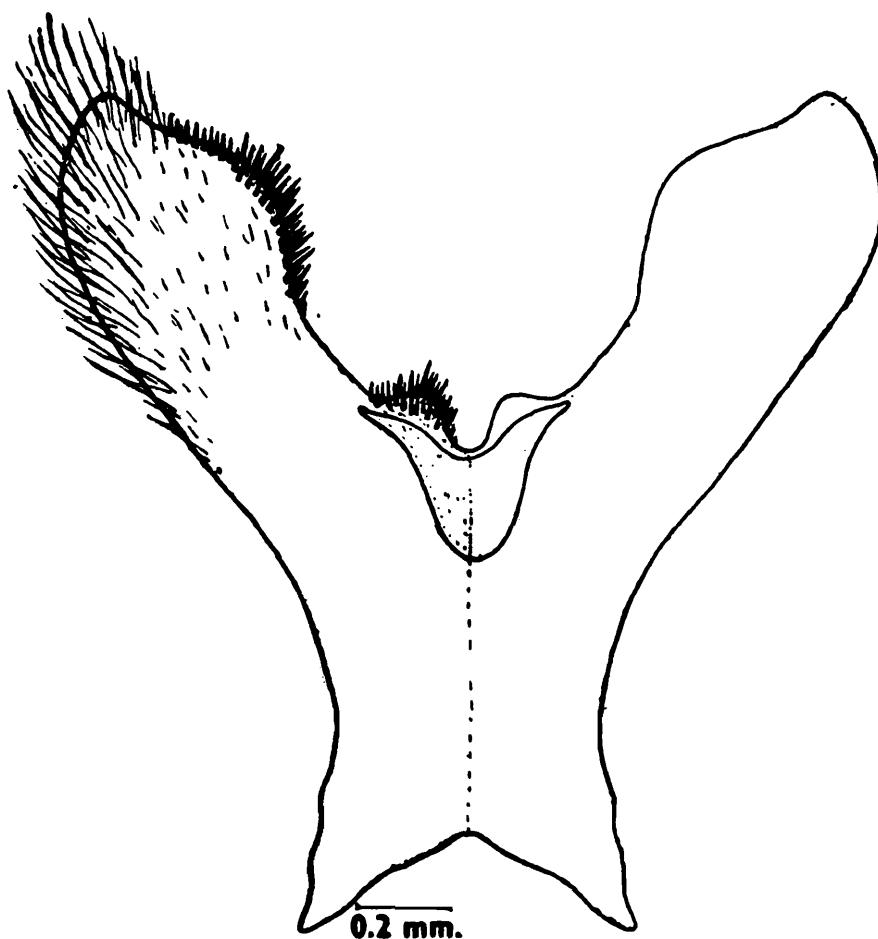
Text-fig. 2. *Parasarcophaga (Pandelleisca) assamensis*, sp. nov.

A. cercus, dorsal view      B. penis, ventral view

$R_{4+5}$  ; 3rd sector of costa a little longer than the 5th ; basicostal scale yellowish ; costal spine stout ; epaulet black with many short spines ; squama white ; haltere brown.

*Legs*.—Black ; fore femur with a row of bristles on each of posterodorsal and posterolateral surfaces and a row of bristles on posterior margin of ventral surface ; fore tibia with 3 bristles about basal one-third of anterodorsal surface and 1 bristle on posterodorsal surface at about one-third the distance from the distal end ; mid femur with a row of several short setae on anterolateral surface, 1 bristle each on posterodorsal and posterolateral surfaces distally, a row of long hairs on basal

half and a row of short bristles on distal half of posterolateral, a row of bristles on anteroventral, 3 bristles on posterodorsal, 1 bristle on posteroventral surfaces at about one-third the distance from the distal end, 2 bristles on anterolateral surface medially and 1 bristle on anteroventral surface at about one-fifth the distance from the distal end ; hind femur with 2 rows of bristles on anterodorsal surface, 1 bristle each on anterodorsal and posterodorsal surfaces at one-fourth the distance from the distal end, a row of hairs on ventral surface ; hind tibia with a row of bristles on distal surface, 2 bristles on posterodorsal surface distally,

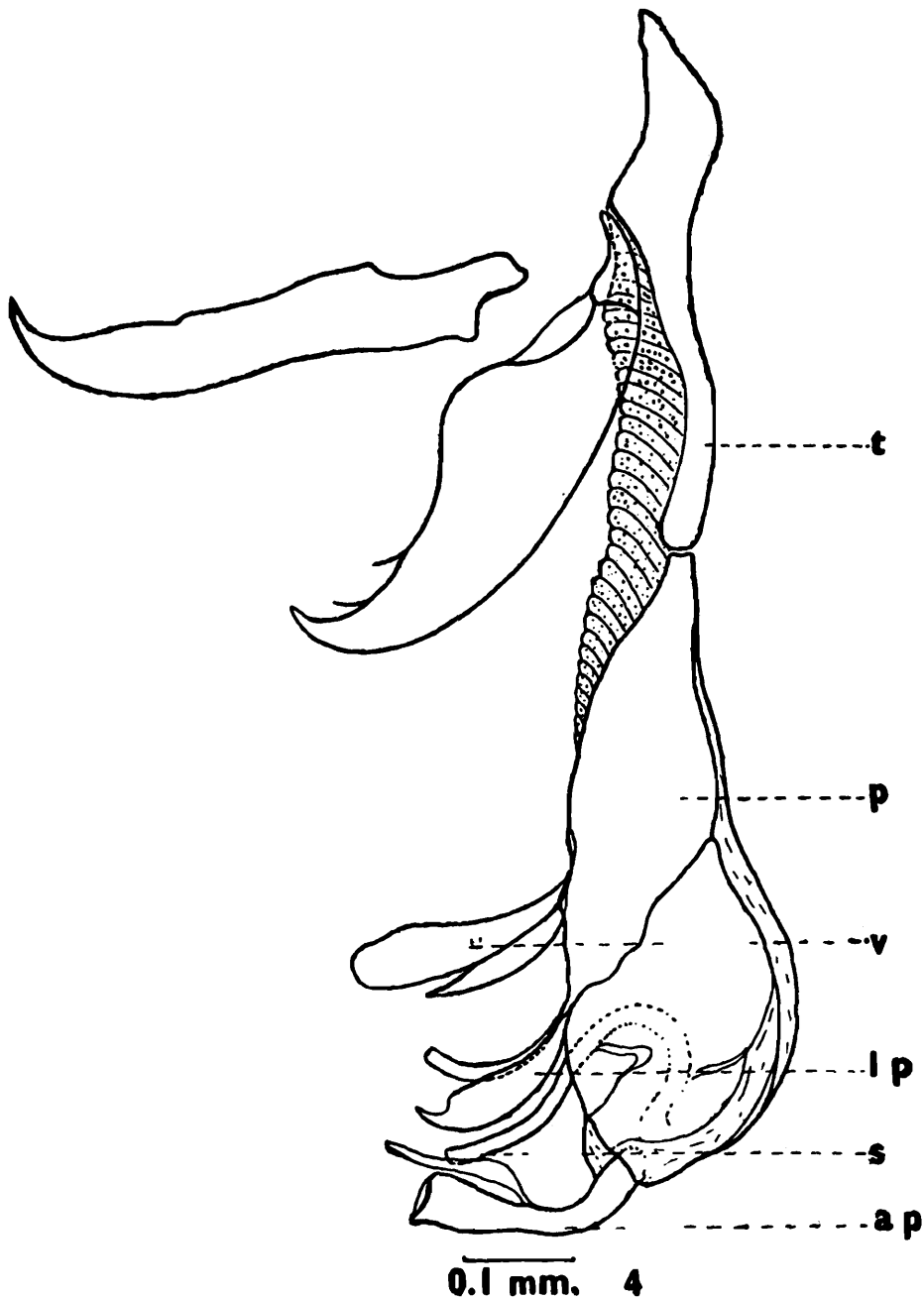


Text-fig. 3. *Parasarcophaga (Pandelleisca) assamensis*, sp. nov.  
5th sternite

1 bristle on anteroventral surface at about one-fifth the distance from the distal end and without hairs on anterior and posterior margins of ventral surface distally.

*Abdomen*.—Black with silvery checkered pattern ; median marginal bristles on 2nd tergite absent, but each with 4 lateral marginal bristles ; 3rd with two median and 1 lateral marginal bristles ; 4th with 2-3 lateral marginal bristles ; 5th with a row of prominent bristles ; 1st genital tergite blackish with short hairs, 2nd shiny black with short hairs and without marginal bristles ; 5th sternite v-shaped bearing short hairs terminally and spines on lateral sides of each arm ; inner forcep slightly

curved forwards terminally, pointed and without notch at apex and bearing hairs on basal three-fifth ; outer forcep triangular with hairs ; anterior paramere long, almost straight and slightly curved and pointed at apex ; posterior paramere curved terminally and with single hair anteriorly ; theca shorter than paraphallus ; apical plate of paraphallus sclerotised, slightly curved and blunt at apex with two slender subbasal membranous processes ; lateral plate of paraphallus short, slightly chitinised and hook-like terminally ; styli of glans short, pointed and without serration ; ventralia almost membranous and lobulated terminally.



Text-fig. 4. *Parasarcophaga (Pandelleisca) assamensis*, sp. nov. penis, lateral view

*Female*.—Unknown.

*Holotype*.—♂, Assam : Jorhat station area, 22. 1. 1978.

*Discussion.*—This species is quite similar to *Parasarcophaga (Pandelleisca) similis* (Meade) but quite differs from it by the structure of apical plate of paraphallus, the subbasal membranous process of apical plate of paraphallus in *assamensis* is shorter than *similis*. Moreover, the detailed structures of lateral plate of paraphallus and ventralia are quite distinguishable from the above species.

*Bionomics.*—This species has been collected by bush-sweeping near human excrement which shows that it is attracted to human excrement.

### **Robineauella (Jantiella) coei** Rohdendorf

1966. *Robineauella (Jantiella) coei* Rohdendorf, *Bull. Br. Mus. nat. Hist. (Ent.)*, **17** (10) : 458 ; 1976, Nandi, *Rev. Brasil Biol.*, **36** (4) : 920.

*Material.*—1 ♂, Arunachal Pradesh ; Pasighat, 12. 1. 1978.

This is the first record of this species from Arunachal Pradesh.

### **Sinonipponia bengalensis** Nandi

1977 : *Sinonipponia bengalensis* Nandi, *Rev. Brasil Biol.*, **37** (1) : 79.

*Material.*—1 ♂, Assam : Jorhat College Campus, 21. 1. 1978.

This is the first record from Assam.

### Subtribe : **Seniorwhiteina**

#### **Seniorwhitea krameri** (Böttcher)

1912. *Sarcophaga krameri* Böttcher, *Ent. Mitt.*, **1** : 166.

1978. *Seniorwhitea krameri* (Böttcher) : Nandi, *Oriental Ins.*, **13** (1-2) : 194.

*Material.*—2 ♂ ♂, Arunachal Pradesh : Subansiri, Likhali, 7. 1. 1978 ; 5 ♂ ♂, Assam : Tinsukia, Barpathar, 15-17. 1. 1978 ; 4 ♂ ♂, Tezpur Circuit House Campus, 21. 12. 1977 ; 1 ♂, Kaziranga, 25. 1. 1978 : 1 ♂, Nowgang College Campus.

### SUMMARY

This paper records the systematic account of fifteen species of Sarcophagid flies from Assam and Arunachal Pradesh. Among them *Harpagophalla kempfi* (Senior-White), *Parasarcophaga (s. str.) orchidea* (Böttcher), *P. (Liosarcophaga) dux* (Thomson), *P. (Liosarcophaga) brevicornis* (Ho), *P. (Curaanea) scopariformis* (Senior-White) and *Sinonipponia bengalensis* Nandi are recorded for the first time from Assam. *Robineauella (Jantiella) coei* Rohdendorf is recorded for the first from Arunachal Pradesh. *Parasarcophaga (Pandelleisca) assamensis* is new to science from Assam.



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