

## ASILIDAE (DIPTERA) FROM GUJARAT, INDIA

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### INTRODUCTION

In August 1988 we, in collaboration with the Desert Regional Station, Zoological Survey of India, Jodhpur, surveyed Gujarat for asilids. Due to unprecedented rains during this period the robberflies were scarce. The paper reports the collection made during this period. The arrangement of genera followed is based on 'A Review of the Asilidae (Diptera) from India' by Joseph & Parui (1990).

The types are deposited in the National Zoological Collections, Zoological Survey of India, Calcutta.

### Genus *Laxenecera* Macquart

1838. *Laxenecera* Macquart, *Dipt. exot.* 1 (2) : 77.

*Type species* : *Laxenecera albibarbis* Macquart ; designated by Hermann (1919 : 340).

#### 1. *Laxenecera albibarbis* Macquart

1838. *Laxenecera albibarbis* Macquart, *Dipt. exot.* 1 (2) : 195.

1990. *Laxenecera albibarbis* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 16.

*Material examined* : 2 ♂, Gujarat : Rajkot Dist. : Rajkot, 29.viii.1988 ; 1 ♂, 3 ♀, Baroda Dist. : Baroda, 29.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : It is already recorded from Andaman, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal.

#### 2. *Laxenecera flavibarbis* Macquart

1838. *Laxenecera flavibarbis* Macquart, *Dipt. exot.* 1 (2) : 194.

1990. *Laxenecera flavibarbis* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 16.

*Material examined* : 2 ♀, Gujarat : Baroda Dist. : Pipae, 29.viii.1988 ; 2 ♂, Baroda Dist. : Baroda, 29.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : It is already reported from Bihar, Goa, Gujarat, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

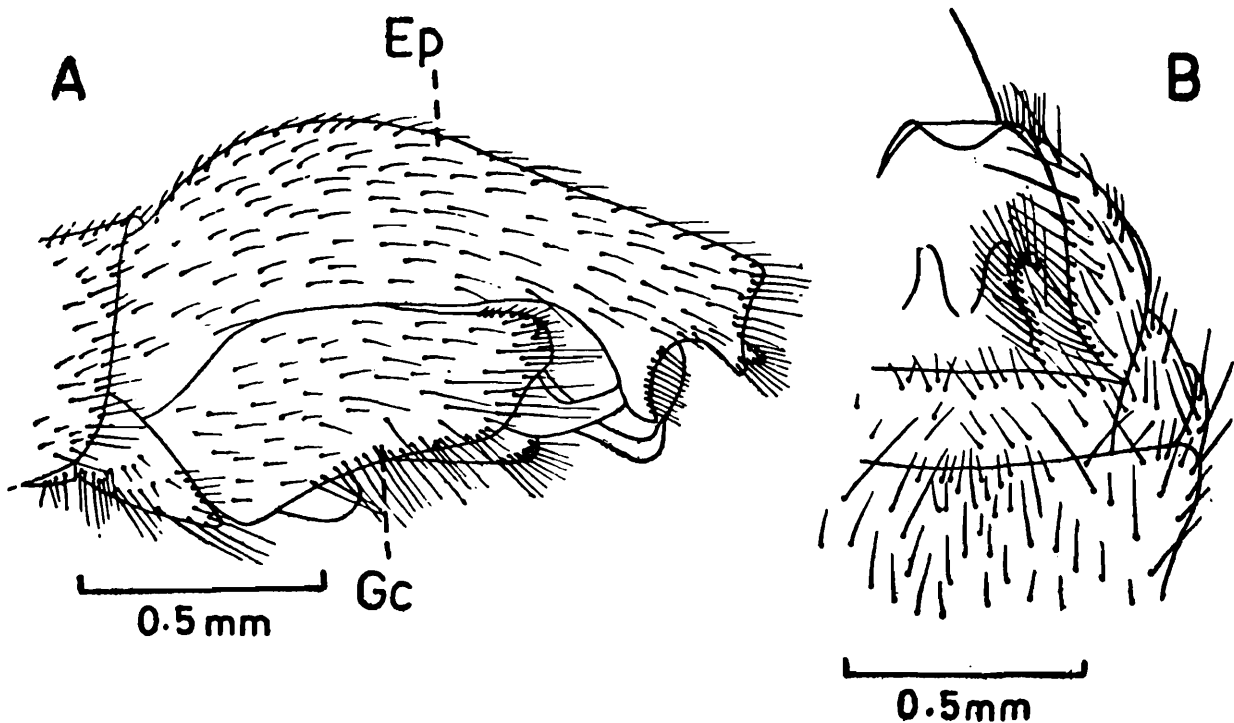
### Genus *Nusa* Walker

1851. *Nusa* Walker, *Insecta Saundersiana*, 1 : 105.

*Type species* : *Nusa aequalis* Walker ; designated by Hermann (1912 : 243).

### 3. *Nusa bhargavai* n. sp. (Fig)

A medium to rather large, black species with grey tomentum, black legs and dark brown wings. *Male* : length 14-17 mm, wing 8-9 mm ; *female* : length 13 mm, wing 10 mm.



*Nusa bhargavai* n. sp.

A, lateral view of male genitalia ; B, ventral view of female genitalia.

*Male* : *Head* broader than thorax, black with dense grey tomentum ; mystax white with a few black bristles, fronto-orbital bristles and ocellar bristles black, postocular bristles with one or two pairs of pale yellow bristles or wholly black, postcranium with sparse, white setae, postgena with white setae. Antenna black with distal half of first flagellomere orange, scape and pedicel bear black and white bristles, pedicel from two-thirds to subequal to the length of scape, scape more than half to two-thirds length of 1st flagellomere, the latter short. Palpus and proboscis black with white setae.

*Thorax* black, grey tomentose ; pronotum with a median transverse row of black bristles, laterally with white setae ; scutum devoid of mediolongitudinal stripe ;

chaetotaxy : 2 notopleurals, 3 (+1 weak) postalars, 4 supra-alars, 1 additional bristle anterior to notopleurals ; vestiture black with a few white setae on humeri, bristles black or black and pale yellow ; scutellum with 10 black or black and pale yellow bristles on border, disc with black setae ; katatergite with elongate pale yellow and white bristly setae. Haltere yellowish-brown to dark brown.

*Legs* black, fore tibia anteroventrally and tarsus ventrally with mat of golden yellow setae, bristles black and white, vestiture black.

*Wing* dark brown ;  $R_5$  and  $M_1$  united well before the border.

*Abdomen* black, terga laterally and posteriorly with light grey tomentum which gradually decrease from anterior to posterior terga, terga 1-5 with 1 to 5 white bristles, vestiture black and white. Male genitalia (Fig. A) black, epandrium distinctive.

*Female* ; Similar to males but with the following differences : mystax wholly white, fronto-orbital bristles white, postocular bristles white with 2 black bristles, antennal scape and pedicel with bristles wholly white ; chaetotaxy : about 10 setae in place of supra-alars ; scutellar bristles and setae white, haltere pale yellow ; abdominal terga posteriorly and laterally yellowish-brown. Genitalia [Fig. B) figured.

*Holotype* ♂, Reg. No. 7709/H6, Gujarat : Junagadh Dist., : Veraval : Kukulsvada, 15.viii.1988, Coll. A. N. T. Joseph. *Paratypes* 2 ♂, Reg. No. 7710/H6 and 7711/H6, Veraval : Garakmandi, 16.viii.1988 ; 1 ♀, Reg. No. 7712/H6, Rajkot Dist. : Rajkot, 21.viii.1988, all Coll. A. N. T. Joseph and P. Parui.

It is similar to *Nusa formio* Walker differing from which in the following : black species including wholly black legs, dark brown wings and differences in the shape of male genitalia, especially epandrium and gonocoxite. It is named in honour of Sri R. N. Bhargava, our colleague who helped us to complete the survey of robberflies from Gujarat successfully.

#### 4. *Nusa elva* (Walker)

1849. *Asilus elva* Walker, *List Dipt. Colln. Br. Mus.* 2 : 445.

1975. *Nusa elva* : Oldroyd, *A Catalog of Diptera of the Oriental Region* 2 : 115.

*Material examined* : 1 ♂, Gujarat : Junagadh Dist. : near Sidhakar, 12.viii.1988 ; 1 ♀, Junagadh Dist. : Veraval Dari, 15.viii.1988 ; 2 ♂, Rajkot Dist. : Targharia, 21.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : It is recorded for the first time from Gujarat. The other recorded localities are "Bengal" and Assam.

#### Genus *Michotamia* Macquart

1838. *Michotamia* Macquart, *Dipt. exot.* 1 (2) : 75.

*Type species* : *Michotamia analis* Macquart, 1838 : 72 ; monotypic.

### 5. *Michotamia aurata* (Fabricius)

1794. *Asilus aurata* Fabricius, *Ent. Syst.* 4 : 387.

1975. *Michotamia aurata* : Oldroyd, *A Catalog of Diptera of the Oriental Region 2* : 130.

*Material examined* : 1 ♂, 1 ♀, Gujarat : Baroda Dist. : Baroda, 29.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : Although it is widely distributed in India, it is recorded here for the first time from Gujarat.

### Genus *Ommatius* Wiedemann

1821. *Ommatius* Wiedemann, *Dipt. exot.* 1 : 213.

*Type species* : *Asilus marginellus* Fabricius ; designated by Coquillett (1910 : 579).

### 6. *Ommatius indicus* Joseph & Parui

1983. *Ommatius indicus* Joseph & Parui, *Ent. Scand.* 14 (1) : 86.

*Material examined* : 4 ♂, 7 ♀, Gujarat : Gandhi Nagar : Indrora Nature Park, 28.viii.1988, Coll. A. N. T. Joseph.

*Distribution* : It is recorded for the first time from Gujarat. The other already recorded localities are Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

### 7. *Ommatius ponti* Joseph & Parui

1984. *Ommatius ponti* Joseph & Parui, *Oriental Ins.* 18 : 58.

*Material examined* : 2 ♂, 4 ♀, Gujarat : Junagadh Dist. : Veraval, 15.viii.1988 : Coll. A. N. T. Joseph.

*Distribution* : This is the first record of the species from Gujarat. It was earlier recorded from Rajasthan and Uttar Pradesh. Its type locality is Pakistan.

### Genus *Stichopogon* Loew

1847. *Stichopogon* Loew, *Linn. Ent.* 2 : 499.

*Type species* : *Dasypogon elegantulus* Wiedemann, 1820 ; original designation.

### 8. *Stichopogon inaequalis* (Loew)

1847. *Dasypogon inaequalis* Loew, *Linn. Ent.* 2 : 505.

1975. *Stichopogon inaequalis* Oldroyd, *A Catalog of Diptera of the Oriental Region, 2* : 129.

*Material examined* : 3 ♀, Gujarat : Mahesana Dist. : Taranga Hills, 9.viii.1988 ; 5 ♂, 8 ♀, Gandhinagar Dist. : Indrora Nature Park, 28.viii.1988 ; 1 ♂, Ahmedabad Dist. : Vastrapur, 31.viii.1988, all Coll. A. N. T. Joseph.

**Distribution :** In India the species has been reported from Andaman, Andhra Pradesh, Bihar, Maharashtra, Rajasthan and Tamil Nadu. It is the first record from Gujarat.

### 9. *Stichopogon tomentosus* Oldroyd

1948. *Stichopogon tomentosus* Oldroyd, *Entomologist's mon. Mag.* 84 : 263.

1990. *Stichopogon tomentosus* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 42.

**Material examined :** 1 ♂, 4 ♀, Gujarat : Baroda Dist. : Pipae, 29.viii.1988, Coll. A. N. T. Joseph.

**Distribution :** The species is recorded here for the first time from Gujarat. The earlier recorded localities are Andaman, Bihar, Karnataka and Rajasthan.

### Genus *Astochia* Becker

1913. *Astochia* Becker, *Ann. Mus. Zool. Acad.*, St. Peters-bourgh 17 : 538.

**Type species :** *Astochia metatarsata* Becker ; monotypic.

### 10. *Astochia pseudoguptai* Joseph & Parui

1987. *Astochia pseudoguptai* Joseph & Parui, *Bull. zool. Surv. India* 8 (1-3) : 100.

**Material examined :** 6 ♂, 3 ♀, Gujarat : Junagadh Dist. : near Sidokar, 12.viii.1988 ; 3 ♂, 1 ♀, Junagadh Dist. : Medhal River bridge, 15.viii.1988, all Coll. A. N. T. Joseph.

**Distribution :** This species is recorded earlier from Rajasthan and Sikkim. It is the first report from Gujarat.

### Genus *Clephroneura* Becker

1925. *Clephroneura* Becker, *Ent. Mitt.* 14 : 68.

**Type species ;** *Asilus xanthopus* Wiedemann ; designated by Oldroyd (1938 : 450).

### 11. *Clephroneura pulla* Oldroyd

1938. *Clephroneura pulla* Oldroyd, *Ann. Mag. nat. Hist.* (11) 1 : 467.

1990. *Clephroneura pulla* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 51.

**Material examined :** 2 ♂, 6 ♀, Gujarat : Gandhi Nagar : Indrora Nature Park, 28.viii.1988, 2 ♂, Gandhi Nagar, Sharita Garden, 30.viii.1988, all Coll. A. N. T. Joseph.

**Distribution :** The species is known to occur in Andhra Pradesh, Karnataka and Tamil Nadu. It is recorded for the first time from Gujarat.

### Genus *Philodicus* Loew

1848. *Philodicus* Loew, *Linn. Ent.* 3 : 391.

**Type species :** *Asilus javanus* Wiedemann, 1819 : 4 ; original designation.

### 12. *Philodicus ceylanicus* Schiner

1868. *Philodicus ceylanicus* Schiner, in *Reise der Osterreichischen Fregatte Novara, Dipt.* : 179.

1990. *Philodicus ceylanicus* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 61.

*Material examined* : 2 ♂, 1 ♀, Gujarat : Junagadh Dist. : Veraval Dari, 15.viii.1988. 2 ♂, 3 ♀, Jamnagar Dist. : Dharol, 18.viii.1988 ; 1 ♂, 3 ♀, Jamnagar Dist. : Dwarka, 19.viii.1988 ; 3 ♂, 1 ♀, Rajkot Dist. : Targhoria, 21.viii.1988 ; 3 ♂, 2 ♀, Rajkot Dist. : 23.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : Earlier recorded localities are Andaman, Kerala, Pondicherry, Tamil Nadu and West Bengal. It is recorded for the first time from Gujarat.

### 13. *Philodicus femoralis* Ricardo

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

1990. *Philodicus femoralis* : Joseph & Parui, *Rec. zool. Surv. India*, Occ. Paper No. 113 : 61.

*Material examined* : 1 ♂, 3 ♀, Gujarat : Junagadh Dist. : Veraval Dari, 15.viii.1988, Coll. A. N. T. Joseph.

*Distribution* : It is the first report of the species from Gujarat. Earlier recorded localities are Arunachal Pradesh, Bihar, Goa, Kerala, Meghalaya, Orissa, Rajasthan and West Bengal.

### Genus *Promachus* Loew

1848. *Promachus* Loew, *Linn. Ent.* 3 : 390.

*Type species* : *Asilus maculatus* Fabricius ; designated by Coquillett (1910 : 595).

### 14. *Promachus duvaucelii* (Macquart)

1838. *Trupanea duvaucelii* Macquart, *Dipt. exot.* 1 (2) : 97.

1975. *Promachus duvaucelii* : Oldroyd, *A Catalog of Diptera of the Oriental Region* 2 : 152.

*Material examined* : 1 ♀, Gujarat : Junagadh Dist. : Veraval, 15.viii.1988 ; 1 ♂, 1 ♀, Rajkot Dist. : Rajkot, 21.viii.1988 ; 6 ♂, 3 ♀, Rajkot Dist. : Bedi, 23.viii.1988 ; 9 ♂, 4 ♀, Surendranagar Dist. : Kotaria, 24.viii.1988 ; 1 ♂, 2 ♀, Surendranagar Dist. : Mandal, 25.viii.1988 ; 1 ♂, Ahmedabad Dist. : Nal Sarovar Birds Sanctuary, 26.viii.1988 ; 12 ♂, 6 ♀, Gandhinagar : Indrora Nature Park, 28.viii.1988 ; 3 ♂, 6 ♀, Baroda Dist. : Pipae, 29.viii.1988 ; 5 ♂, 3 ♀, Baroda Dist. : Baroda, 29.viii.1988 ; 9 ♂, 6 ♀, Gandhinagar : Sharita Garden, 30.viii.1988, all Coll. A. N. T. Joseph.

*Distribution* : It has already been recorded from Andhra Pradesh, Delhi, Gujarat, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh and West Bengal.

## SUMMARY

The paper deals with fourteen species of asilids from Gujarat, of which one, *Nusa bhargavai*, is a new species and ten species, *Nusa elva* (Walker), *Stichopogon inaequalis* (Loew), *S. tomentosus* Oldroyd, *Michotamia aurata* (Fabricius), *Ommatius indicus* Joseph & Parui, *O. ponti* Joseph & Parui, *Astochia pseudoguptai* Joseph & Parui, *Clephydroneura pulla* Oldroyd, *Philodicus ceylanicus* Schiner and *P. femoralis* Ricardo, are reported for the first time from Gujarat.

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Abbreviations : Ep, epandrium ; Gc, gonocoxite.

## REFERENCES

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