

KEY TO THE SUBGENERA OF *CULEX* AND *LUTZIA* ADULT FEMALES

Characters: Pulvilli well developed, at least on hindlegs; abdominal terga and wing usually without metallic purple or yellow scales

Four or more lower mesepimeral setae present



LUTZIA
Subgenus *Metalutzia*

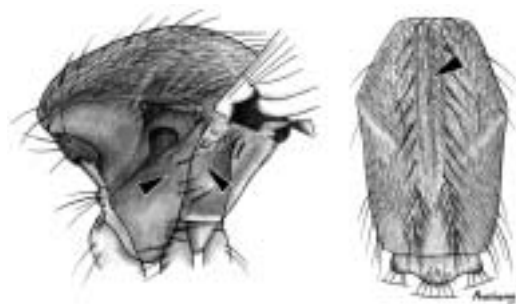
➡ To PLATE 23

Lower mesepimeral setae absent or one to three present



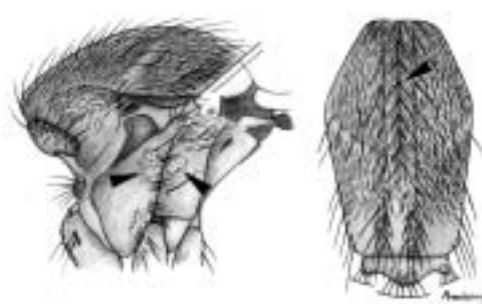
CULEX

1. Thoracic pleura without scale patches on mesokatepisternum and mesepimeron^a
2. Scutum with or without acrostichal setae



➡ To PLATE 2

1. Thoracic pleura with distinct scale patches at least on mesokatepisternum and mesepimeron
2. Scutum with a distinct double row of acrostichal setae



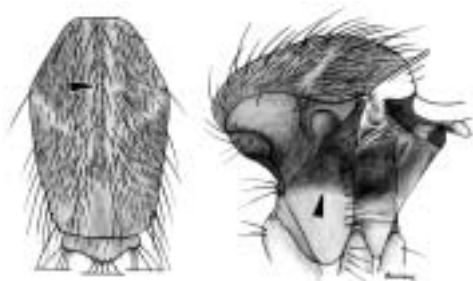
➡ To PLATE 3 (Above)

^aExcept in *Cx. (Lop.) curtipalpis*.

PLATE 2

From PLATE 1: Thoracic pleura without scale patches on mesokatepisternum and mesepimeron; scutum with or without acrostichal setae

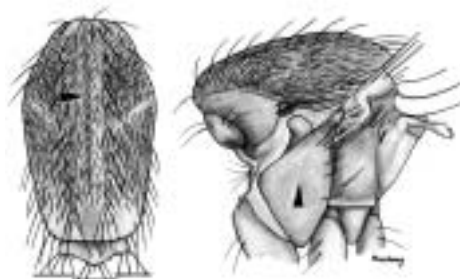
1. Acrostichal setae present
2. Thoracic pleura usually with upper dark band contrasting with lower pale area



Subgenus *Eumelanomyia*
Mochthogenes Group^b

➡ To PLATE 15

1. Acrostichal setae rarely present^a
2. Thoracic pleura uniformly light or dark brown



1. Thoracic pleura uniformly pale
2. Lower mesepimeral seta absent



Subgenus *Eumelanomyia*
Protomelanoconion Group^c

➡ To PLATE 15

1. Thoracic pleura not uniformly pale
2. Lower mesepimeral seta absent or present



➡ To PLATE 3 (Below)

^aOccasionally present on anterior promontory, except in *Cx. (Lop.) paioji* where acrostichal setae extend to the level of the wing base.

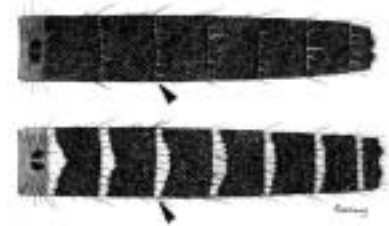
^bMale maxillary palpus short, less than 0.75 of proboscis length (except *Cx. (Eum.) richei*).

^cMale maxillary palpus short, about 0.75 of proboscis length.

PLATE 3

From PLATE 1: Thoracic pleura with distinct scale patches at least on mesokatepisternum and mesepimeron; scutum with a distinct double row of acrostichal setae

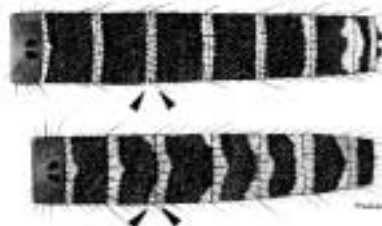
Abdominal terga II-VI entirely dark or with basal pale bands only, rarely with narrow apical pale band



Subgenus *Culex*

➡ To PLATE 4

Abdominal terga II-VI with apical pale bands, or apical and basal pale bands, or basal bands and apicolateral pale patches

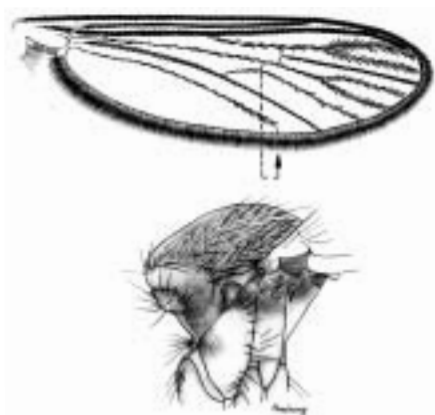


Subgenus *Oculeomyia*

➡ To PLATE 21

From PLATE 2: Thoracic pleura not uniformly pale; lower mesepimeral seta absent or present

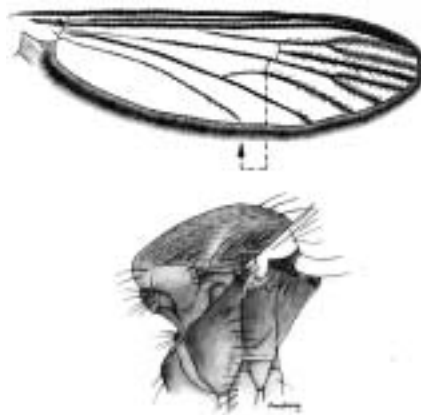
1. Vein 1A ends beyond apex of crossvein mcu
2. Thoracic pleura pale or with distinct dark to light brown area extending from post-pronotum to upper mesokatepisternum and/or on lower mesokatepisternum



Subgenus *Culiciomyia*

➡ To PLATE 12

1. Vein 1A ends before apex of crossvein mcu
2. Thoracic pleura uniformly light to dark brown



Subgenus *Lophoceraomyia*^a

➡ To PLATE 17

^aMale with tuft of modified setae on the antennal flagellomeres.

KEY TO THE SPECIES OF SUBGENUS *CULEX* ADULT FEMALES

From PLATE 3: Abdominal terga II-VI entirely dark or with basal pale bands only, rarely with narrow apical pale band

1. One or two lower mesepimeral setae present
2. Proboscis without distinct median pale band
3. Tarsomeres entirely dark

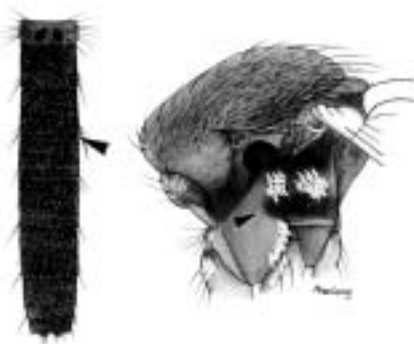


1. Lower mesepimeral setae absent
2. Proboscis with distinct median pale band
3. Tarsomeres with pale bands



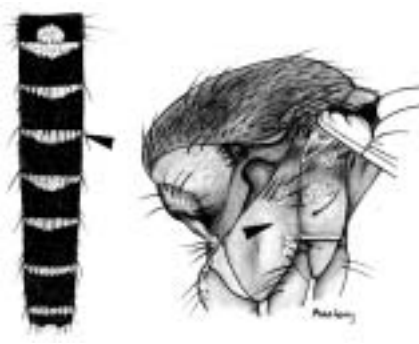
└─▶ To PLATE 5 (Above)

1. Abdominal terga entirely dark
2. Thoracic pleura with striking pattern of dark and pale stripes



Cx. fuscocephala

1. Abdominal terga with basal pale bands
2. Thoracic pleura with or without striking pattern of dark and pale stripes



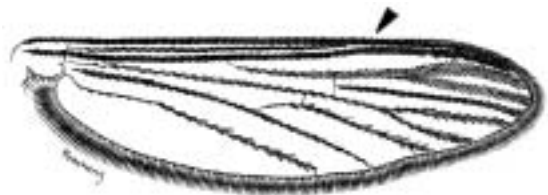
└─▶ To PLATE 5 (Below)

PLATE 5

From PLATE 4: Lower mesepimeral setae absent; proboscis with distinct median pale band; tarsomeres with pale bands

Wing with distinct pale spots

Wing without pale spots, entirely dark or speckled with pale scales



Mimeticus Subgroup

➡ To PLATE 11

➡ To PLATE 6

From PLATE 4: Abdominal terga with basal pale bands; thoracic pleura with or without striking pattern of dark and pale stripes

1. Mesokatepisternum and mesepimeron with pattern of dark and pale areas
2. Scutal integument reddish-brown

1. Mesokatepisternum and mesepimeron without pattern of dark and pale areas
2. Scutal integument yellowish or pale brown



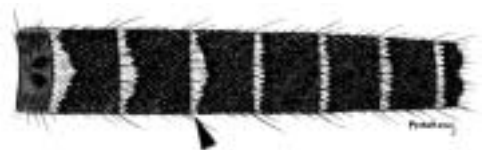
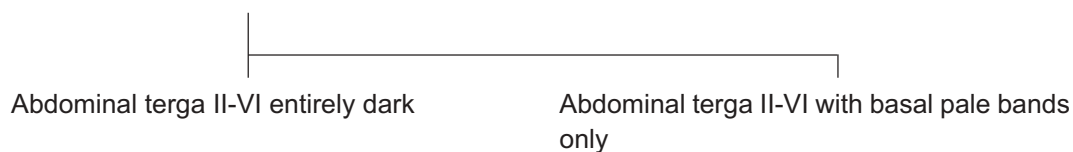
Cx. hutchinsoni



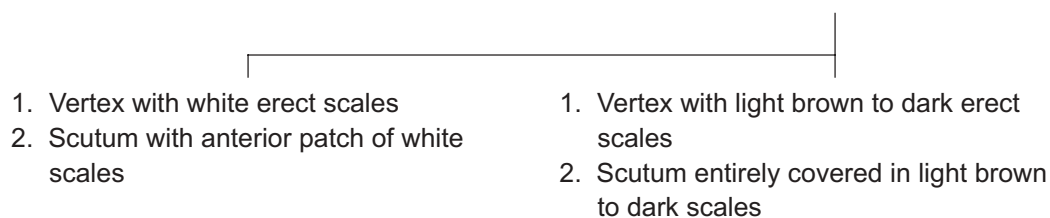
Cx. quinquefasciatus

PLATE 6

From PLATE 5: Wing without pale spots, entirely dark or speckled with pale scales



Cx. perplexus
and *Cx. whitei* (in part)



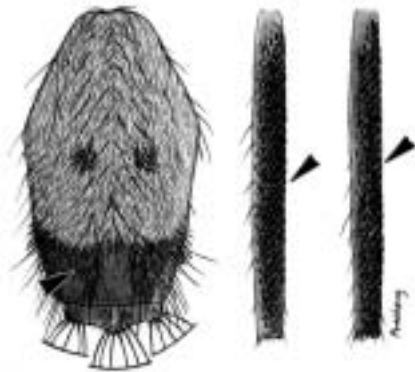
➔ To PLATE 7 (Above)

➔ To PLATE 7 (Below)

PLATE 7

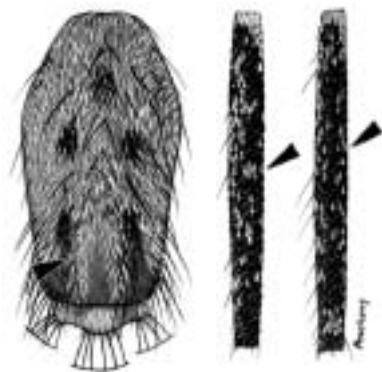
From PLATE 6: Vertex with white erect scales; scutum with anterior patch of white scales

1. White scales of scutum not reaching prescutellar area
2. Anterior surfaces of fore- and midfemora entirely dark



Cx. gelidus

1. White scales of scutum reaching prescutellar area
2. Anterior surfaces of fore- and midfemora speckled with pale scales



Cx. whitmorei

From PLATE 6: Vertex with light brown to dark erect scales; scutum entirely covered in light brown to dark scales

Wing with vein R_2 as long as vein R_{2+3}

Wing with vein R_2 longer than vein R_{2+3}



Cx. alis



➡ To PLATE 8

From PLATE 7: Wing with vein R_2 longer than vein R_{2+3}

1. Midfemur with anterior longitudinal pale stripe
2. Postspiracular scales present

1. Midfemur entirely dark or speckled with scattered pale scales
2. Postspiracular scales absent



→ To PLATE 9

Midfemur with incomplete anterior longitudinal pale stripe, stripe not reaching apex

Midfemur with complete anterior longitudinal pale stripe



Cx. barraudi

Cx. edwardsi

PLATE 9

From PLATE 8: Midfemur entirely dark or speckled with scattered pale scales; postspiracular scales absent

Anterior surfaces of fore- and midfemora not speckled with pale scales



Anterior surfaces of fore- and midfemora almost entirely speckled with pale scales

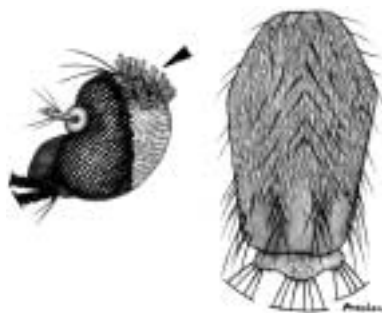


➡ To PLATE 10 (Above)

1. Vertex with dark brown to black erect scales
2. Scutum entirely covered with dark brown to black scales



1. Vertex with light brown erect scales
2. Scutum with light brown scales



Vishnui Subgroup^a

➡ To PLATE 10 (Below)

Pale band of proboscis extended proximally on ventral surface



Cx. tritaeniorhynchus

Pale band of proboscis not extended proximally on ventral surface



Cx. vishnui (in part)

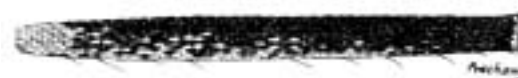
^a*Culex alienus*, *Cx. perplexus*, *Cx. pseudovishnui*, and *Cx. whitei* are difficult to identify.

PLATE 10

From PLATE 9: Anterior surfaces of fore- and midfemora almost entirely speckled with pale scales

Anterior surfaces of fore- and midfemora entirely speckled with pale scales

Only anteroventral areas of fore- and midfemora speckled with pale scales



Cx. sitiens

Cx. whitei (in part)

From PLATE 9: Vertex with light brown erect scales; scutum with light brown scales

Anterior surface of hindfemur with apical dark band well contrasted with pale scaling, which is distinctly white

Anterior surface of hindfemur with apical dark band not well contrasted with pale scaling, which is dirty white

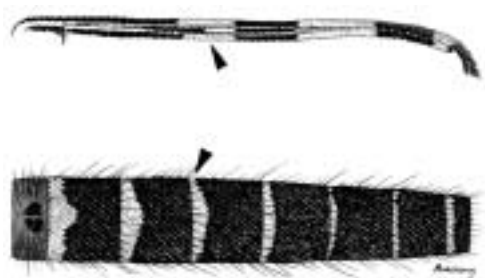


Cx. pseudovishnui

Cx. vishnui (in part)

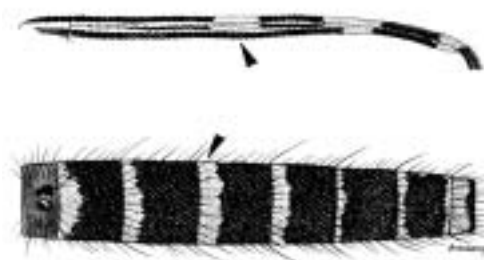
From PLATE 5: Wing with distinct pale spots

1. Wing with first costal pale spot on veins C, Sc, and R₁
2. Abdominal terga with narrow basal pale bands, usually less than 0.25 length of segment^a



Mimulus Complex
(*Cx. mimulus* and *Cx. murrelli*)

1. Wing with first costal pale spot on costa only or on costa and subcosta
2. Abdominal terga usually with broad basal pale bands, at least 0.25 length of segment^a



Mimeticus Complex

Tergum VII with broad apical pale band



Cx. jacksoni^b

Tergum VII with narrow apical pale band



Cx. mimeticus^b

^aThis character is unreliable for separating the Mimulus and Mimeticus Complexes.

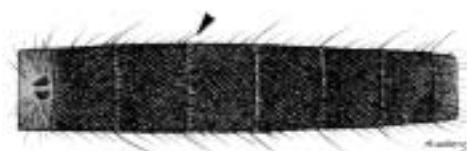
^b*Culex jacksoni* and *Cx. mimeticus* are difficult to distinguish.

KEY TO THE SPECIES OF SUBGENUS *CULICIOMYIA* ADULT FEMALES^a

From PLATE 3: Vein 1A end beyond apex of crossvein mcu; thoracic pleura pale or with distinct dark to light brown area extending from postpronotum to upper mesokatepisternum and/or on lower mesokatepisternum

Abdominal terga unbanded

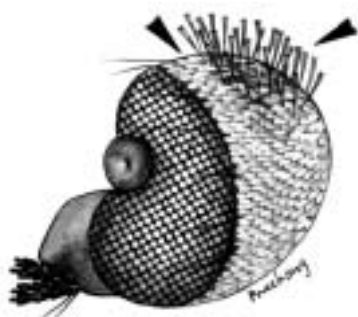
Abdominal terga banded



➞ To PLATE 13 (Above)

Decumbent scales of vertex broad and pale, erect scales pale

Decumbent scales of vertex narrow and pale, erect scales dark brown



➞ To PLATE 13 (Below)

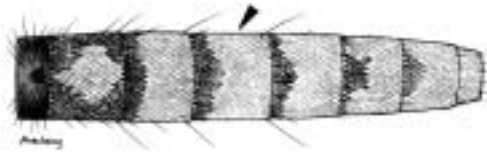
➞ To PLATE 14 (Above)

^aFemale of *Cx. spiculothorax* is unknown.

PLATE 13

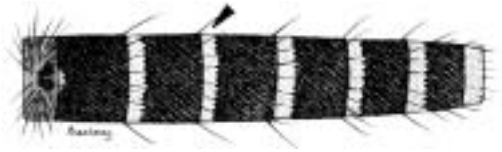
From PLATE 12: Abdominal terga banded

Abdominal terga largely covered with broad apical pale bands



Cx. termi

Abdominal terga with basal pale bands



➡ To PLATE 14 (Below)

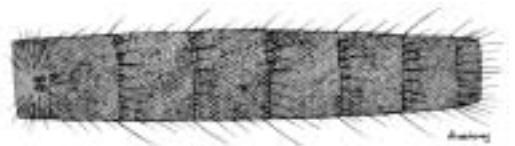
From PLATE 12: Decumbent scales of vertex broad and pale, erect scales pale

1. Abdominal terga tinged with dark grayish scales
2. Vertex with erect scales not restricted to occiput



Cx. fragilis and *Cx. spathifurca*

1. Abdominal terga tinged with light brown scales
2. Vertex with erect scales restricted to occiput



Cx. scanloni

From PLATE 12: Decumbent scales of vertex narrow and pale, erect scales dark brown

Thoracic pleura uniformly pale or with faint dark areas

Thoracic pleura with distinct dark areas



Cx. dispectus



Cx. papuensis

From PLATE 13: Abdominal terga with basal pale bands

Thoracic pleura with a black spot on upper mesepimeron

Thoracic pleura without a black spot on upper mesepimeron



Cx. nigropunctatus

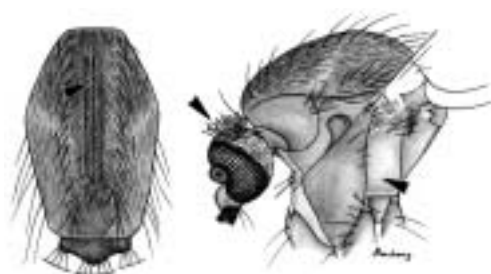


Cx. bailyi, *Cx. barrinus*, *Cx. harrisoni*,
Cx. lampangensis, *Cx. pallidothorax*,
Cx. sasai, *Cx. thurmanorum*,
and *Cx. viridiventer*

KEY TO SUBGROUPS AND SPECIES OF SUBGENUS *EUMELANOMYIA* ADULT FEMALES^a

From PLATE 2: Acrostichal setae present; thoracic pleura usually with upper dark band contrasting with lower pale area; if acrostichal setae absent then thoracic pleura uniformly pale and lower mesepimeral seta absent

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Acrostichal setae absent 2. Lower mesepimeral seta absent 3. Vertex with numerous pale erect scales | <ol style="list-style-type: none"> 1. Acrostichal setae present 2. Lower mesepimeral seta present or absent 3. Vertex entirely covered with dark erect scales or both predominantly pale and dark |
|--|--|



Protomelanoconion Group
Cx. brevipalpis and *Cx. phangngae*



Mochthogenes Group

Anterior area of vertex covered with broad decumbent scales; posterior area covered with narrow scales

Both anterior and posterior areas of vertex covered with narrow decumbent scales, few broad scales may occur on anterior area



Malayi Subgroup
Cx. malayi



➔ To PLATE 16

^aFemales of the Otachati and Hinglungensis Subgroups are unknown.

From PLATE 15: Both anterior and posterior areas of vertex covered with narrow decumbent scales, few broad scales may occur on anterior area

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Decumbent scales of vertex predominantly pale yellowish to pale brown 2. Lower mesepimeral seta absent | <ol style="list-style-type: none"> 1. Decumbent scales of vertex predominantly dark brown 2. Lower mesepimeral seta present |
|--|---|



Foliatus Subgroup
Cx. foliatus

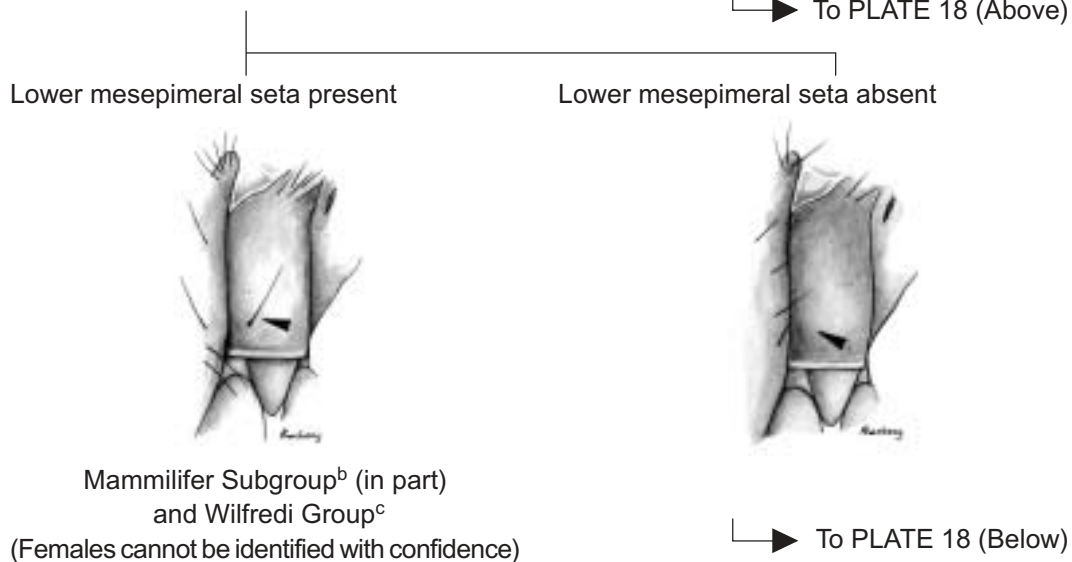
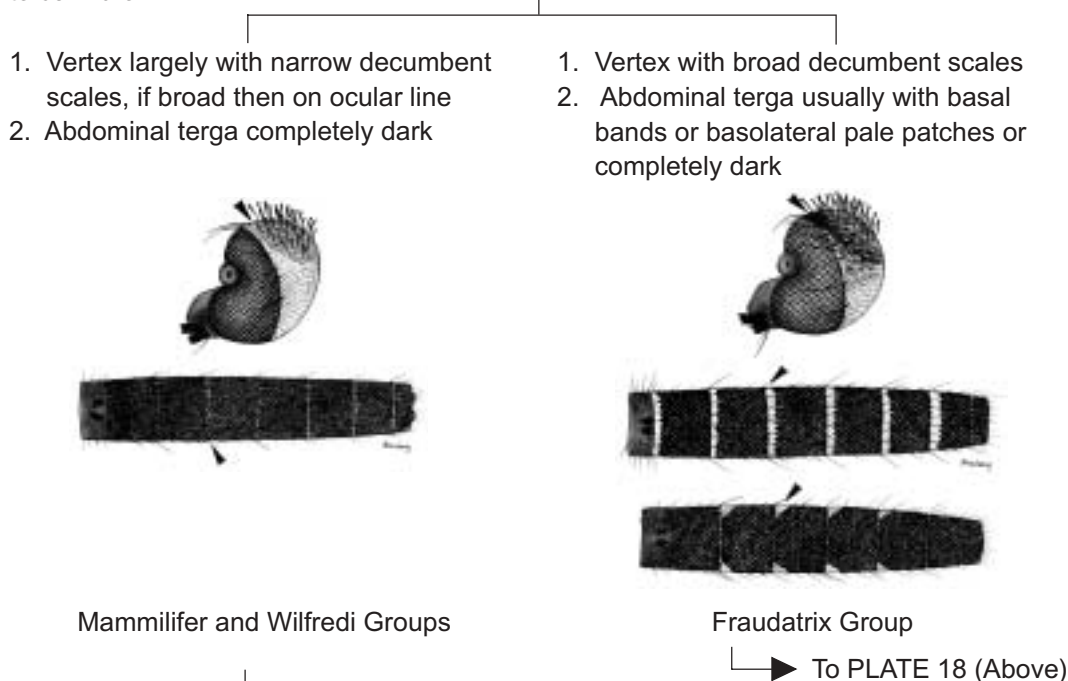


Tenuipalpis Subgroup^a
Cx. kiriensis, *Cx. oresbius*, *Cx. richei*,
and *Cx. tenuipalpis*

^aFemales of the Tenuipalpis Subgroup are inseparable.

KEY TO GROUPS AND SPECIES OF SUBGENUS *LOPHOCERAOMYIA*
ADULT FEMALES^a

From PLATE 3: Vein 1A ends before apex of crossvein mcu; thoracic pleura uniformly light to dark brown



^aFemales of *Cx. gracicornis*, *Cx. incomptus*, and *Cx. hirtipalpis* are unknown.

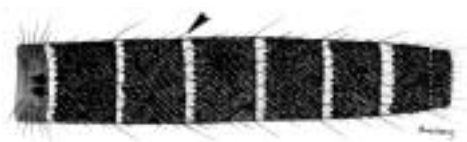
^b*Culex. bengalensis*, *Cx. bicornutus*, *Cx. demissus*, *Cx. eukrines*, *Cx. ganapathi*, *Cx. mammilifer*, *Cx. minor*, *Cx. peytoni*, *Cx. pholeter*, *Cx. spiculosus*, *Cx. traubi*, and *Cx. tuberis*.

^c*Culex. pilifemoralis* and *Cx. wilfredi*.

PLATE 18

From PLATE 17: Vertex with broad decumbent scales; abdominal terga usually with basal or basolateral pale patches or completely dark

Abdominal terga with basal pale bands



Abdominal terga completely dark or with small basolateral pale patches



Fraudatrix Subgroup (in part)

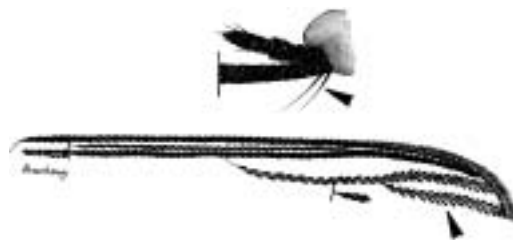
➡ To PLATE 19 (Above)

1. Proboscis with 4-6 labial basal setae
2. Plume scales on veins R_2 and R_3 narrow



Minutissimus Subgroup
Cx. infantulus and *Cx. minutissimus*

1. Proboscis with 2 labial basal setae
2. Plume scales on vein R_2 and R_3 broad, ovate



Fraudatrix Subgroup (in part)
Cx. cinctellus

From PLATE 17: Lower mesepimeral seta absent

Ground pool breeder



Mammilifer Subgroup (in part)
Cx. bengalensis and *Cx. tuberis*

Pitcher plant breeder



Brevipalpis Subgroup

➡ To PLATE 19 (Below)

PLATE 19

From PLATE 18: Abdominal terga completely dark or with small basolateral pale patches

Small species, wing length 2.1-2.7 mm

Medium-size to large species, wing length 2.8-4.0 mm

➡ To PLATE 20 (Above)

1. Thoracic pleura pale orange or reddish
2. Lower mesepimeral seta absent

1. Thoracic pleura pale brownish to blackish
2. Lower mesepimeral seta present



Cx. rubithoracis



➡ To PLATE 20 (Below)

From PLATE 18: Pitcher plant breeder

Upper corner and posterior border of mesokatepisternum with patch of pale scales

Upper corner and posterior border of mesokatepisternum without scales



Cx. curtipalpis



Cx. lucaris

From PLATE 19: Medium-size to large species, wing length 2.8-4.0 mm

Plume scales on veins R_2 and R_3 relatively narrow

Plume scales on veins R_2 and R_3 broad, spatulate



Cx. aculeatus and *Cx. quadripalpis*

Acrostichal setae present

Acrostichal setae absent



Cx. paioji



Cx. macdonaldi, *Cx. variatus*,
and *Cx. whartoni*

From PLATE 19: Thoracic pleura pale brownish to blackish; lower mesepimeral seta present

Proboscis with strong labial basal setae, 6 in number

Proboscis with weak labial basal setae, 3 in number



Cx. alphas



Cx. reidi

KEY TO THE SPECIES OF SUBGENUS *OCULEOMYIA*
ADULT FEMALES

From PLATE 3: Abdominal terga II-VI with apical pale bands, or apical and basal pale bands, or basal pale bands and apicolateral pale patches

Wing with dark scales on all veins

Wing speckled with dark and pale scales



➤ To PLATE 22

1. Anterior surfaces of fore- and midfemora dark-scaled or with few pale scales
2. Apical pale bands on abdominal terga III, IV and/or V incomplete

1. Anterior surfaces of fore- and midfemora moderately to strongly speckled with numerous pale scales
2. Apical pale bands on abdominal terga III-V as broad as basal pale bands

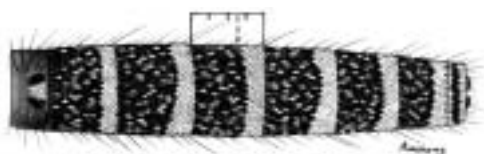


Cx. pseudosinensis

Cx. sinensis

From PLATE 21: Wing speckled with dark and pale scales

Abdominal terga II-VII with broad apical pale bands, 0.25 or more length of segment



Abdominal terga II-IV dark or with basal or basal and apical pale bands



Cx. bitaeniorhynchus

Abdominal terga II-IV or V dark or with narrow apical pale bands usually connected with large yellowish apicolateral patches, basal pale bands usually absent



Abdominal terga II-IV, and sometimes V, with broad basal pale bands and apical pale bands



Cx. infula

1. Abdominal terga III-IV with broad basal and narrow apical pale bands
2. Apical pale bands on VI and VII as broad as basal bands



Cx. longicornis

1. Abdominal terga III-IV and sometimes V, with broad triangular basal pale bands
2. Apical pale bands on VI and VII narrow medially, usually connected with large apicolateral pale patches



Cx. sp near infula

KEY TO THE SPECIES OF *LUTZIA* SUBGENUS *METALUTZIA*
ADULT FEMALES

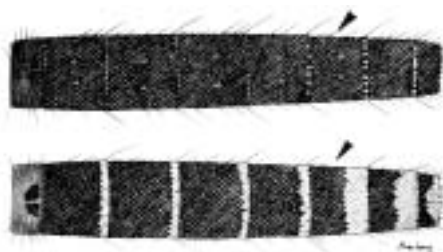
From PLATE 1: Four or more lower mesepimeral setae present

Abdominal terga V-VIII entirely pale to yellowish-scaled or with broad apical pale bands, terga II-IV entirely dark or with narrow apical bands

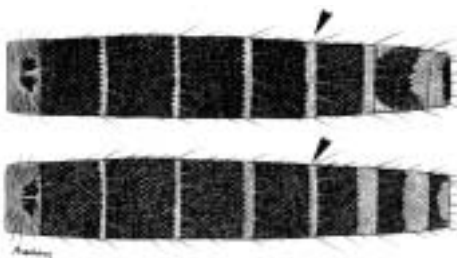


Lt. fuscana

Abdominal terga entirely dark, or with apical pale bands of approximately same width

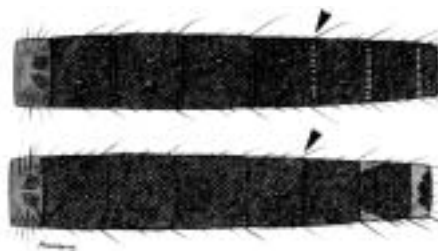


Abdominal terga usually with apical pale bands of approximately same width



Lt. vorax

Abdominal terga entirely dark, or with very narrow apical pale bands, or with lateral pale patches only on last few segments



Lt. halifaxii