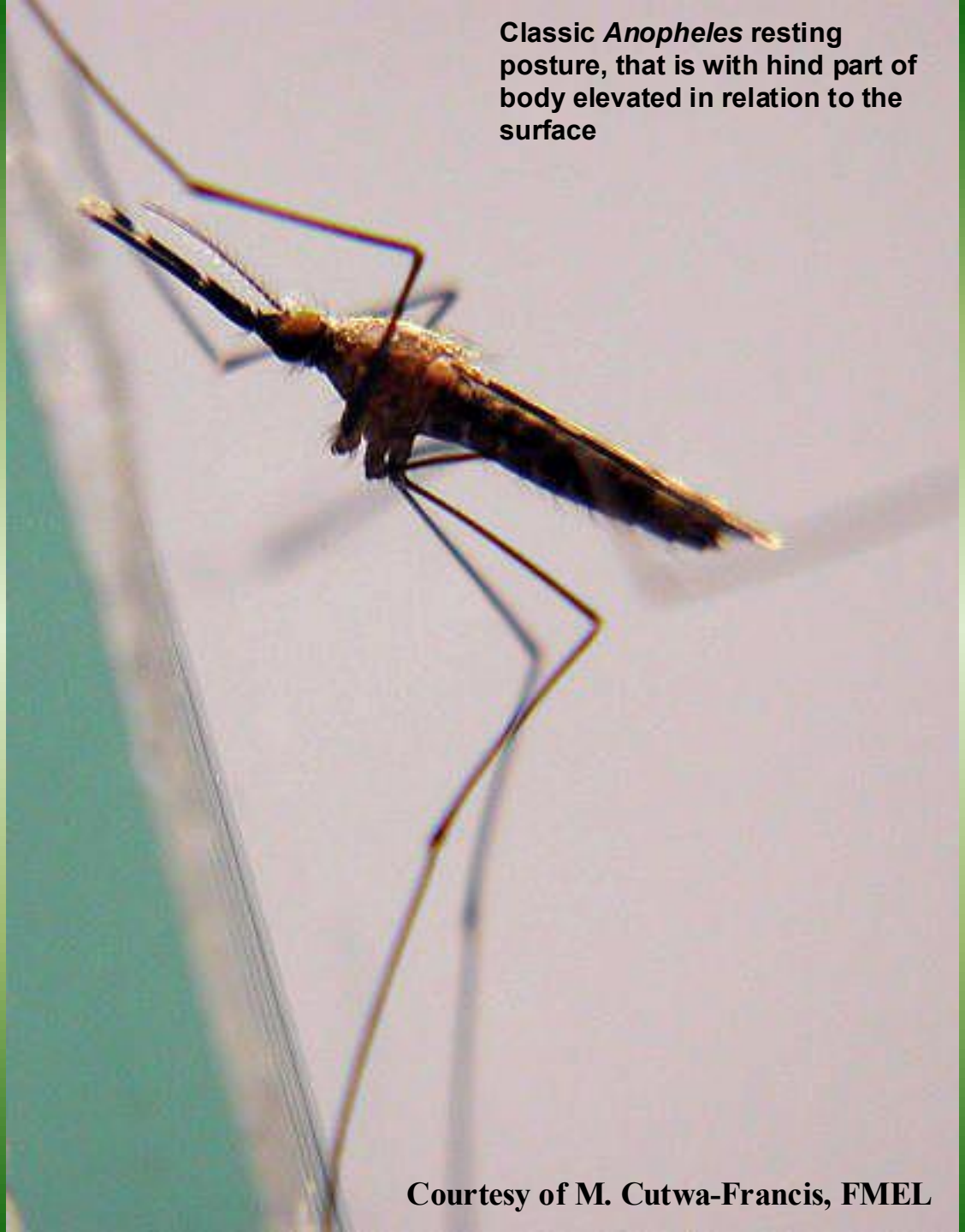
Knowing Mosquito Adults (Females) at the Generic Level

Mosquito Genera in States in the Mid-Atlantic Mosquito Control Association Region (Georgia to Pennsylvania)

1. *Aedes*
2. *Anopheles*
3. *Coquillettidia*
4. *Culex*
5. *Culiseta*
6. *Mansonia*
7. *Ochlerotatus*
8. *Orthopodomyia*
9. *Psorophora*
10. *Toxorhynchites*
11. *Uranotaenia*
12. *Wyeomyia*

Genus: *Anopheles*

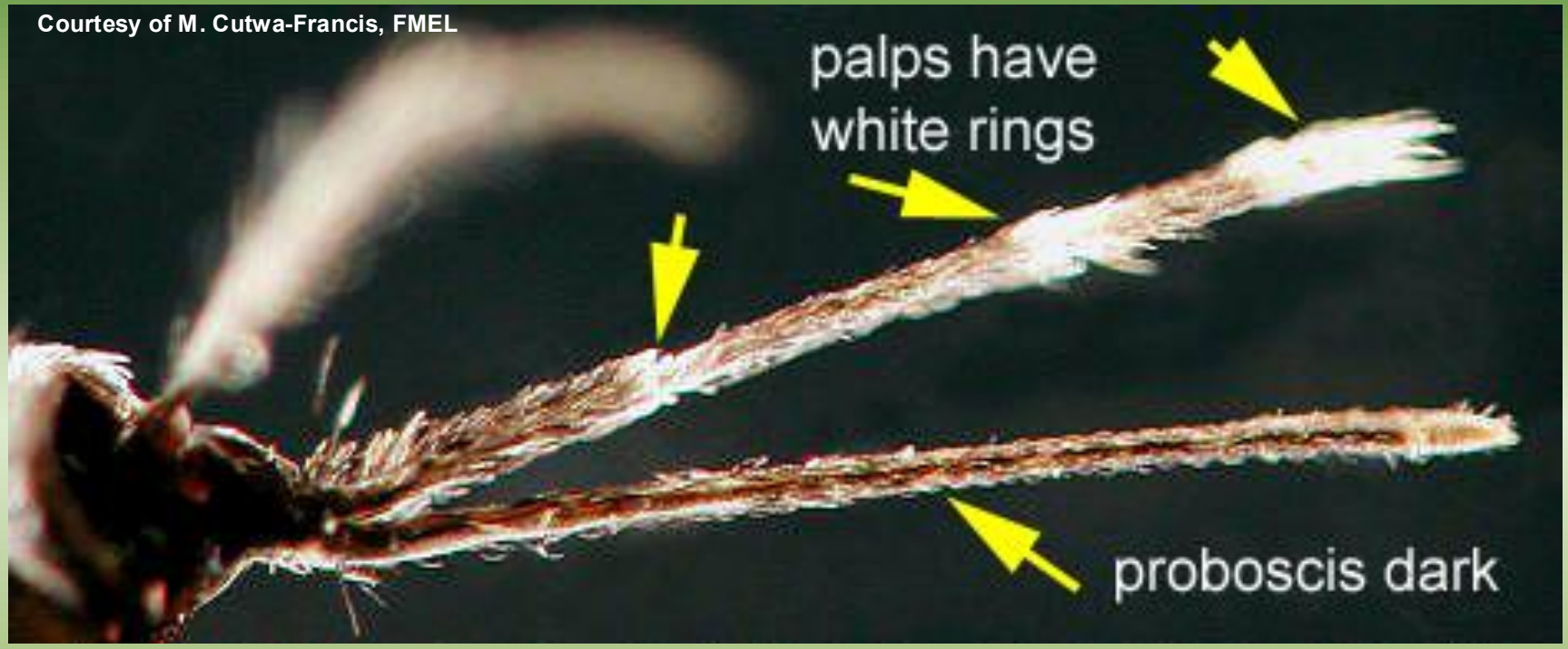
1. Palpi as long as proboscis and longer than antennae
2. Scutellum rounded
3. Species in Mid-Atlantic Region without scales on abdomen



Classic *Anopheles* resting posture, that is with hind part of body elevated in relation to the surface

Courtesy of M. Cutwa-Francis, FMEL

Anopheles crucians complex



Anopheles

Posterior margin of scutellum rounded

Prime *Anopheles* habitats

Algae on Pool

Genus *Toxorhynchites*

1. Proboscis long, curved downward, base thick gradually tapering to thin tip
2. Palpi longer than antennae
3. Huge iridescent blue-green mosquito with broad white bands on some tarsi
4. Does not bite, but feeds on nectar in flowers and plant sap leaking onto the trunks of trees

Toxorhynchites rutilus septentrionalis

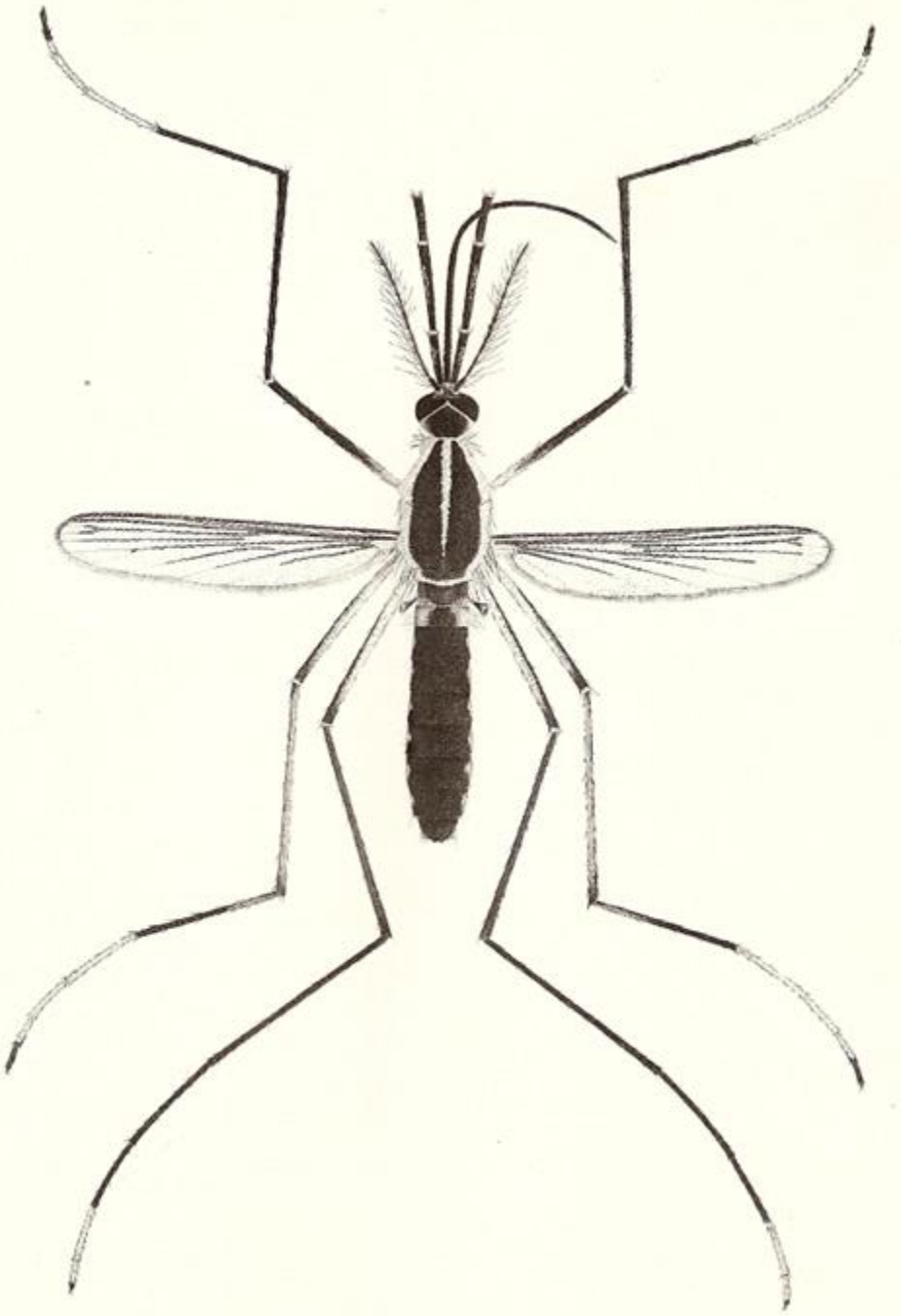
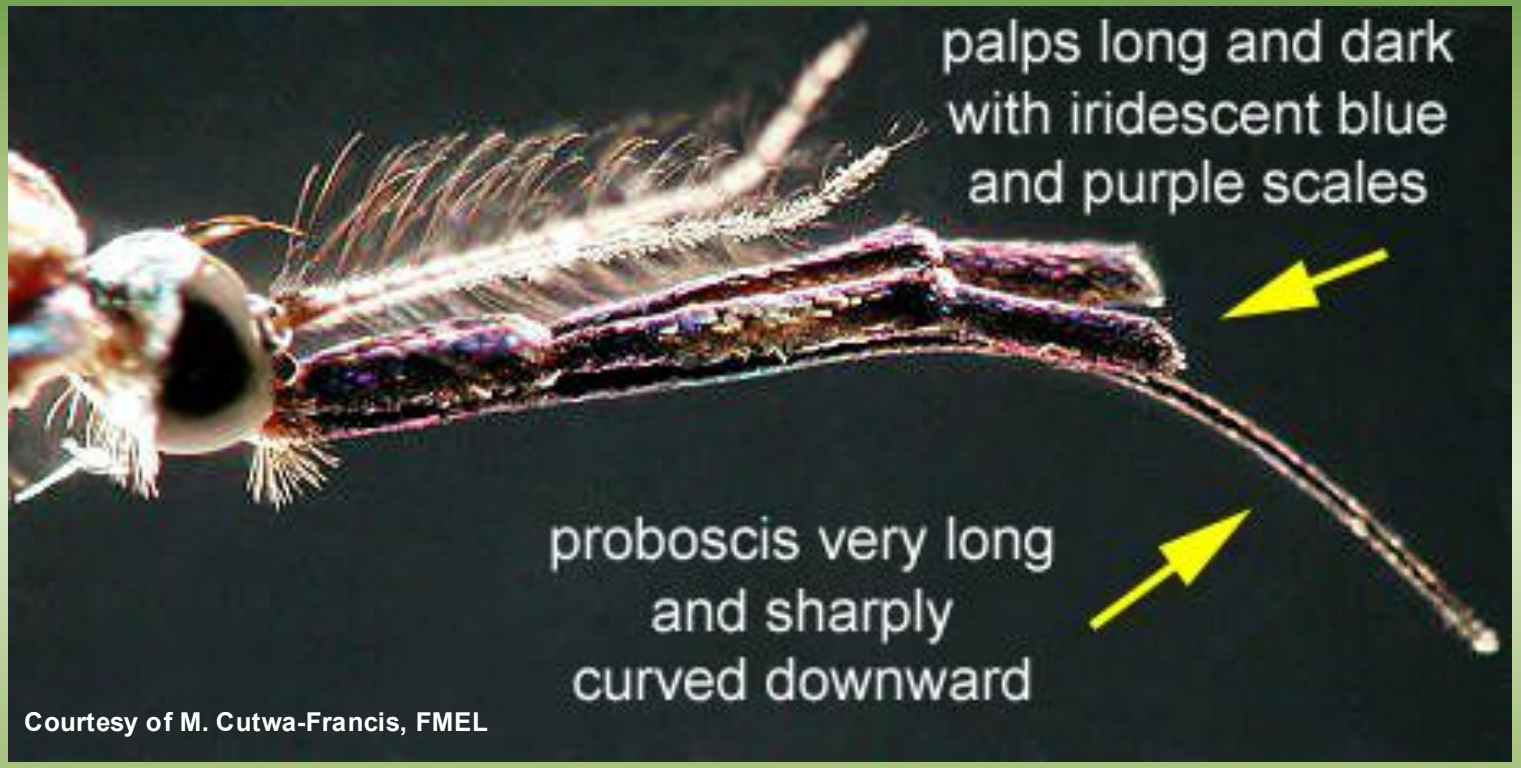
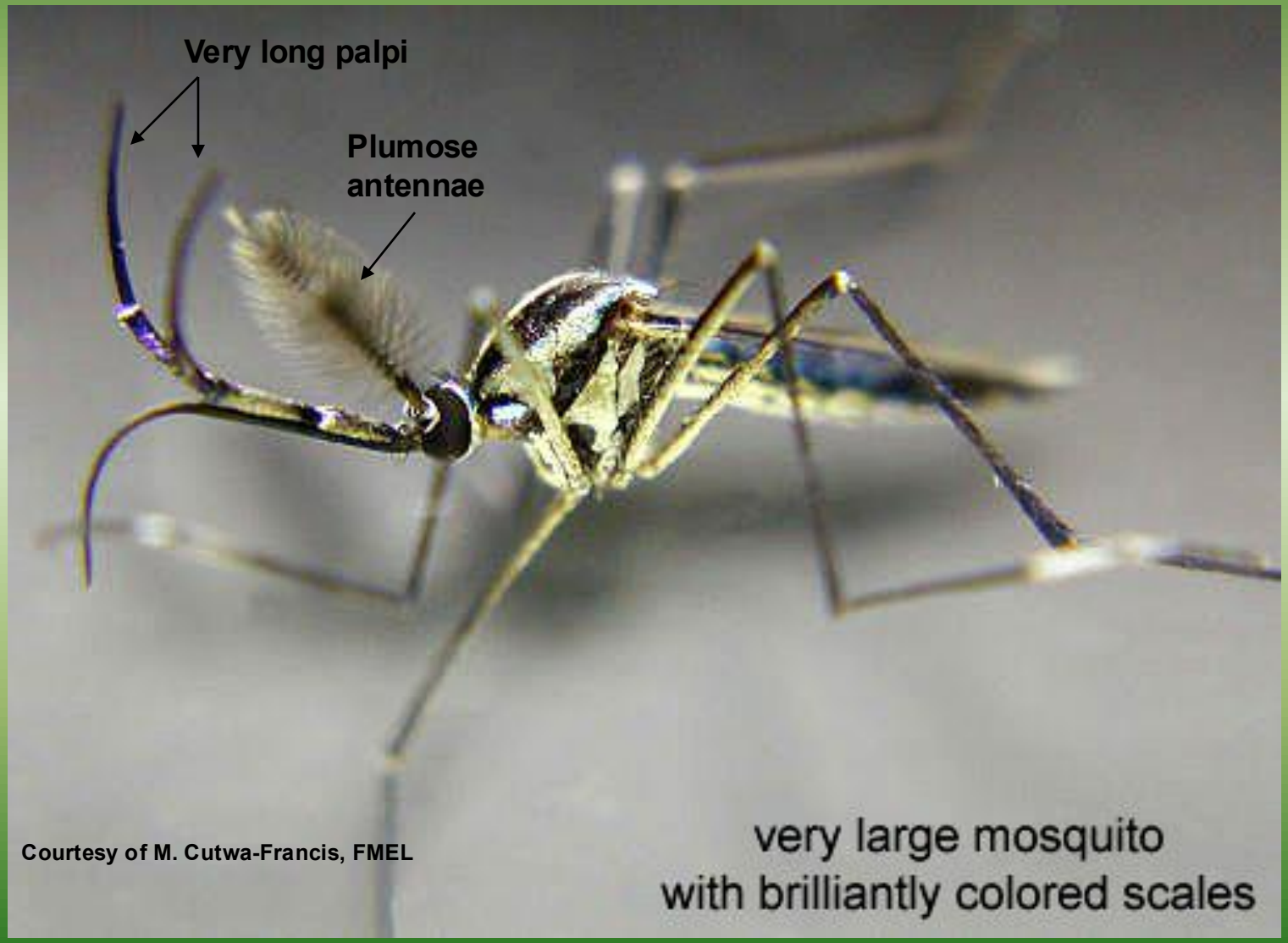


Plate 12. *Toxorhynchites rutilus septentrionalis* (Dyar and Knab), female.

Toxorhynchites



Toxorhynchites r. rutilus (male)



Habitats for *Tx. r. sepentrionalis* immatures


Rick Hickman, Brunswick Co.


Rick Hickman, Brunswick Co


Parker Whitt, NC PHPM,

Genus *Wyeomyia*

Only one species, *Wy. smithii* is found throughout the MAMCA area. A second species, *Wy. mitchellii*, common in southern Florida, has been collected one time in the Okefenoke Swamp in southeastern Georgia.

Wyeomyia smithii

1. Dorsal half of abdomen dark, ventral half white, two colors separated by straight line

2. Scutum and scutellum covered with broad flat scales, setae not obvious

3. Mesopostnotum of scutum with setae.

4. Tiny iridescent species with immatures in a pitcher plant.

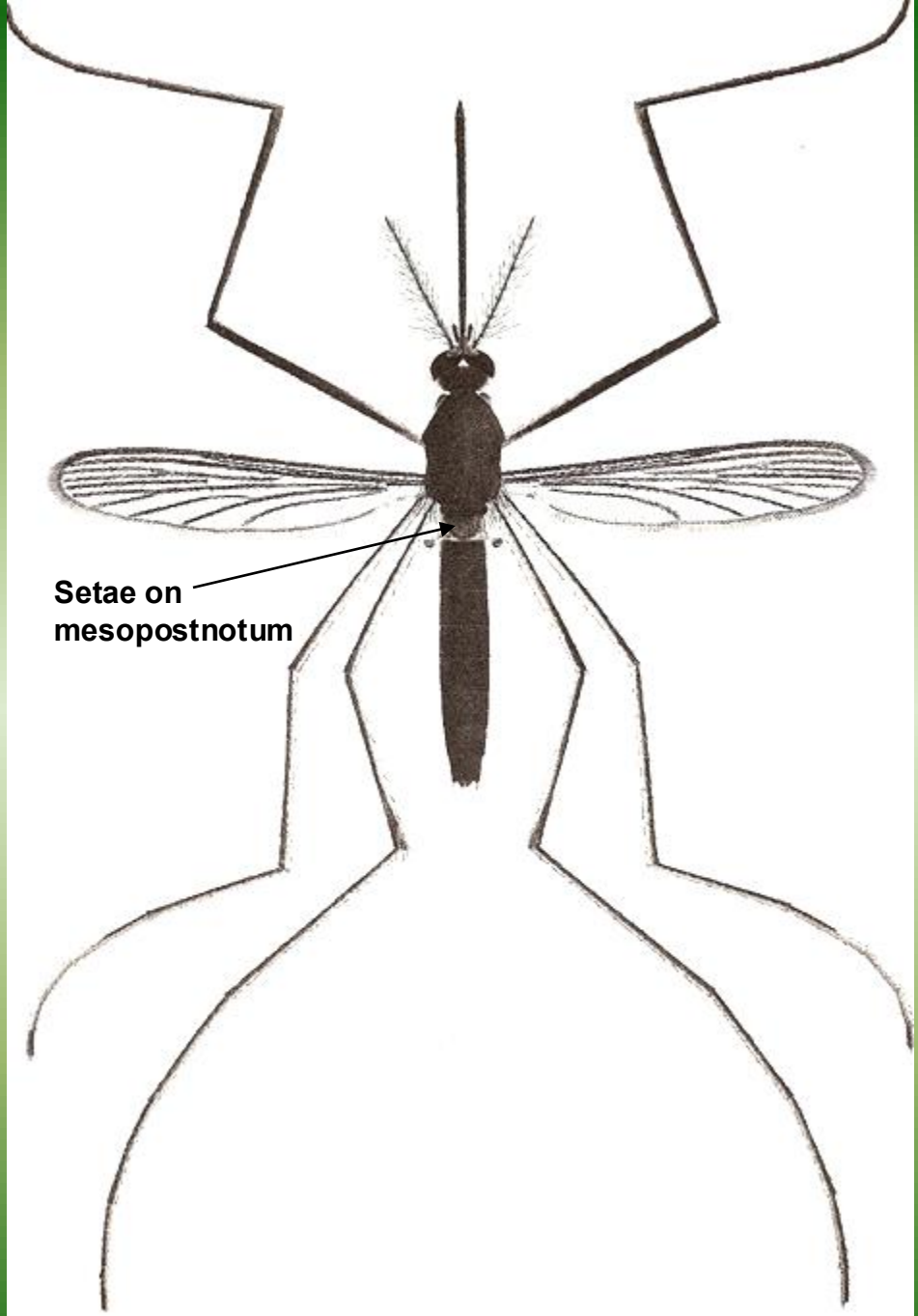
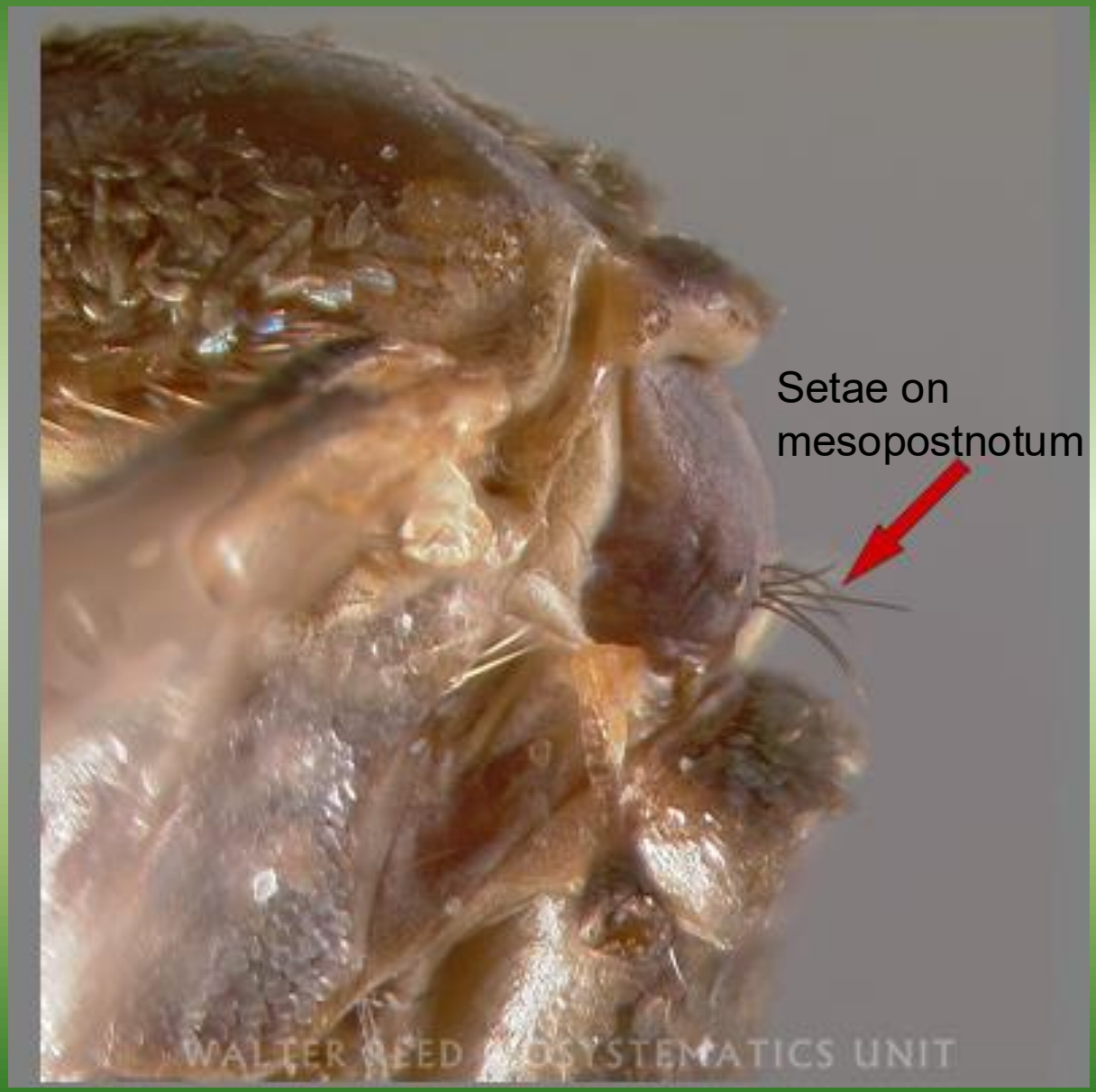


Plate 15. *Wyeomyia smithii* (Coquillett), female.

Wyeomyia



Wyeomyia mitchellii

Courtesy of M. Cutwa-Francis, FMEL

Wyeomia smithii **immature habitat in** ***Sarracenia purpurea***

Parker Whitt, NC PHPM, 2005

Parker Whitt, NC PHPM, 2005

Genus *Uranotaenia*

Small Mosquitoes That Feed On Amphibians and Reptiles

Uranotaenia

1. Vein 1A ends before the CU fork
2. Lines of irridescent blue scales on the head, thorax, and wings.
3. Wing cell R_2 much shorter than vein R_{2+3}
4. Small mosquitoes that feed on amphibians and reptiles

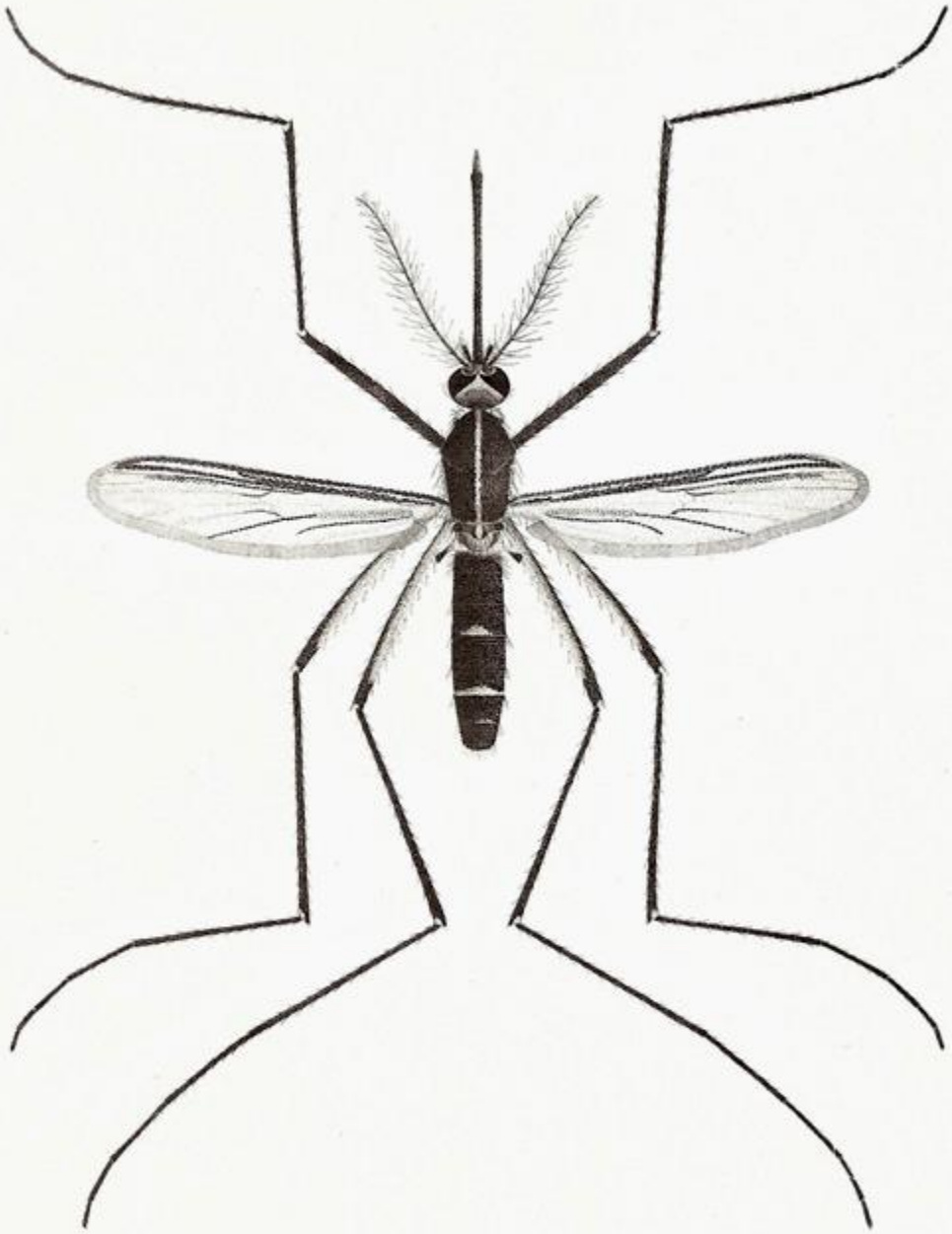
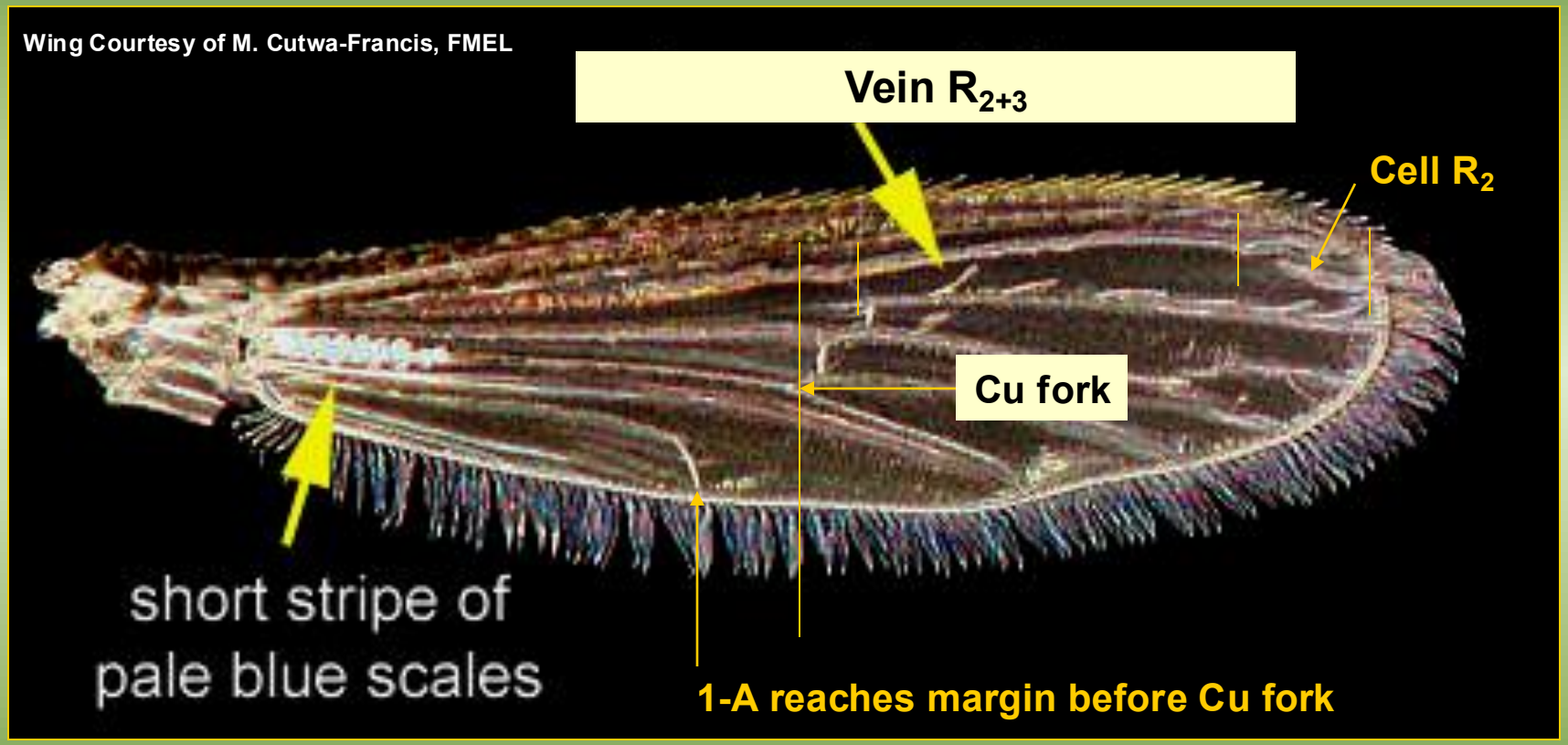


Plate 19. *Uranotaenia sapphirina* (Osten Sacken), female.

Uranotaenia sapphirina

Courtesy of Mike Womack, GA

Uranotaenia characters



Uranotaenia sapphirina

Courtesy of M. Cutwa-Francis, FMEL

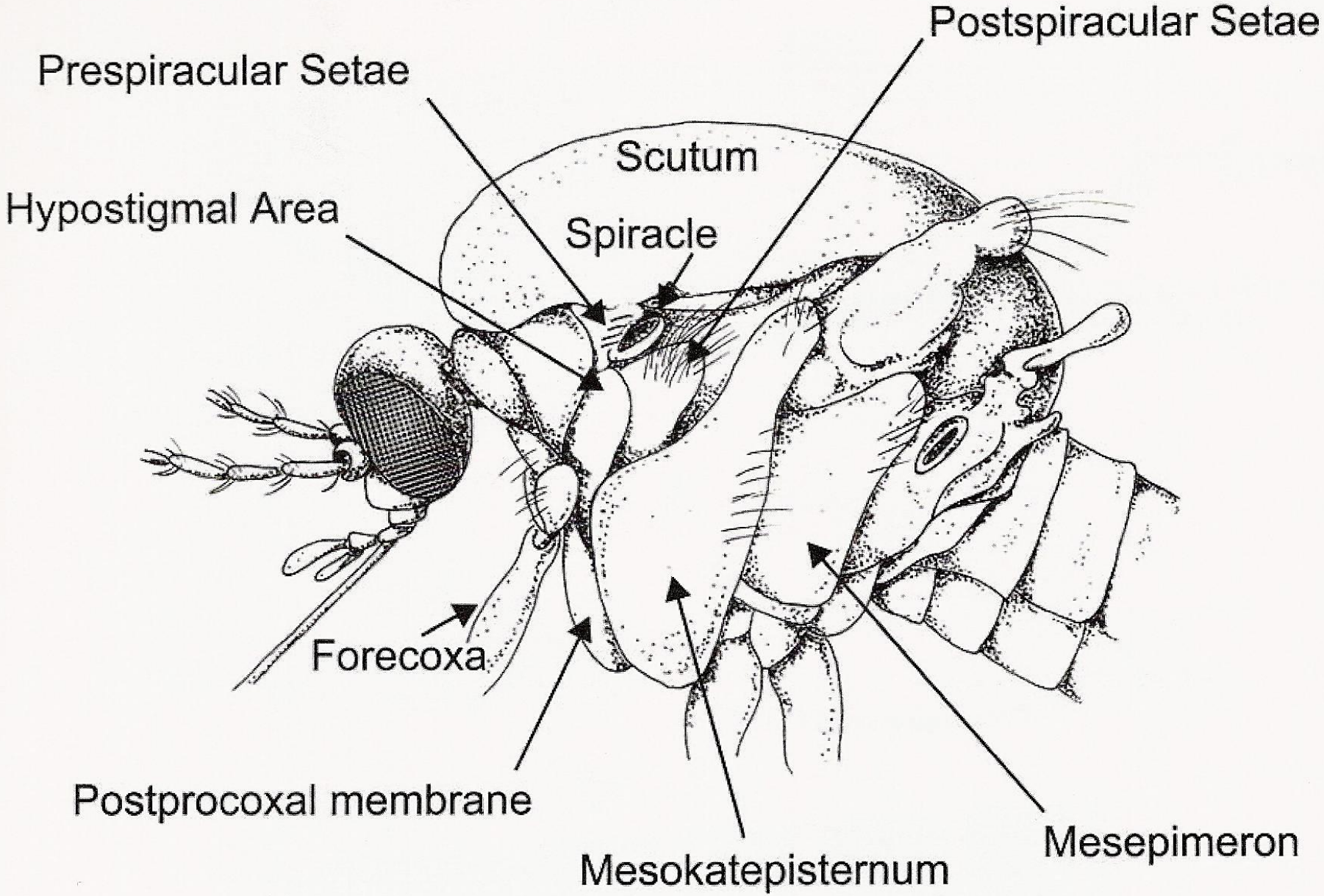
Uranotaenia sapphirina

Courtesy of M. Cutwa-Francis, FMEL

Prime *Uranotaenia habitat*

Genus *Psorophora*

1. Prespiracular setae present
2. Postspiracular setae present
3. Pointed abdomen
4. Abdomen with apical bands or patches

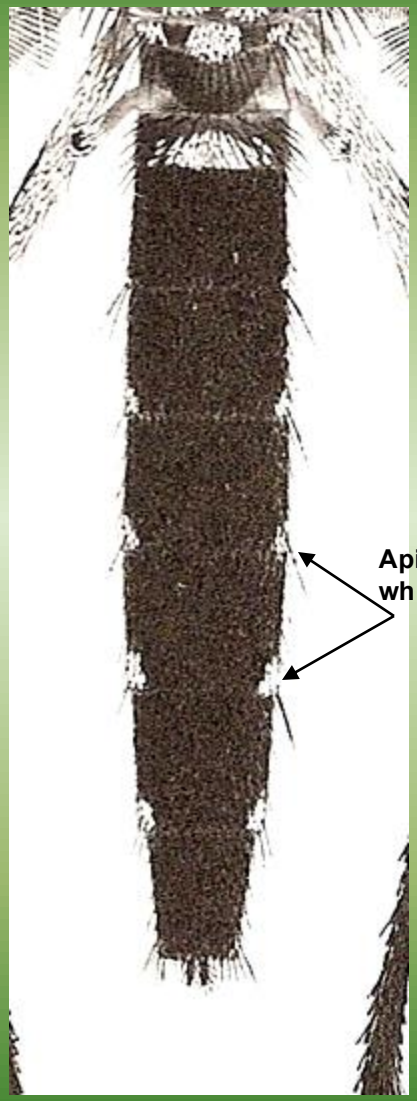


Courtesy of Connecticut Agric. Exp. Station Bull. No. 966, 2005

Apical bands and pointed abdomens

Ps. cyanescens

Ps. columbiae



Ps. ferox, Ps. horrida and Ps. mathesoni

Psorophora columbiae

1. Long pale band on proboscis
2. Wings uniformly speckled with dark and pale scales
3. Narrow preapical pale band on hind femur
4. Abdomen with apical pale bands on segments II-IV
5. First hindtarsal segment with pale band on the center

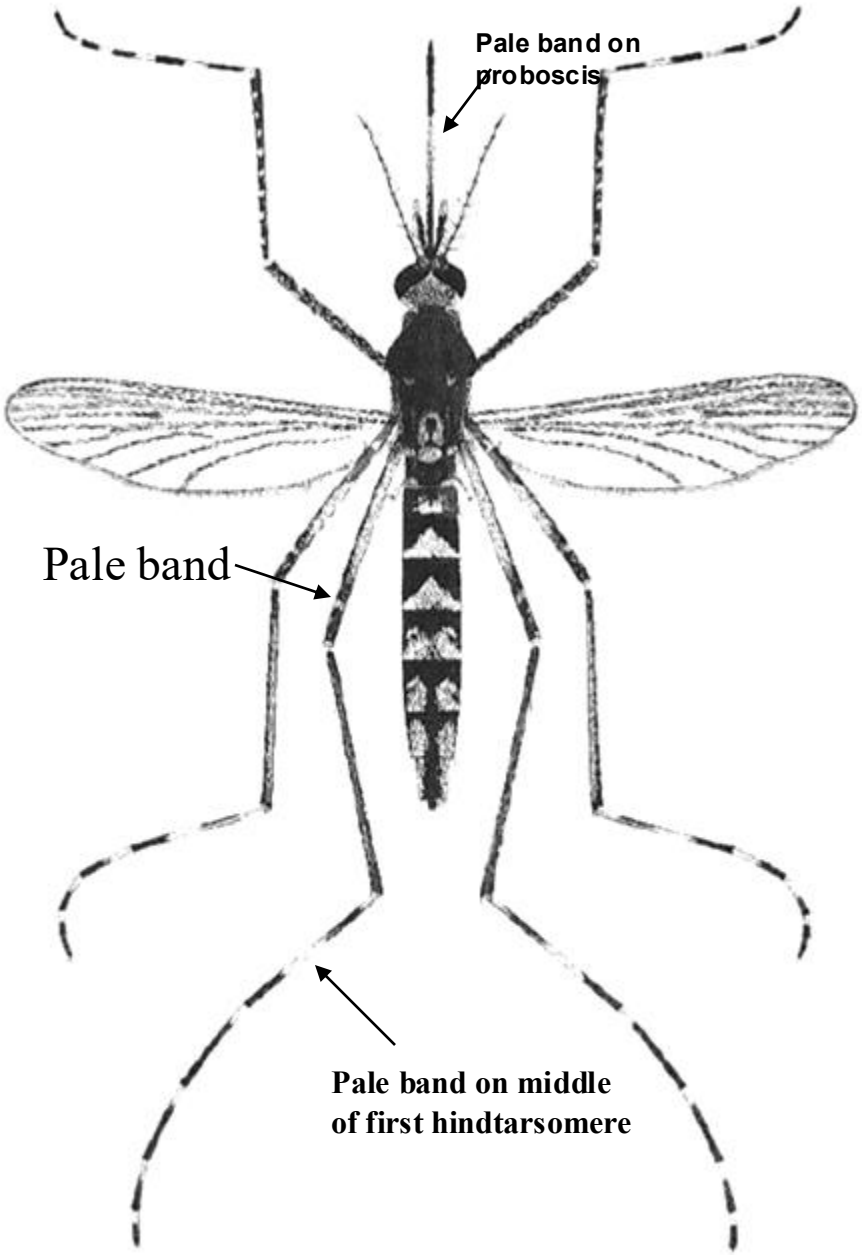


Plate 40. *Ps. columbiae* (Lynch Arribálzaga), female.

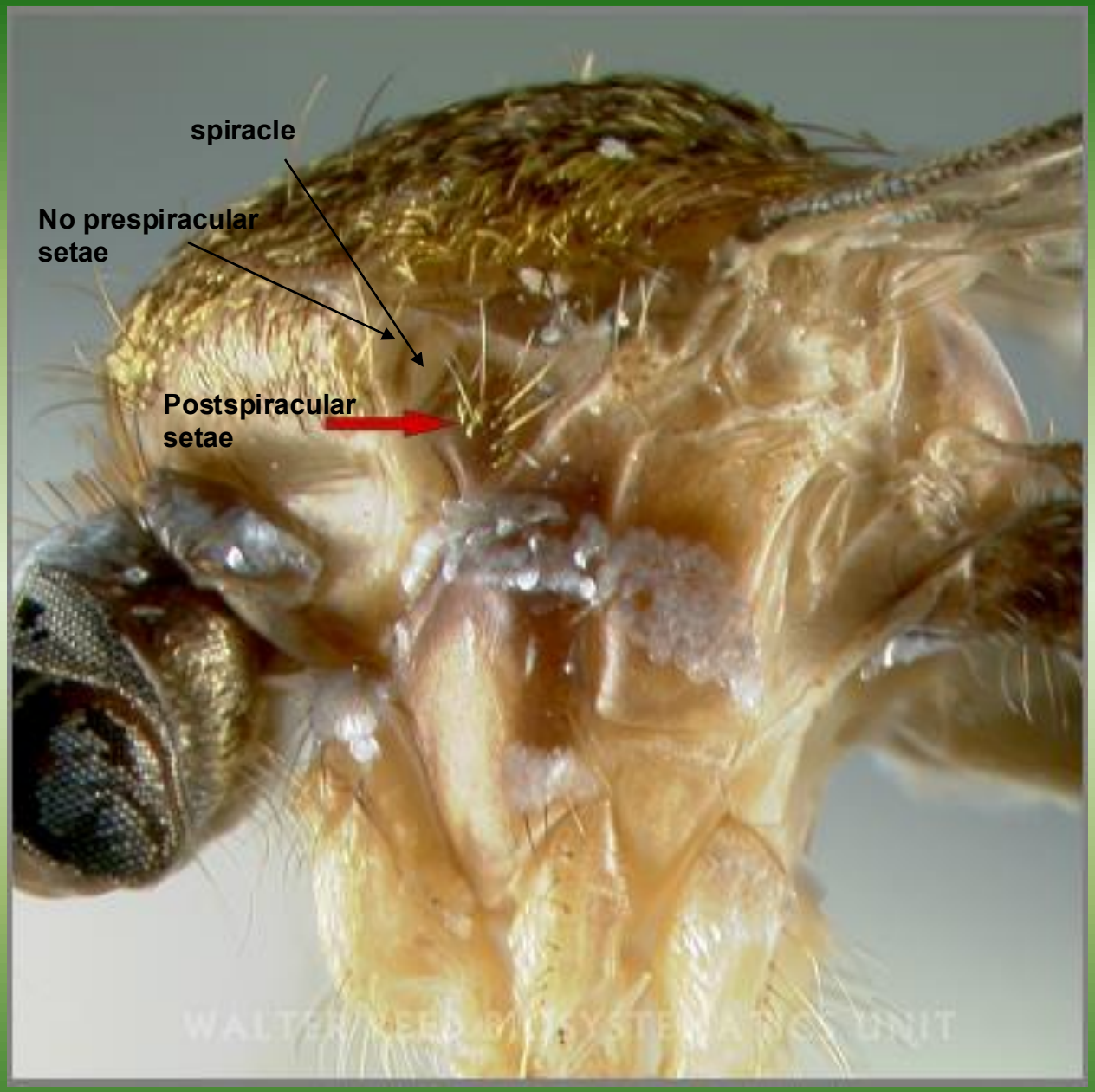
Woodland Pool

Parker Whitt, NC PHPM

Aedes and *Ochlerotatus*

1. Prespiracular setae absent
2. Postspiracular setae present
3. Pointed abdomen
4. Abdomen with basal pale bands or lateral patches

Postspiracular setae



Ochlerotatus canadensis

1. Proboscis dark scaled
2. Brown/rusty colored scutum
3. Wing scales dark
4. Tips of femur and tibia with distinct white patches
5. Hindtarsi with basal and apical white bands that cross the joints
6. Hindtarsomere 5 entirely white
7. Major pest in the Spring

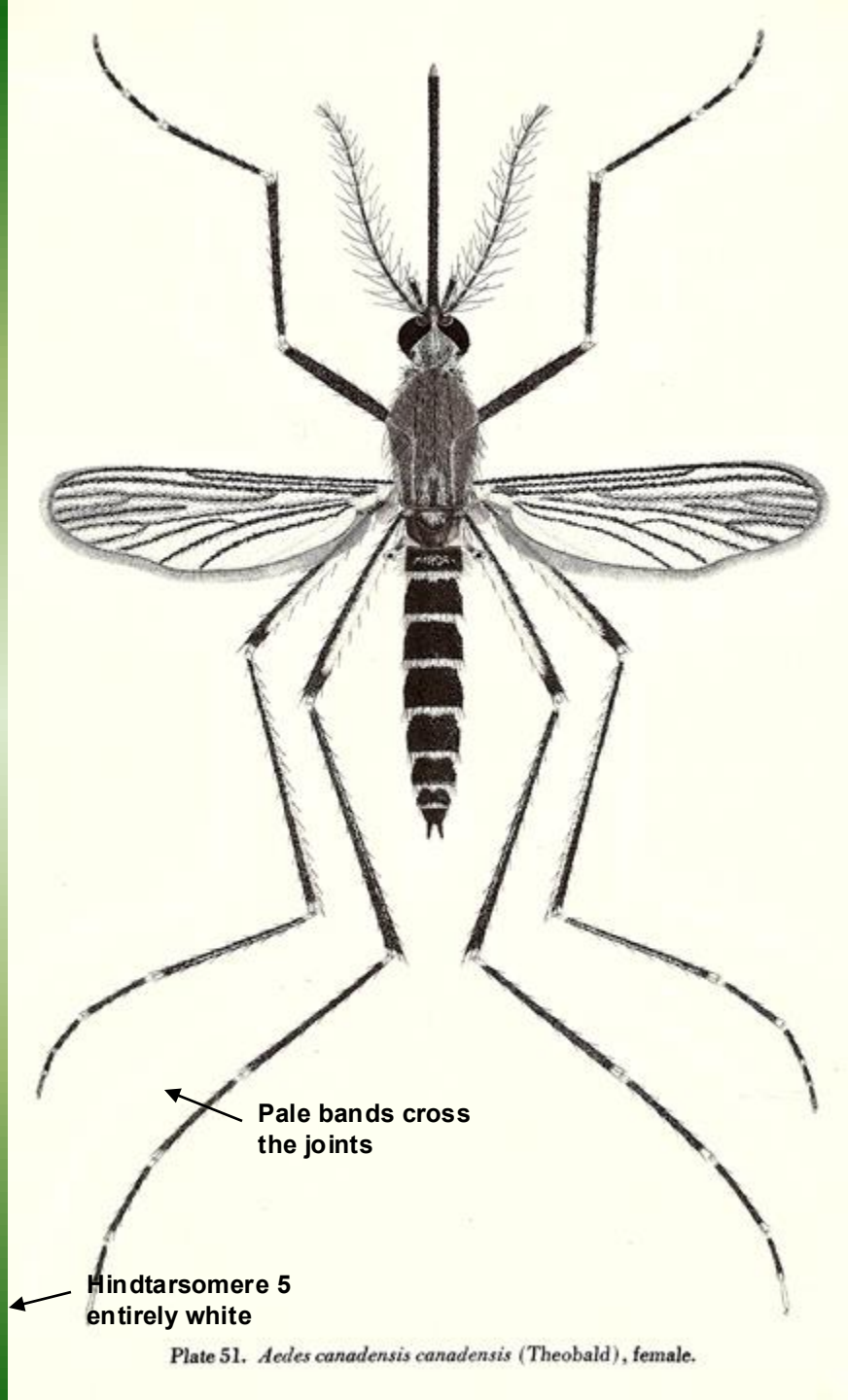


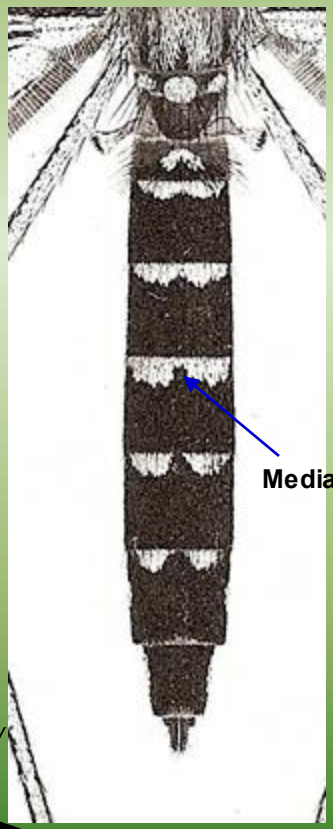
Plate 51. *Aedes canadensis canadensis* (Theobald), female.

Basal bands


abdomen has white
basal bands
Courtesy of M. Cutwa-Francis, FMEL

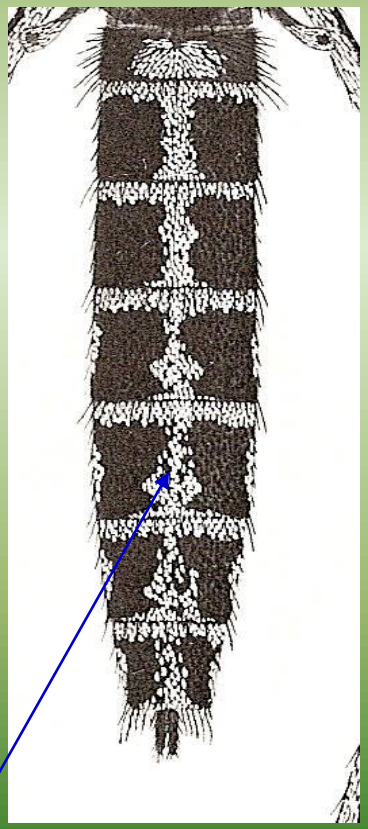
Pointed abdomens and various basal banding patterns in *Aedes* and *Ochlerotatus*

Ae. vexans

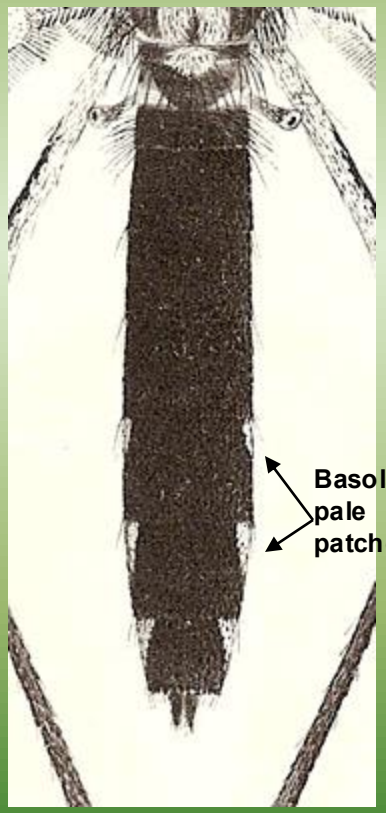


Oc. cantator

Oc. sollicitans



Oc. atlanticus



Container and temporary pool habitats of *Aedes* and *Ochlerotatus*

Rick Hickman, Brunswick Co, NC

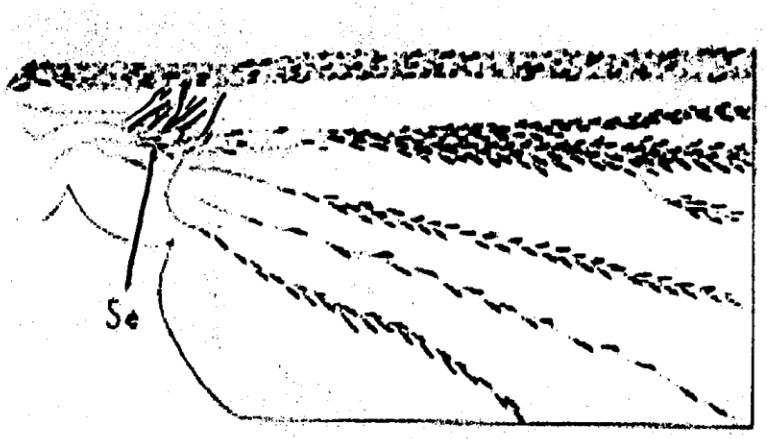
Parker Whitt, NC PHPM

Genus *Culiseta*

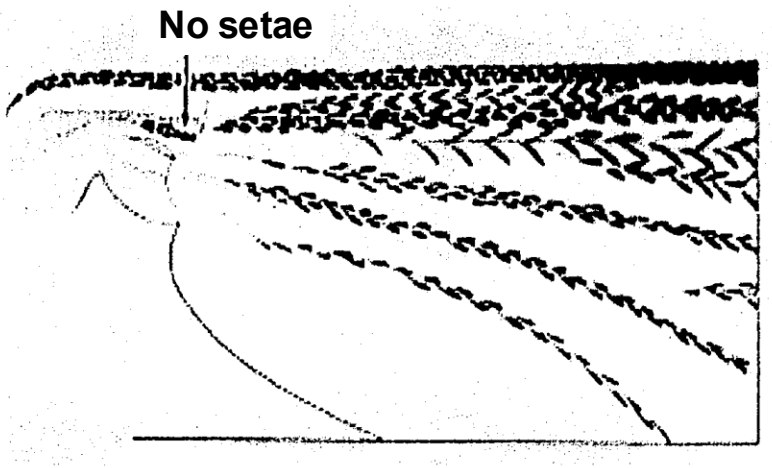
1. Proboscis normally 1.2 times as long as the front femur
2. Abdomen rounded
3. Prespiracular setae present (1-4)
4. Postspiracular setae absent
5. Ventral side of wing at base with small patch of setae on subcosta vein
6. Tiny scales or seta-like scales present immediately under the paratergite on side of thorax

Culiseta wing vein Sc with setae

Culiseta species



Culex species



Presence or absence of setae on ventral Sc

Wing figures courtesy of Darsie and Morris 2003

Culiseta inornata

This is a common, but rarely collected species, because it is most abundant during the winter months in the eastern United States.

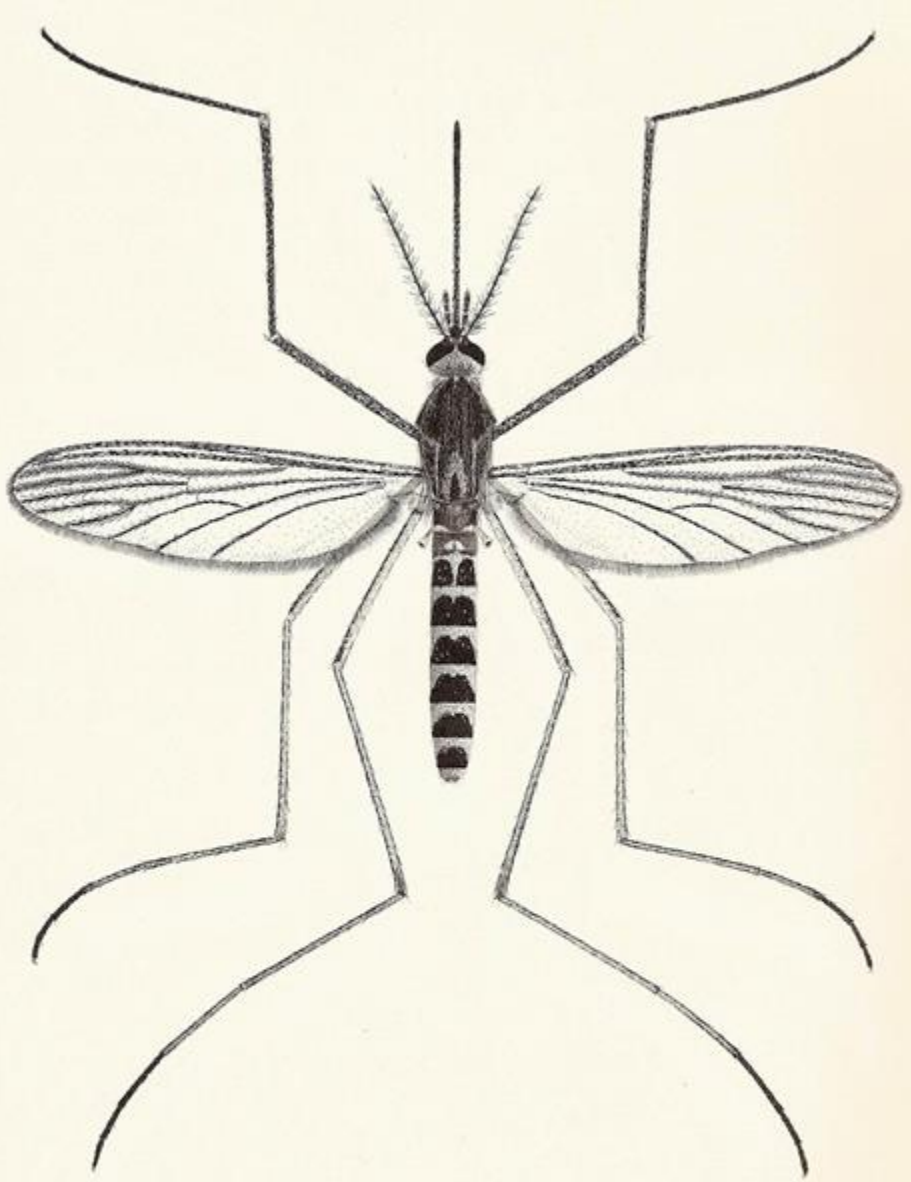


Plate 24. *Culiseta inornata* (Williston), female.

Culiseta melanura

This species is very different from the other common species, *Cs. inornata*, in our area. It looks very similar to species of *Culex*, particularly *Cx. salinarius.*

It is a very common spring and summer species, feeds primarily on birds, and is a major EEE virus vector in the bird (enzootic) cycle of this virus.

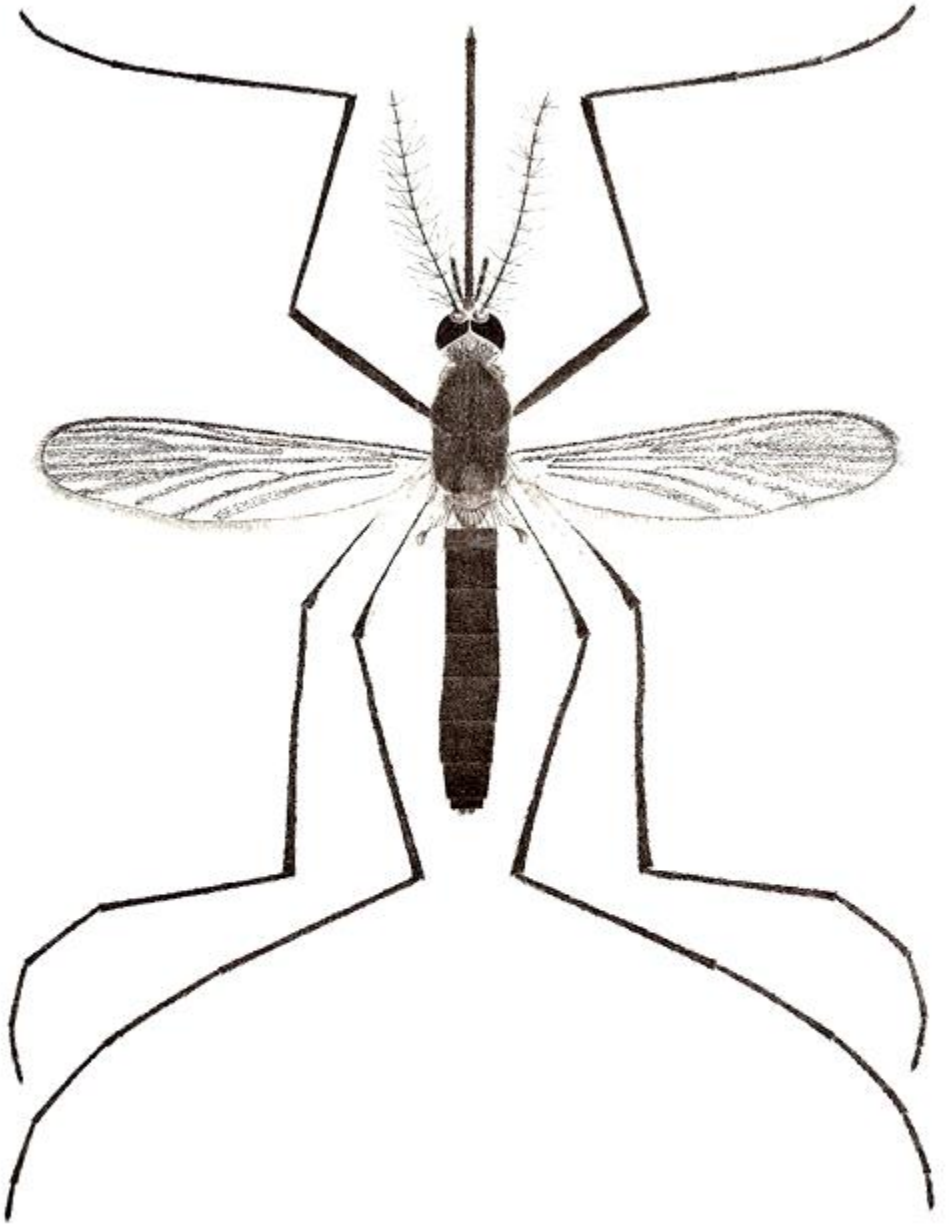
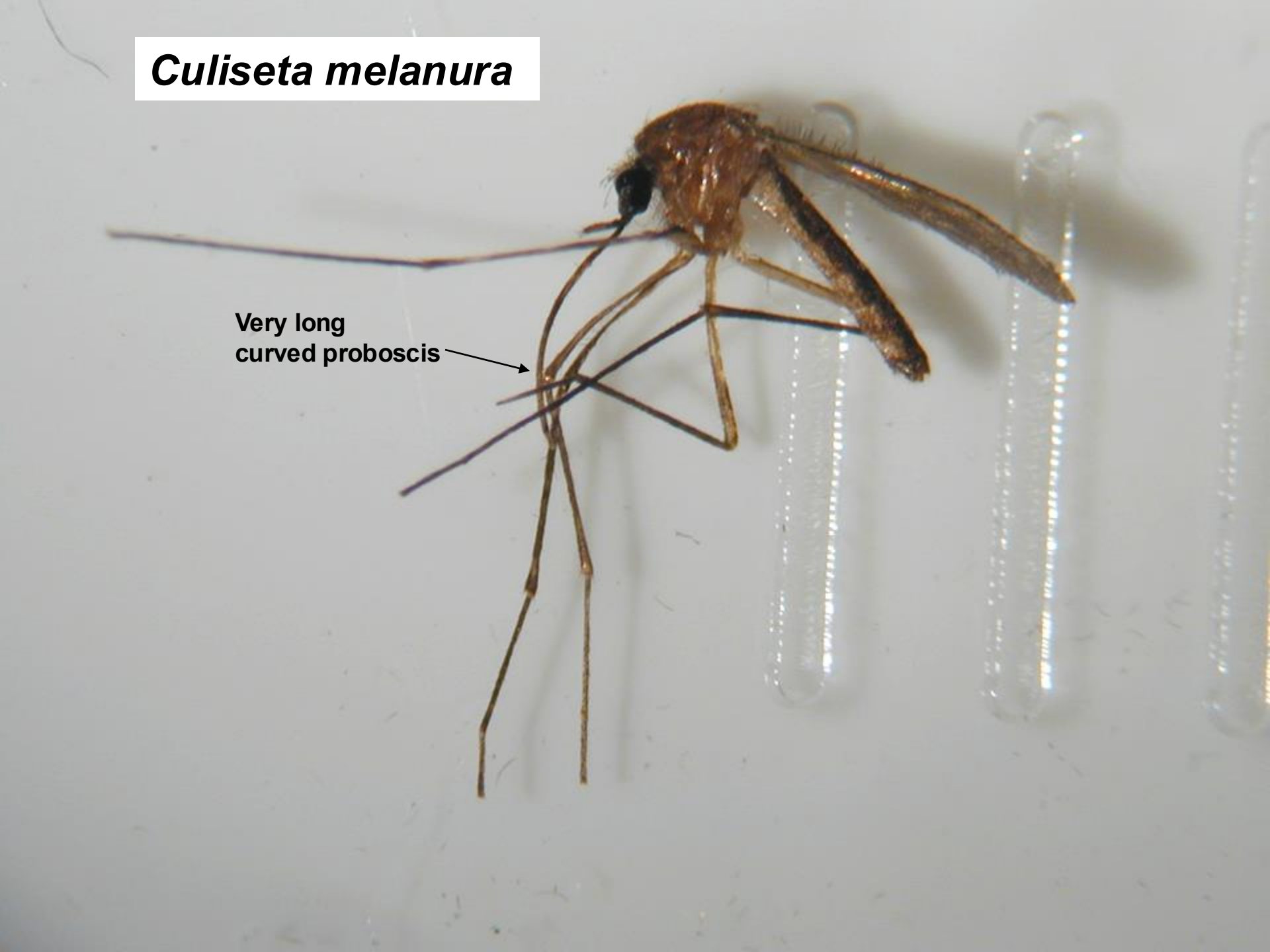


Plate 27. *Culiseta melanura* (Coquillett), female.

Culiseta melanura



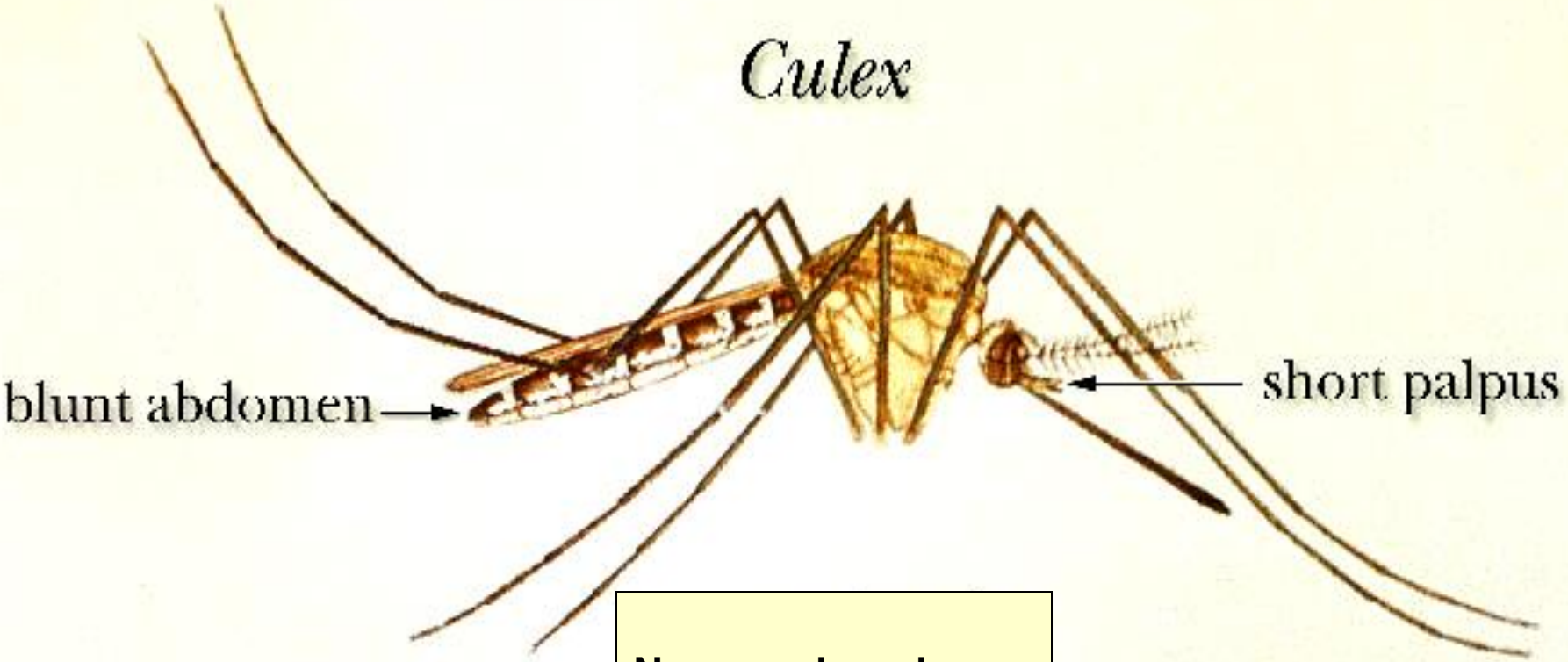
Culiseta melanura habitat

Courtesy of Rick Hickman, Brunswick Co., NC

Genus *Culex*

1. No pre- or postspiracular setae
2. No setae on base of subcosta on ventral side of wing
3. Proboscis approximately same length as forefemur, rarely longer
4. Tip of abdomen rounded
5. Wing scales narrow and dark
6. Basically small brown mosquitoes that utilize container, temporary, and permanent water habitats

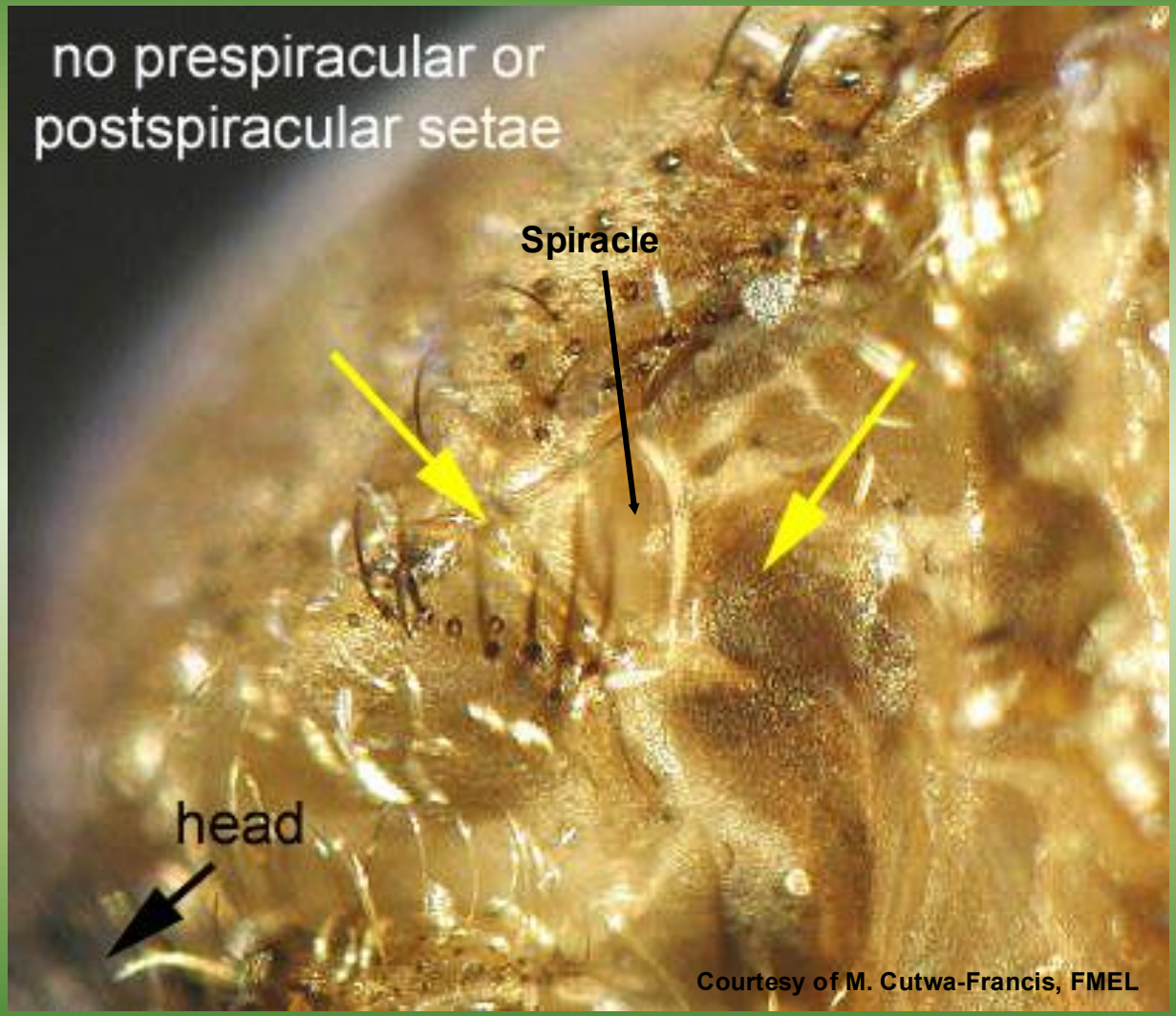
Culex



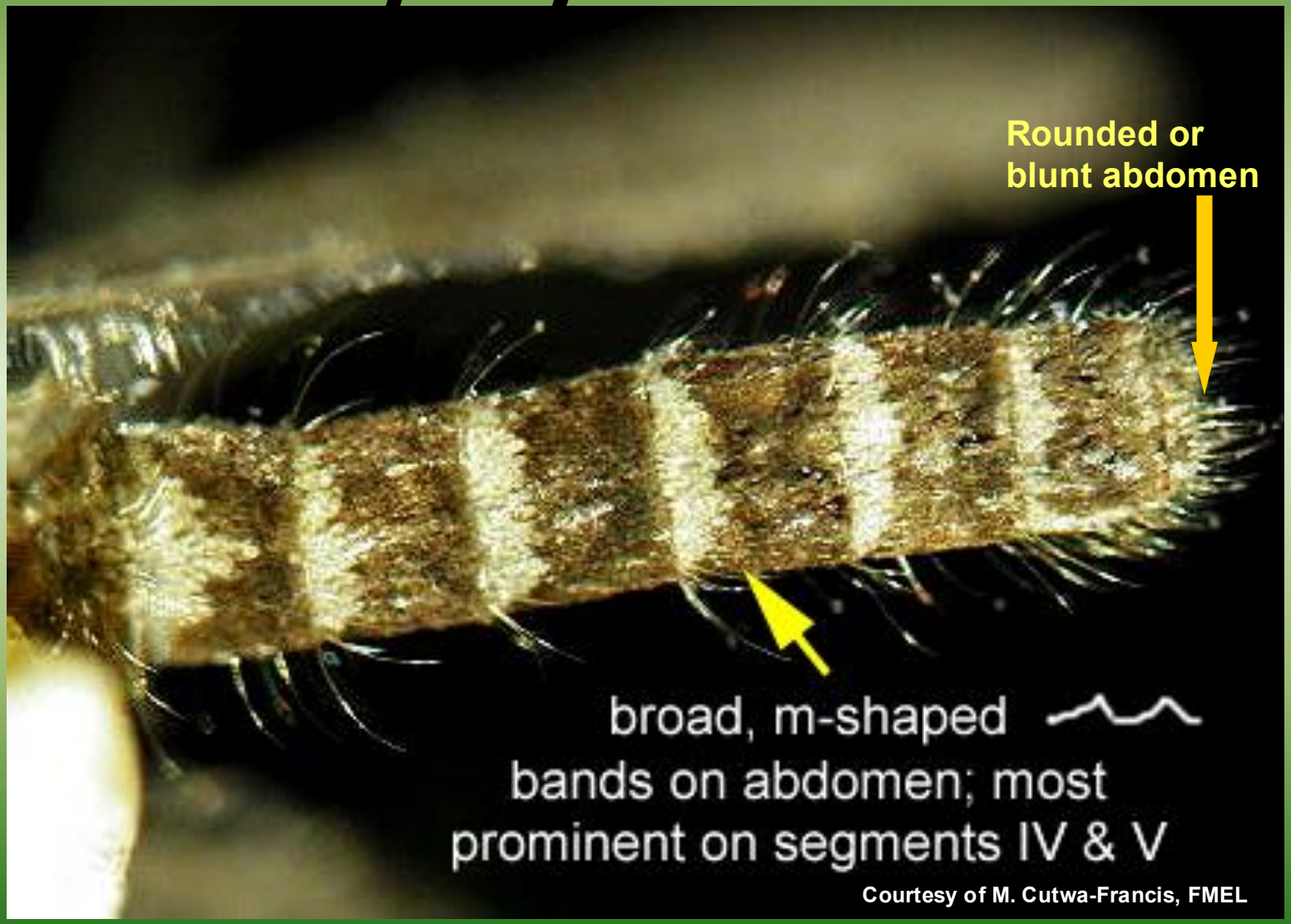
wing scales
narrow

No prespiracular or postspiracular setae

Genus *Culex*


no prespiracular or
postspiracular setae
Spiracle
head
Courtesy of M. Cutwa-Francis, FMEL

Culex pipiens complex or *Cx. quinquefasciatus*



Culex restuans

1. Occiput with narrow decumbent scales
2. Erect forked scales on top of head black
2. Scutum usually with two tiny to small white spots
3. Midlobe of scutellum with long creamy white scales
4. Abdomen with white basal bands that extend across the segments, rarely bands are creamy-yellow
5. Abdominal segments VII-VIII mostly covered in black scales
6. Tarsi with black scales

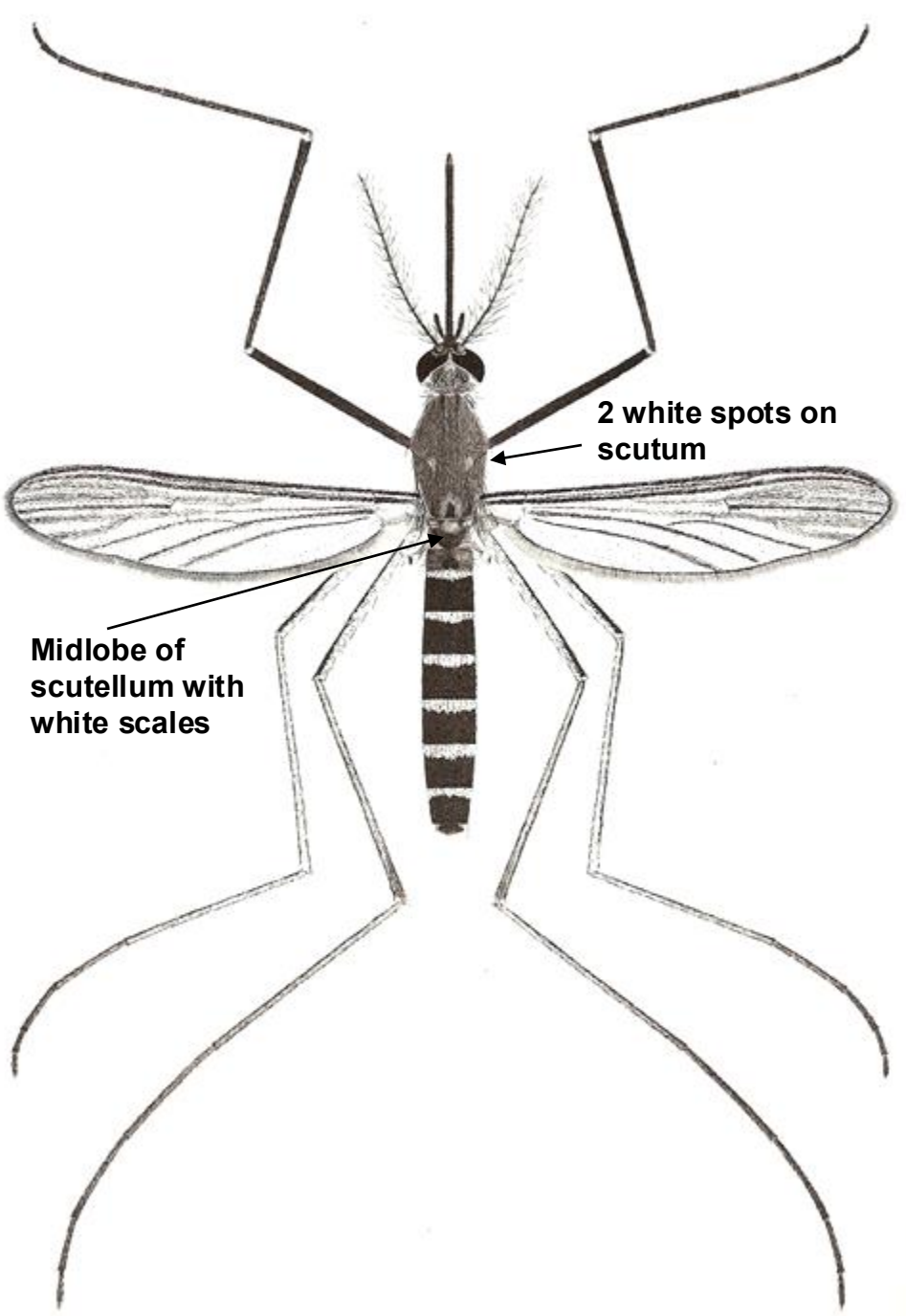


Plate 109. *Culex restuans* Theobald, female.

Good *Culex* habitat

Genus *Orthopodomyia*

1. Tip of abdomen rounded (blunt)
2. Pre- and postspiracular setae absent
3. Wings covered with very large black and white scales, mostly mixed, but several white spots are present
4. Scutum black with very narrow longitudinal stripes of white scales
5. Hindtarsomeres with broad white bands that cross the joints
6. Distinctly black and white species

Orthopodomyia signifera

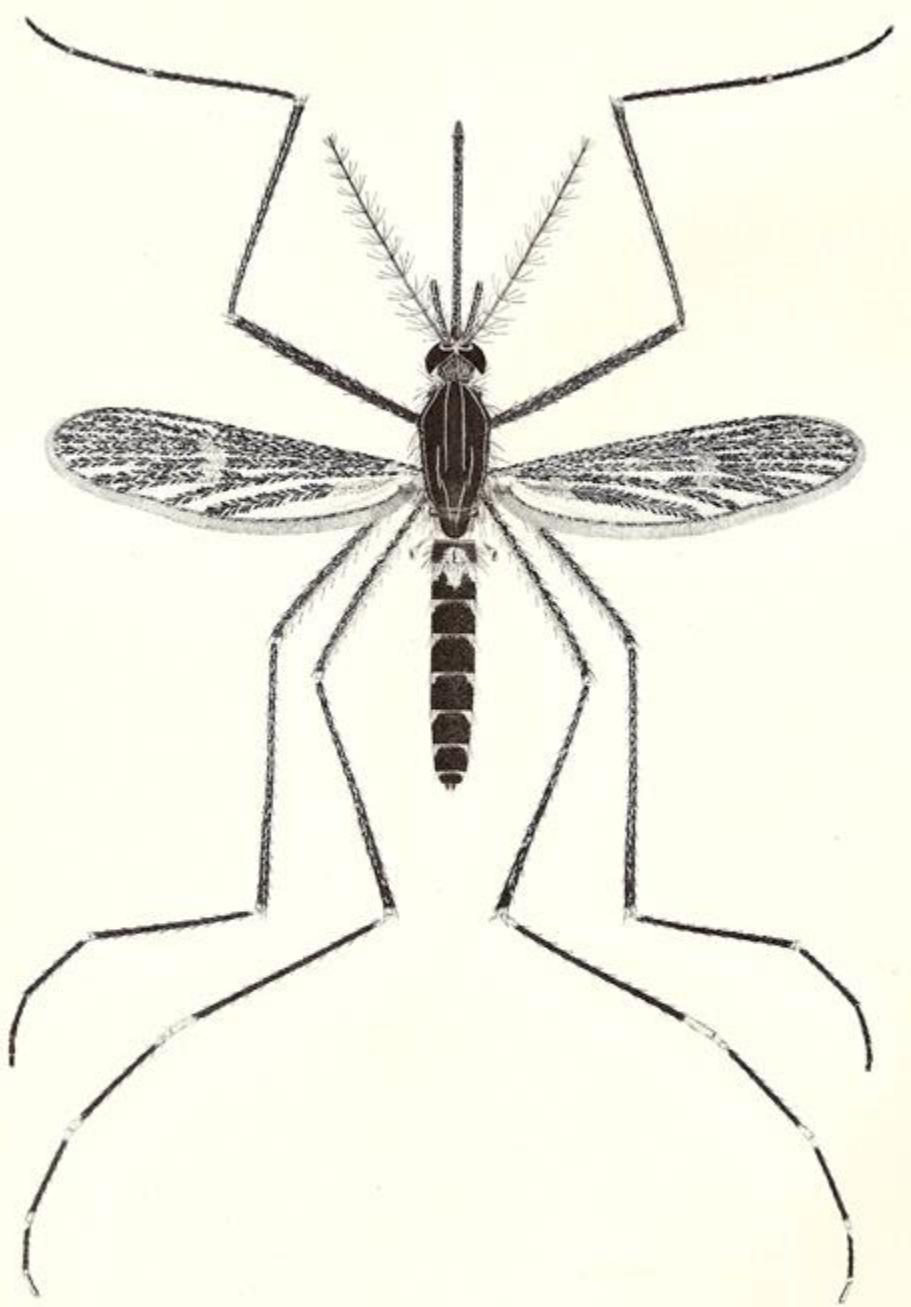
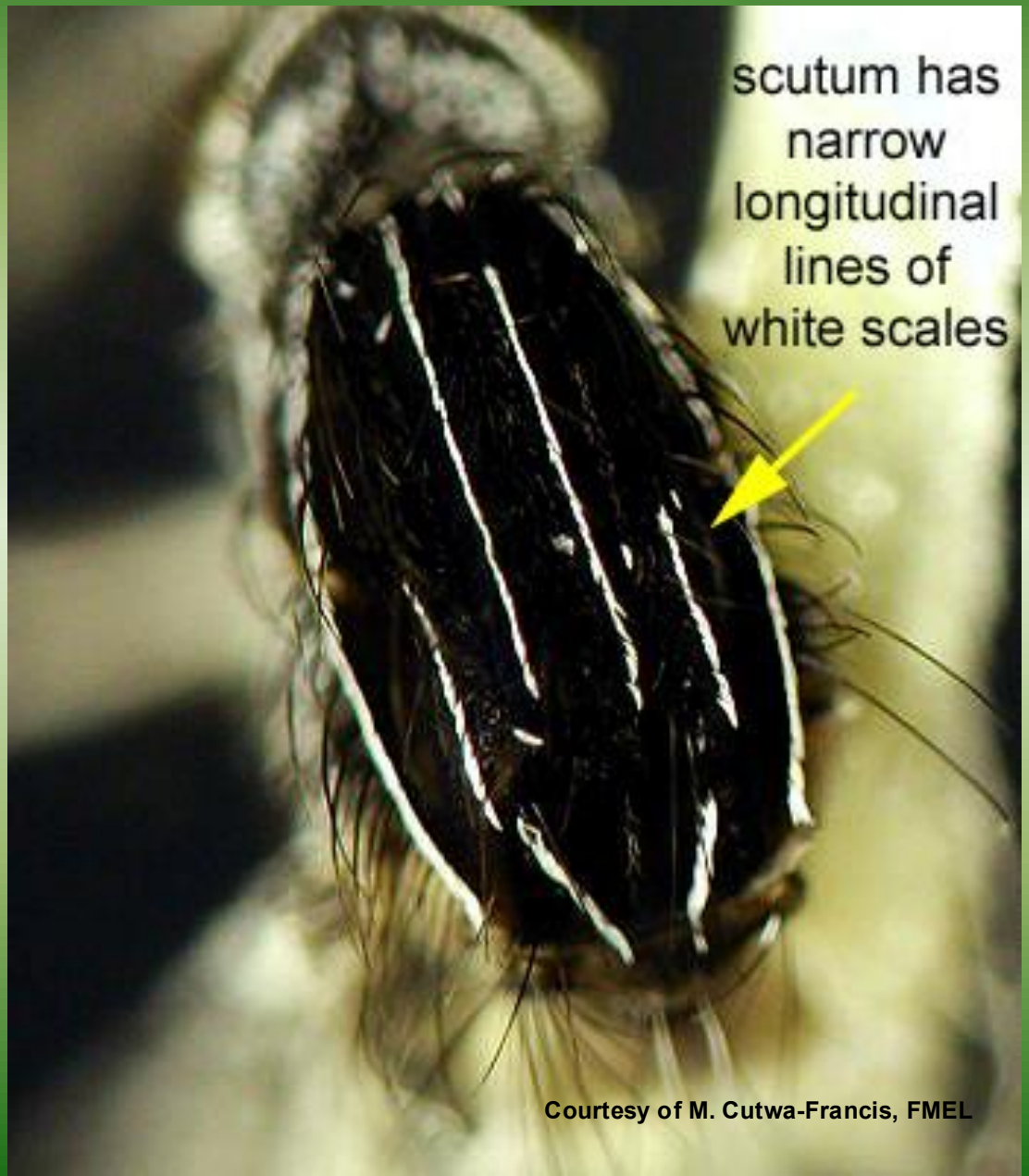


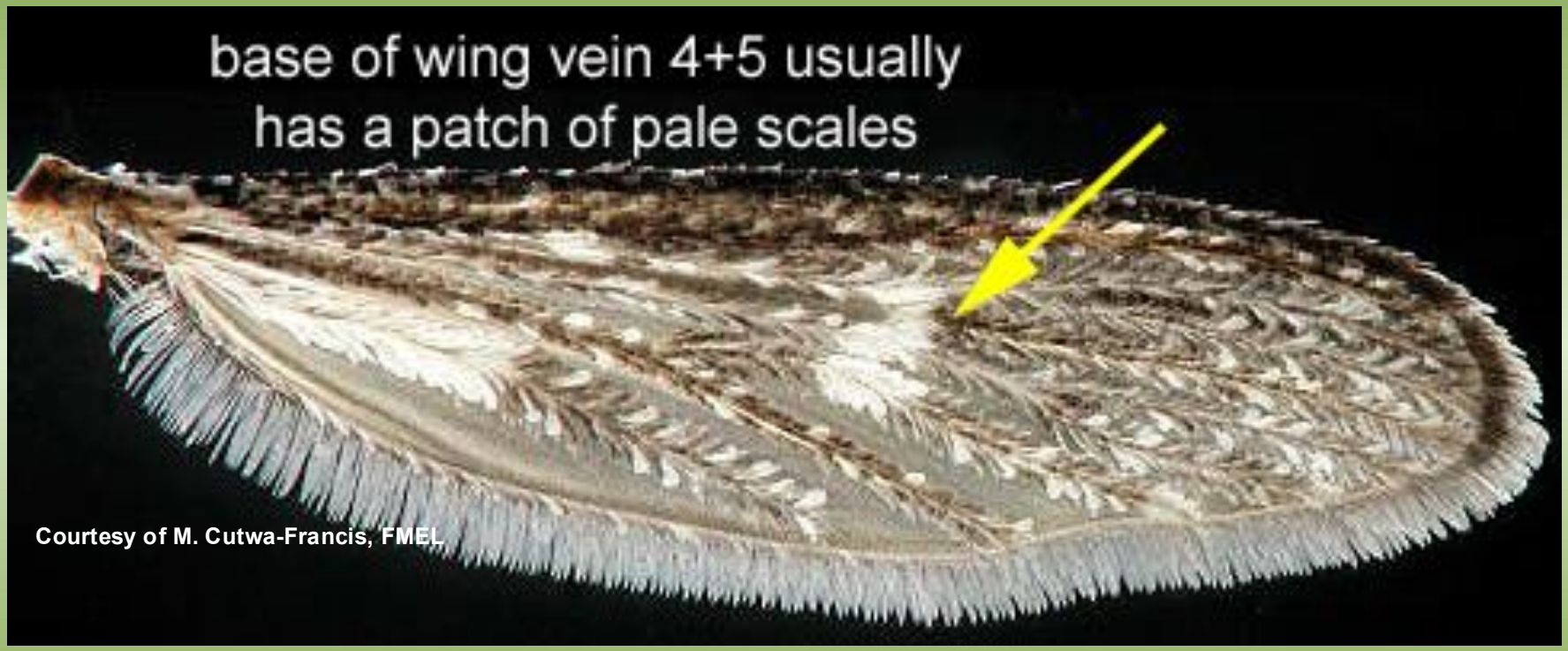
Plate 28. *Orthopodomyia signifera* (Coquillett), female.

Orthopodomyia signifera

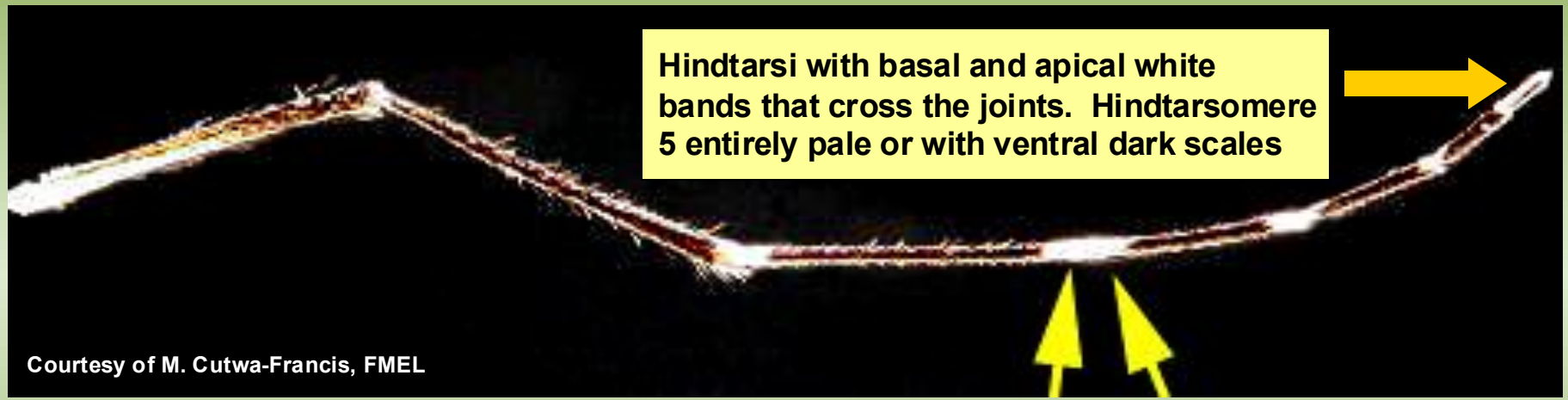


Courtesy of M. Cutwa-Francis, FMEL

Orthopodomyia signifera



Orthopodomyia signifera



Two common *Orthopodomyia* immature habitats

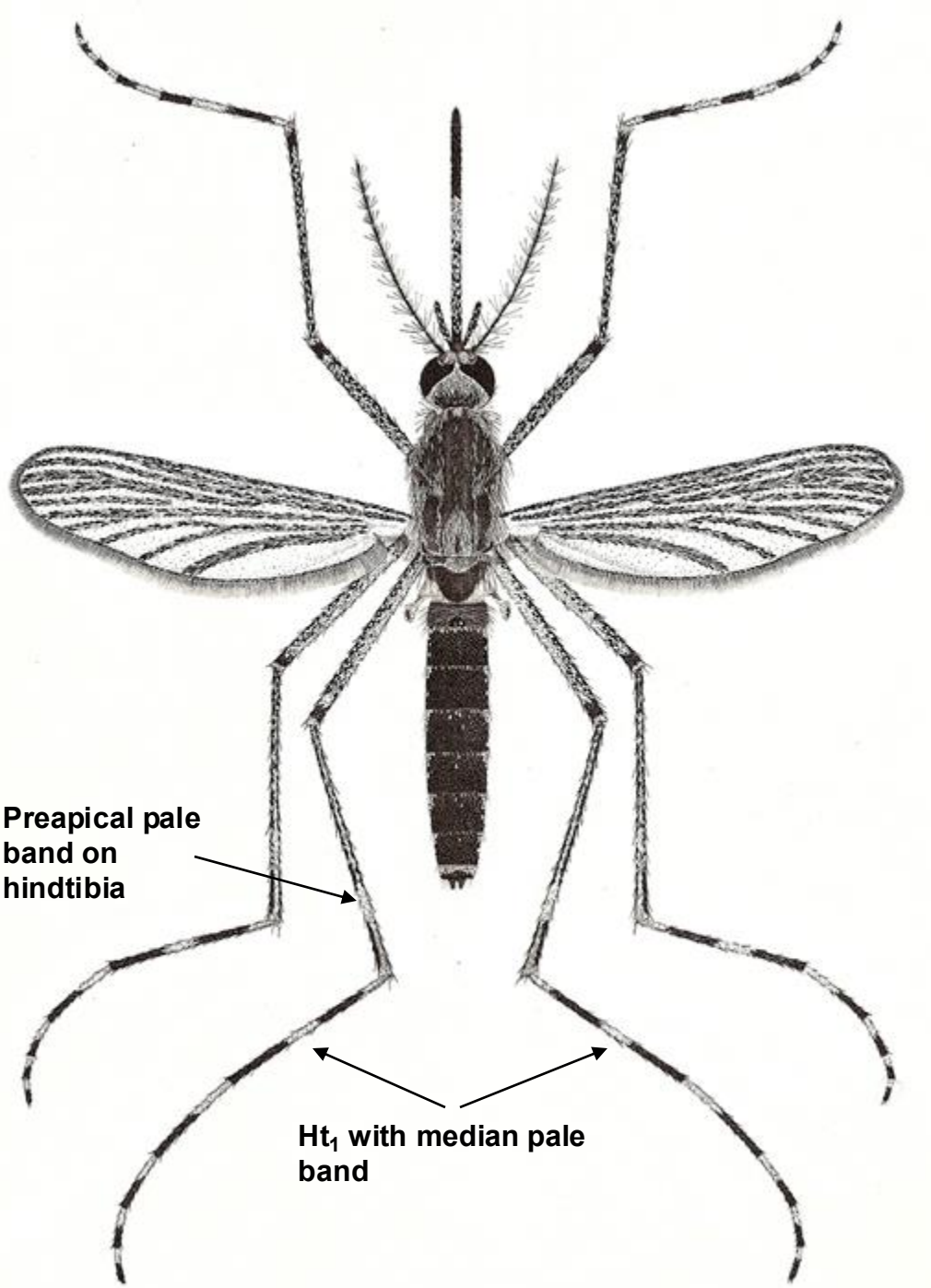
Genus *Coquillettidia*

Only one species of *Coquillettidia* occurs in the U.S. Other species are found in Central and South America and are widespread in the Eastern Hemisphere.

Our species, *Cq. perturbans*, has a very unique life style in which the larvae and pupae insert the breathing tubes (siphon and trumpet, respectively) into plant roots in permanent water and acquire air from the plant tubes (aerenchyma) that transport air to the plants.

Coquillettidia perturbans

1. Tip of abdomen rounded (blunt)
2. Pre- and postspiracular setae absent
3. Palpi approximately 20% length of the proboscis
4. Wings with broad brown and dirty-white scales
5. Hindtarsomeres with broad pale basal bands, hind-tarsomere 1 with a pale band on the middle
6. Hindtibia with preapical pale band
7. Proboscis with extensive pale scales dorsally and ventrally to about 65% of the length



Coquillettidia

CATTAIL MARSH

Genus *Mansonia*

1. Tip of abdomen rounded (blunt)
2. Prespiracular setae absent
3. Postspiracular setae present
4. Broad black and white wing scales
5. Palpi at least 30% length of the proboscis
6. Hindtibia without preapical pale band
7. Hindtarsomere 1 without median pale band

Mansonia titillans

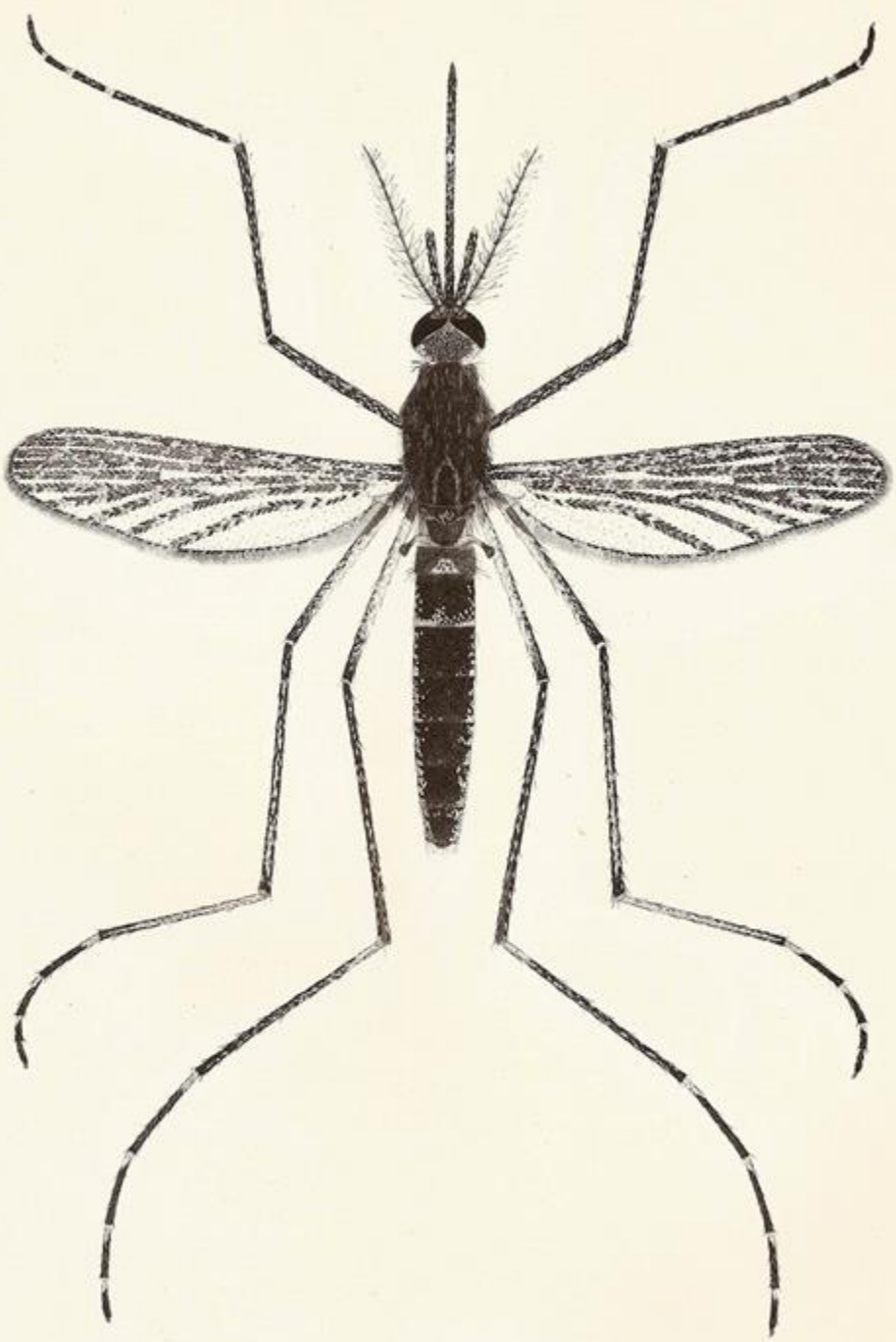
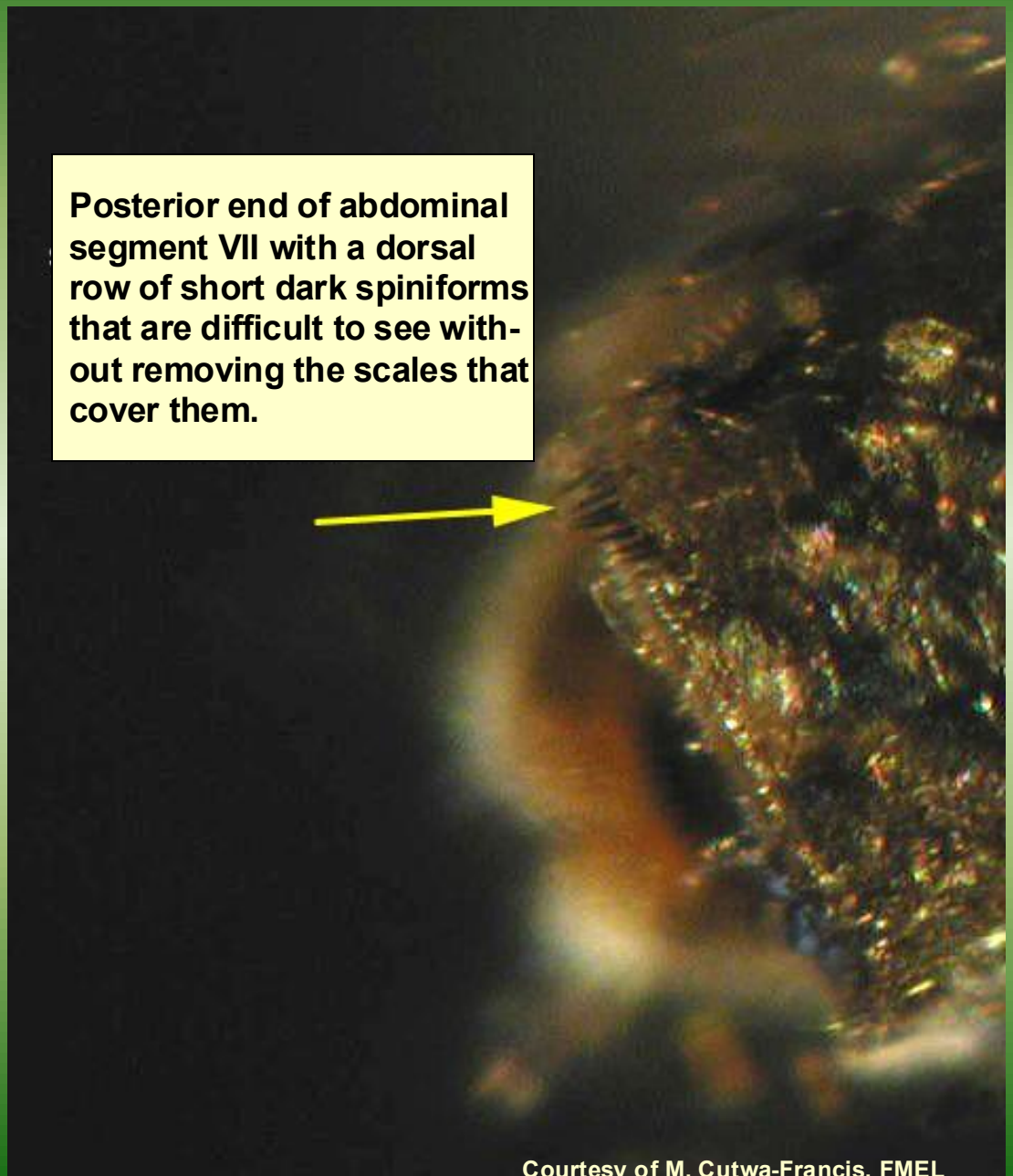


Plate 30. *Mansonia titillans* (Walker), female.

Mansonia titillans



Habitats utilized by immatures of Genus *Mansonia* are the roots of floating plants or emergent plants with roots exposed under the water. Examples are: *Eichhornia crassipes* (water hyacinth), *Pistia stratiodes* (water lettuce), and certain species of rush grasses in the genus *Juncus.*

Eichhornia crassipes

Bruce Harrison, Thailand, 1968

Mansonia dyari and *titillans*

Genus *Mansonia* is a worldwide genus occurring primarily in the tropics and subtropics. In the U.S. there are two species, *Ma. dyari* and *Ma. titillans*, that before 1981 were found only in Florida, southern Georgia and southern Texas. Since that time both have been extending their distributions northward. To date, *Ma. titillans,* has been reported from AL, GA, LA, MS, SC, and northern Texas, while *Ma. dyari* has been reported from GA and SC.

Northern extensions of these two species bode no good as they are vicious biters of humans and large mammals, and WNV has been isolated from *Ma. titillans* in Florida. Other species in both the Eastern and Western Hemispheres have been found positive for a number of different viruses that affect humans.