

Genus: *Aedes*

By Jay Kiser

Aedes

aegypti
albopictus
cinereus
vexans

Anopheles

atropos
barberi
bradleyi
crucians
punctipennis
quadrимaculatus
smaragdinus
walkeri

Caquilleltidia

perturbans

Culex

coronator
erraticus
nigripalpus
peccator
pipiens
quinquefasciatus
restuans
salinarius
tarsalis
territans

Culiseta

inorata
melanura

Ochlerotatus

atlanticus
atropalpus
aurifer
cantator
canadensis
dupreei
fulvus pallens
grossbecki
hendersoni
infirmatus
japonicus
mitchellae
sticticus
stimulans
sollicitans
taeniorhynchus
thibaulti
trivittatus
triseriatus
tormentor

Orthopodomyia

alba
signifera

Psorophora

columbiae
ciliata
cyanescens
discolor
ferox
horrida
howardii
mathesoni

Toxorhynchites

rutilus septentrionalis

Uranotaenia

sapphirina

Wyeomyia

smithii

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Aedes genus

- Pointed abdomen
- Banding on abdomen is basal
- Postspiracular setae present

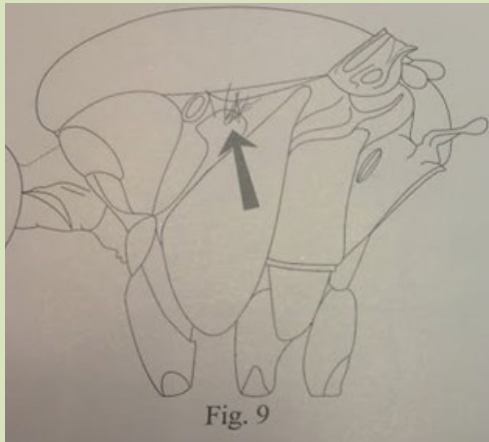


Fig. 9

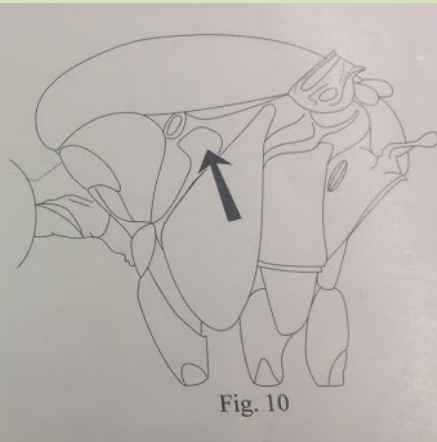
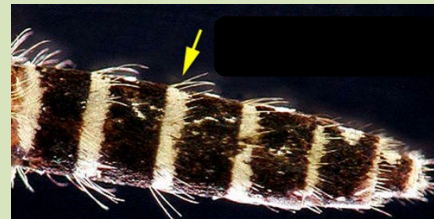


Fig. 10

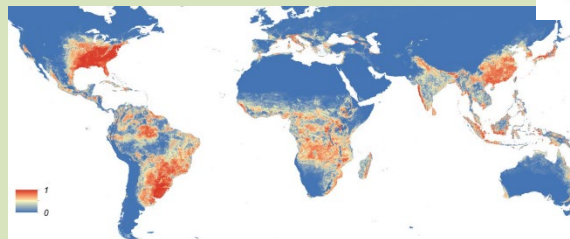
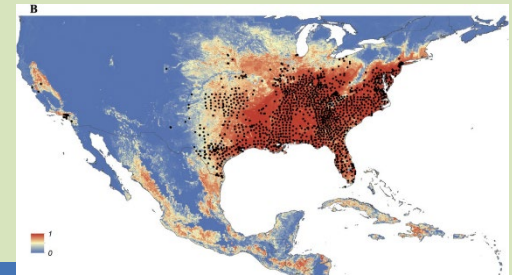


Aedes Species with Tree holes, Rock Pools, and Artificial Containers as Larval Habitats



Aedes albopictus

- Asian Tiger Mosquito
- Larvae found in artificial containers and tree holes
- Invasive species in US since 1989
 - Still spreading northward and westward
- Most common species for complaint calls
- Bridge vector of both WNV and EEEV
- Vector for Zika, Dengue, and Chikungunya
- Mostly daytime activity
- Collected in large numbers from BG traps
- Populations usually peak in summer



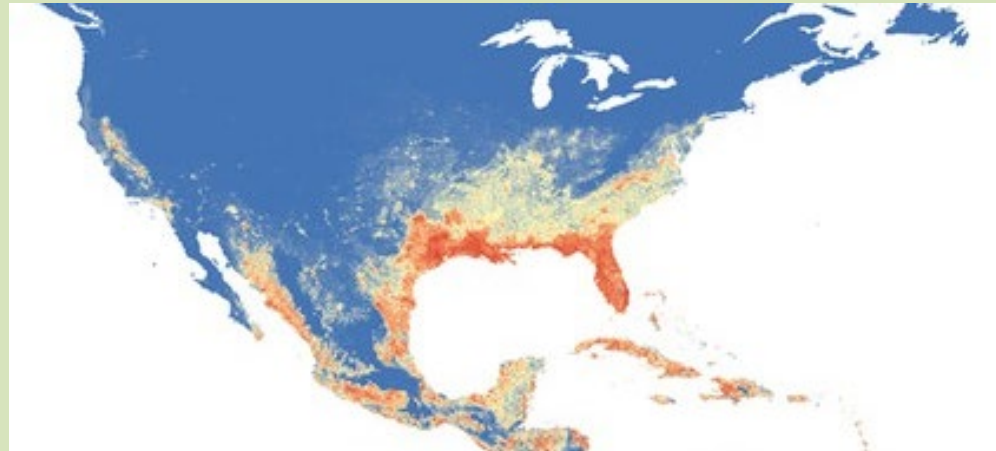
Aedes albopictus

- Black and white scales
- One thin longitudinal stripe down thorax
- Banded legs
 - 5 bands on hind leg,
1 basal band per tarsal
segment



Aedes aegypti

- Yellow Fever Mosquito
- Larvae found in artificial containers and tree holes
- Invasive species in the Americas since European settlement
 - Found in southern US states and small urban pockets along the fringe
- Local populations are rare
- Vector for Zika, Yellow Fever, Dengue, and Chikungunya
- Mostly daytime activity
- Large numbers collected from BG traps
- Populations usually peak in summer



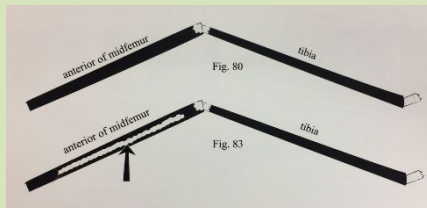
Aedes aegypti



Aedes aegypti

Aedes albopictus

- Very similar looking to *Aedes albopictus*
- Can be more brown overall
- Lyre shape longitudinal stripes on thorax
- Silver scales on clypeus
- Longitudinal stripe down anterior of midfemur
- Ventral abdomen has lots of silvery scales



Aedes japonicus

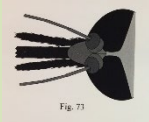


- Asian bush or Asian rock pool mosquito
- Larvae found in artificial containers and rock pools
- Invasive in US since 1998
 - Spreading south and westward
- Bridge vector of WNV, EEEV, and La Crosse
- In Hampton Roads, populations usually peak in spring and fall
- More prevalent in higher altitudes and latitudes
 - Higher populations in Virginia mountains even during summer months



Aedes japonicus

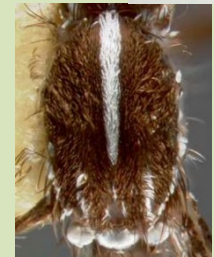
- Can be similar looking to *Aedes albopictus*
- Larger mosquito
- Thorax with golden longitudinal stripes
- Hindtarsomeres 1-3 with banding
 - 4 may have partial banding
- Palpi scales are all black
- White scales on body have a bluish tint



Aedes aegypti



Aedes japonicus

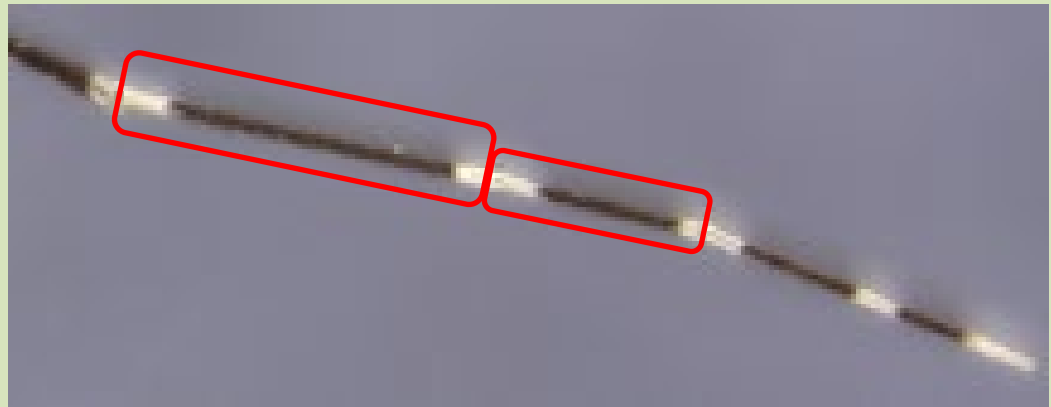
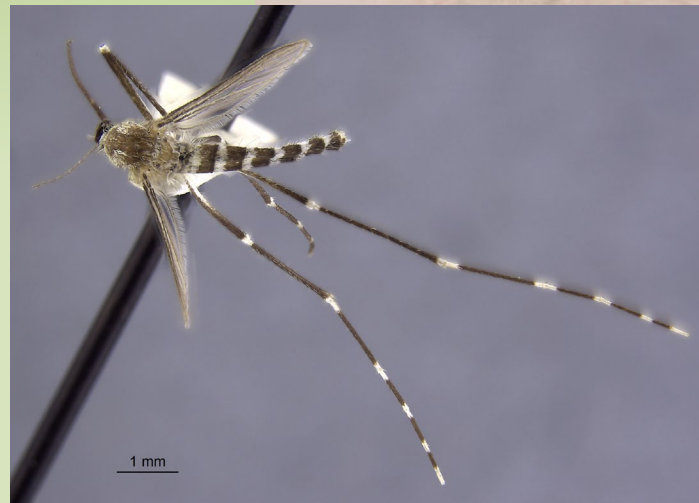


Aedes albopictus

Aedes atropalpus

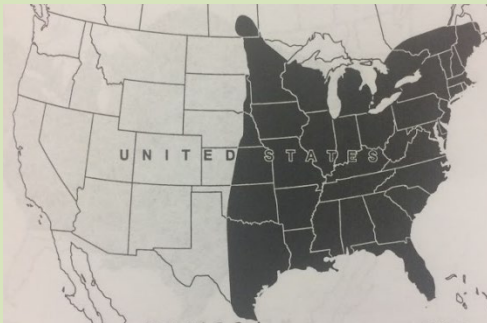


- Thorax: median dark scales with gold/pale scales on lateral area
- Proboscis all dark
- Bands across the joints on hind legs



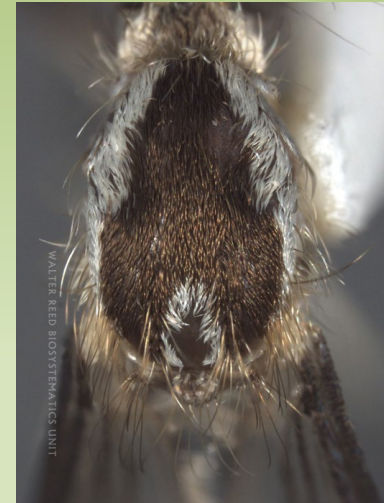
Aedes triseriatus

- Eastern treehole mosquito
- Larvae found in artificial containers and tree holes
- Native to the US
- Vector for La Crosse
 - Bridge vector of WNV
- Populations usually peak in spring and fall
 - Avoid competition with *Aedes albopictus*



Aedes triseriatus

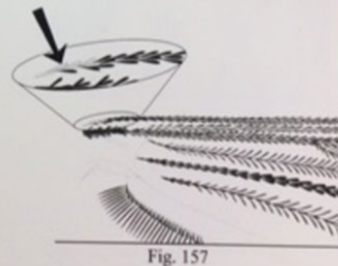
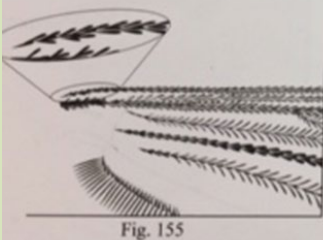
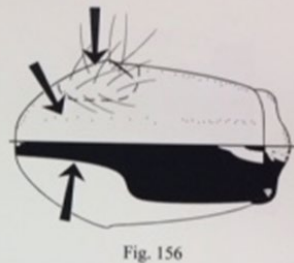
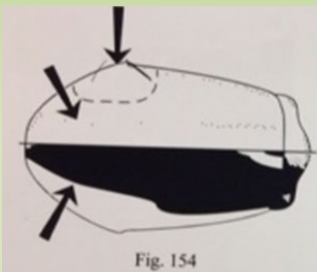
- No banding on legs
 - Legs all black
- Large, brilliant white/silver scales on sides of thorax
- Scutum (top of thorax) with dark median area and lateral silver scales
- Abdomen laterally compressed with incomplete dorsal banding



Aedes hendersoni



- Bird biters
- Native to the US
- Larvae found in tree holes higher in canopy
- Hard to differentiate from adult *Aedes triseriatus*
 - Your jurisdiction may or may not want you to spend time to differentiate
- Lateral pale scale on scutum are more convex instead of concave
- Patch of white scale on base of costal vein on wing



Aedes triseriatus

Aedes hendersoni

Aedes Species with Woodland Pool Larval Habitats



Aedes canadensis

- Woodland Pool Mosquito
- Larvae found in woodland pools and woodland ditches
- Populations peak in spring
 - Larvae can be found in late winter even under ice
 - Possible re-emergence in fall
- Bridge Vector for EEEV and WNV
- Nuisance biter
- Large distribution across the US and Canada



Aedes canadensis

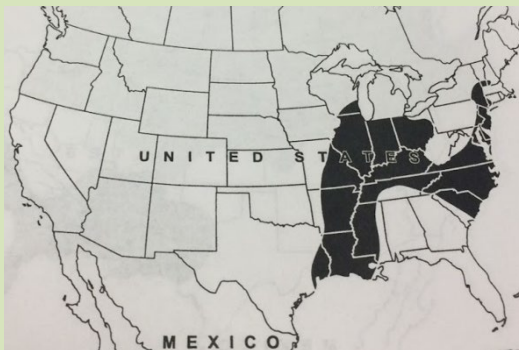


- Hindleg has banding across the joints
 - Two subspecies defined by width of banding
- Scutum solid brown
 - Important for comparison
- Abdomen
 - Dorsal mostly dark scales
 - Bands wide on sides
 - Ventral mostly pale scales

Aedes grossbecki

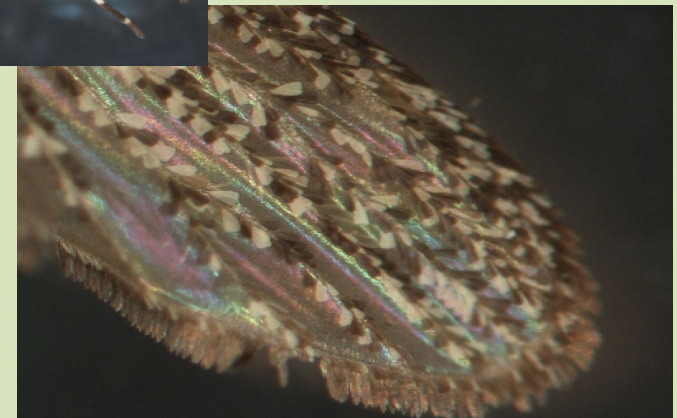


- Grossbeck's speckled mosquito
- Populations peak in spring
- Larvae found in woodland pools and woodland ditches
- Uncommon in Hampton Roads
 - Found in Hampton last 5 years
 - Found in Suffolk early 2000's
 - More common in northern and western Virginia
- Distribution
 - Mid-Atlantic and Mississippi River states



Aedes grossbecki

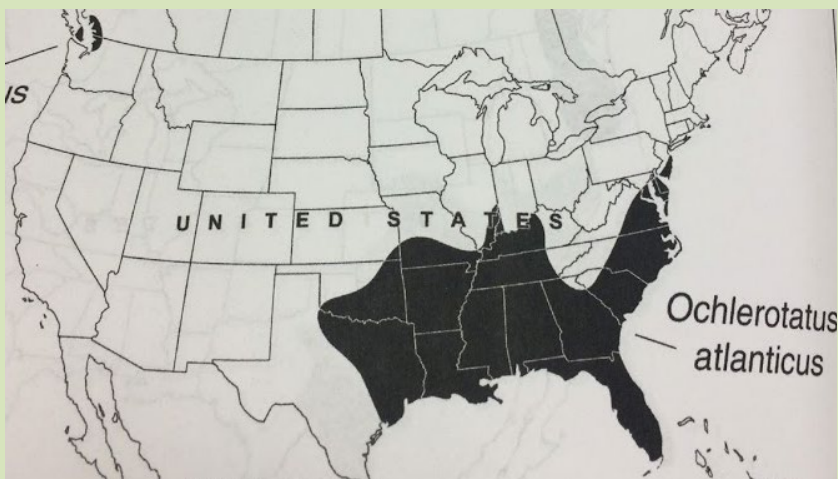
- Broad, truncate, salt and pepper scales on wings
- Hindtarsomeres with broad basal banding
- Scutum
 - Dark brown median longitudinal area
 - Prominent white lateral scales
- No banding on the proboscis



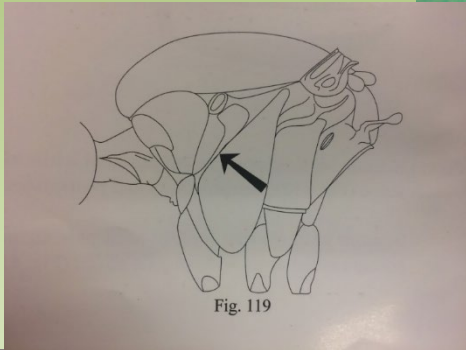
Aedes atlanticus



- Woodland floodwater mosquito
- Populations typically peak in Summer or Fall
 - After large rain events
- Larvae found in woodland pools and woodland ditches
- Can be a bridge-vector of WNV or EEEV
- Aggressive biters
 - Daytime in woods but not in open sunlight
- Distribution in Atlantic coast and southern states



Aedes atlanticus



- White longitudinal stripe down scutum
 - Stripe continues as a mohawk on the head
- Legs and proboscis are unbanded
- Abdomen banding is less dorsal and more lateral triangles
 - With white ventral
- Subspiracular area without scales

Aedes tormentor

- Very similar looking (morphological characteristics in adult stage) to *Aedes atlanticus*
- Both share similar distribution, habitats, and behaviors
- Your jurisdiction may or may not want you to spend time to differentiate
- Difference in head setae
 - *Aedes tormentor*: Black lateral patches on head (next to mohawk) don't reach eyes
 - 2-3 rows of narrow scales border the eyes
- Slight difference is longitudinal stripe
 - *Aedes tormentor* has pinch at sub-apical end

Aedes tormentor

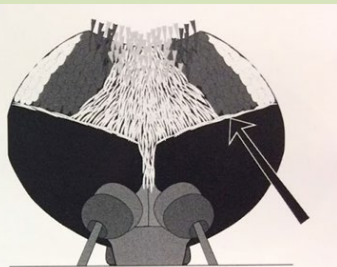


Fig. 126

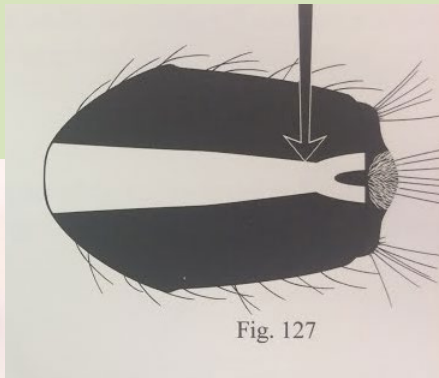


Fig. 127

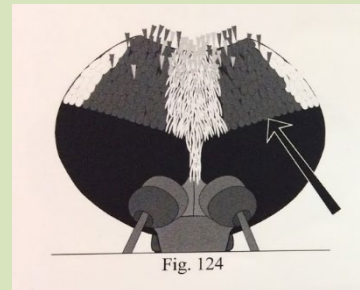


Fig. 124

Aedes atlanticus

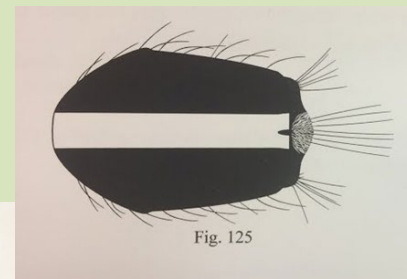
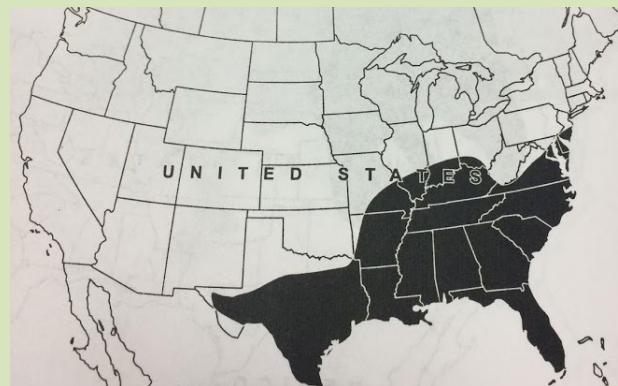


Fig. 125

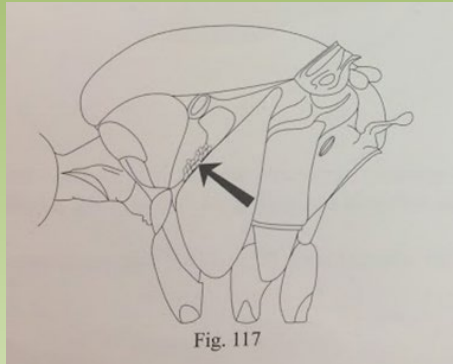
Aedes infirmatus

- Silverback mosquito
- Populations typically peak in Summer or Fall
 - After large rain events
- Larvae found in woodland pools and woodland ditches
- Can be a bridge-vector of WNV or EEEV
- Aggressive biters
 - Daytime in woods but not in open sunlight
- Distribution in Atlantic coast and southern states

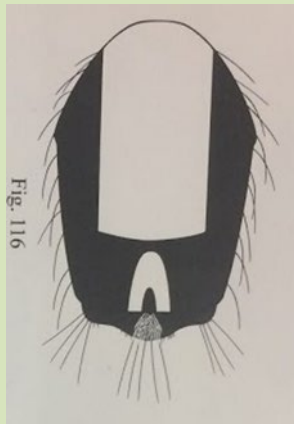




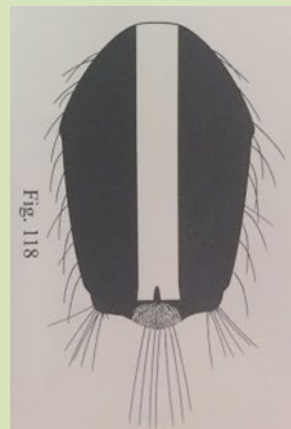
Aedes infirmatus



- Very similar to *Aedes atlanticus*
 - Morphologically and ecologically
- Wider white longitudinal stripe 2/3 down scutum
 - Wide stripe continues on head
- Legs and proboscis are unbanded
- Abdomen banding is less dorsal and more lateral triangles
 - With white ventral
- Subspiracular area with scales



Aedes infirmatus



Aedes atlanticus



Aedes Species with Other Larval Habitats



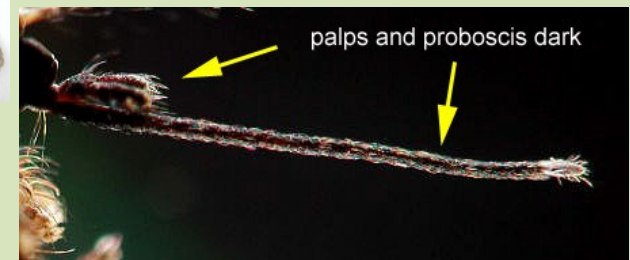
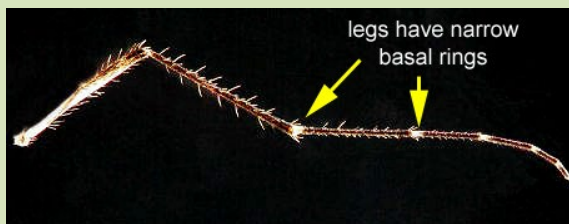
Aedes vexans

- Inland floodwater mosquito
- Larvae found in flooded areas with sun exposure
 - Ditches and field depressions
- Populations can be seen in spring, summer, and/or fall
 - Mostly after a large rain event
- Can be a bridge vector for WNV and EEEV
- Distribution across contiguous US and most of the Canada



Aedes vexans

- Hindtarsomeres with narrow basal banding
- No banding on proboscis
- Basal banding on abdomen will have median notch



Aedes cantator



- Brown salt marsh mosquito
- Larvae found in brackish waters on edges of marsh
- Population peaks in spring
- Can be a bridge vector of EEEV in northern states
- Distribution along mid and northern Atlantic states
 - Some inland populations as well



Aedes cantator

- Shares many morphological characteristics with *Aedes vexans*
 - No banding on proboscis
 - Hindtarsomeres with narrow basal banding
- Overall more brownish-gold than *Aedes vexans*
- Basal banding on abdomen without median notch
 - Last two apical segments are entirely pale
- Ventral abdomen entirely pale
 - *Aedes vexans* will have banding of pale and dark scales



Aedes cantator



Aedes vexans



Aedes sollicitans

- Eastern saltmarsh mosquito
- Larvae found in brackish waters on edges of marsh
 - Tidal flood dependent
- Population peaks in summer
- Can be a bridge vector of EEEV and WNV
- Distribution along coastlines of eastern US and gulf states
 - Inland populations as well



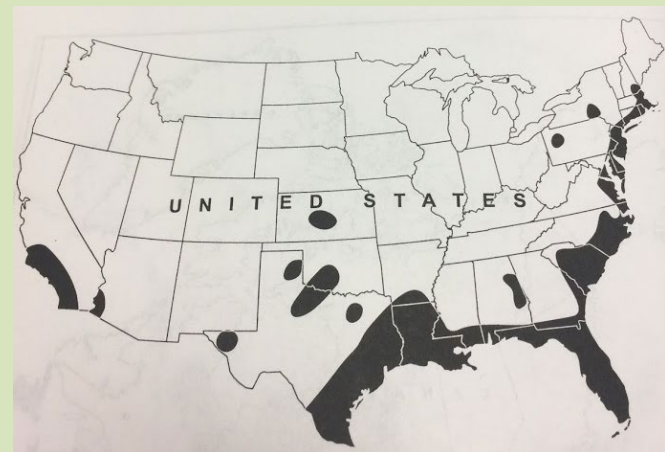
Aedes sollicitans

- Banded proboscis
- Hindtarsomeres with wide basal banding
 - Hindtarsomere 1 with median pale band
- Wings speckled with dark and pale scales
- Thorax with white scales on sides and scutum with yellow scales
- Median longitudinal stripe down dorsal abdomen segments
 - Not in Harrison et al Key

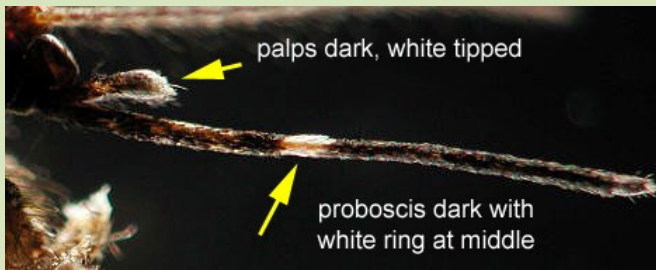
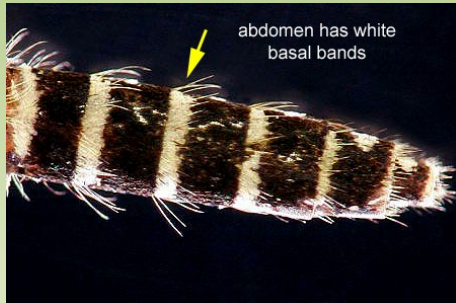


Aedes taeniorhynchus

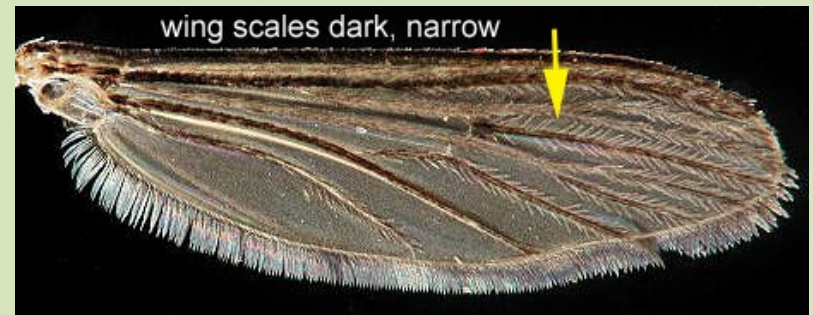
- Black salt marsh mosquito
- Larvae found in brackish waters on edges of marsh
 - Tidal flood dependent
- Population peaks in summer
- Can be a bridge vector of EEEV and WNV
- Distribution along coastlines of eastern US and gulf states
 - Some inland and southwest populations as well



Aedes taeniorhynchus

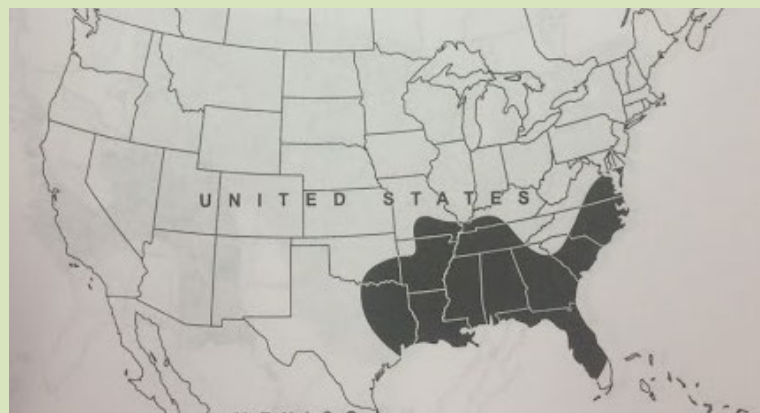


- Proboscis with narrow band
- Hindtarsomeres with basal banding
 - No median pale band on hindtarsomere 1
- Wings scales are all dark
- Abdomen with basal bands lacking median spots or longitudinal stripe
 - White scales along side of abdomen
- Thorax with white scales on sides and scutum with brown scales



Aedes fulvus pallens

- Eastern yellow and black mosquito
- Larvae found in woodland pools along side of *Aedes atlanticus*
- Population peaks in summer
- Does not transmit human pathogens
- Distribution in southeastern US, excluding Appalachian Mountains



Aedes fulvus pallens



- Large golden-orange mosquito
 - At a quick glance, looks like a mosquito with no scales
- 2 large posterolateral black spots on scutum
- Legs, proboscis, and palps are yellow with black tips



Other *Aedes*

List of *Aedes* species found in Virginia but not discussed in this presentation

- *Aedes atropalpus*
 - *Aedes aurifer*
 - *Aedes cinereus*
 - *Aedes dupreei*
- *Aedes mitchellae*
- *Aedes sticticus*
- *Aedes stimulans*
- *Aedes thibaulti*
- *Aedes trivittatus*
- Even though these are rare, they can be found in Hampton Roads
- City of Suffolk has seen all *Aedes* species in last 10 years
 - Expect for
 - *Aedes grossbecki*
 - *Aedes stimulans*