

# *Culex*



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# Species covered

- *tarsalis*
- *coronator* (2016)
- *territans*
- *salinarius*
- *nigripalpus* (2017)
- *restuans*
- *pipiens* x *quinquefasciatus*
- *erraticus*



# Culex Bionomics

- Overwinter as adults
- Lay eggs in rafts of 100-200, multivoltine (multiple broods/yr)
- Breed mostly in FW or brackish (*Cx. sal*)
  - some prefer putrid, stagnant water with heavy organic material (*Cx. pip/res*)
  - some prefer ponds with algal mats or other surface vegetation (*Cx. err*)
  - some very opportunistic (*Cx. cor*, *Cx. nig*)
- Many are indiscriminate feeders
  - primarily avian and mammalian
- Typically nocturnal biters
- Found mostly in CDC & gravid traps
- Vectors for a variety of diseases
  - WNV, SLE, EEE, WEE

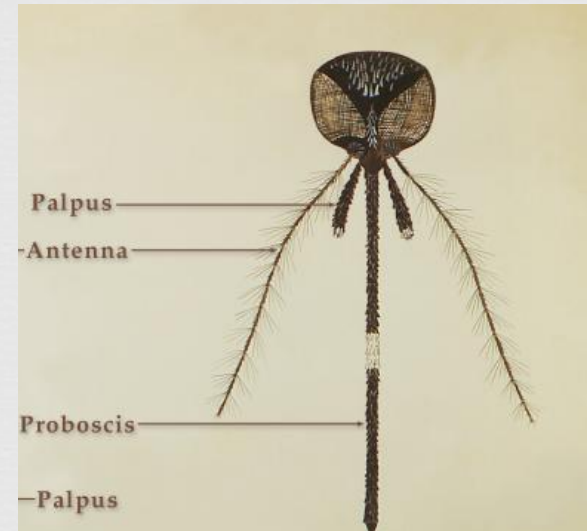




# Common Adult Morphology

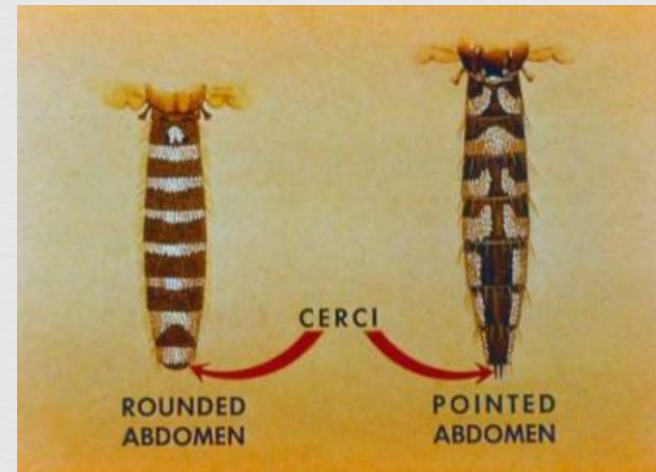
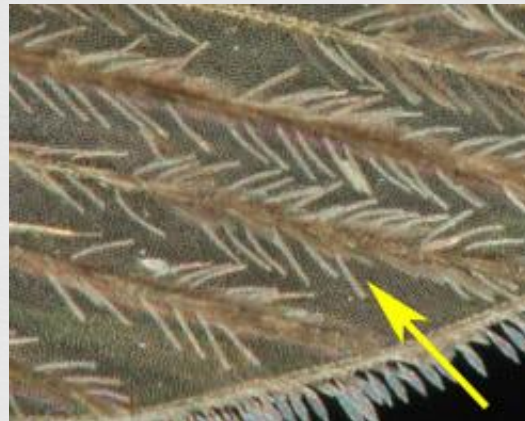


- ❑ Palpi much shorter than antennae (not *An.* or *Tx.*)
- ❑ Generally small, dark yellowish-brown
- ❑ Blunt, rounded abdomen (not *Ae.* or *Ps.*)  
w/ varied bands
- ❑ Wing scales narrow and usually all dark  
(not *Cq.*, *Ms.*, *Or.*)



broad

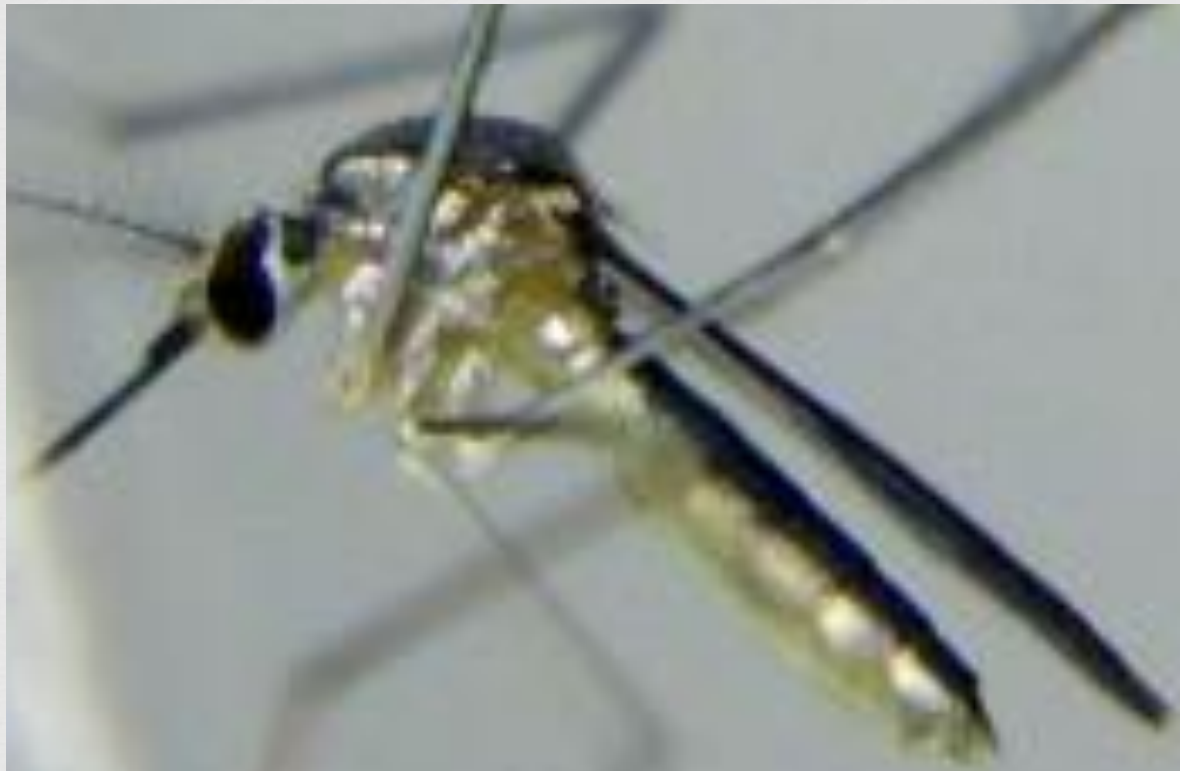
narrow



# Separating from other genera



- Distinguished from *Wyeomyia* (rare) whose abdomen is dorsally dark and ventrally pale – this character not listed in couplet 3, pg 29



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  - ❑ Cx. - postspiracular setae absent & abdomen blunt





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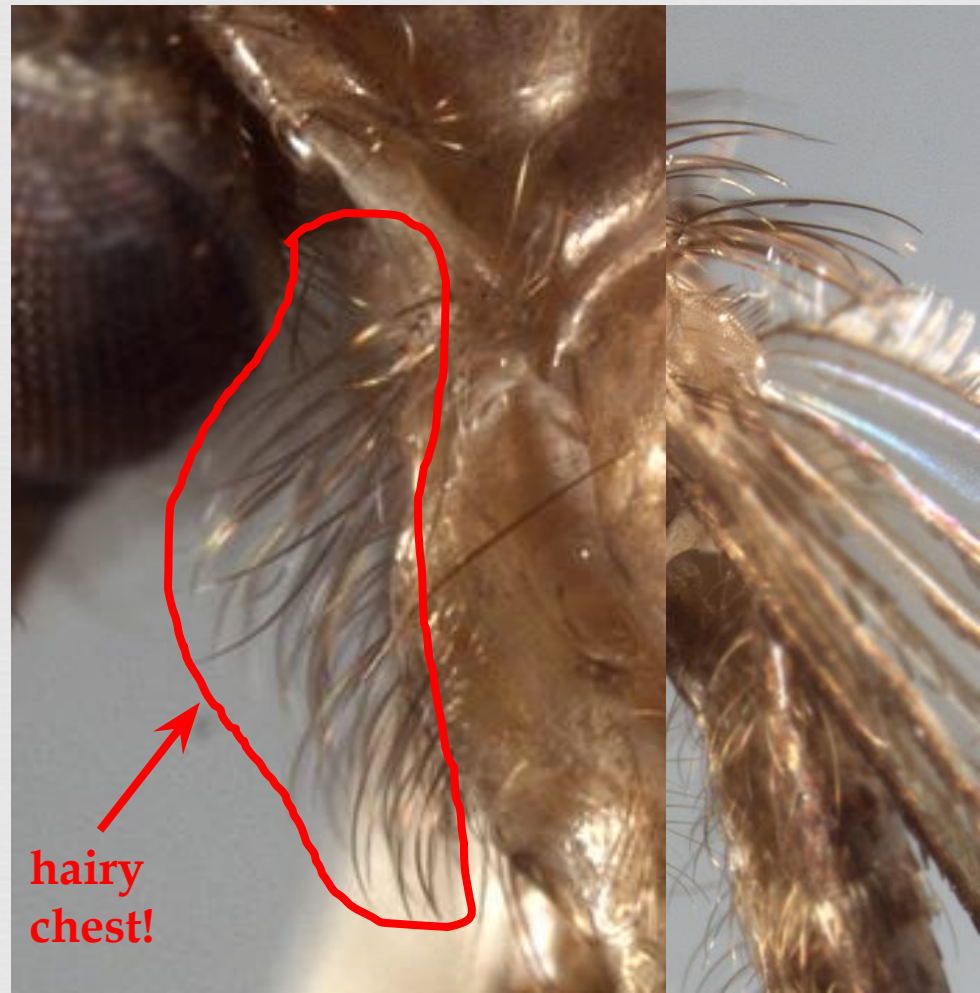
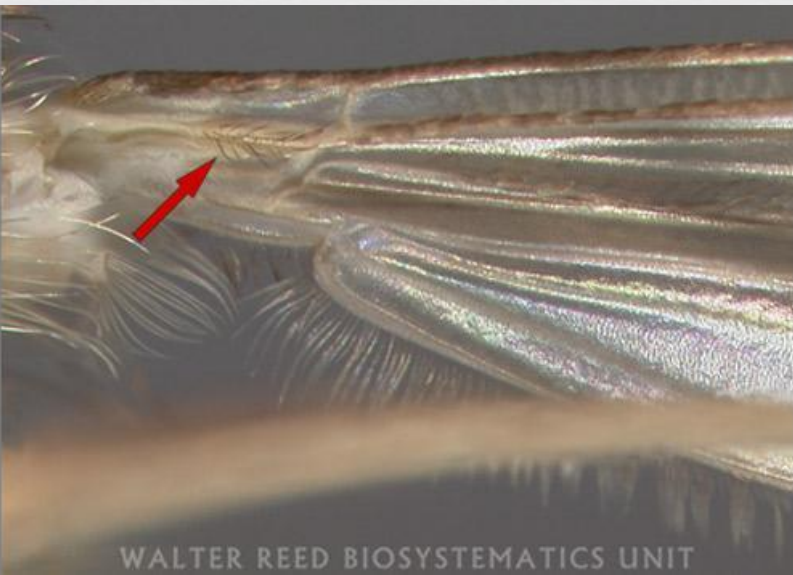
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- ❑ Distinguished from *Uranotaenia*
  - ❑ Cx. lacks metallic scales



# Separating from other genera



- Distinguished from *Culiseta*
  - no setae under wing (think armpit) or prespiracular area (check book)
  - Cx. proboscis will be shorter
  - Cx. will not have a lot of setae on the basisternum/front coxa



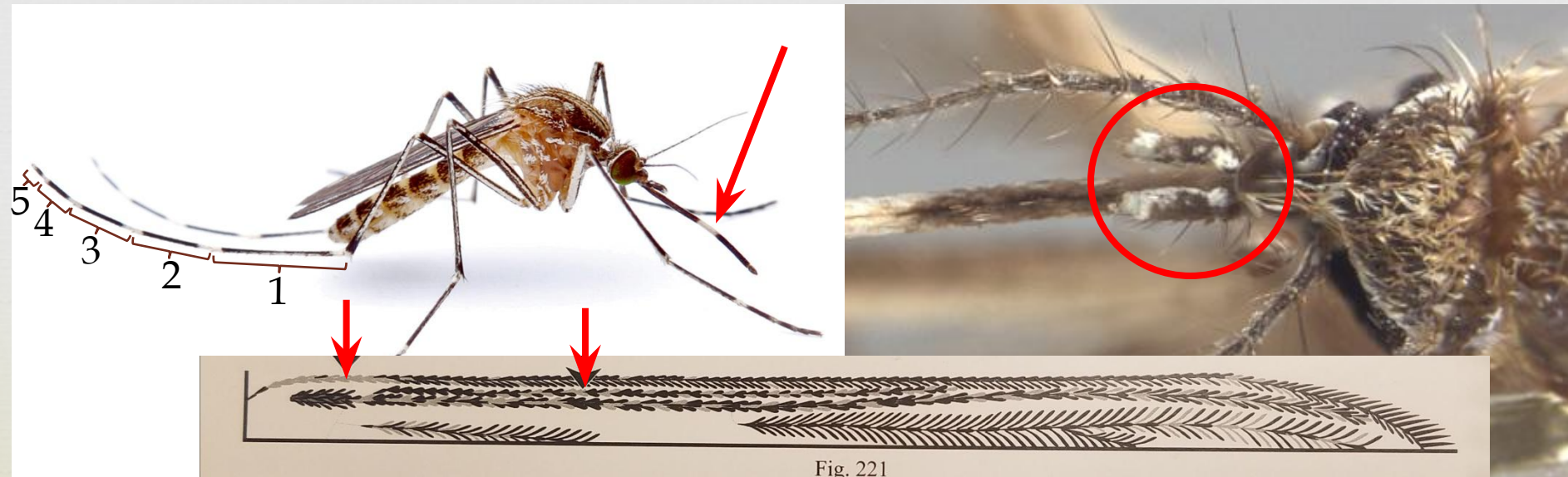


# *Cx. tarsalis*



- Hindtarsomeres 1-5 with apical/basal pale bands
- Proboscis with distinct pale band
- Palpi with pale scales
- Costal & subcostal veins with some pale scales

In other words:  
banding across the leg joints



# *Cx. coronator*

- Hindtarsomeres 1-5 banded similar to *Cx. tarsalis*
- Proboscis with median ventral pale patch – not a band
- Palpi without pale scales
- Costal and subcostal veins all dark

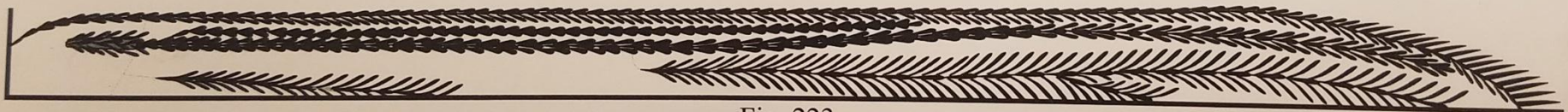
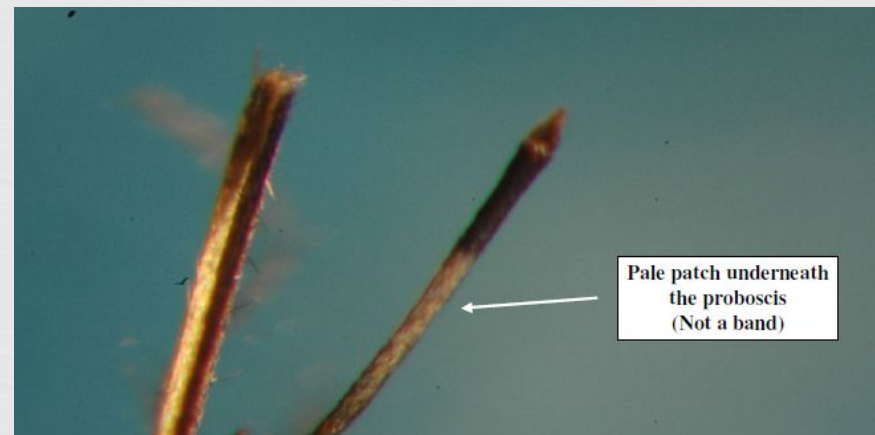


Fig. 223

# *Cx. territans*



- Hindtarsomeres and proboscis not banded
- Abdominal terga with pale apical bands

apical means away!



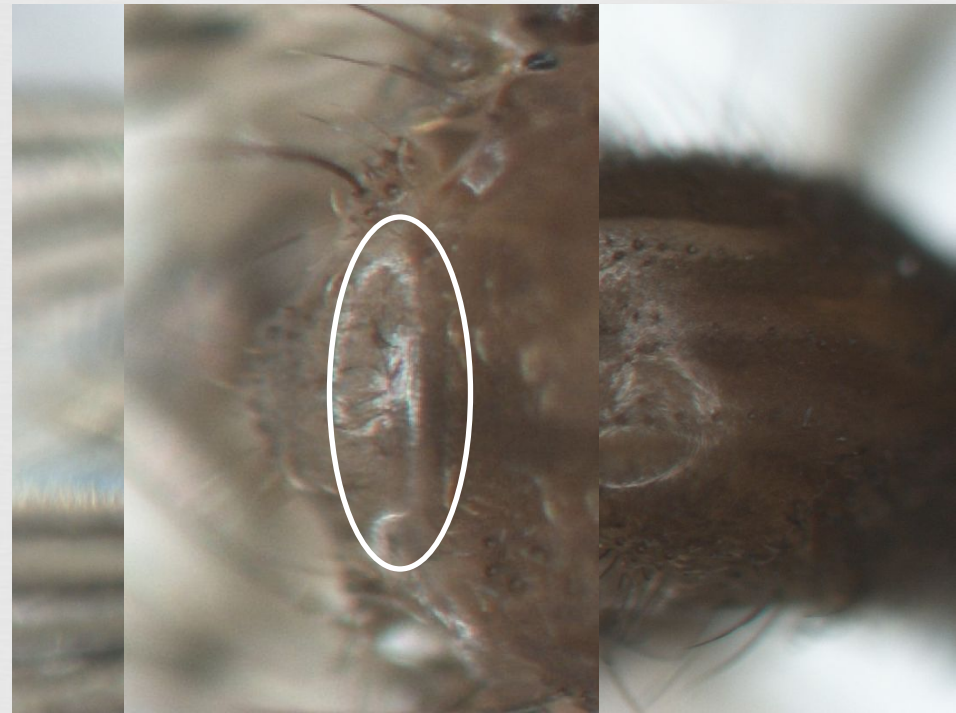


# *Cx. salinarius*



- Hindtarsomeres and proboscis not banded
- Abdominal terga with narrow or indistinct pale basal bands
- Mid-lobe of scutellum with basal patch of dark brown scales

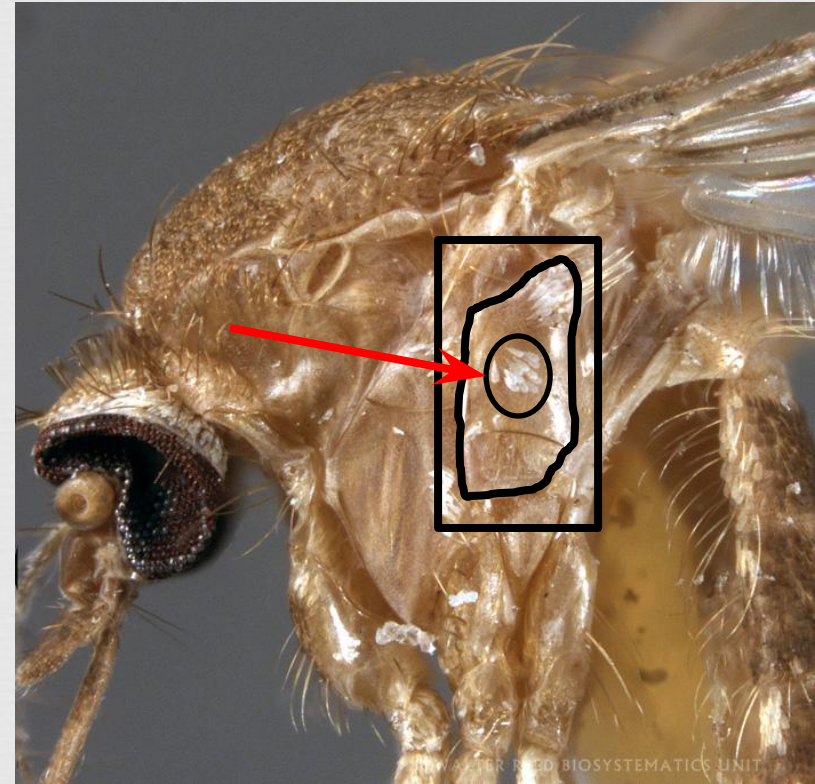
basal means body!



# *Cx. salinarius*



- Last 2 abdominal segments nearly covered with gold scales
- Mesepimeron with middle patch of white scales





# *Cx. nigripalpus*

- VERY similar to *Cx. salinarius*
  - Hindtarsomeres and proboscis not banded
  - Abdominal terga with narrow/indistinct basal bands
  - Mid-lobe of scutellum with basal patch of dark brown scales



Can you  
spot the 1<sup>st</sup>  
difference?





# *Cx. nigripalpus*



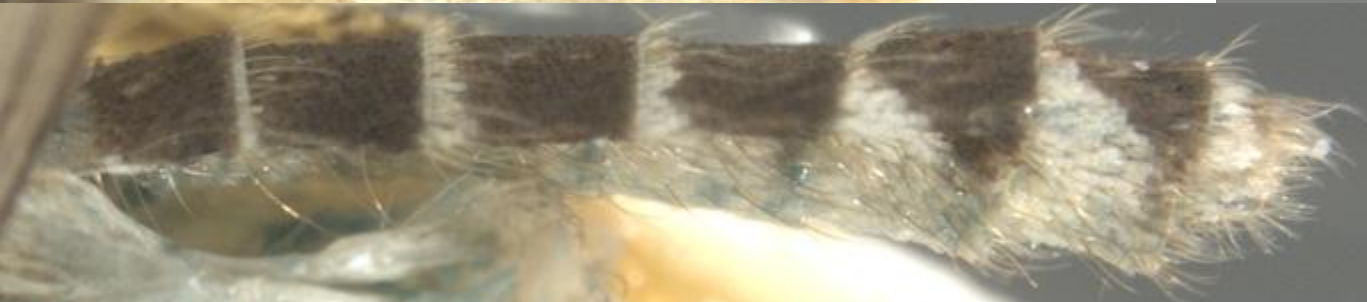
□ Difference #1

□ Abdominal segment 7 mostly dark scaled

# *Cx. nigripalpus*

## □ Difference #2

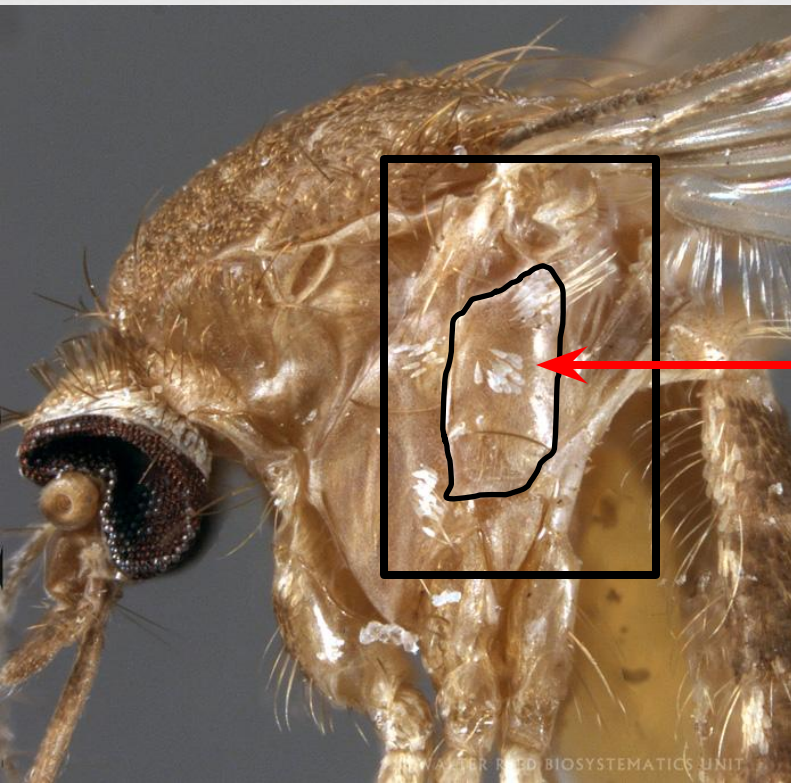
- Abdominal segments 5-7 with large basolateral white patches increasing in size distally



# *Cx. nigripalpus*



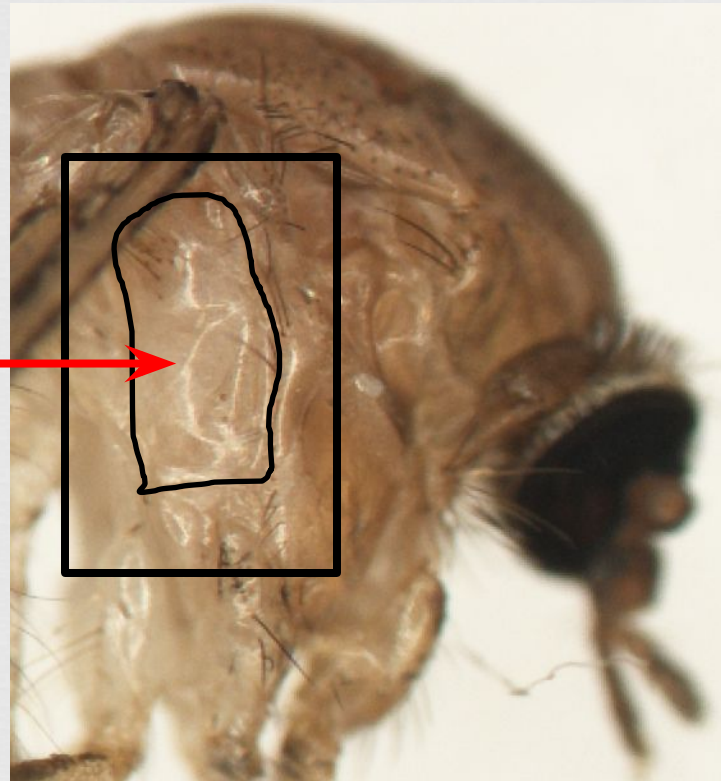
- Difference #3 (last one!)
  - Mesepimeron without middle patch of white scales



(check both sides!)

*Cx. sal*  
with  
patch

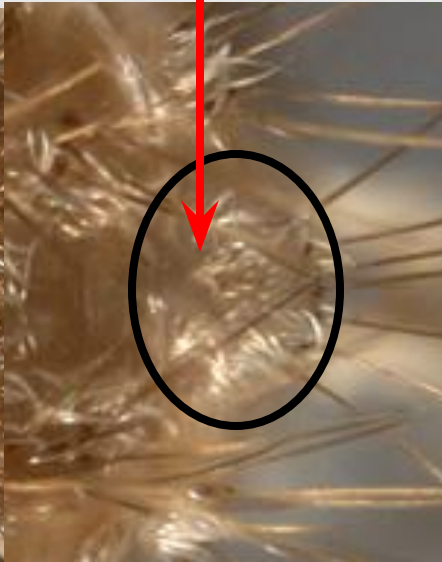
*Cx. nig*  
without  
patch





# *Cx. restuans*

- Hindtarsomeres and proboscis not banded
- Abdominal terga with distinct basal pale bands
- Scutellum mid-lobe w/ basal patch of white/cream color scales



# *Cx. restuans*



- Top of head with black erect forked scales on vertex + occiput
- Scutum w/ fine dark brown scales and usually 2 small round white spots





# *Cx. pipiens x quinquefasciatus*



- Hybrid (*Cx. pipiens* complex)
- VERY similar to *Cx. restuans*
  - Hindtarsomeres and proboscis not banded
  - Scutellum mid-lobe w/ basal patch of white scales
  - Abdominal terga with distinct basal pale bands

HOWEVER...



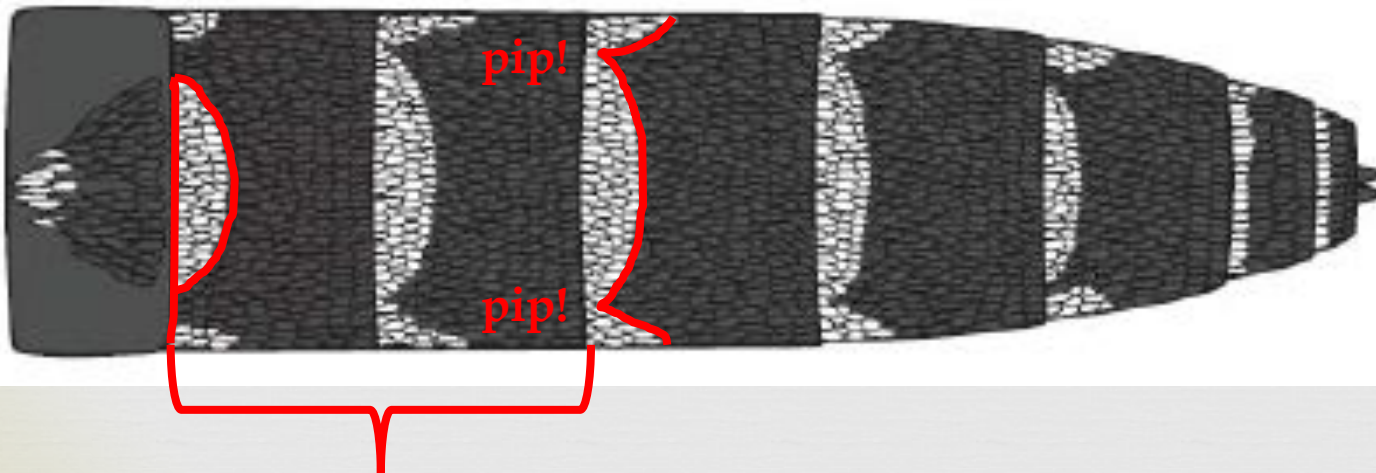
University of Florida



# *Cx. pipiens x quinquefasciatus*



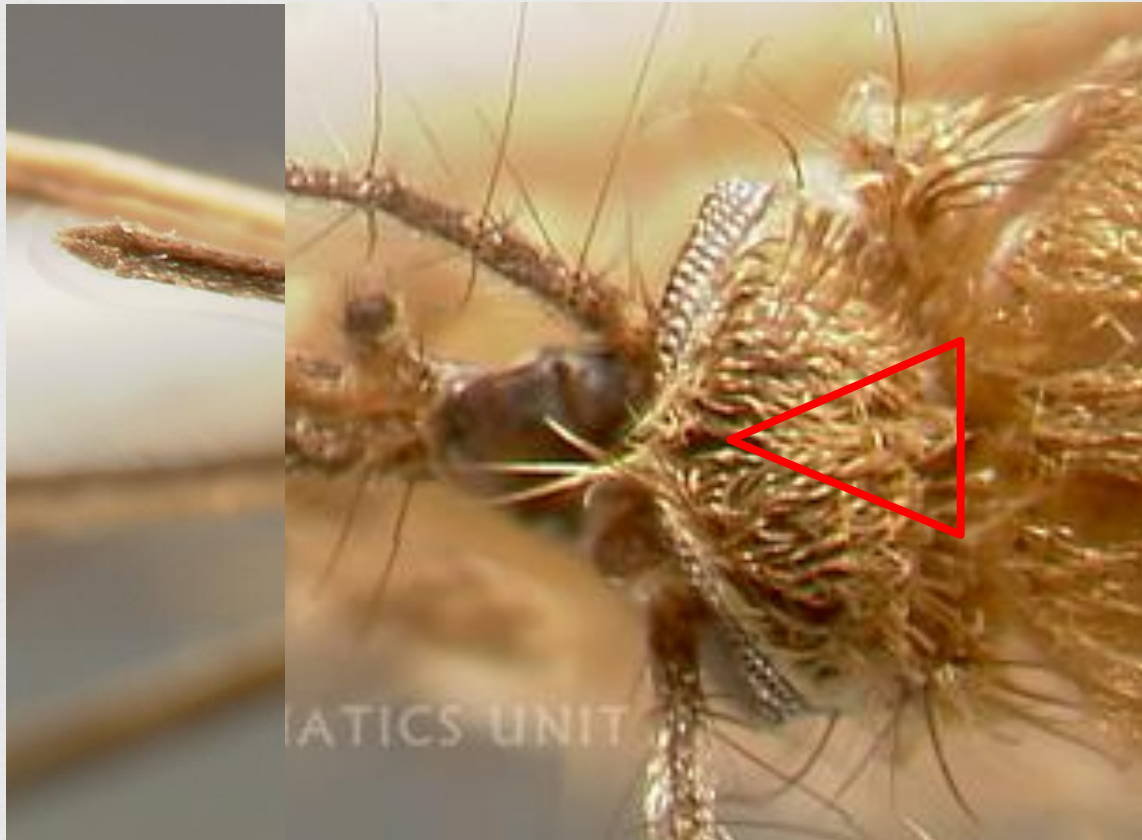
- Segments II, III usually with cream/light yellow central spot that is narrowly or not attached to white lateral spots
- Banding usually not straight  
centrally enlarged  
think sideways P or “pip, pip!”



# *Cx. pipiens x quinquefasciatus*



- Top of head w/ pale or tan erect forked scales on median vertex and occiput



# *Cx. erraticus*



- Very small, dark brown/black mosquito with bright white scales on abdomen and sides of thorax
- Vertex of head with a few rows of broad round scales immediately behind eyes





# *Cx. erraticus*



- Most easily recognized by color/abdominal banding
  - Appears to wrap all the way around
  - Sometimes very indistinct on dorsal side



# Summary of key characters



Character(s)	Species
<u>Banded legs</u> & proboscis with pale band or ventral patch	<i>Cx. tarsalis</i> or <i>Cx. coronator</i>
<u>Apical</u> abdominal banding	<i>Cx. territans</i>
Indistinct basal abdominal bands, <u>last 2 segments nearly all gold</u> , mesepimeron with middle pale patch	<i>Cx. salinarius</i>
Indistinct basal abdomen bands, <u>segment VII nearly all dark</u> , mesepimeron without middle patch	<i>Cx. nigripalpus</i>
Distinct basal bands, <u>usually 2 white dots on scutum</u> , middle <u>head scales black</u>	<i>Cx. restuans</i>
Distinct basal bands <u>P shaped</u> , <u>head scales pale</u>	<i>Cx. pipiens x quinquefasciatus</i>
<u>Small and dark with bright white banding</u> that usually wraps around ventrally	<i>Cx. erraticus</i>



Thank you!

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