VEuPathDB

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February 2020

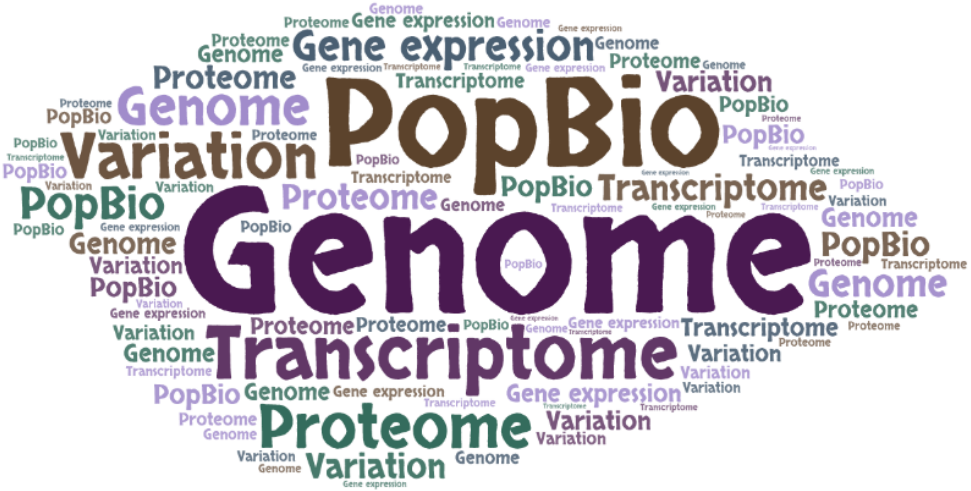
What is VEuPathDB?

FungiDB
Fungal and Oomycetes Genomics Resources
http://FungiDB.org

NIH-NIAID Bioinformatic Resource Centers

VEuPathDB.org
Eukaryotic Pathogen, Vector & Host
Informatics Resources

But we still will do the same things



‘Omics in VectorBase

- Home of 43 genomes comprising *Aedes* (2 spp), *Anopheles* (19), *Glossina* (6), sand flies (2), a *Culex* mosquito, (intermediate host) snail, bedbug, tick, body louse, kissing bug, mites and biting flies.

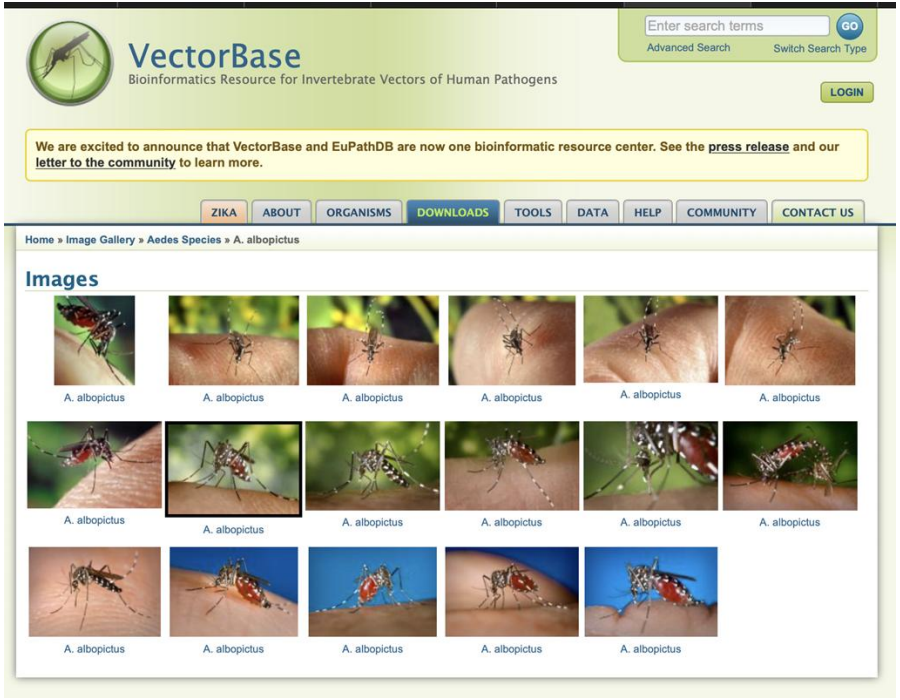
- Assembled transcriptomes for 20 species
- RNA-Seq data (or non-assembled transcriptomes) are available for 34 species
- Transcript data obtained under *different experimental conditions* for 19 species, with 40+ each for *Ae. aegypti* and *An. gambiae*

- Several proteomic experiments

VectorBase still exists but is part of a larger project

Expect similar data types across the sites

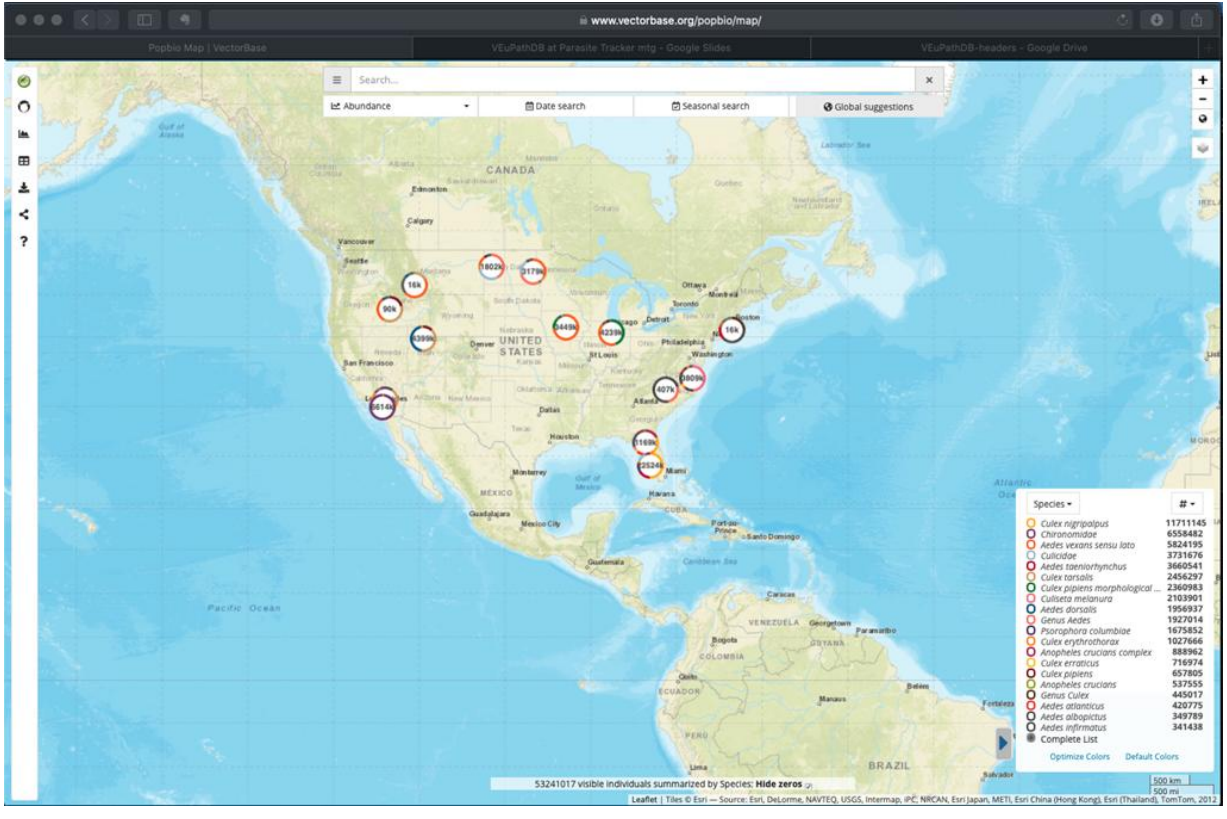
Image gallery

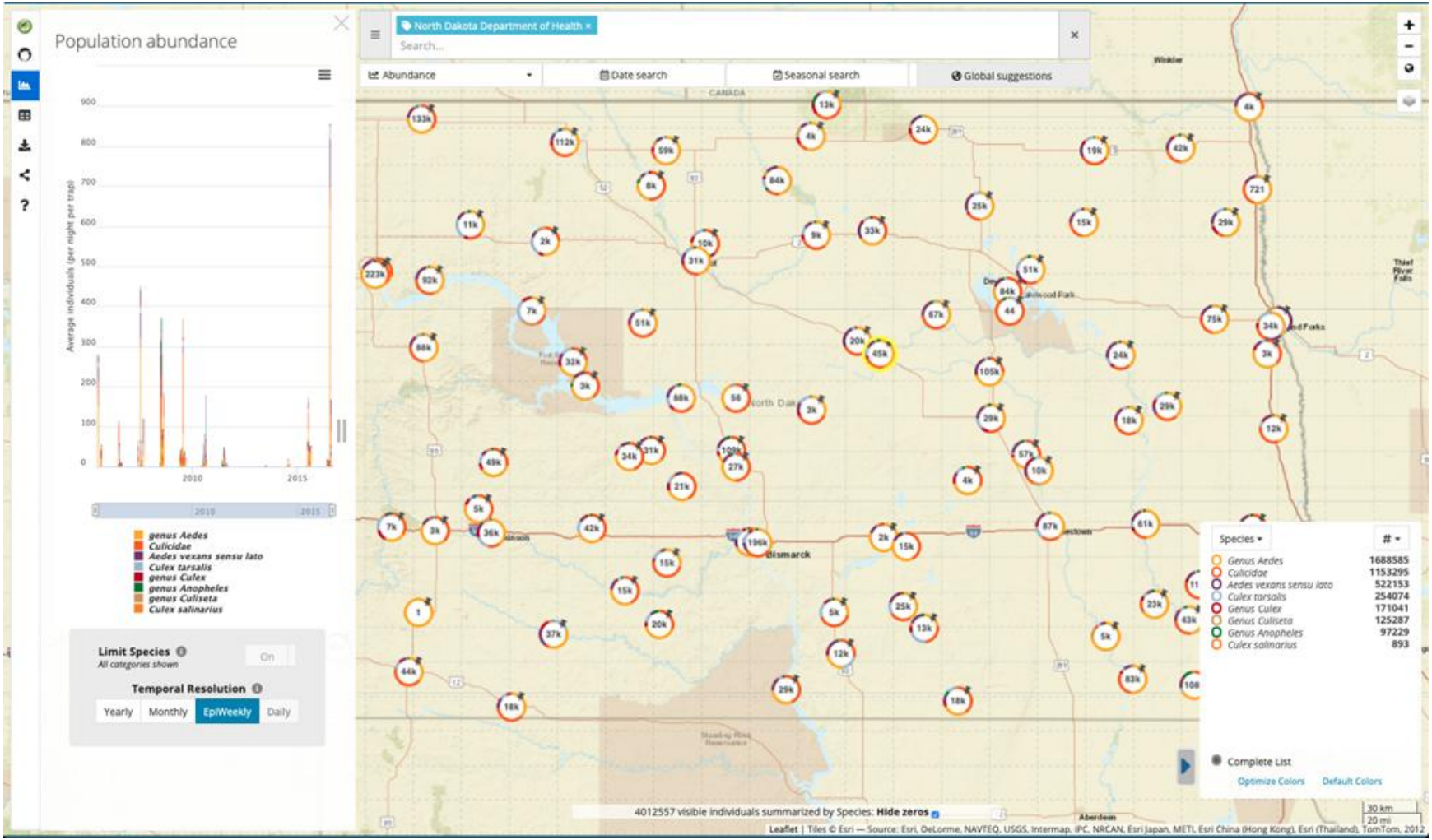


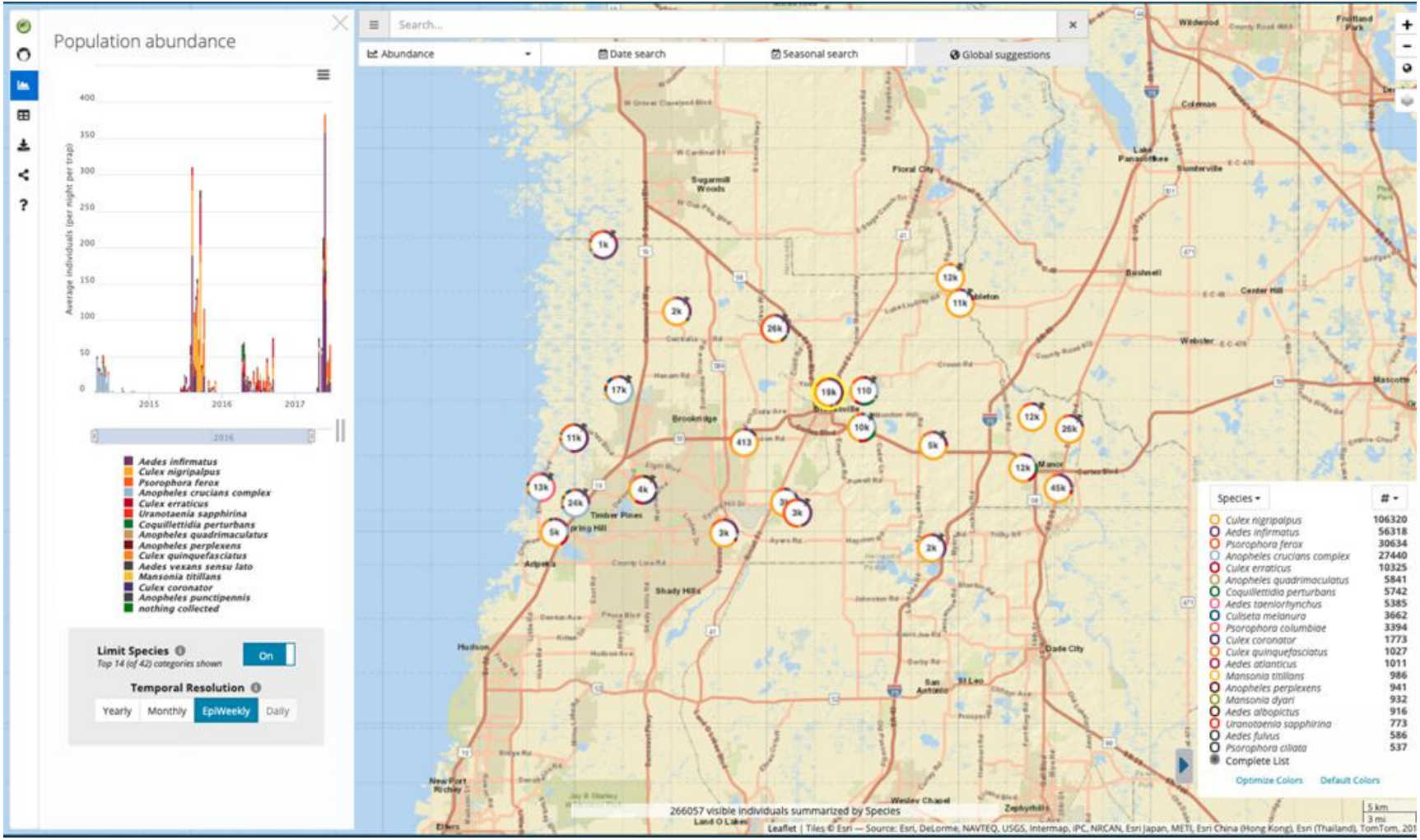
MapVEu

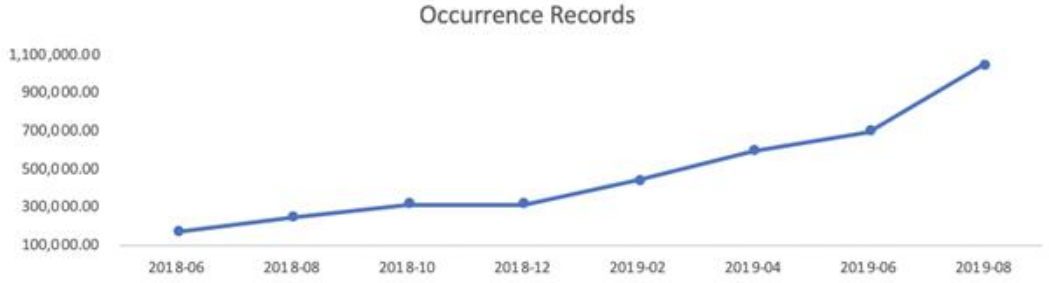
http://www.vectorbase.org/popbio/map

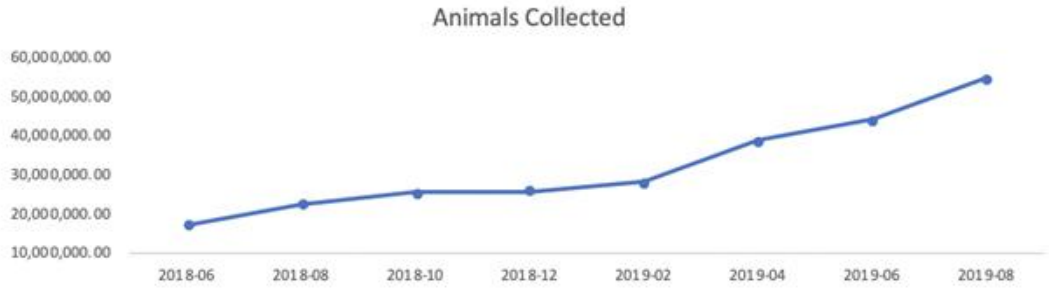
PopBio → MapVEu




Population abundance
Average individuals (per night per trap)
900
800
700
600
500
400
300
200
100
0
2010
2015
genus Aedes
Culicidae
Aedes vexans sensu lato
Culex tarsalis
genus Culex
genus Anopheles
genus Culiseta
Culex salinarius
Limit Species
All categories shown
On
Temporal Resolution
Yearly
Monthly
EpiWeekly
Daily
North Dakota Department of Health
Search...
Abundance
Date search
Seasonal search
Global suggestions
Species
#
Genus Aedes 1688585
Culicidae 1153295
Aedes vexans sensu lato 522153
Culex tarsalis 254074
Genus Culex 171041
Genus Culiseta 125287
Genus Anopheles 97229
Culex salinarius 893
Complete List
Optimize Colors
Default Colors
4012557 visible individuals summarized by Species: Hide zeros
Leaflet | Tiles © Esri — Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012
30 km
20 mi

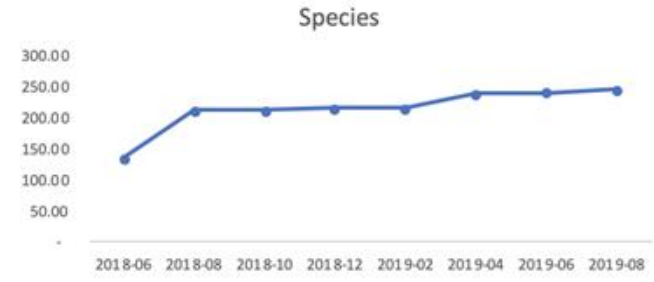

Population abundance
Average individuals (per night per trap)
400
350
300
250
200
150
100
50
0
2015
2016
2017
2016
Aedes infirmatus
Culex nigripalpus
Psorophora ferox
Anopheles crucians complex
Culex erraticus
Uranotaenia sapphirina
Coquillettidia perturbans
Anopheles quadrimaculatus
Anopheles perplexens
Culex quinquefasciatus
Aedes vexans sensu lato
Mansonia titillans
Culex coronator
Anopheles punctipennis
nothing collected
Limit Species
Top 14 (of 42) categories shown
On
Temporal Resolution
Yearly
Monthly
EpiWeekly
Daily
Search...
Abundance
Date search
Seasonal search
Global suggestions
Species
#
Culex nigripalpus 106320
Aedes infirmatus 56318
Psorophora ferox 30634
Anopheles crucians complex 27440
Culex erraticus 10325
Anopheles quadrimaculatus 5841
Coquillettidia perturbans 5742
Aedes taeniorhynchus 5385
Culiseta melanura 3662
Psorophora columbiae 3394
Culex coronator 1773
Culex quinquefasciatus 1027
Aedes atlanticus 1011
Mansonia titillans 986
Anopheles perplexens 941
Mansonia dyari 932
Aedes albopictus 916
Uranotaenia sapphirina 773
Aedes fulvus 586
Psorophora ciliata 537
Complete List
Optimize Colors
Default Colors
266057 visible individuals summarized by Species
Leaflet | Tiles © Esri — Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 201
5 km
3 mi





Abundance data growth on our VectorBase platform

Animals Collected	54,722,462
Collection Events	366,478
Occurrence Records	1,048,697
Unique Collection Sites	5,033
Species	247
Citation Lines	60
Records (zeros included)	20,310,080



genus Anopheles	VbSp: 00001
Anopheles gambiae	VbSp: 00002

genus Anopheles	VbSp: 00001
Anopheles gambiae species complex	VbSp: 00002
Anopheles gambiae s.s.	VbSp: 00003
Anopheles arabiensis	VbSp: 00004

genus Anopheles	VbSp: 00001
Anopheles gambiae species complex	VbSp: 00002
Anopheles gambiae s.s.	VbSp: 00003
M-Form	VbSp: 00005
Anopheles arabiensis	VbSp: 00004

genus Anopheles	VbSp: 00001
Anopheles gambiae species complex	VbSp: 00002
Anopheles gambiae s.s.	VbSp: 00003
Anopheles coluzzii	VbSp: 00005
Anopheles arabiensis	VbSp: 00004

Tool

Home » Tools » Ontology Browser

Ontology Browser

Tutorials

Please select an ontology:

Vectorbase CV

Search:

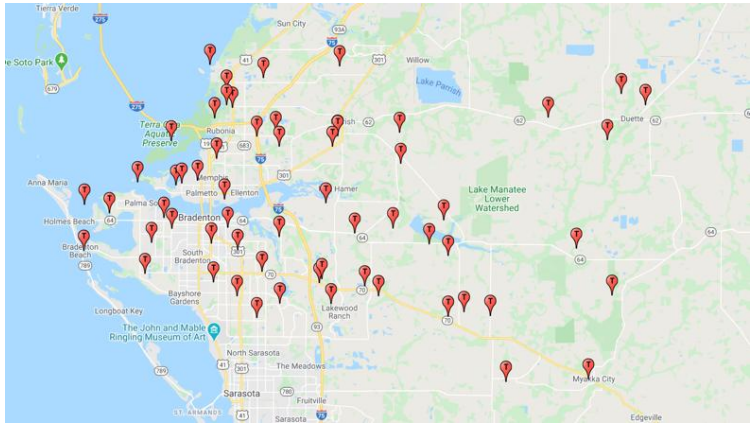
pippins

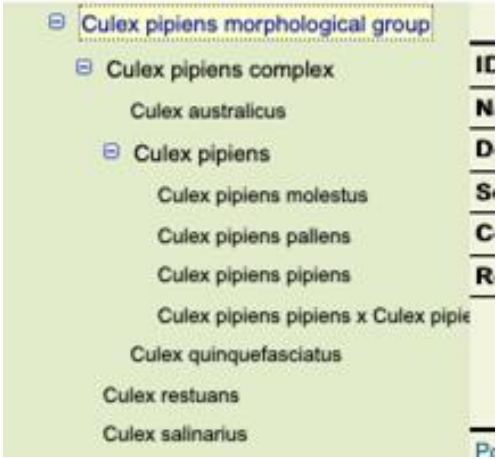
- Culex pipiens
- Culex pipiens complex
- Culex pipiens group (Bartholom...
- Culex pipiens molestus
- Culex pipiens morphological group

- Culex pipiens morphological group
  - Culex pipiens complex
    - Culex australicus
    - Culex pipiens
      - Culex pipiens molestus
      - Culex pipiens pallens
      - Culex pipiens pipiens
      - Culex pipiens pipiens x Culex pipie
    - Culex quinquefasciatus
  - Culex restuans
  - Culex salinarius

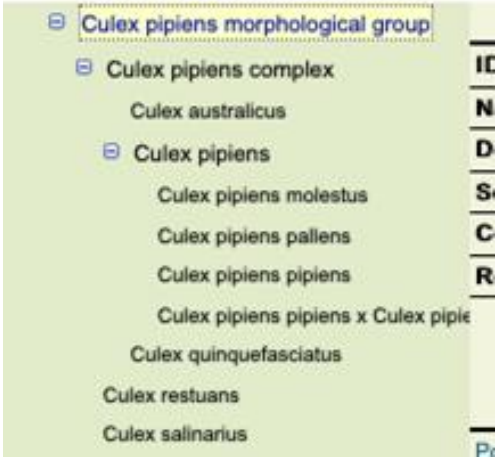
Term information	
ID	VBsp:0003847
Name	Culex pipiens morphological group
Definition	Moprphologically indistinguishable group
Source	N/A
Comment	
Relationship(s)	*is_a* Culex

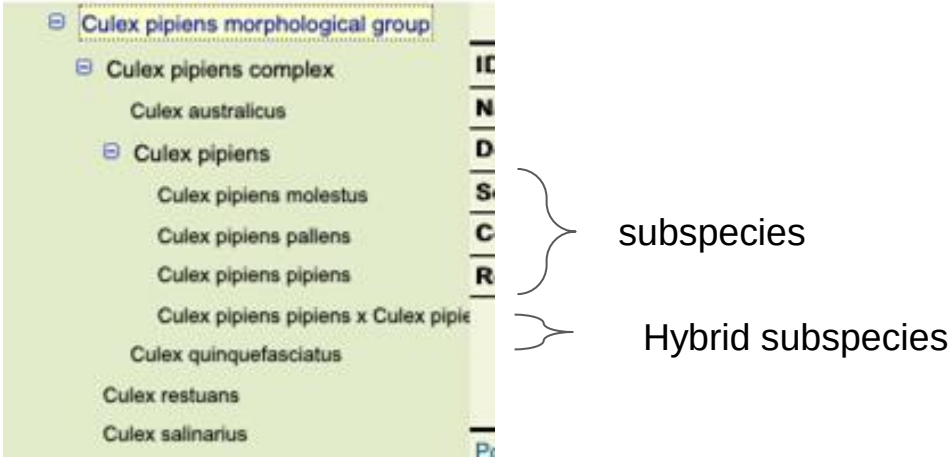
Domain	Hits
Population Biology	1466567





Morphological group


Culex pipiens morphological group
Culex pipiens complex
Culex australicus
Culex pipiens
Culex pipiens molestus
Culex pipiens pallens
Culex pipiens pipiens
Culex pipiens pipiens x Culex pipie
Culex quinquefasciatus
Culex restuans
Culex salinarius
Complex
Other species many surveillance groups lump together



How do we want to reflect complexes, groups, & subspecies?

Orgins of VectorBase species ontology

http://mosquito-taxonomic-inventory.info

Other government taxon keys