Developing ID resources for ‘non-charismatic’ groups

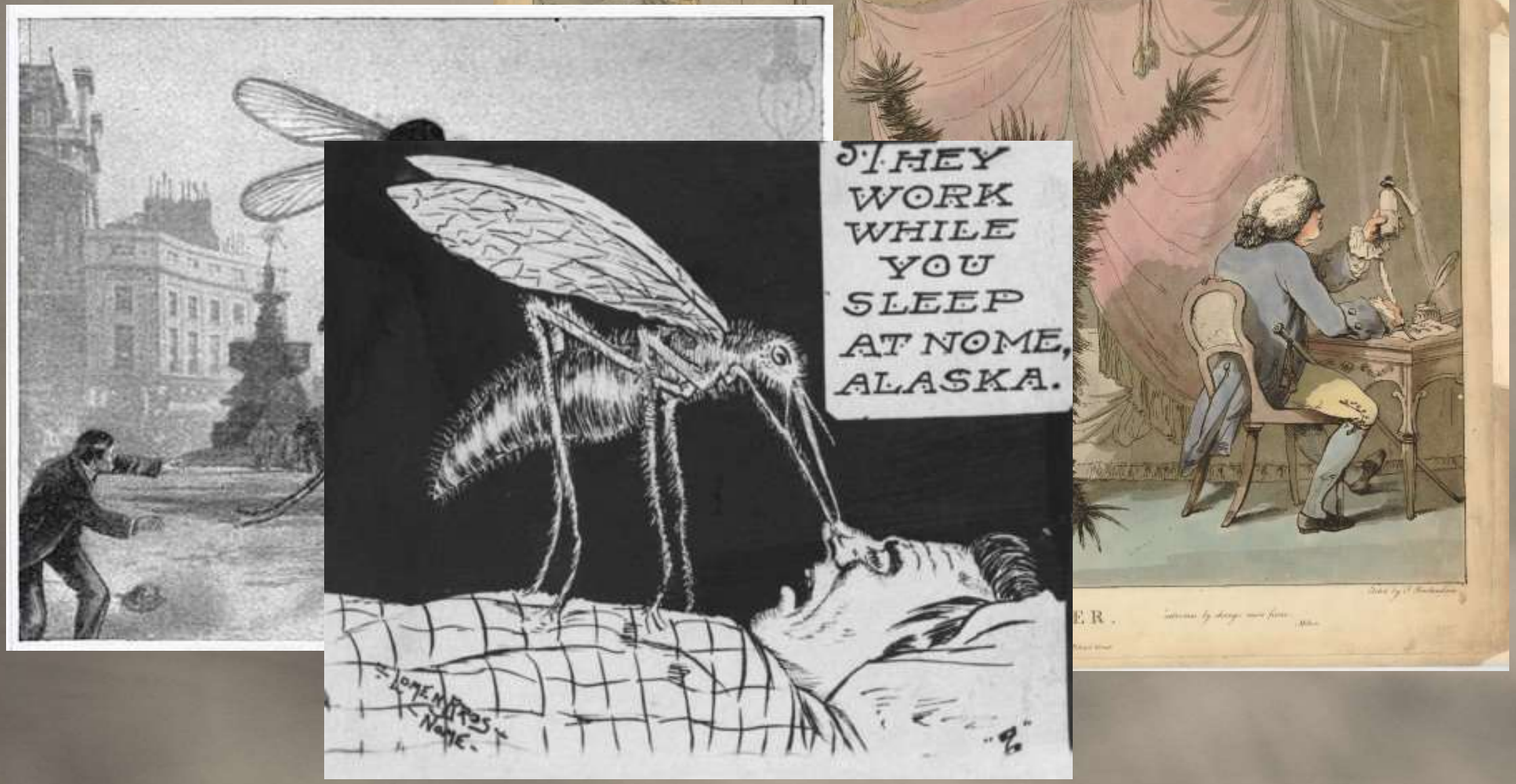
Edge Hill University

2014/15 UNIVERSITY OF THE YEAR

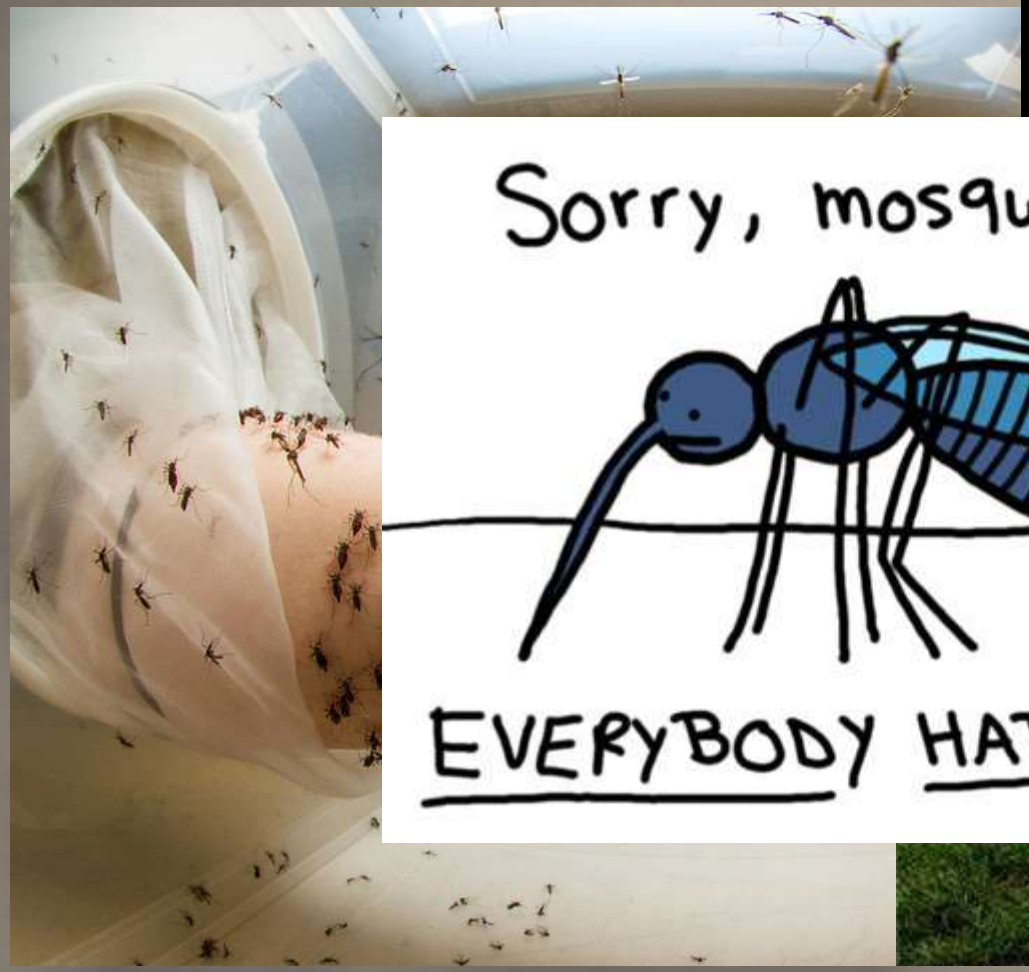
TIMES HIGHER EDUCATION AWARDS

What makes a non-charismatic group?

Associated with disease or parasitism


THEY WORK WHILE YOU SLEEP AT NOME, ALASKA.


MOSQUITOMAN
UNA NUOVA RAZZA DI PREDATORI
MICHAEL
JORDAN
RICKY
MONTY
YEAH YEAH YEAHS
MOSQUITO



Sorry, mosquito...
EVERYBODY HATES YOU.


DIE MOSQ

THE MOSQUITO
NATURE'S DOUCHEBAG
Spend your leisure at EpicLOL.com

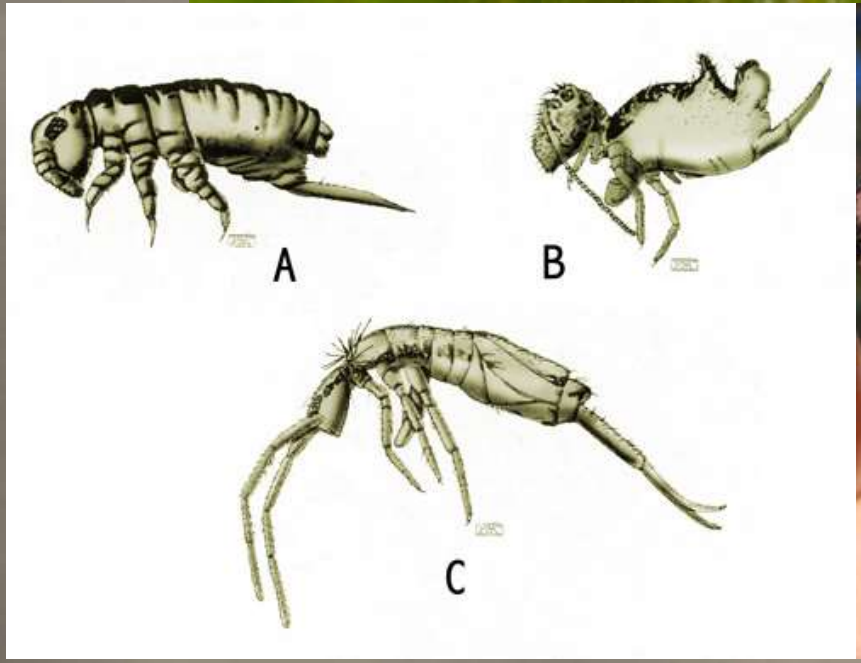
Table 1. Important mosquito-borne pathogens that cause disease in humans

Pathogens or diseases	Transmission in Europe	Important vectors to human
Arboviruses		
Chikungunya fever virus	Italy 2007; France 2010	*Ae. aegypti*, *Ae. albopictus*
Dengue virus (DENV 1–4)	Until early 20th century; Croatia and France 2010, Madeira 2012, France 2013	*Ae. aegypti*, *Ae. albopictus*
Eastern equine encephalitis virus, La Crosse encephalitis virus, Rift Valley fever virus	No disease transmission to date	*Aedes* species, *Culex* species, *Culiseta melanoura*
Sindbis virus	Endemic in northern Europe	*Aedes cinereus*, *Cx. torrentium*
Japanese encephalitis virus, Murray Valley encephalitis virus, St. Louis encephalitis virus, Ross River fever virus, Venezuelan equine encephalitis virus, Western equine encephalitis virus	No disease transmission to date	*Culex* species
West Nile fever virus	Endemic in southern/central Europe	*Cx.* species, *Cx. pipiens*, *Cx. modestus*
Yellow fever virus	Until 19th century, in ports and occasionally inland	*Ae. aegypti*, *Ae. africanus*, *Haemagogus* species
Filarial worms		
Wuchereria bancrofti	Not to date	*Aedes* species, *Anopheles* species, *Culex* species
Dirofilaria spp.	Endemic in southern Europe, spreading	*Ae. albopictus*, *Ae. caspius*, *Cx. pipiens*
***Plasmodium* protozoa**		
Malaria	Widely endemic until mid-20th century; resurging epidemics in the 1990s in far eastern countries; remains endemic in Azerbaijan and Turkey, while sporadic cases occur elsewhere; resurging epidemics in Greece 2011–2013	*Anopheles* species

European Centre for Disease Prevention and Control. Guidelines for the surveillance of native mosquitoes in Europe. Stockholm: ECDC; 2014.

Small and overlooked


©Sinclair Stammers NPL


A
B
C

Current number records on NBN

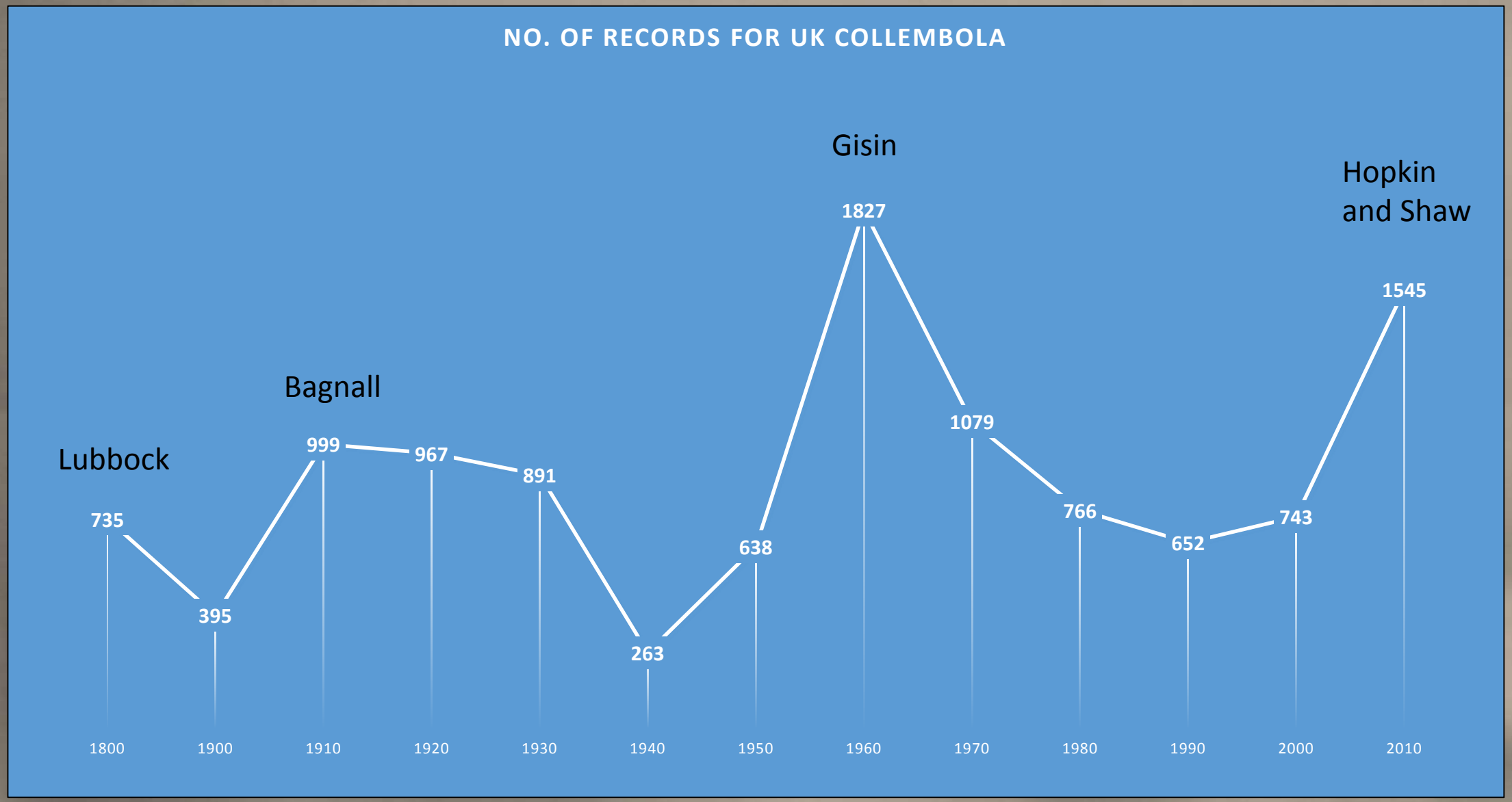
Collembola (SPRINGTAIL) = 13229

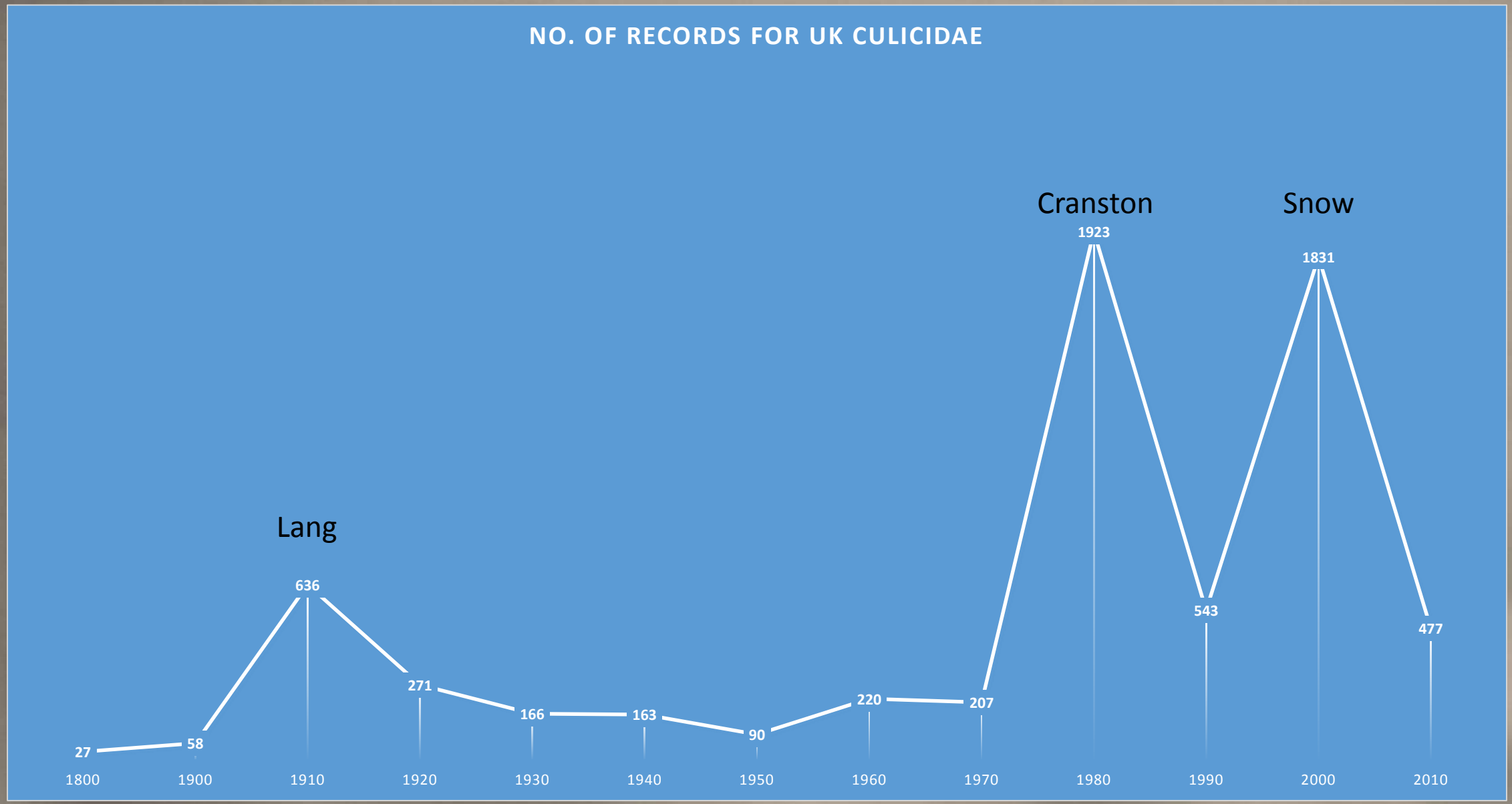
Culicidae (Mosquito) = 6600

Papilionoidea, INSECT – BUTTERFLY =20397038

Odonata, INSECT - DRAGONFLY (ODONATA) = 1672370

Passeriformes, BIRD = 13448562


NO. OF RECORDS FOR UK COLLEMBOLA
Lubbock
Bagnall
Gisin
Hopkin and Shaw
735
395
999
967
891
263
638
1827
1079
766
652
743
1545
1800
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010


NO. OF RECORDS FOR UK CULICIDAE
Lang
Cranston
Snow
27
58
636
271
166
163
90
220
207
1923
543
1831
477
1800
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010

Using technology to increase and improve identification resources?

Photographic resources

7800 collembola photos

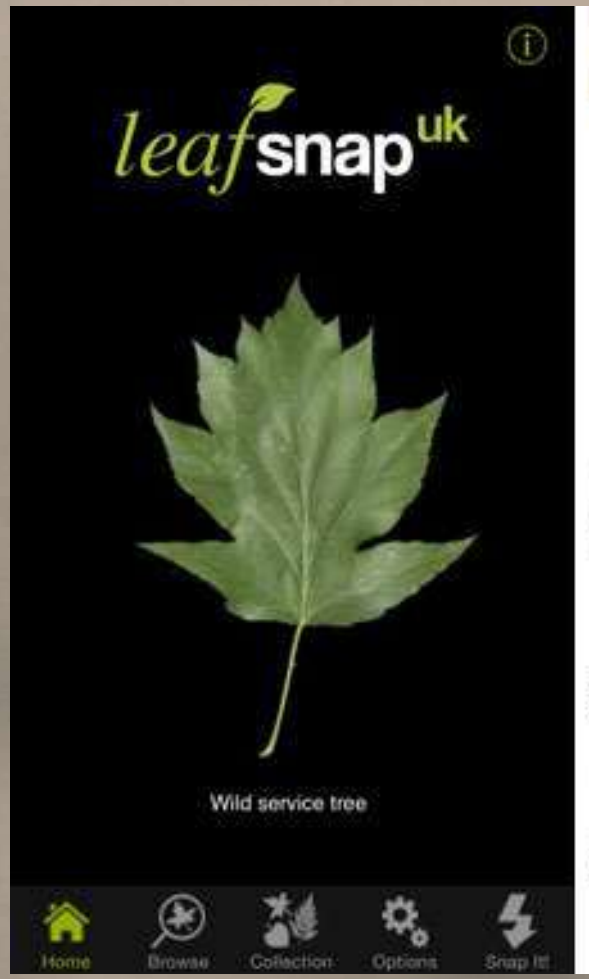
Thomas Cunningham


Home | Leafsnap: An Electr...
Home | iSpot
www.ispotnature.org/communities/uk-and-ireland
iSpot
share nature
Explore community
Identify
Help
Communities - UK and Ireland
Welcome to iSpot
A friendly and free community helping to identify wildlife and share nature.
UK and Ireland latest observations
« more
Filter by group:
Help confirm global observations

Levon Biss

http://microsculpture.net/

PlantSnapp


leafsnap uk
Wild service tree
Home
Browse
Collection
Options
Snap It!


Back
Results
Map
Snap It! Results
1
English oak
Quercus robur
2
Sessile oak
Quercus petraea
3
Turkey oak
Quercus cerris

Insect Wing Classification of Mosquitoes and Bees Using CO1 Image Recognition.

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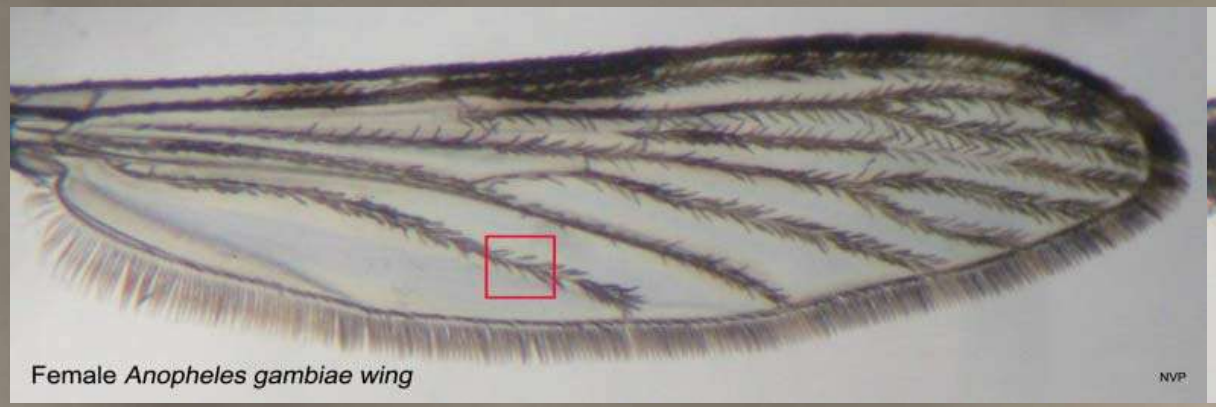
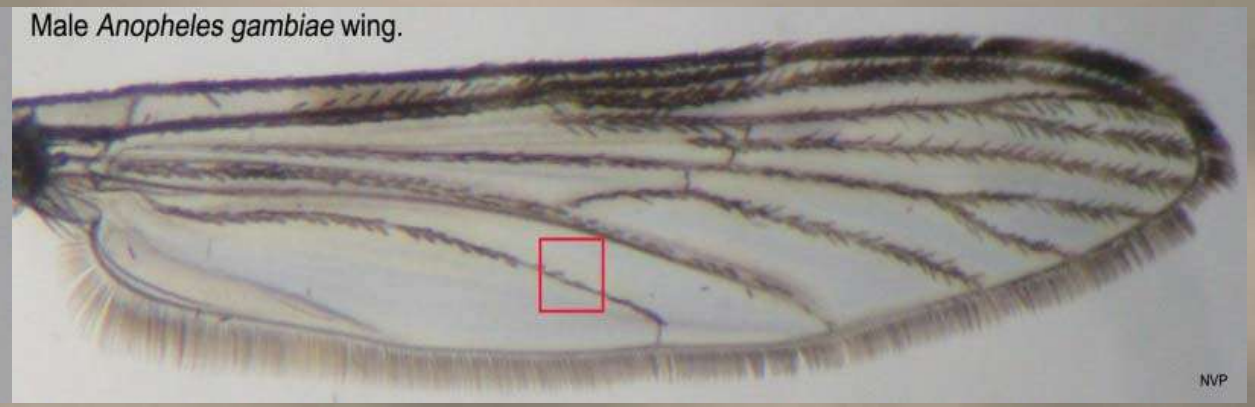
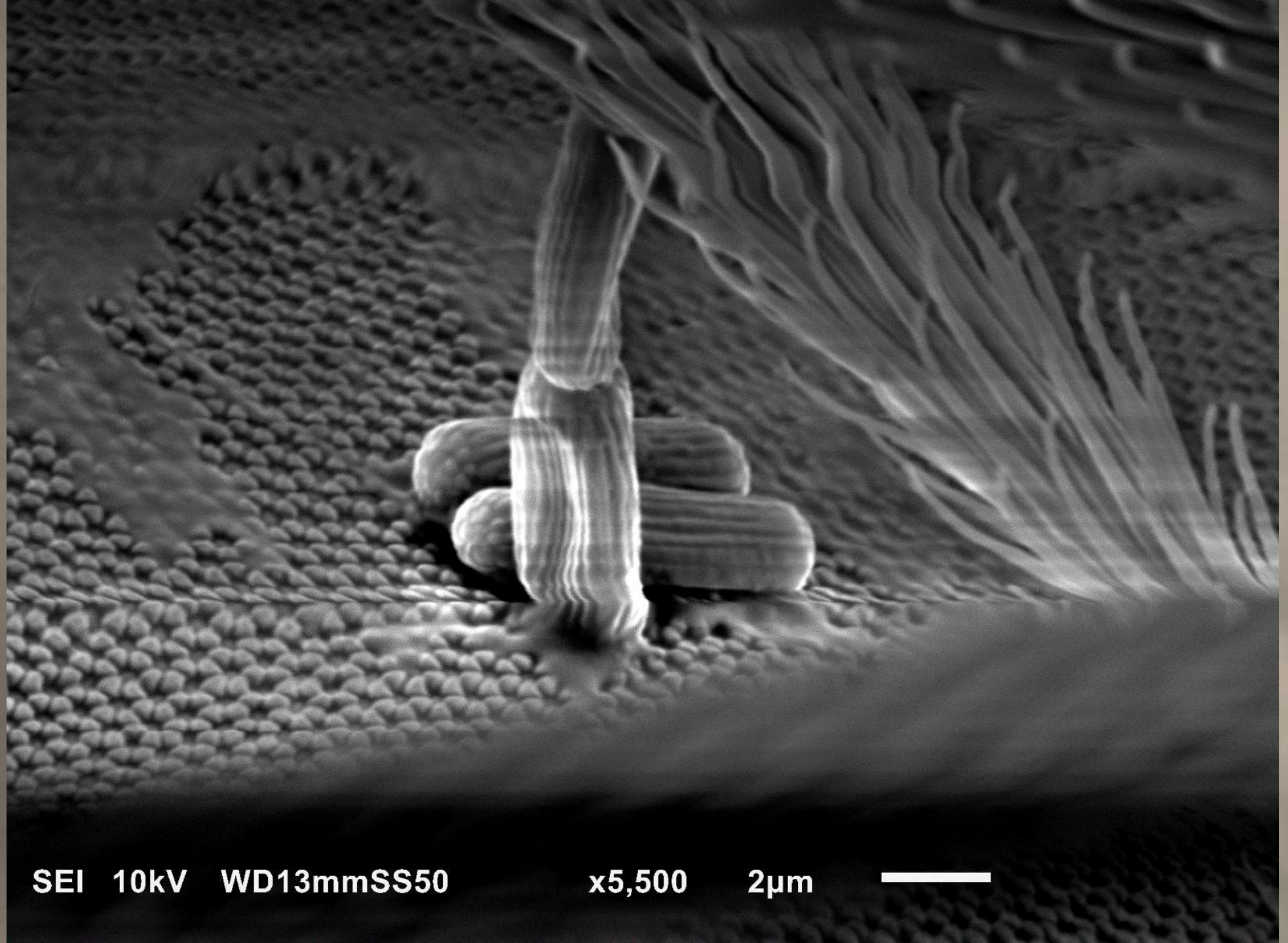
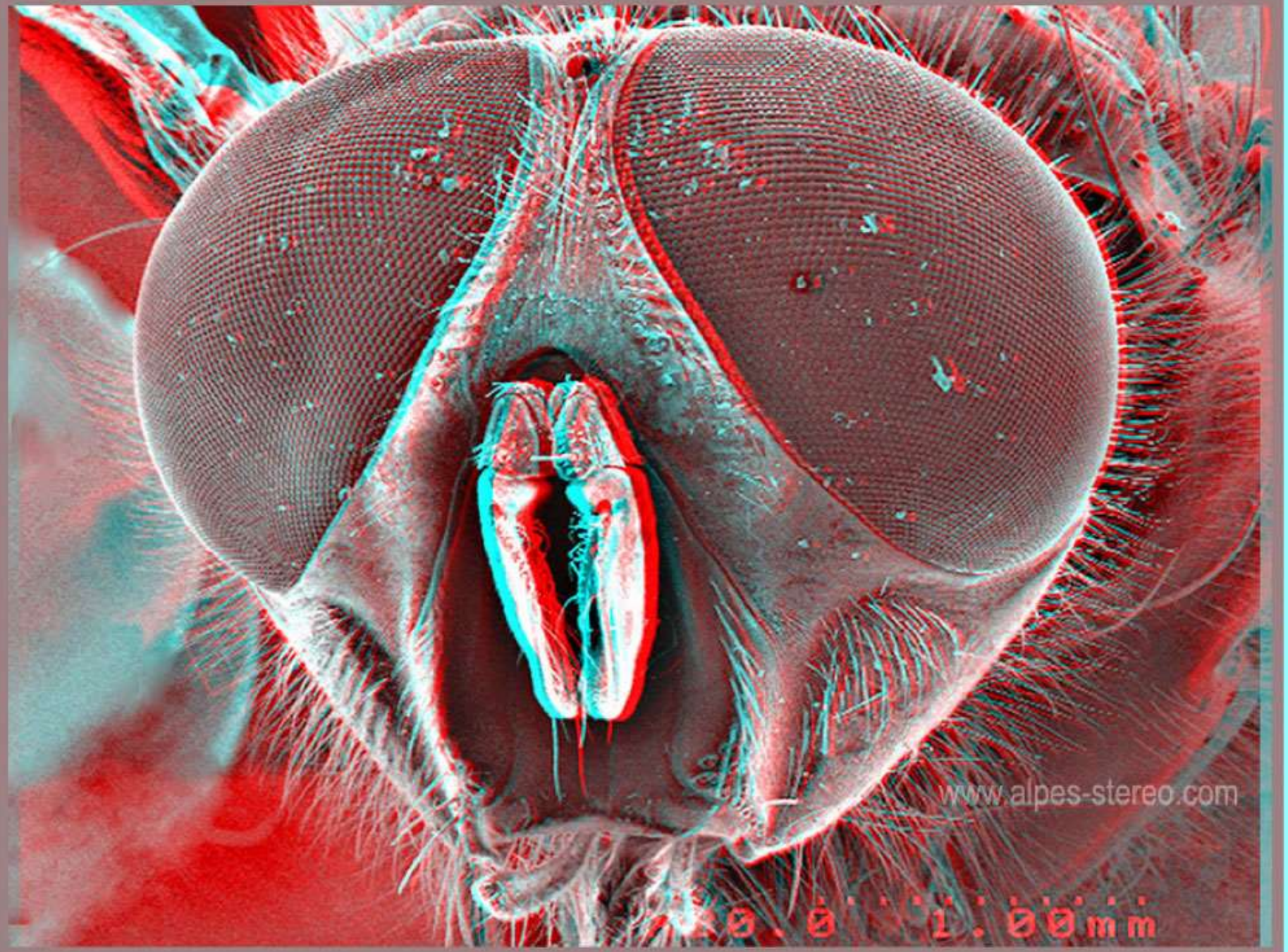


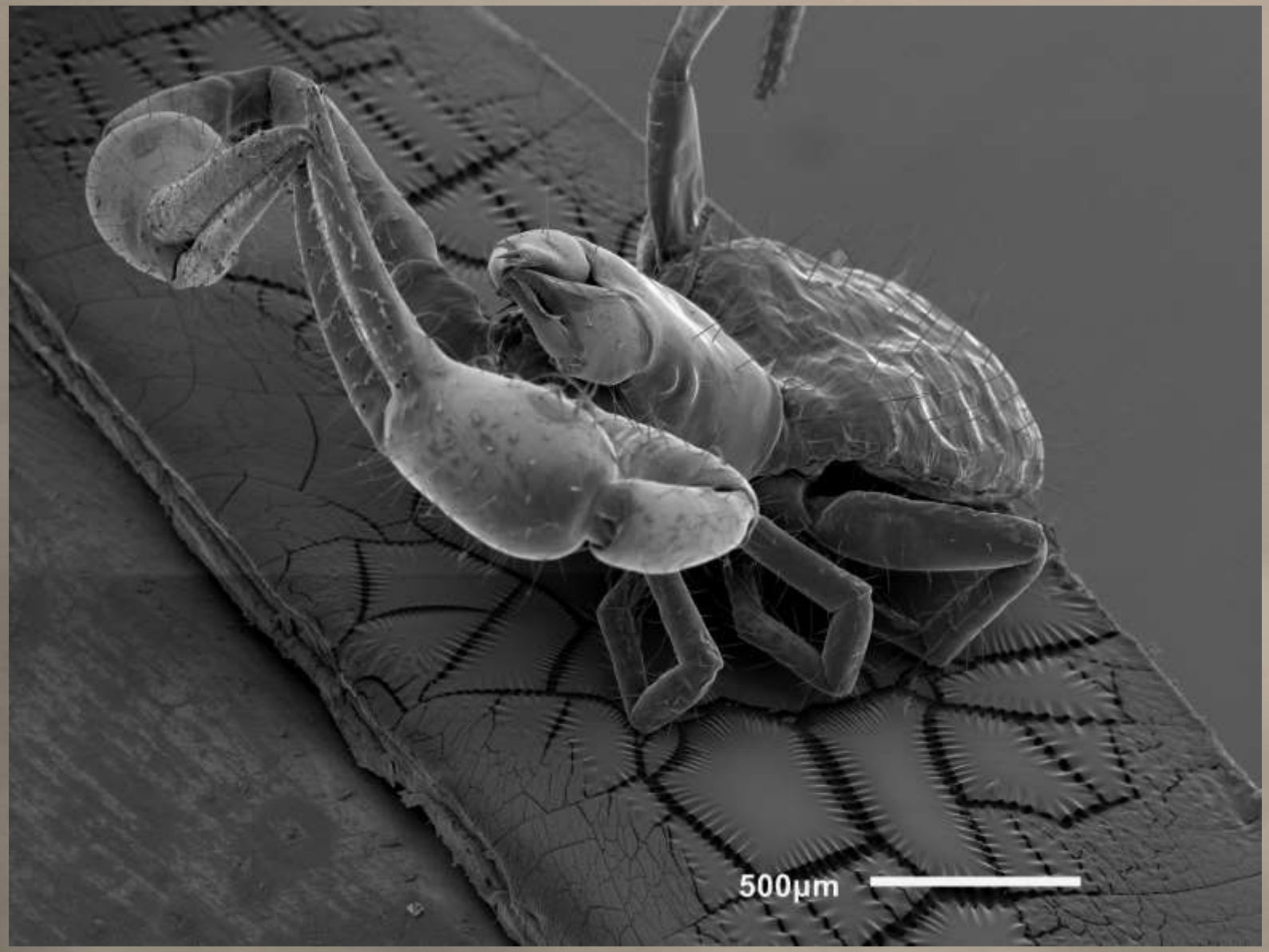


Scanning Electron Microscopy


SEI 10kV WD13mmSS50
x5,500
2µm

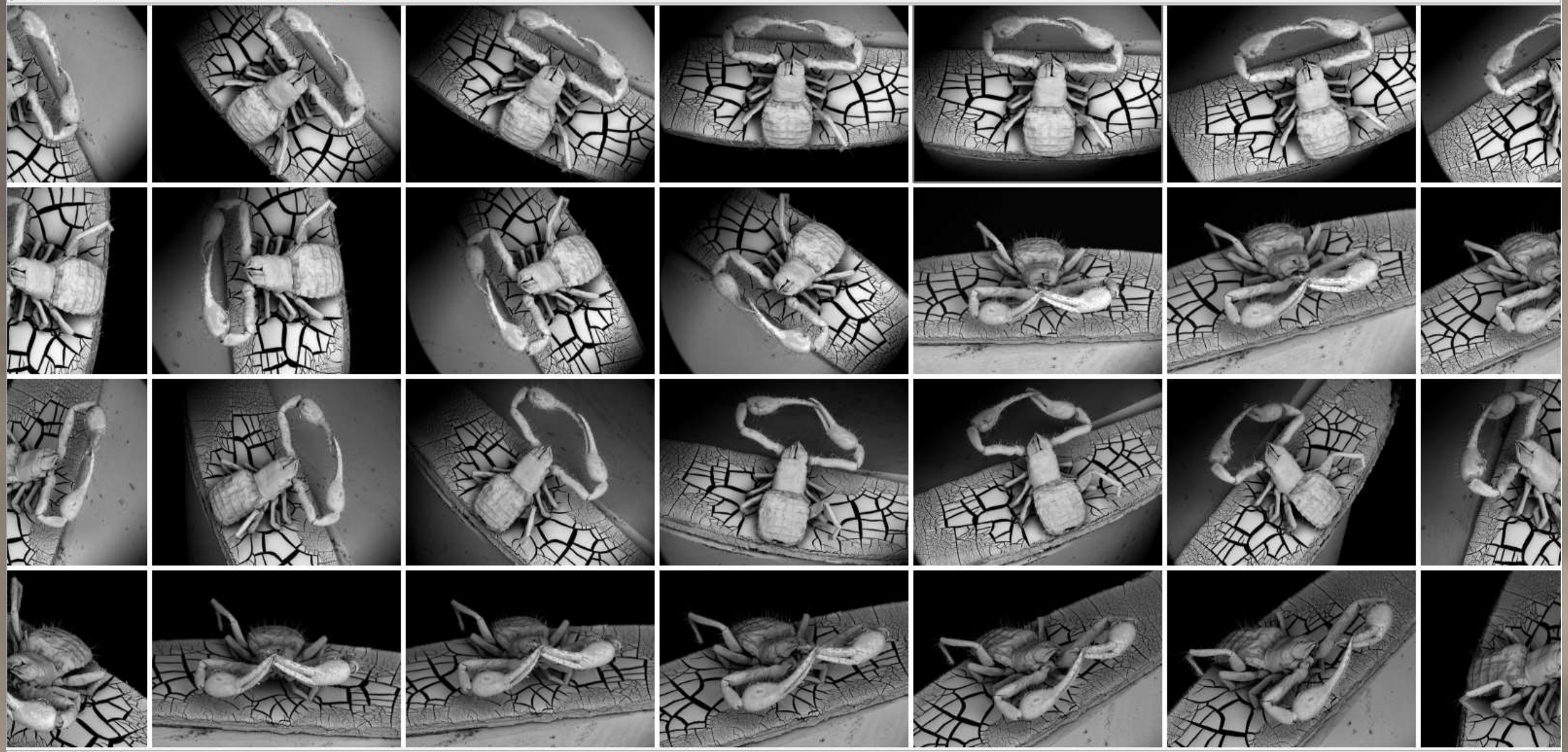

www.alpes-stereo.com
10.0 1.00mm

Photogrammetry (3D SEM)



VisualSFM - [Thumbnails] - [0]

File SfM View Tools Help



#14: 15 [5120x3840] [0]

I'm Cortana. Ask me anything.

ENG 9:32 PM 5/9/2016


Original Image
3D Points
Shaded Surface
Textured Surface
CENTER FOR MACHINE PERCEPTION

Print your own specimen


JEOL

Thank you!

Acknowledgements

- Carl Barker – Edge Hill University
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- Field Studies Council
- Richard Burkmar (FSC)
- Ben Deed (Merseyside Biobank)

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