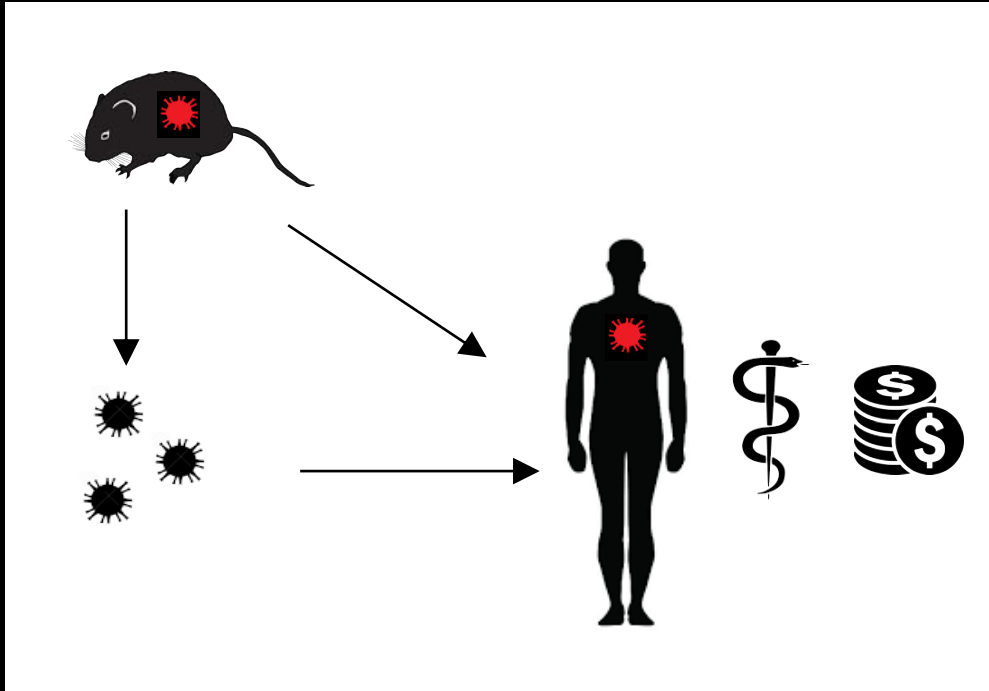


Ecology of hantavirus infections in Sweden - drivers of the contact zone between the virus, rodents and humans

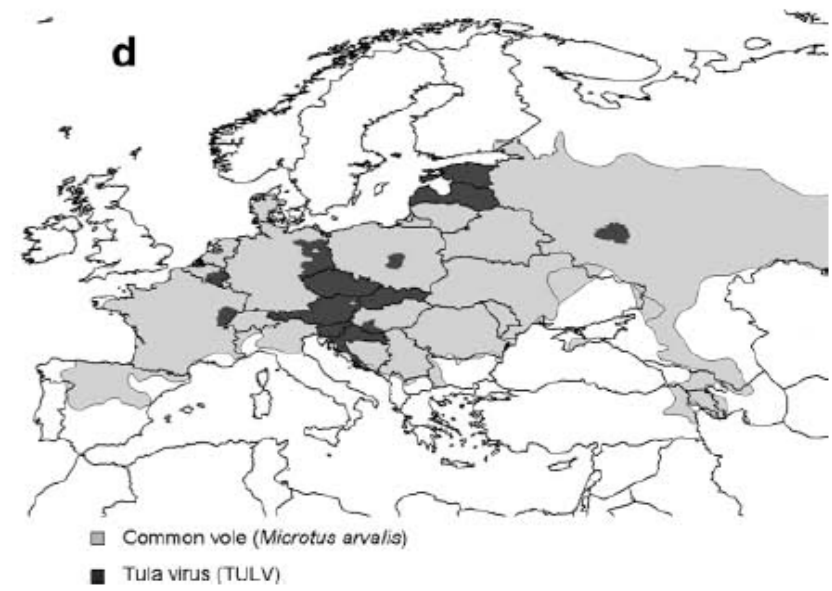
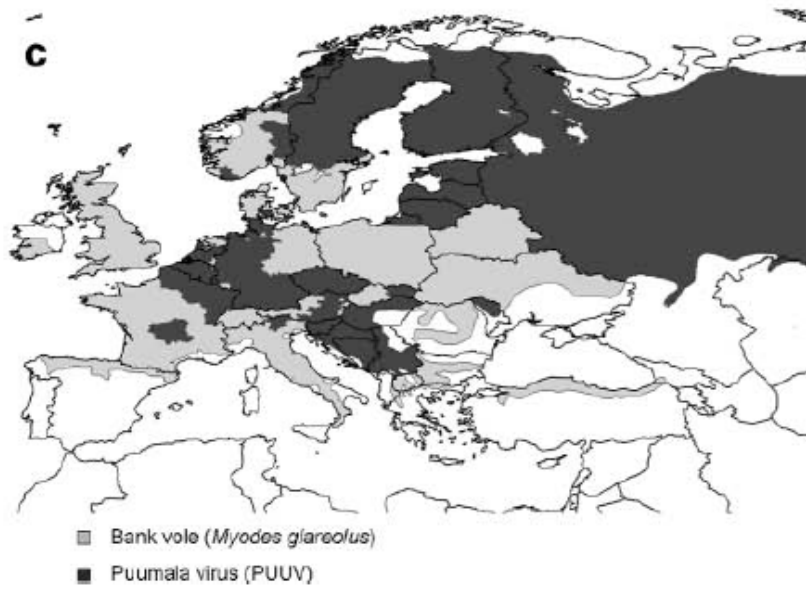
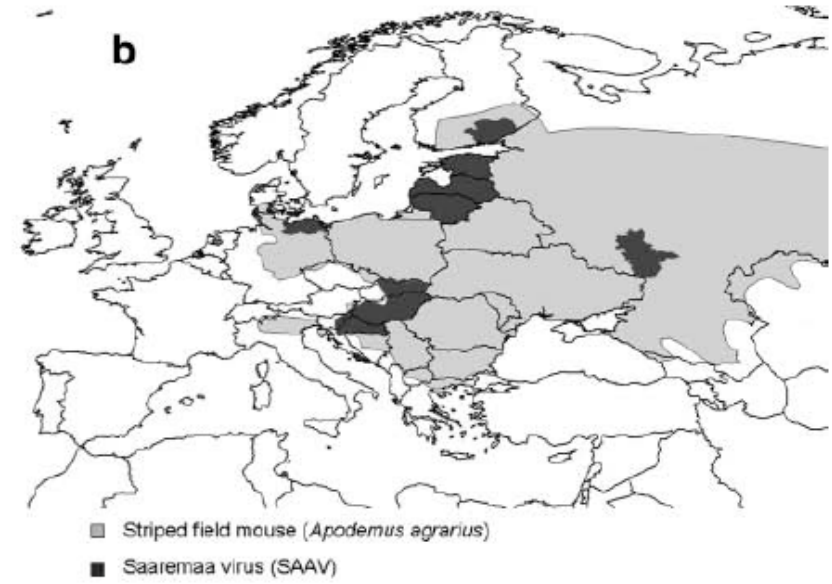
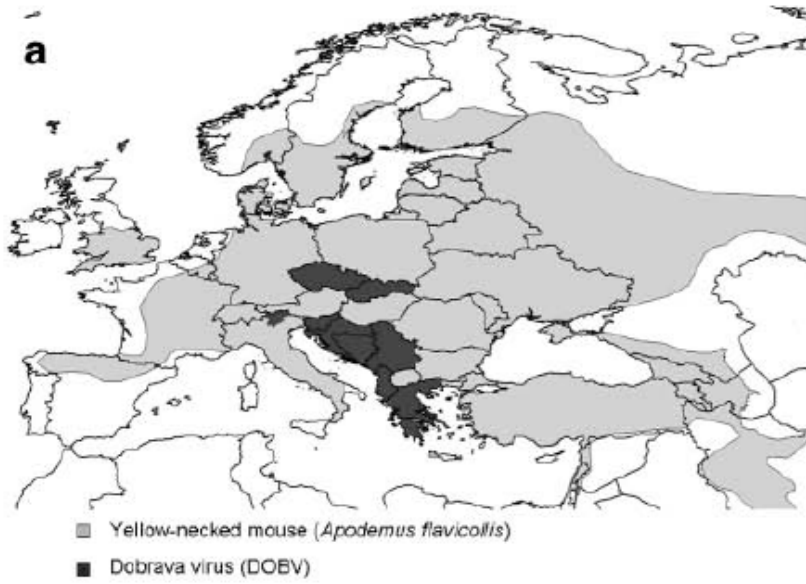
Frauke Ecke
Department of Wildlife, Fish, and Environmental Studies
SE-901 83 Umeå
Sweden
E-mail: Frauke.ecke@slu.se

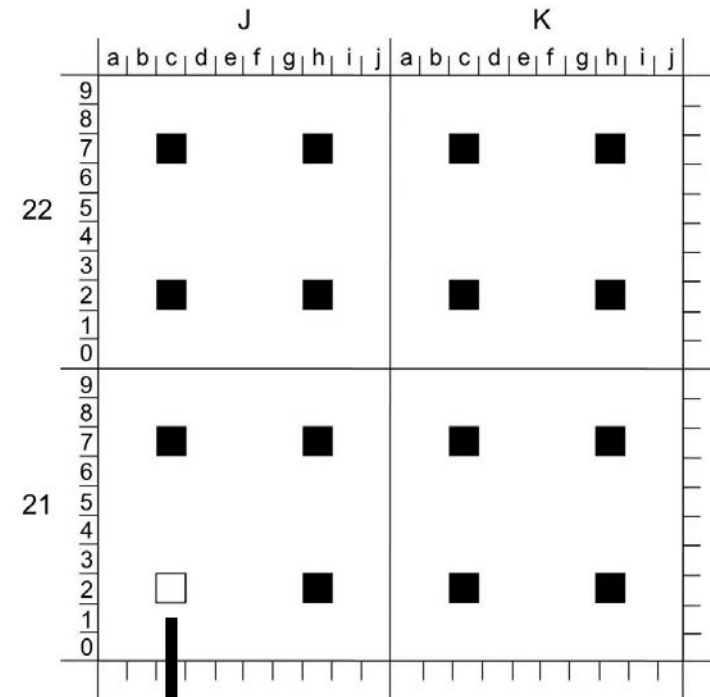
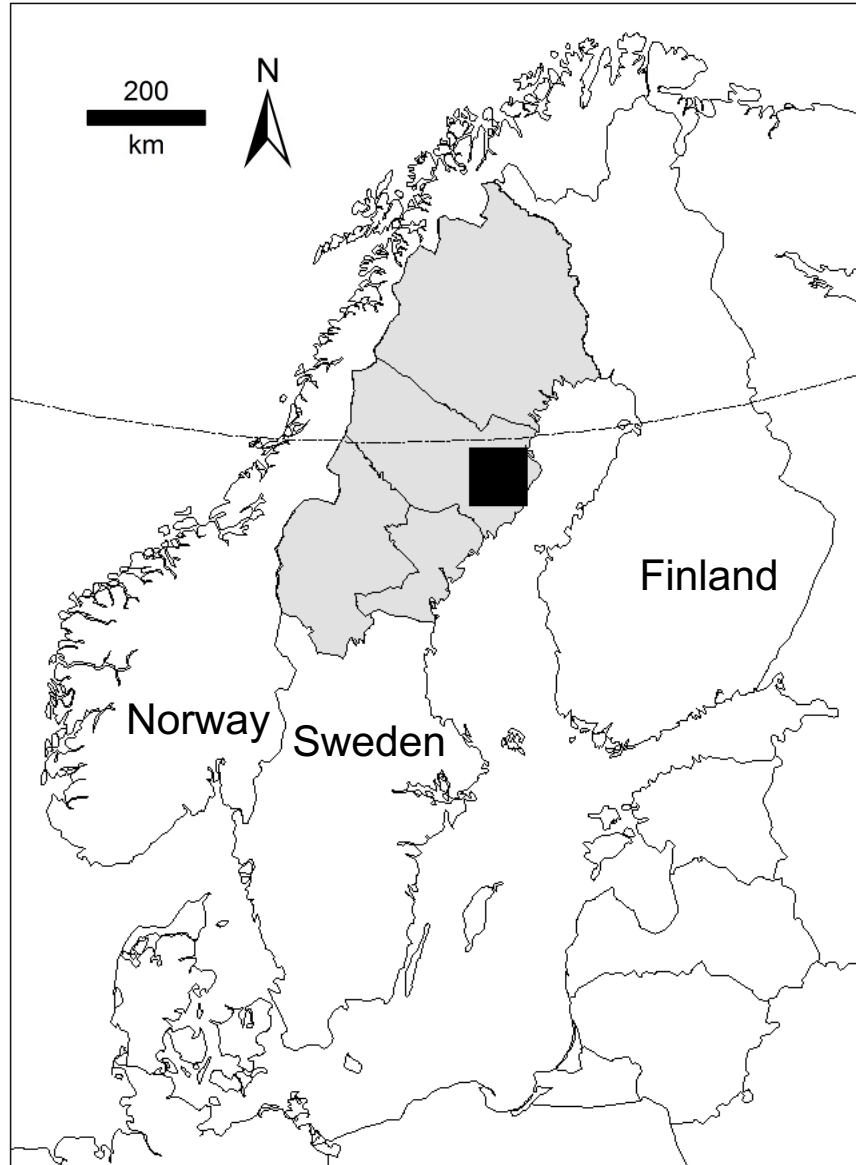


Nephropatia epidemica (NE)

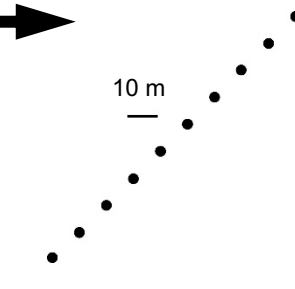
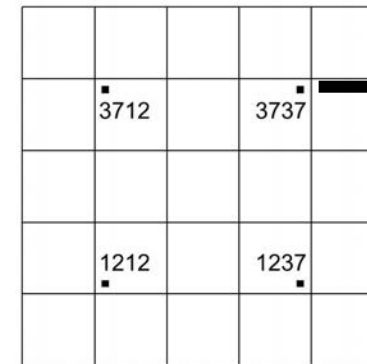


- Puumala hantavirus (PUUV)
- Bunyavirales, *Hantaviridae*
- Hemorrhagic fever with renal syndrome
- Host: Bank vole (*Myodes glareolus*)

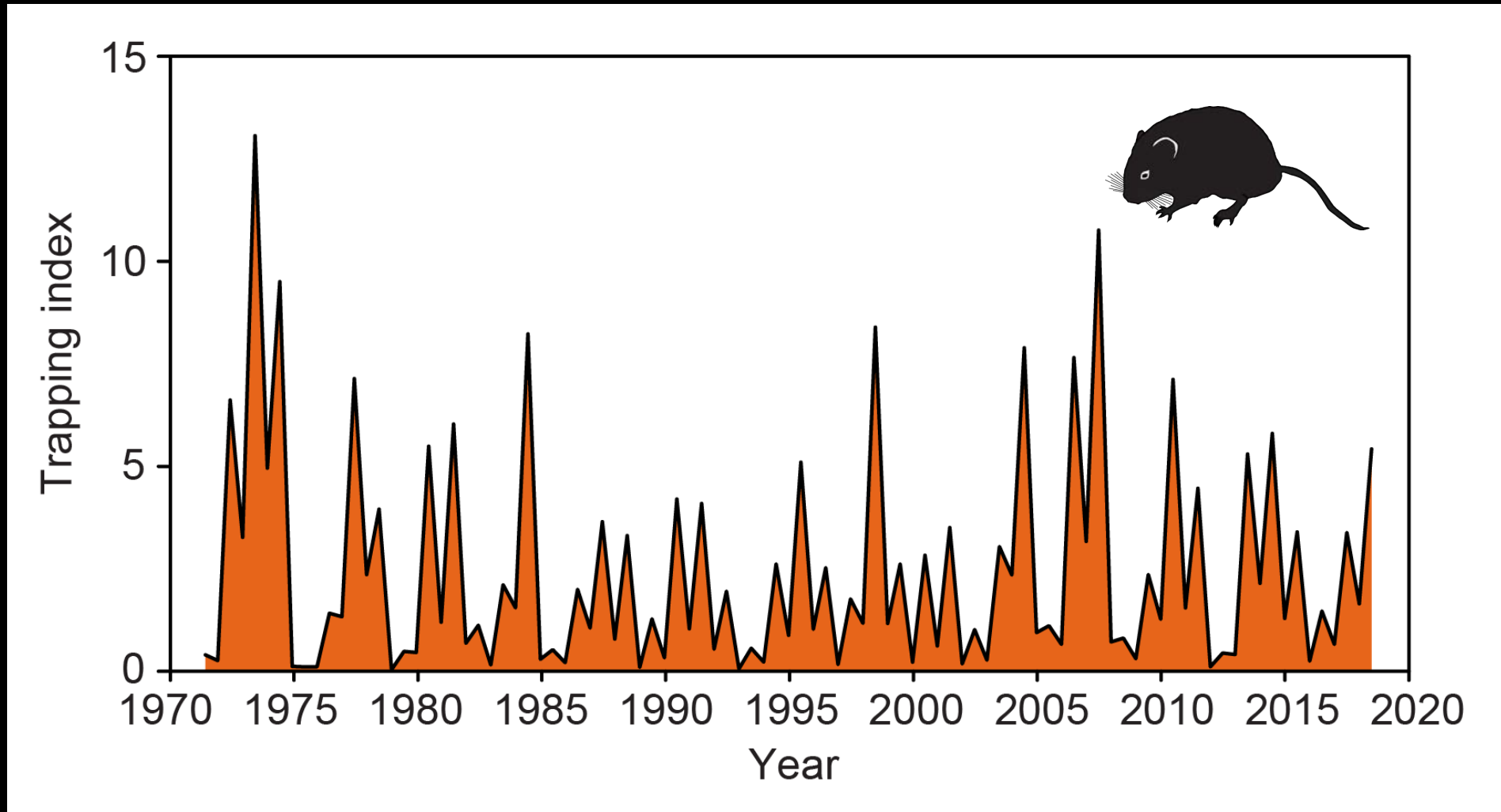




Lillgodberg 21J2c

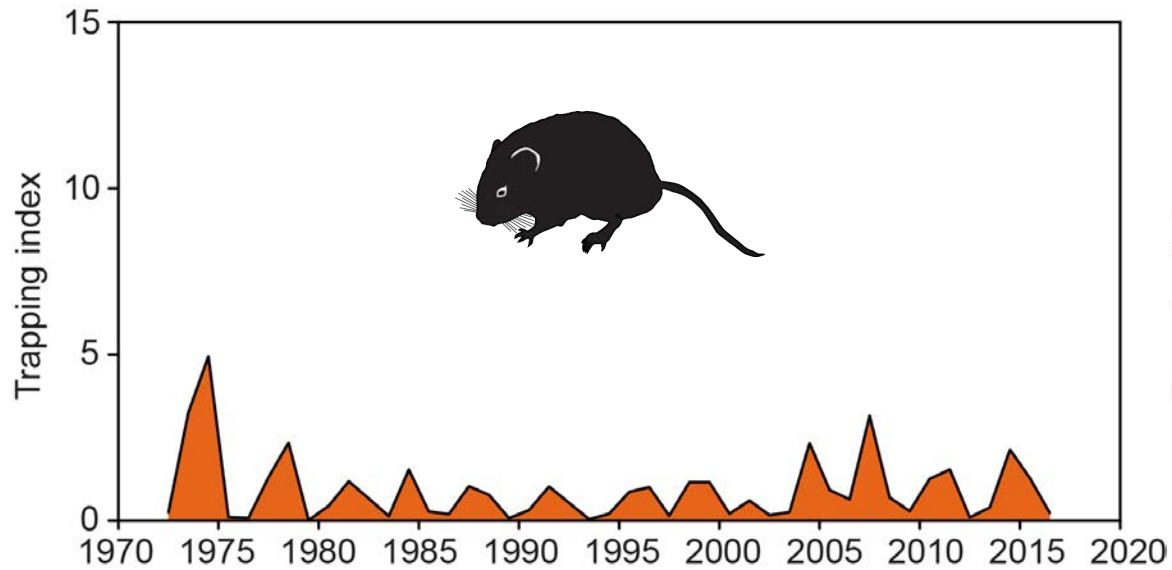


Population dynamics – cyclicity

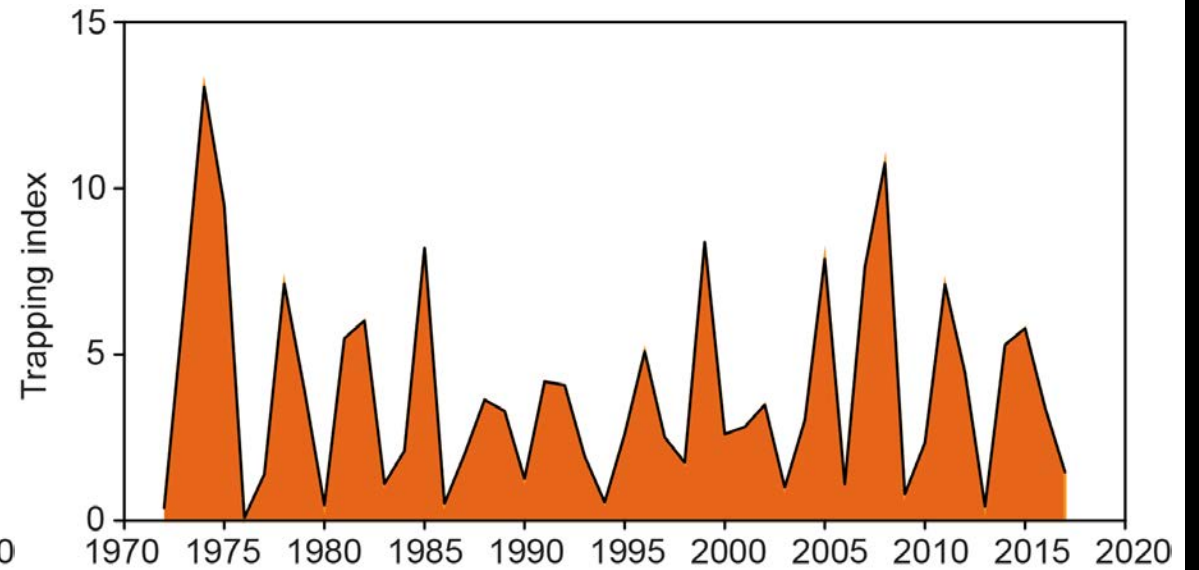


Population dynamics – seasonality

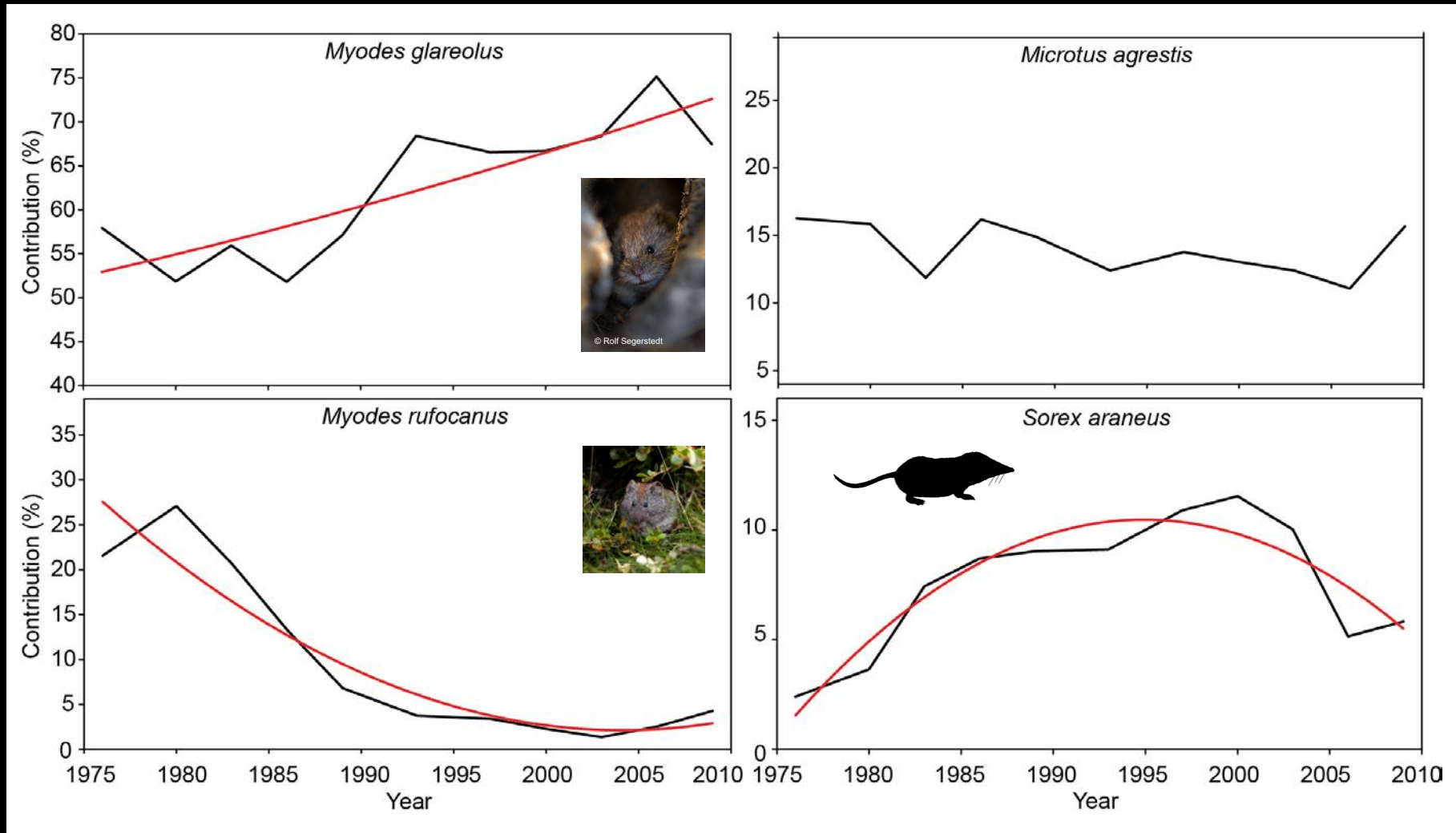
Spring

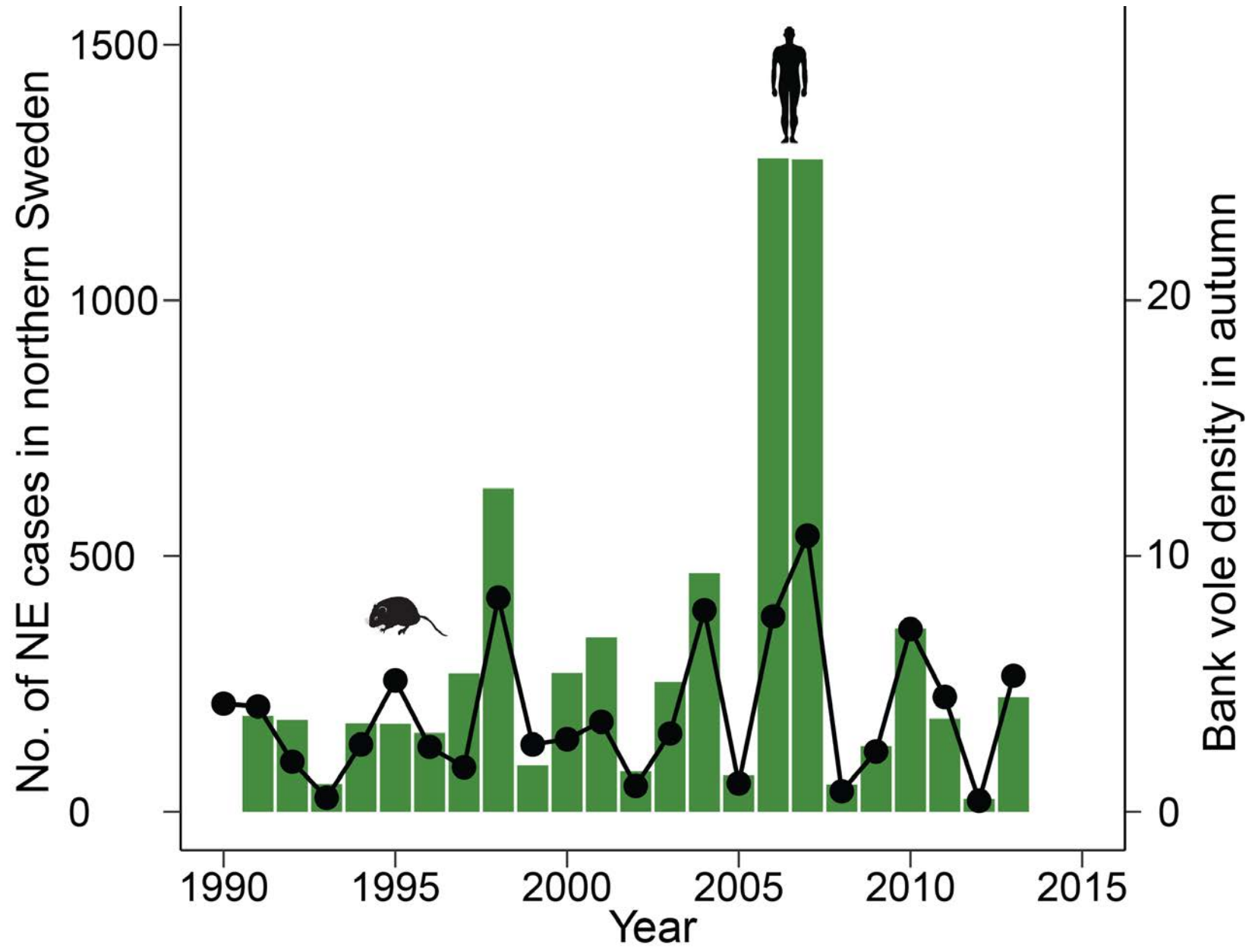


Fall

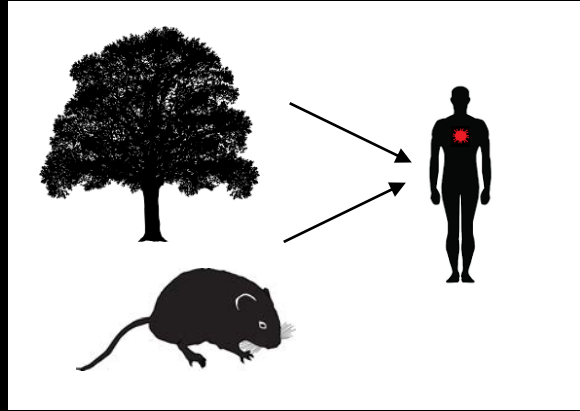


Community changes

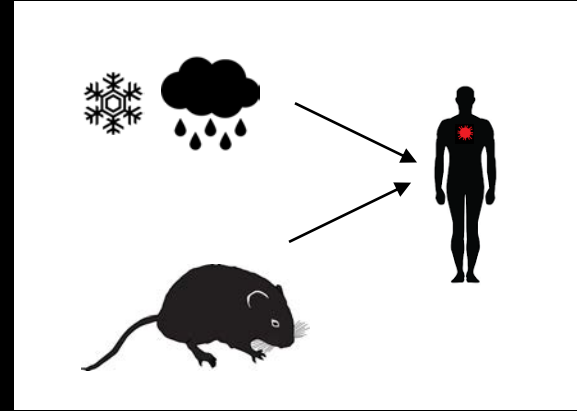




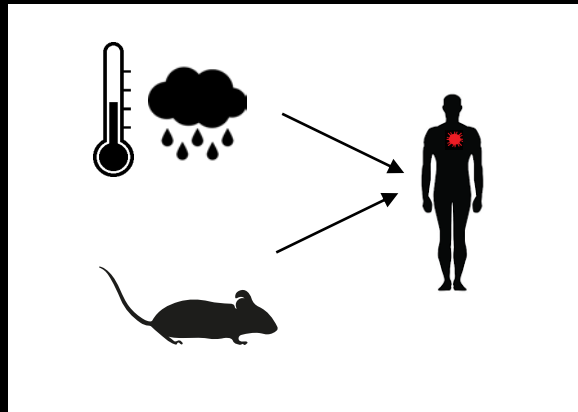
Population dynamics as important predictors of disease outbreaks



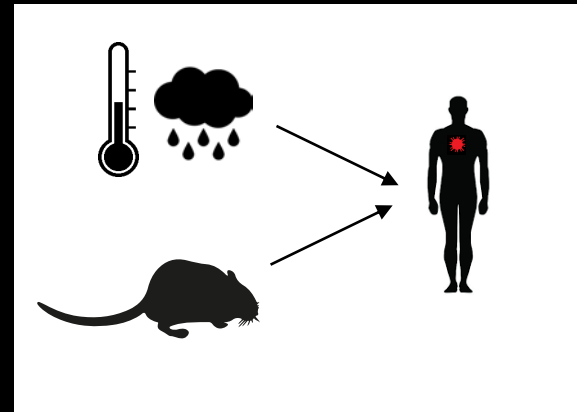
Reil et al. 2015



Khalil et al. 2014

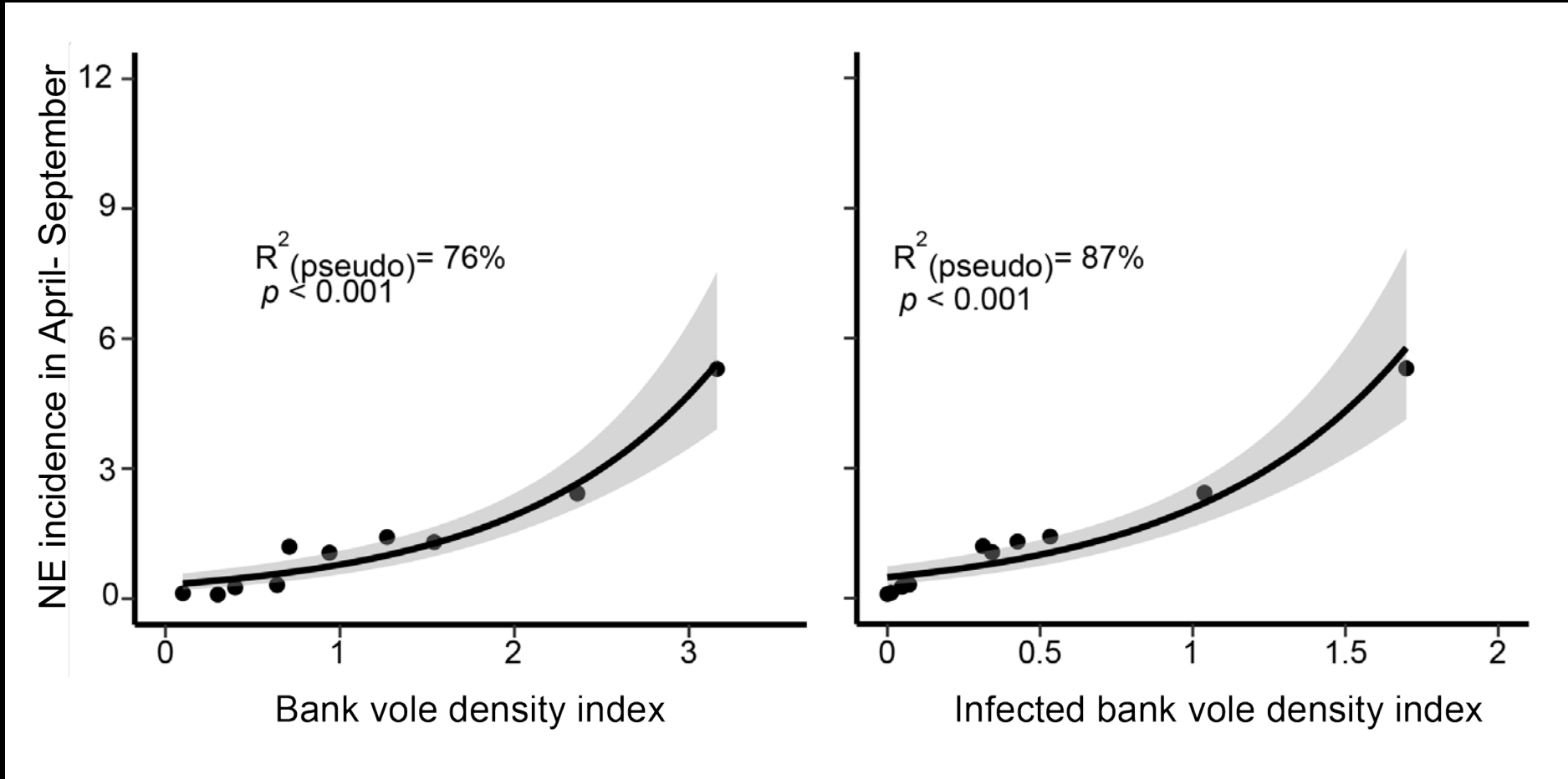


Tian et al. 2017

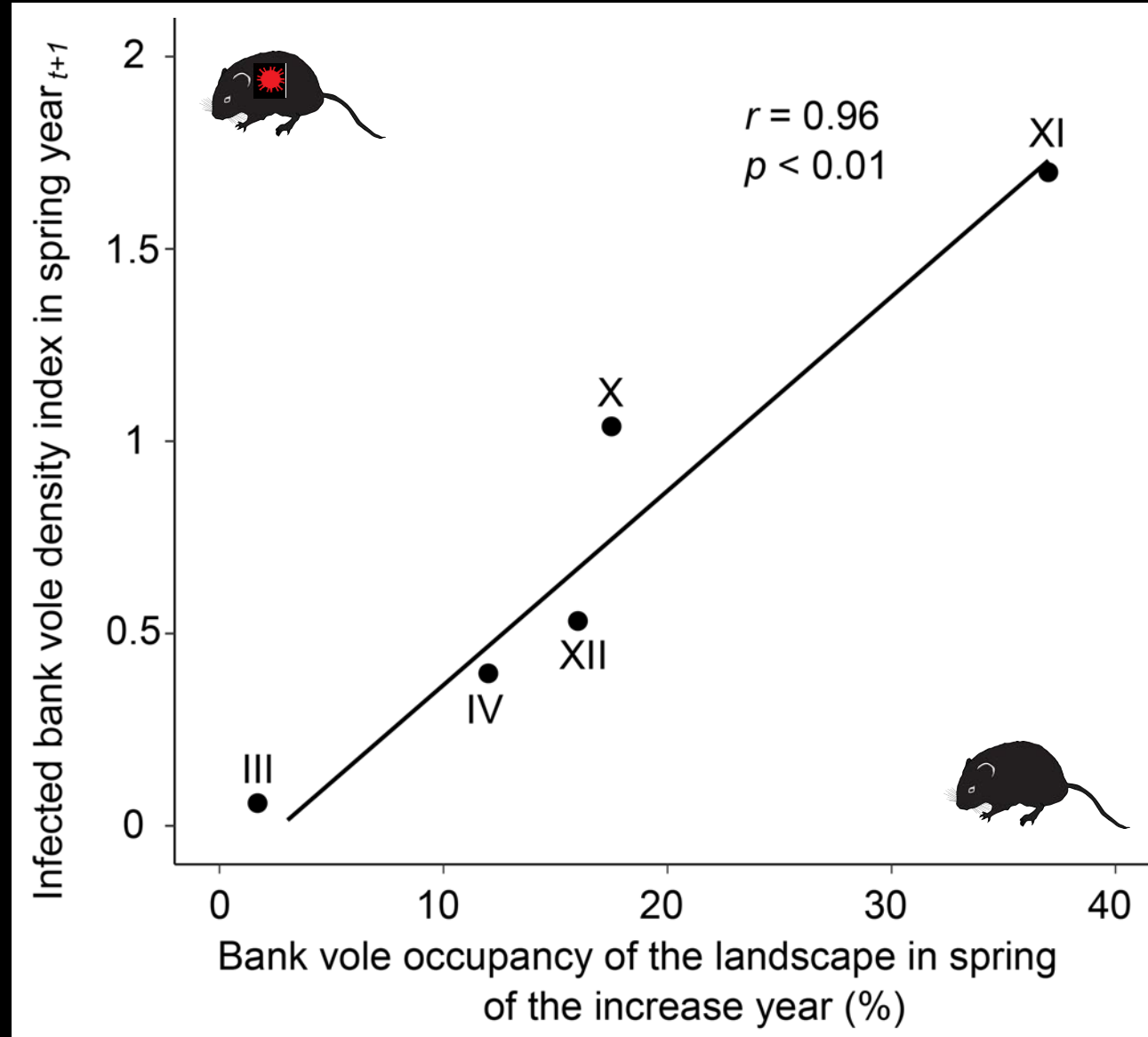


Stenseth et al. 2006

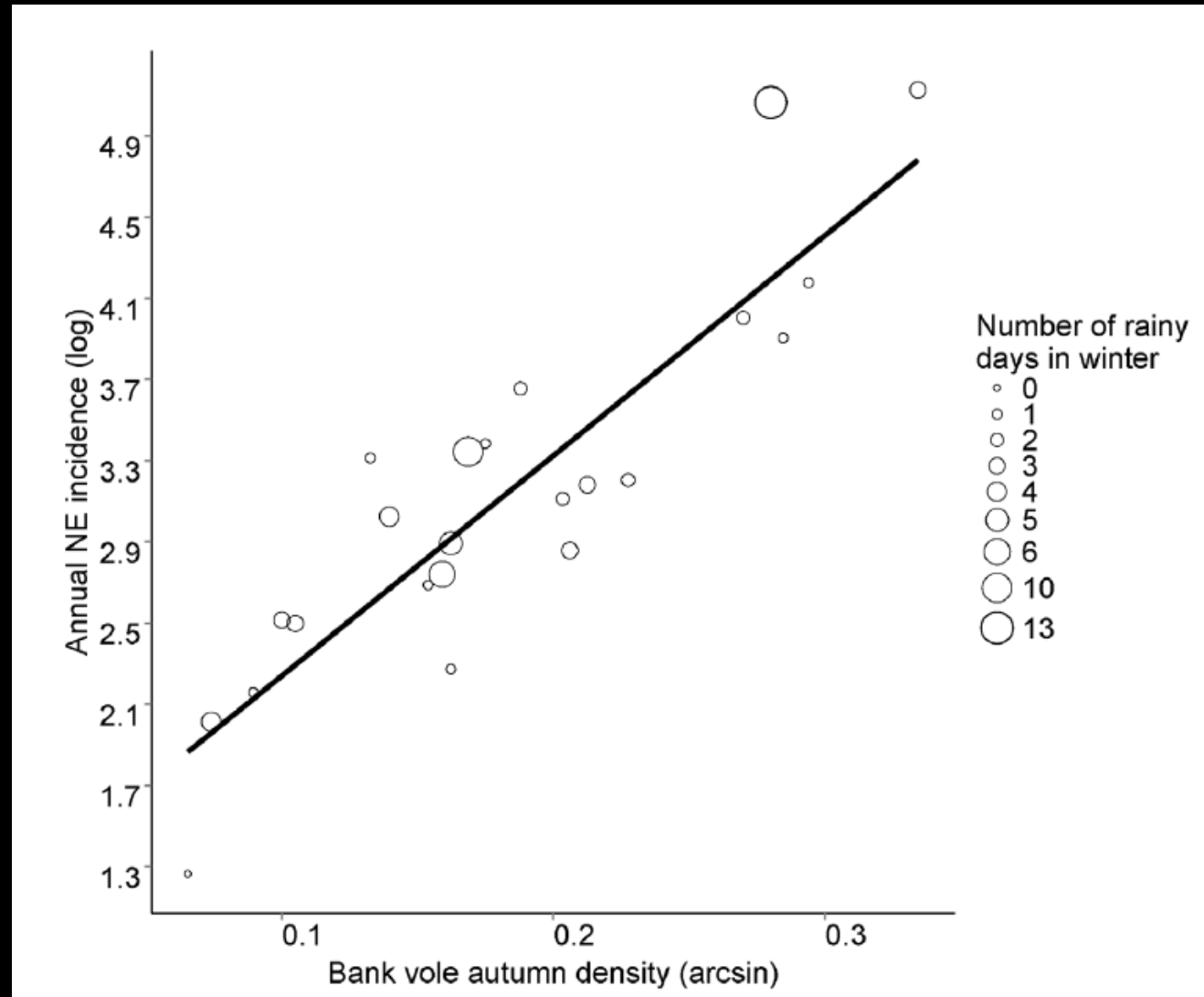
Vole density and NE incidence



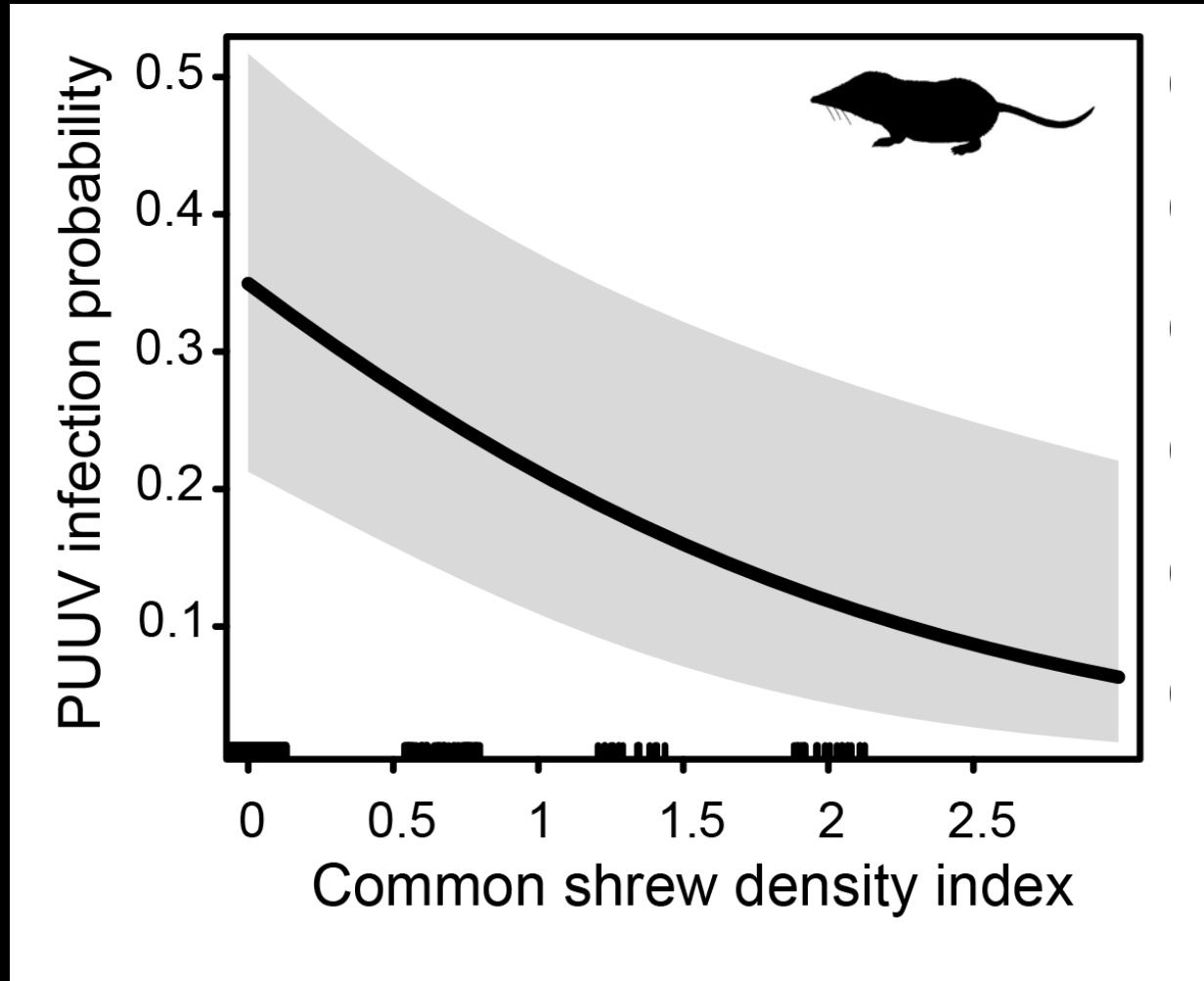
Landscape occupancy



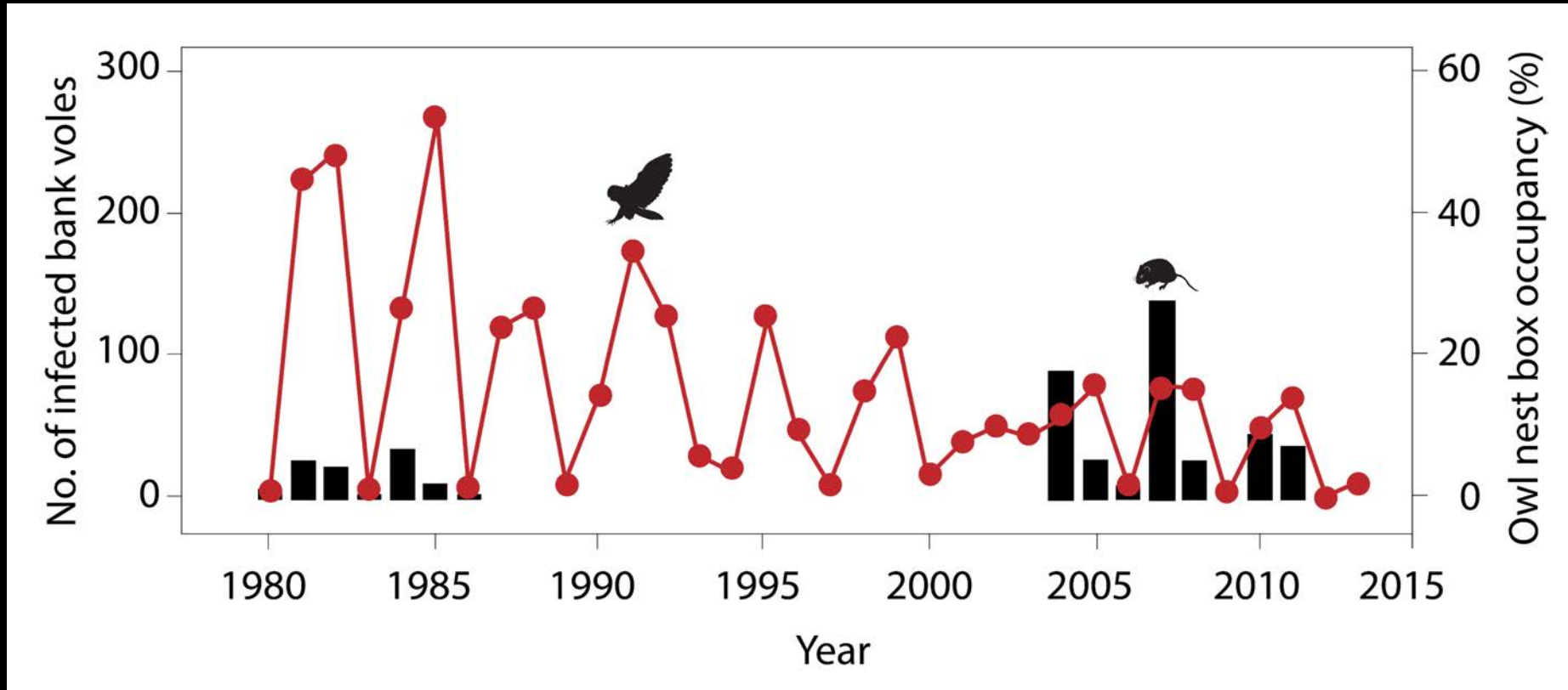
The role of winter conditions



The role of community structure



Predators are good for our health





Ecosystem disturbances affect small

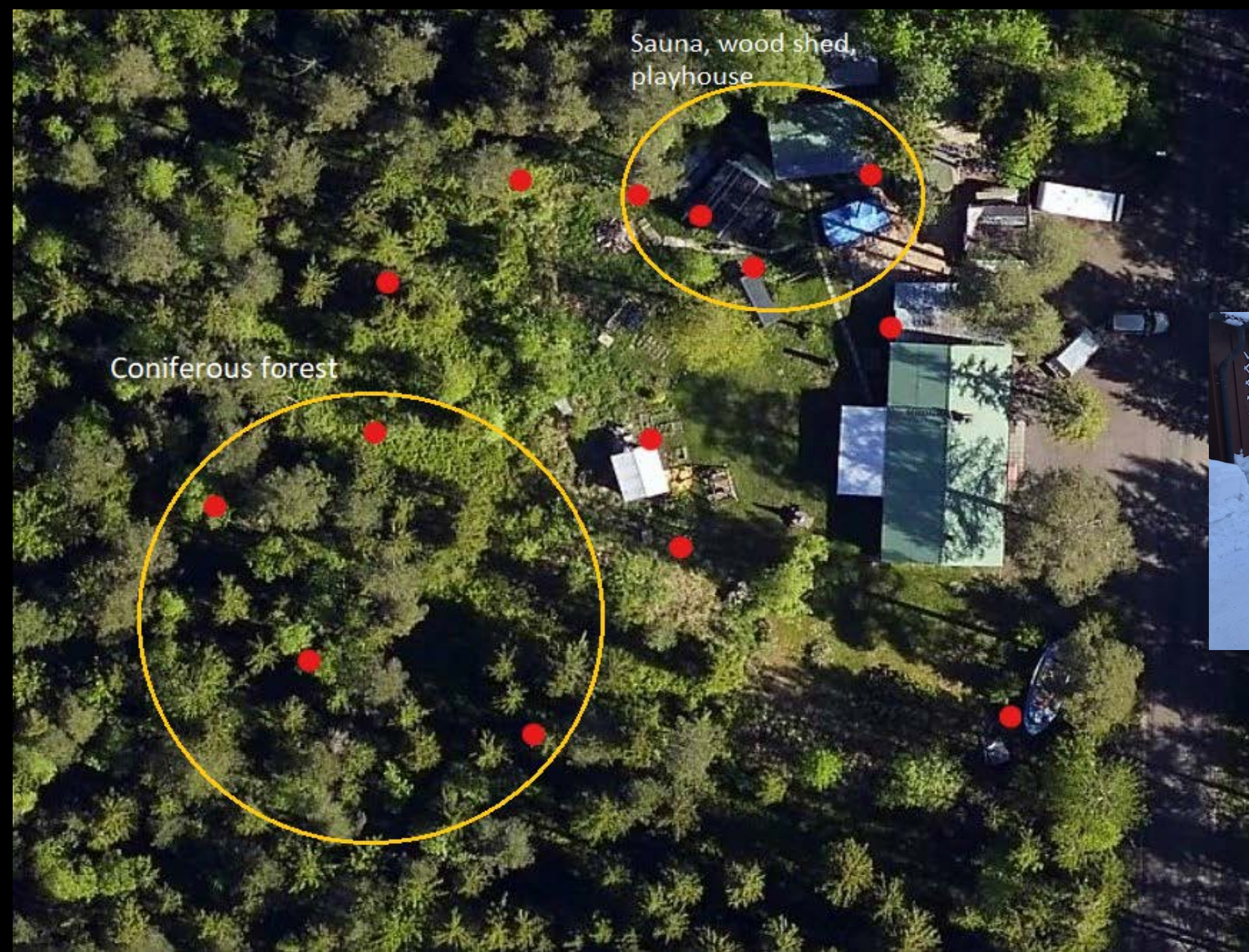
mammal community and pathogen transmission



Environmental factors that trigger indoor movement

- Adverse weather conditions
 - Rain-on-snow event
- Food scarcity
- Suitable nesting sites
- Escape from predation



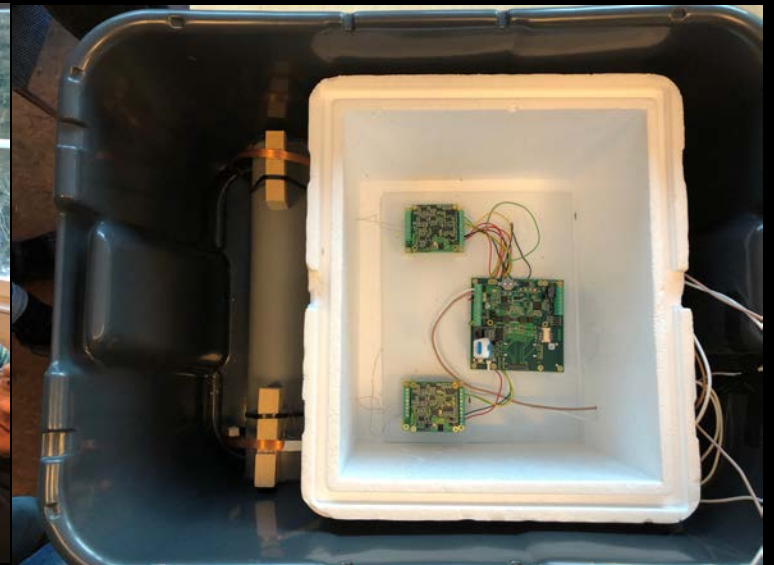


Sauna, wood shed,
playhouse

Coniferous forest



Life-trapping, PIT-tagging & monitoring - The vole box



2019-01-19 10:39:00

M

● -11°C



HYPERFIRE 2 COVERT

RECONYX

2019-01-23 16:31:46

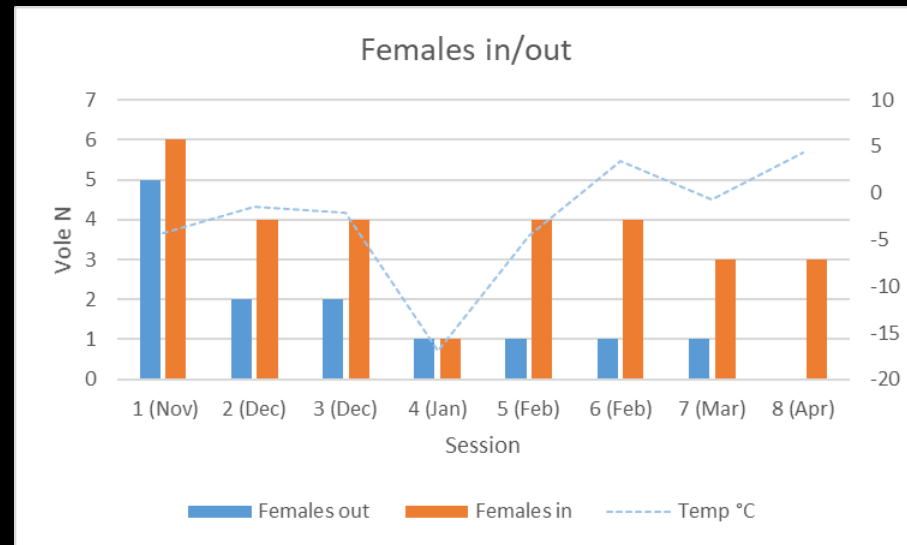
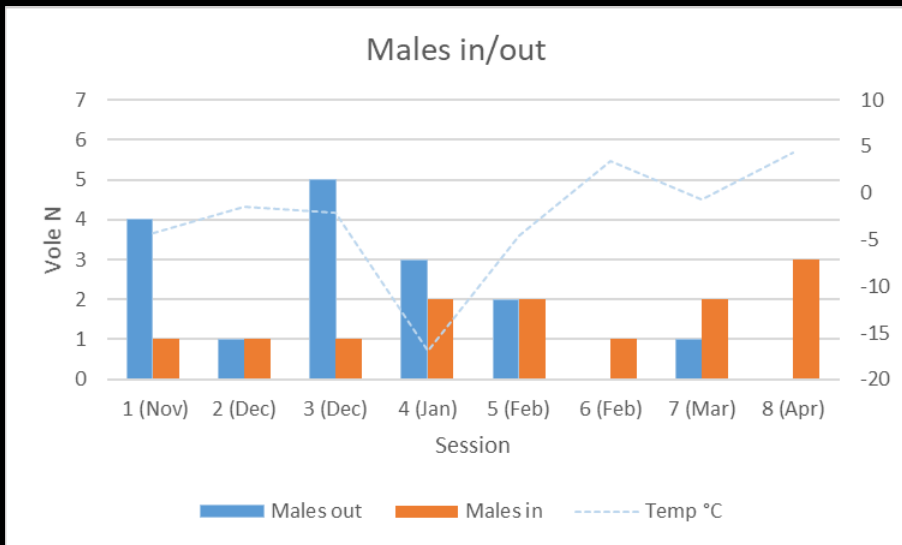
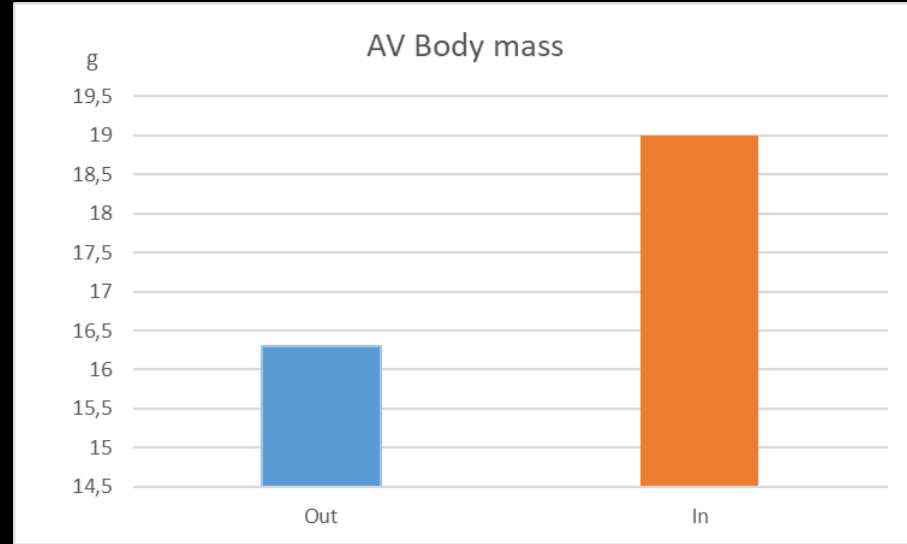
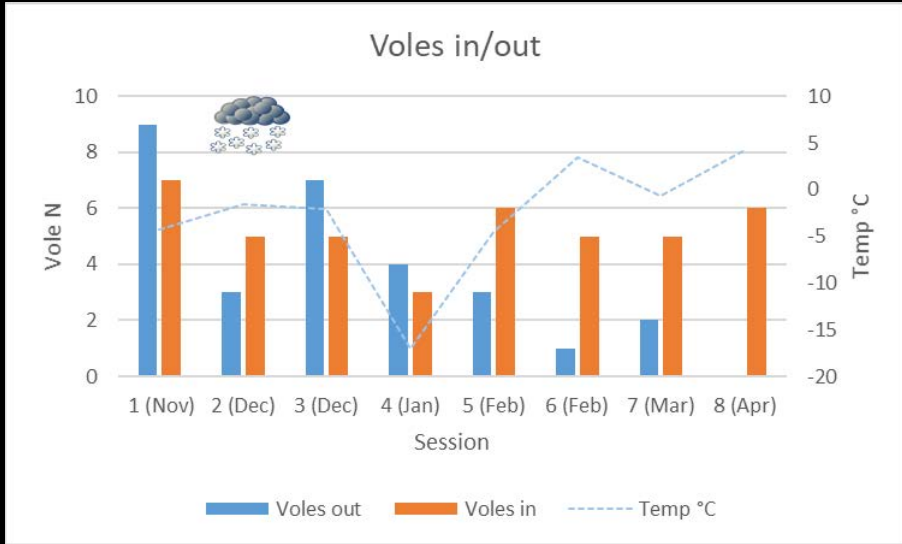
M

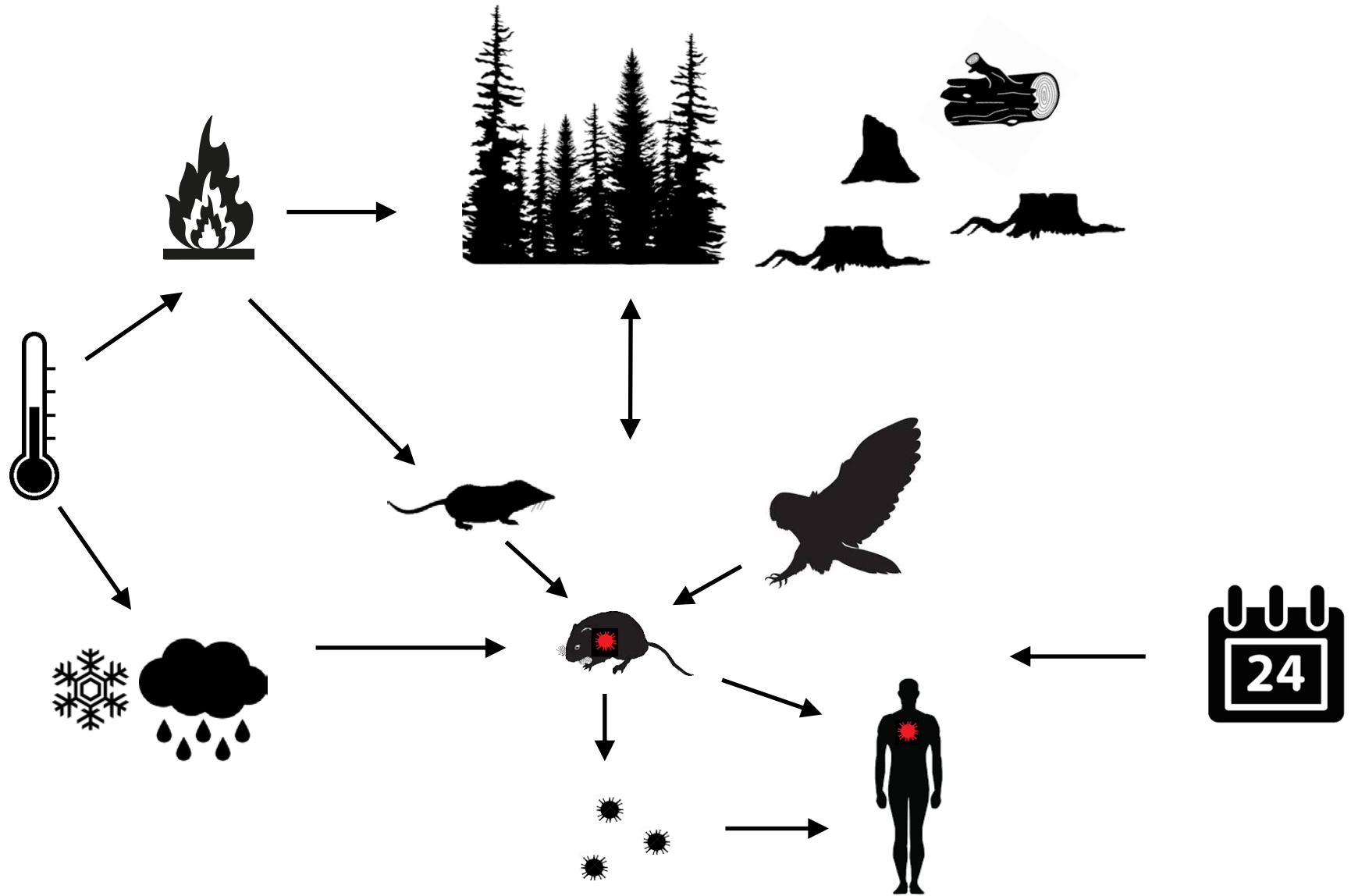
📶 -5°C



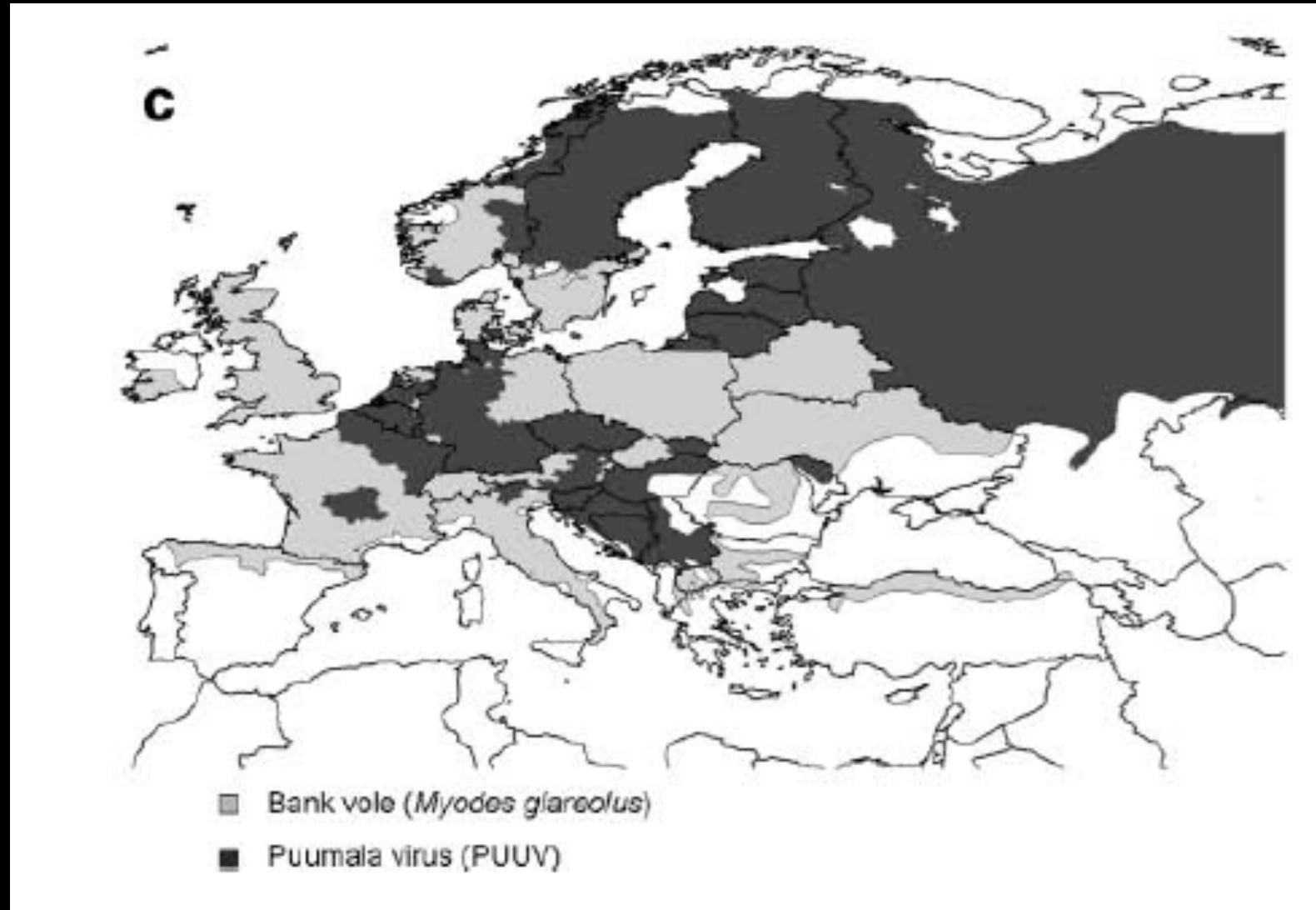
HYPERFIRE 2 COVERT

BICONYX





Spatial mismatch between host and disease



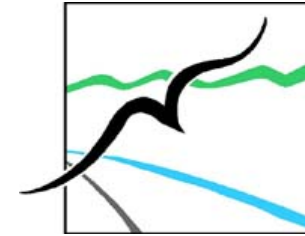
Birger Hörnfeldt

Hussein Khalil

Magnus Magnusson

Saana Sipari

Magnus Evander



FORMAS 