

Pathogen Diversity, Food Security and Food Safety in the Arctic

Antti Oksanen, Finnish Food Safety Authority Evira,
Production Animal and Wildlife Health Research Unit, Oulu



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2014-12-12



FINPAR





<http://www.onehealthinitiative.com/mission.php>

One Health is dedicated to **improving the lives of all species — human and animal —** through the integration of human medicine, veterinary medicine and environmental science.

We do not that much care for e.g. rodent health *per se*, but human health is influenced by animal and ecosystem health; we should not poison the environment with pollutants

pathogen

/'pæθə,dʒɛn/

noun

1. any agent that can cause disease

Collins English Dictionary - Complete & Unabridged 2012
Digital Edition

An agent that causes disease, especially a
living microorganism such as a bacterium, virus,
or fungus.

The American Heritage® Stedman's Medical Dictionary

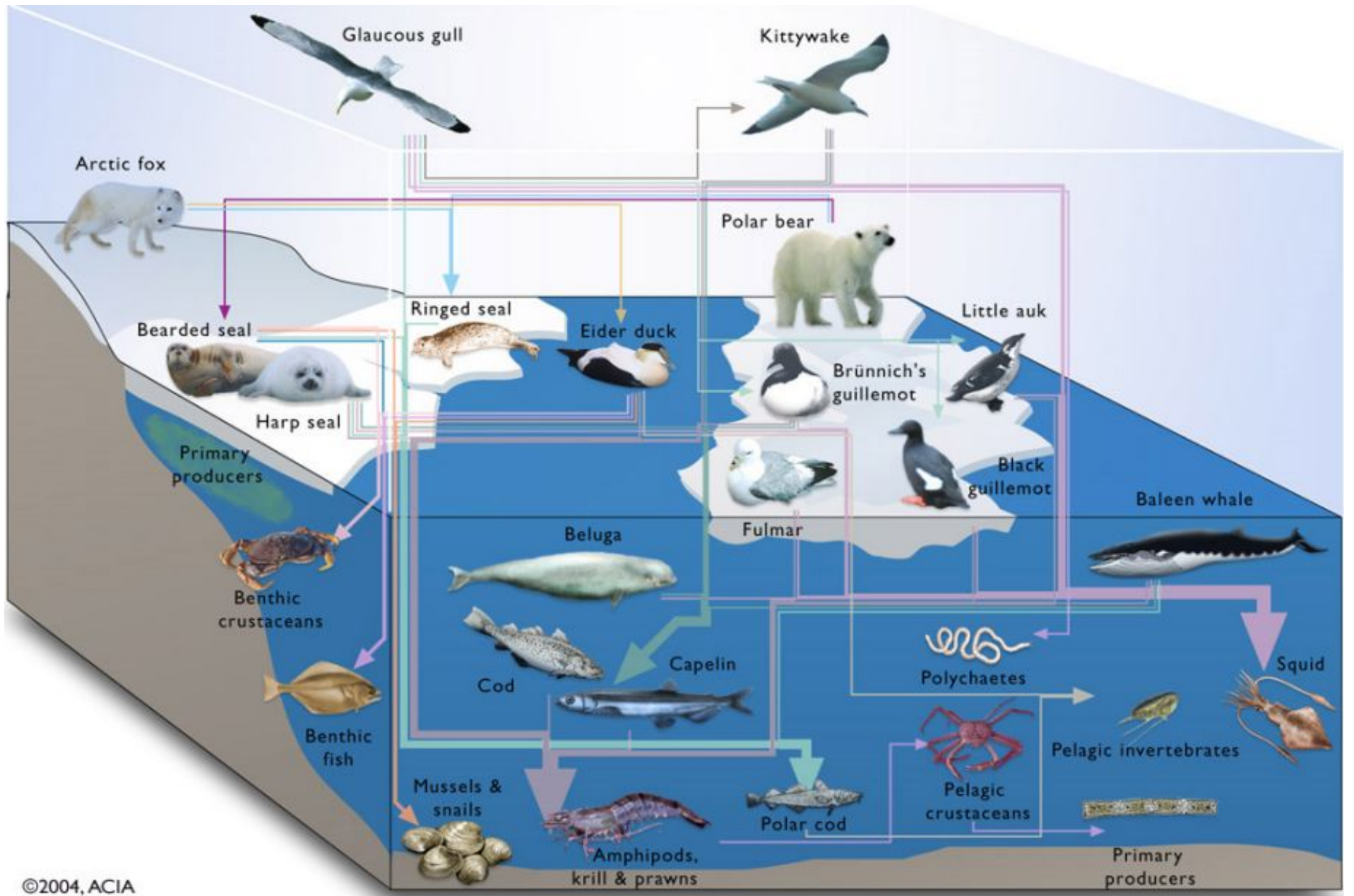


Pathogens are usually just parasites trying to live on and reproduce, with no hard feelings or bad intentions;

obviously sometimes they need to harm the host in order to be able to propagate

-but so does the polar bear harm its prey

Everyone will eventually be eaten up – dead or alive



The Arctic is not isolated;

migrating geese are hypothesized to transport
Toxoplasma gondii infection from Western Europe
to the High Arctic Archipelago of Svalbard

Pathogens compete for food resources, also with humans; therefore they affect food security

Still, they are integral parts of the ecosystem

Pathogens also may parasitize humans, and especially if the human being is an aberrant host, the outcome may be really pathologic – evident effect on food safety



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Practitioners' Corner Le coin des praticiens

Anthrax and the Taiga

Robert Gainer, Antti Oksanen

THE UNIVERSITY OF HELSINKI

In summary, the **Russian explanation as to why the dose- dependent model does not apply to these animals** is that the animals used in the experiments to demonstrate dose dependency would have been well cared for, strong and healthy, and their resistance to disease would have been high; the opposite of these animals in anthrax outbreaks on the Taiga. **Invariably where outbreaks occur around the world the animals are usually subject to horrific environmental conditions including insect harassment, drought, starvation, and heat, and their resistance to disease would be low.** The Russians can then recognize that insects are an important mode of transmission and that the vegetative stage is an important source of infection, as well as spores, the soil and the external environment. This eliminates the need for a point source of enormous numbers of spores that need to be ingested.

The Balance Of GOOD HEALTH

Fruit and Vegetables

**Bread, other cereals
and potatoes**



**Meat, fish
and alternatives**

**Foods containing fat
foods containing sugar**

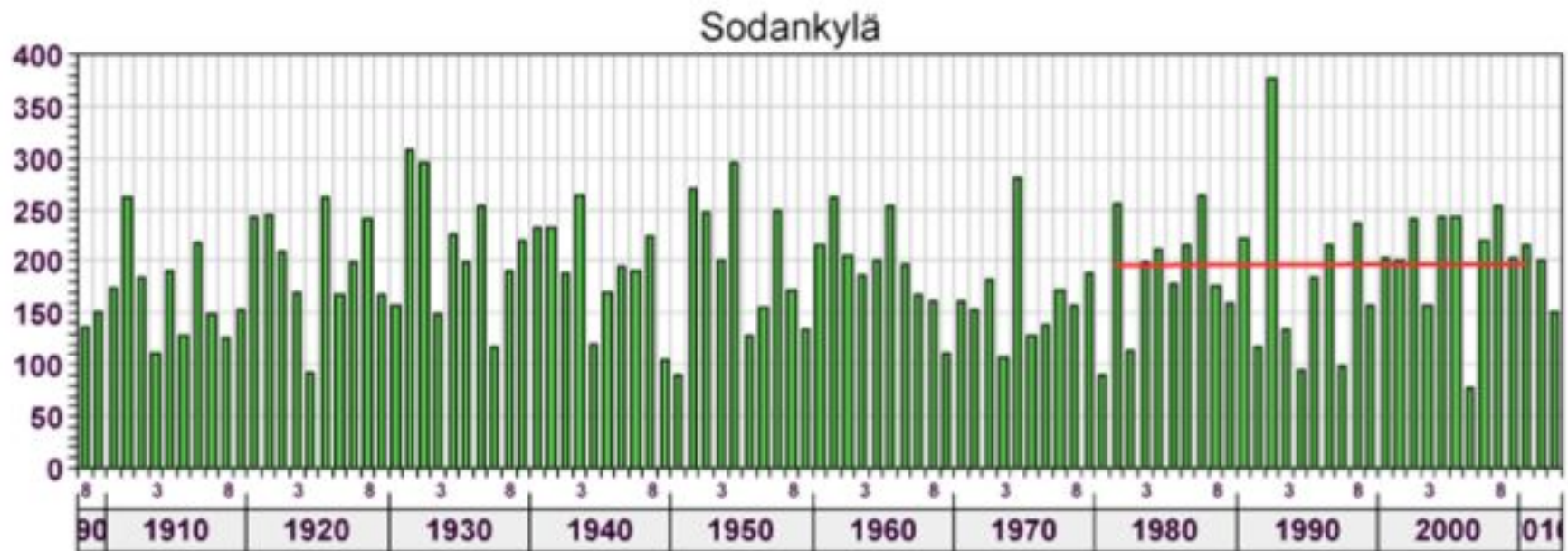
**Milk and
dairy foods**

©DFES, U.K.





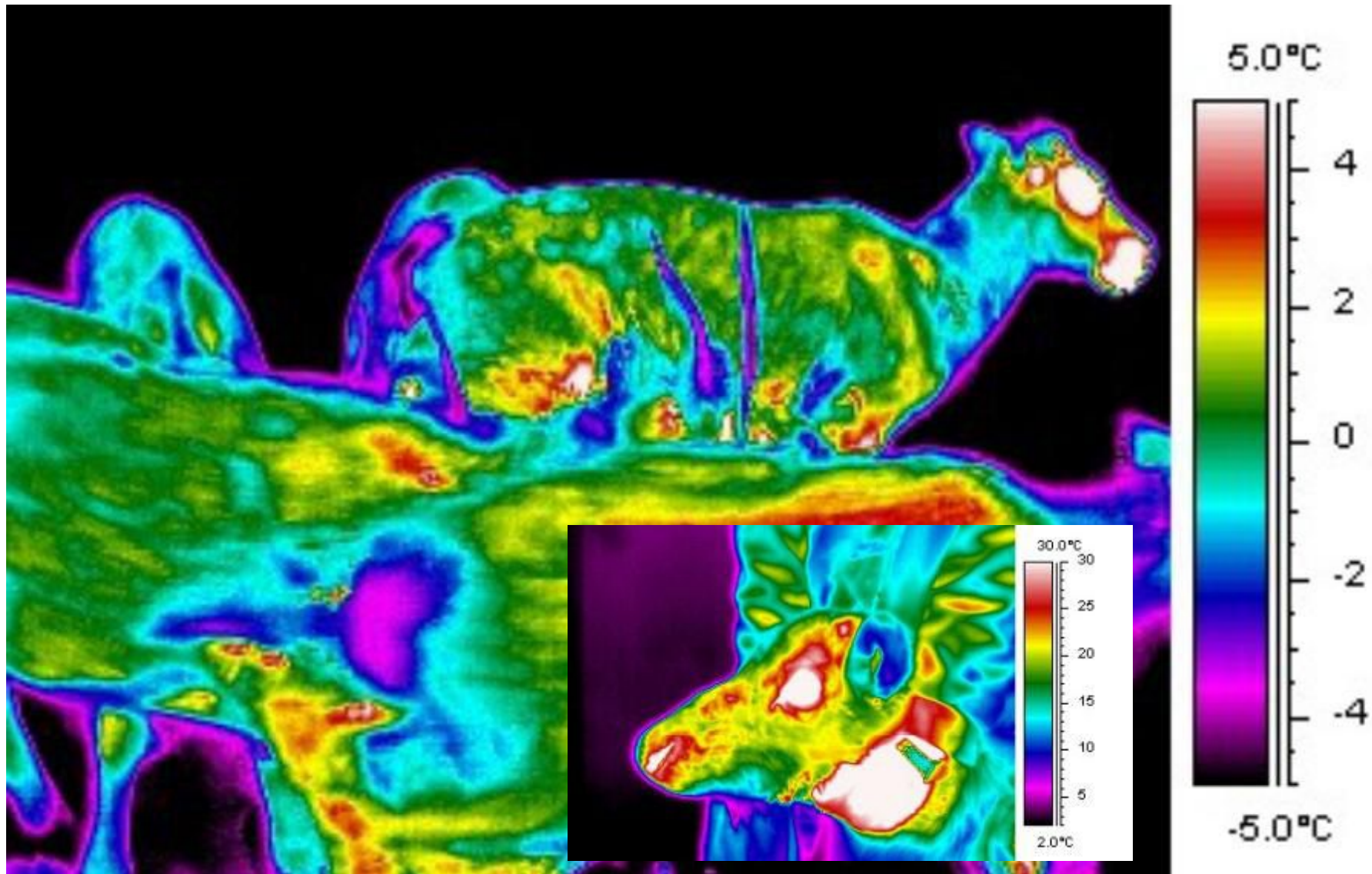
ILMATIETEEN LAITOS

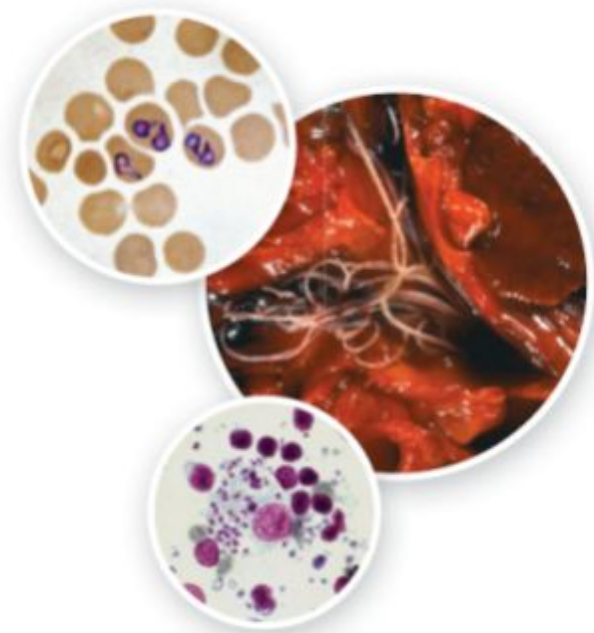


Punainen viiva kuvaa vertailukauden 1981-2010 keskimääräistä sademäärää kesänaikana. Helsingissä keskiarvo on 200 mm ja Sodankylässä 196 mm.







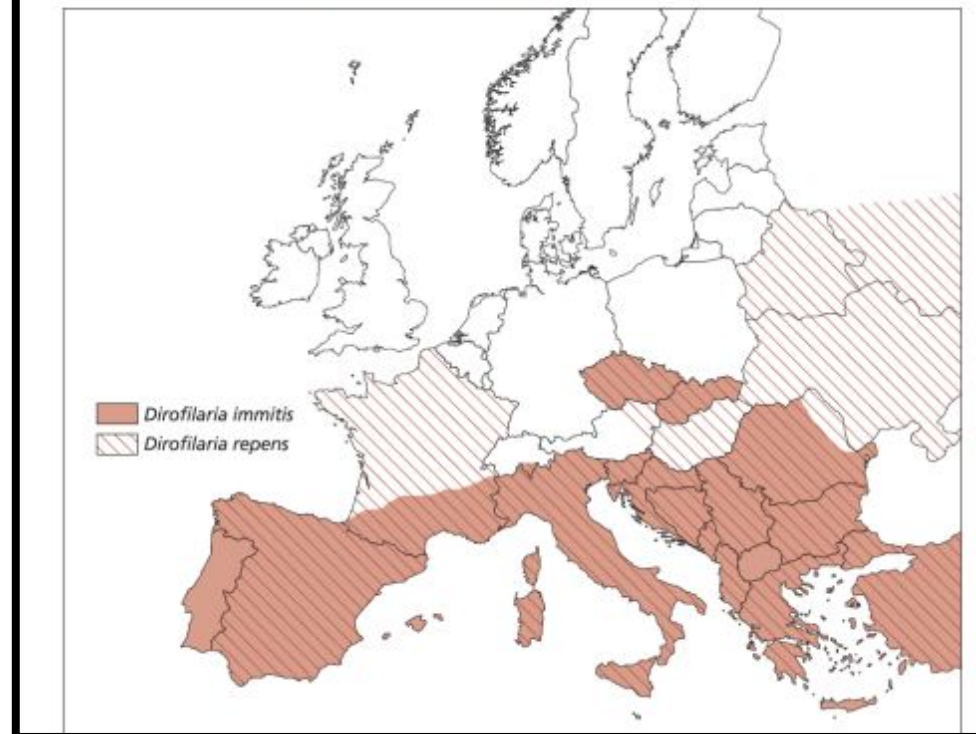


Control of Vector-Borne Diseases in Dogs and Cats

ESCCAP Guideline 05 Second Edition* - October 2012

*This edition supersedes ESCCAP Guideline 05 First Edition

Fig. 2 Approximate distribution of *Dirofilaria immitis* and *Dirofilaria repens* in Europe



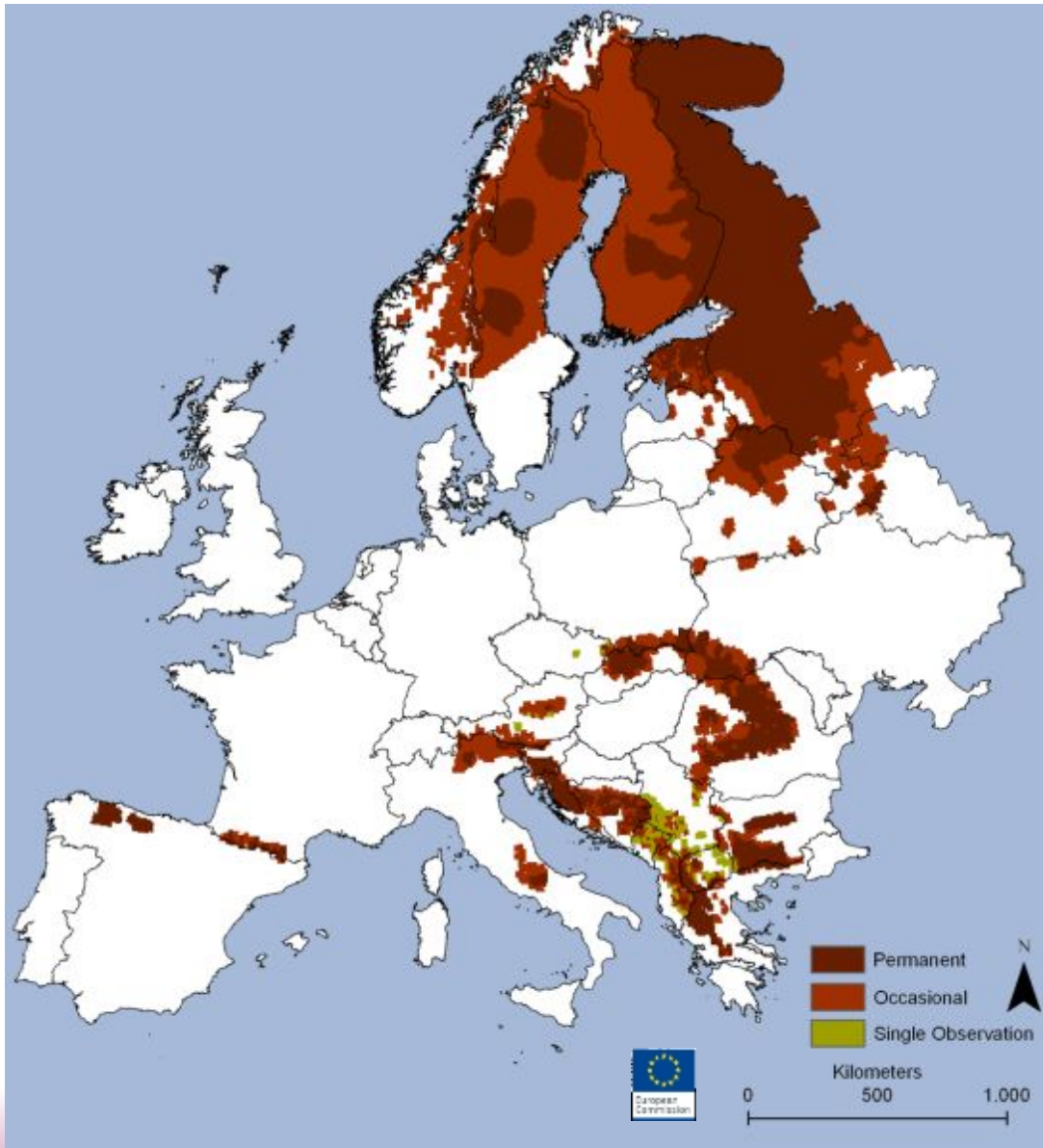


Meteorological stations included in a model study

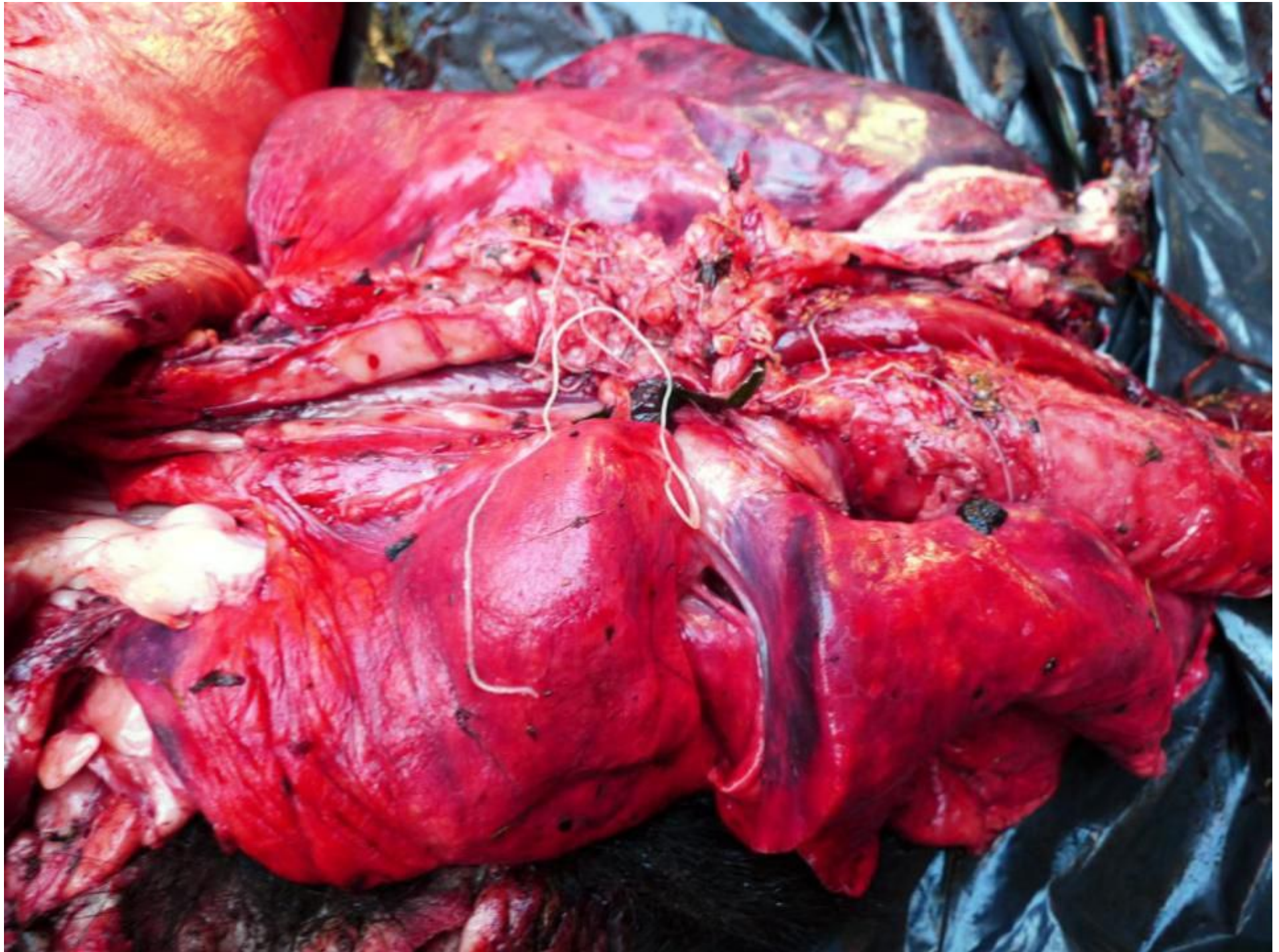
HeartwormDevelopmentUnits – HDUs: degree days in excess of the threshold temperature of 14 °C



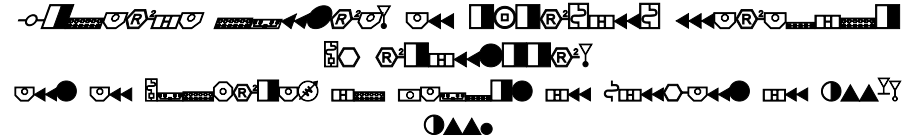
Heartworm predictive model based on growing degree days. Stations reaching 130 HDUs at least once in the studied years in July (from Genchi et al., 2005)



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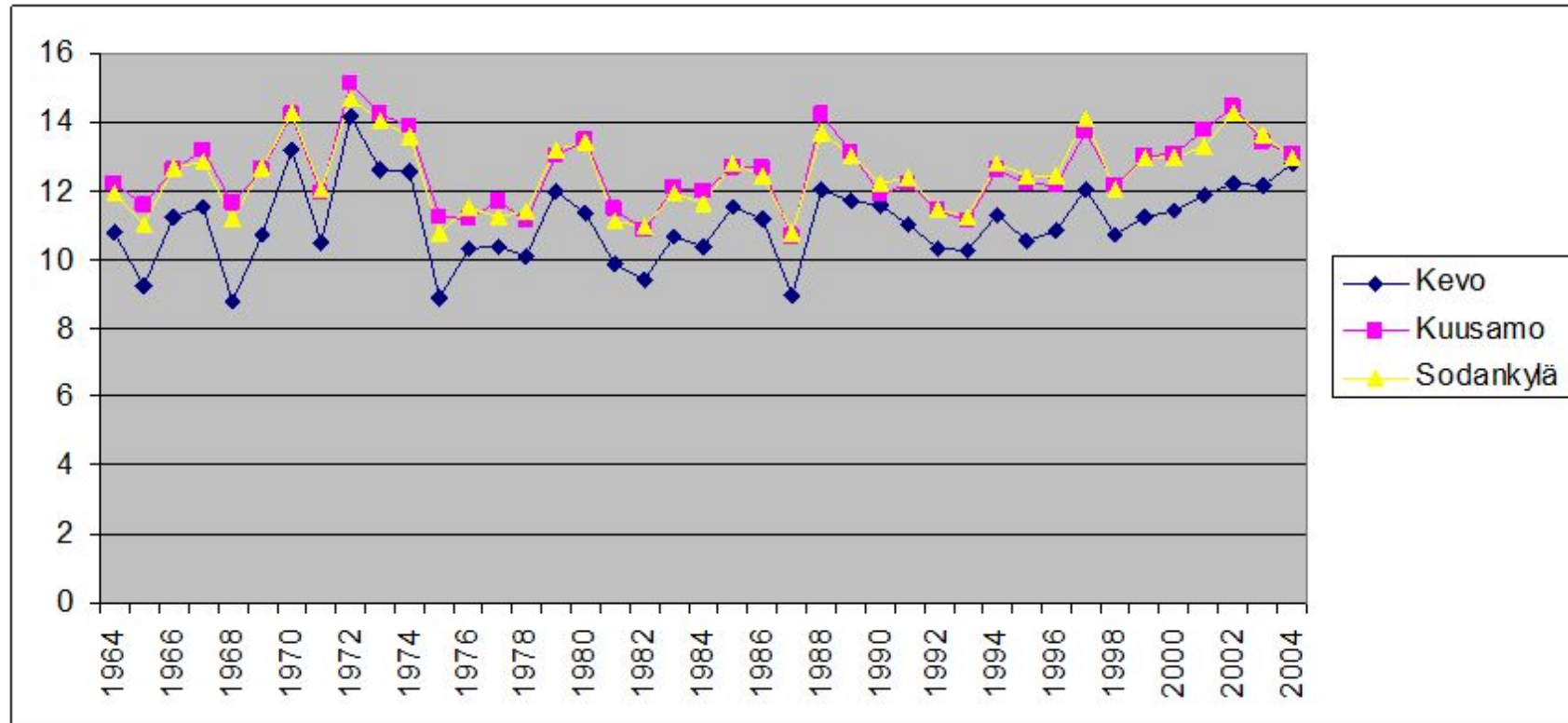


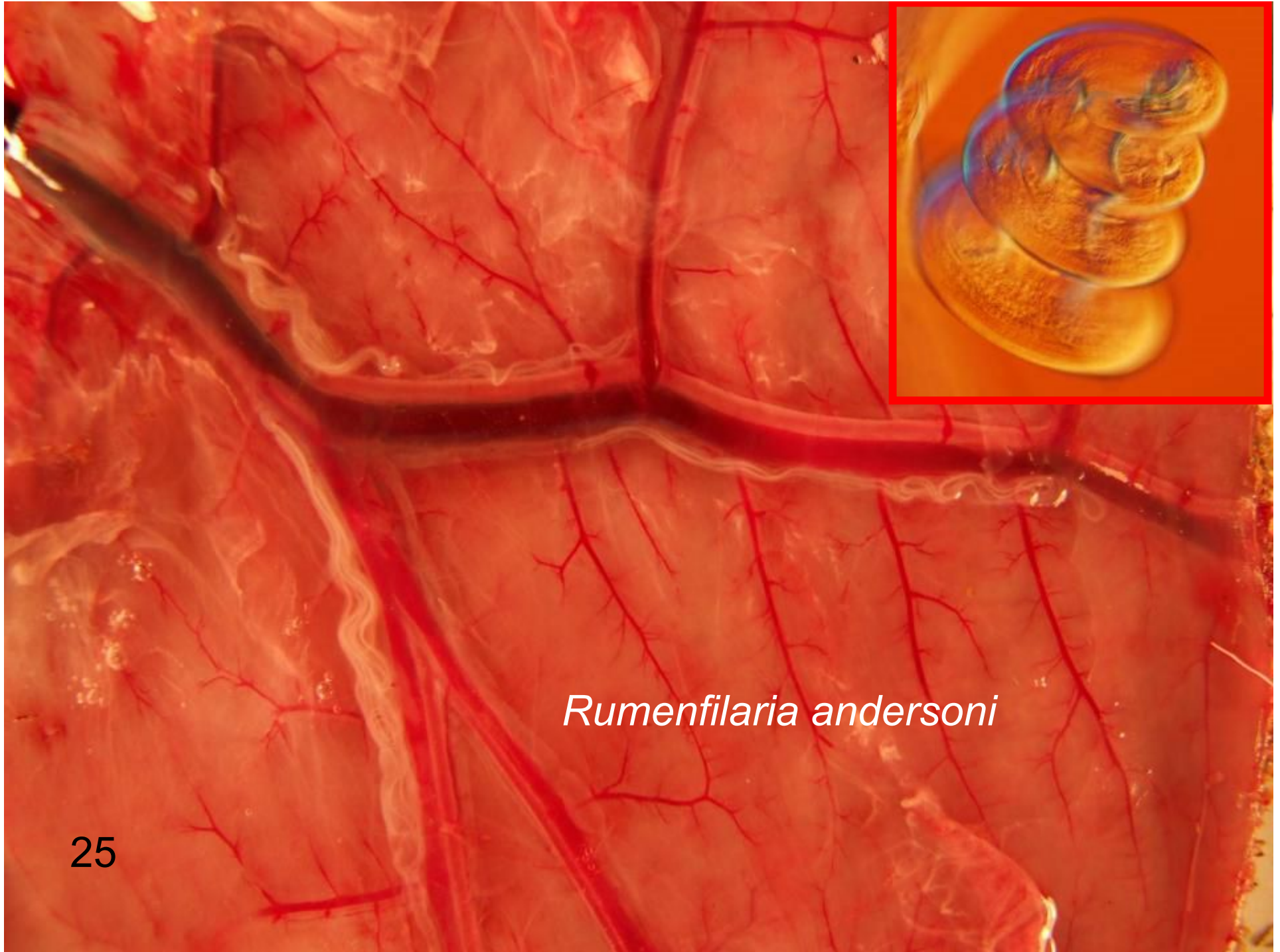


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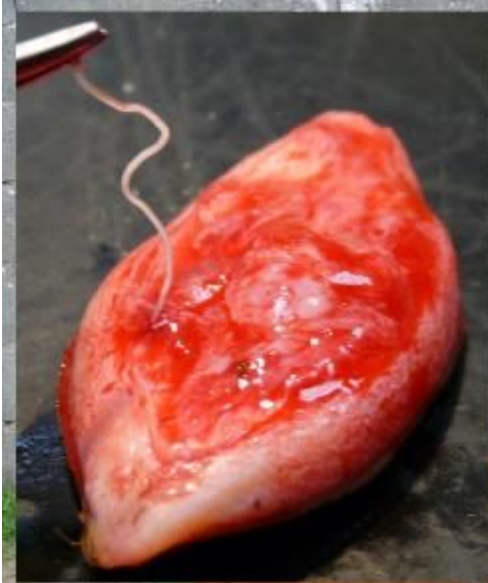
Summer month mean temperatures

- two consecutive warm summers – risk of outbreak



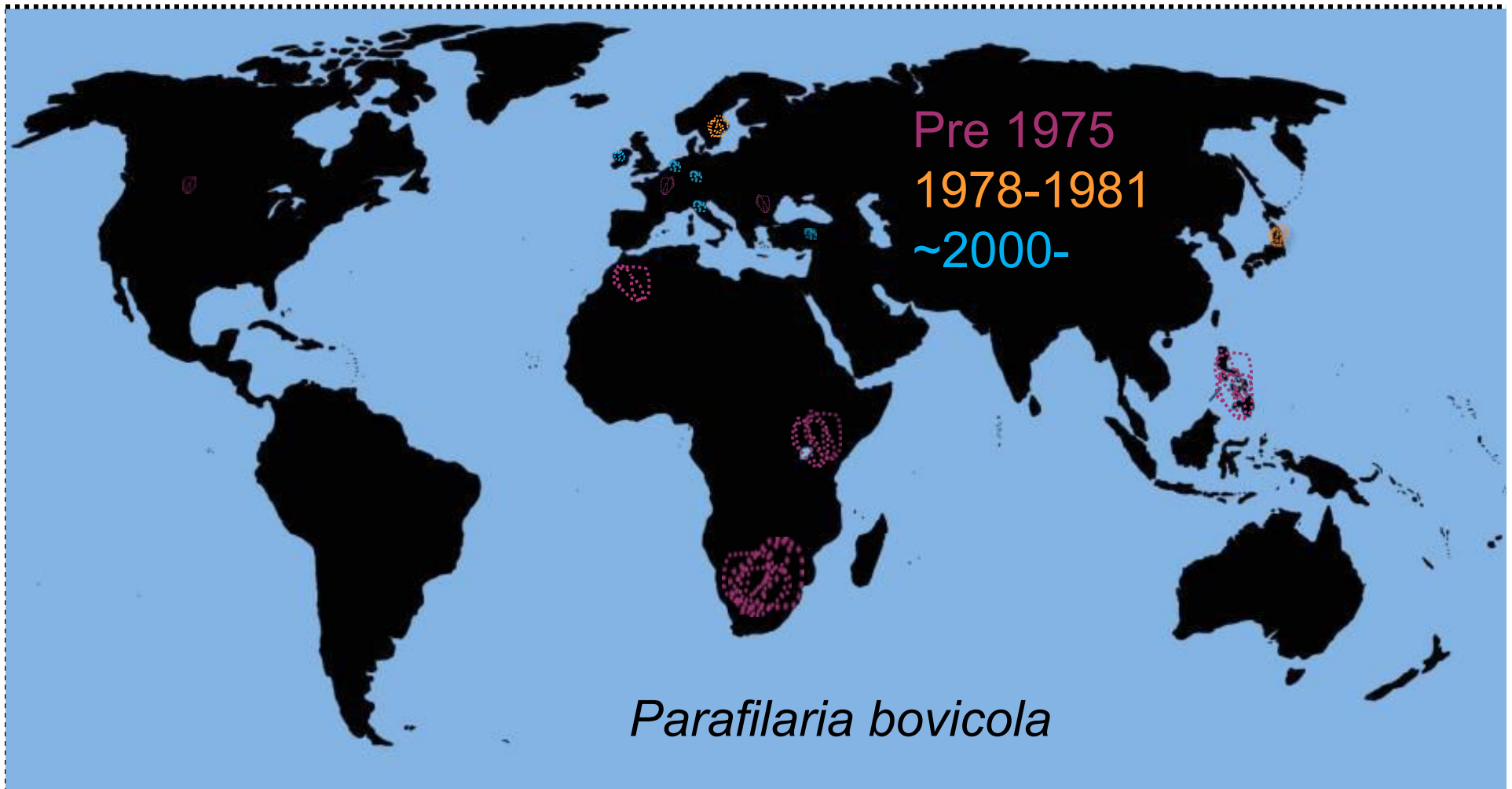


Rumenfilaria andersoni



Parafilaria bovicola





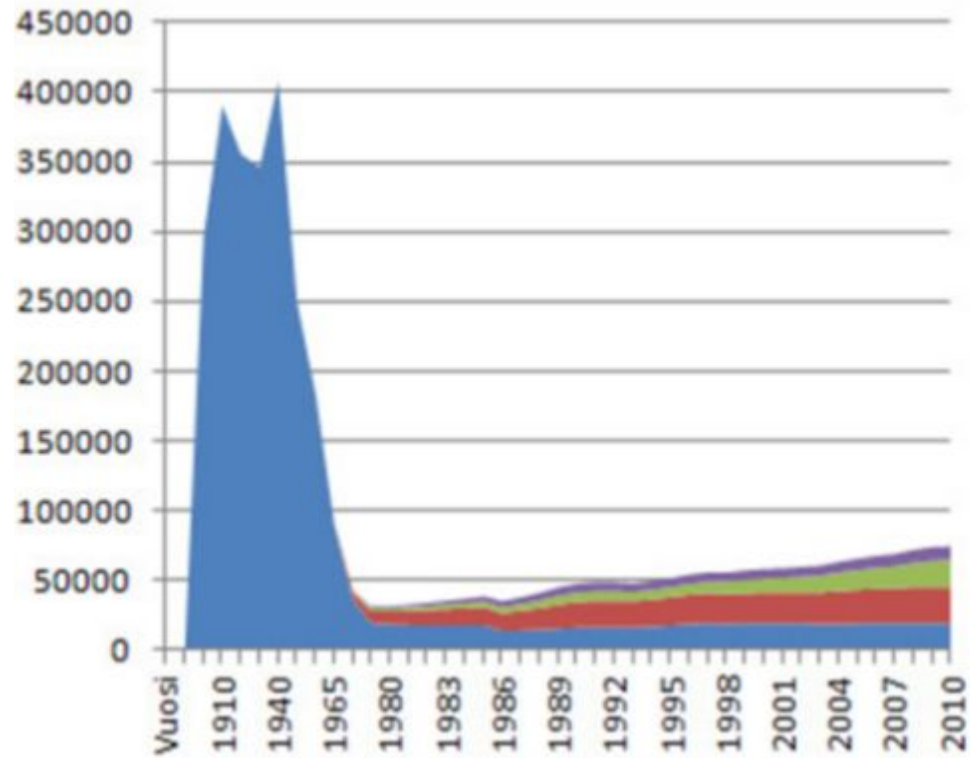


<http://www.vet.uga.edu>

Onchocerca cervicalis
Common in Finland during the 1940s

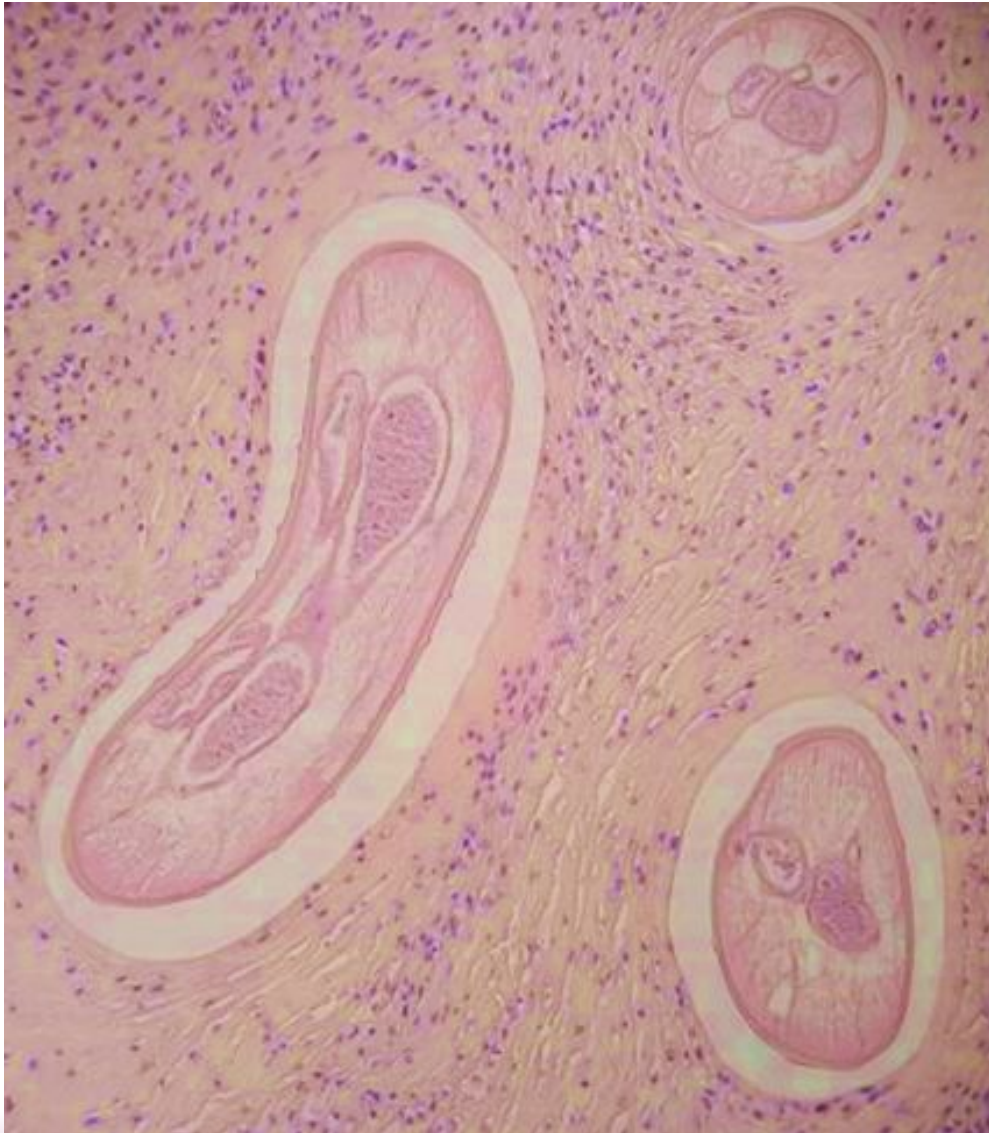


Finnish horse population during the last century





<http://commons.wikimedia.org/>

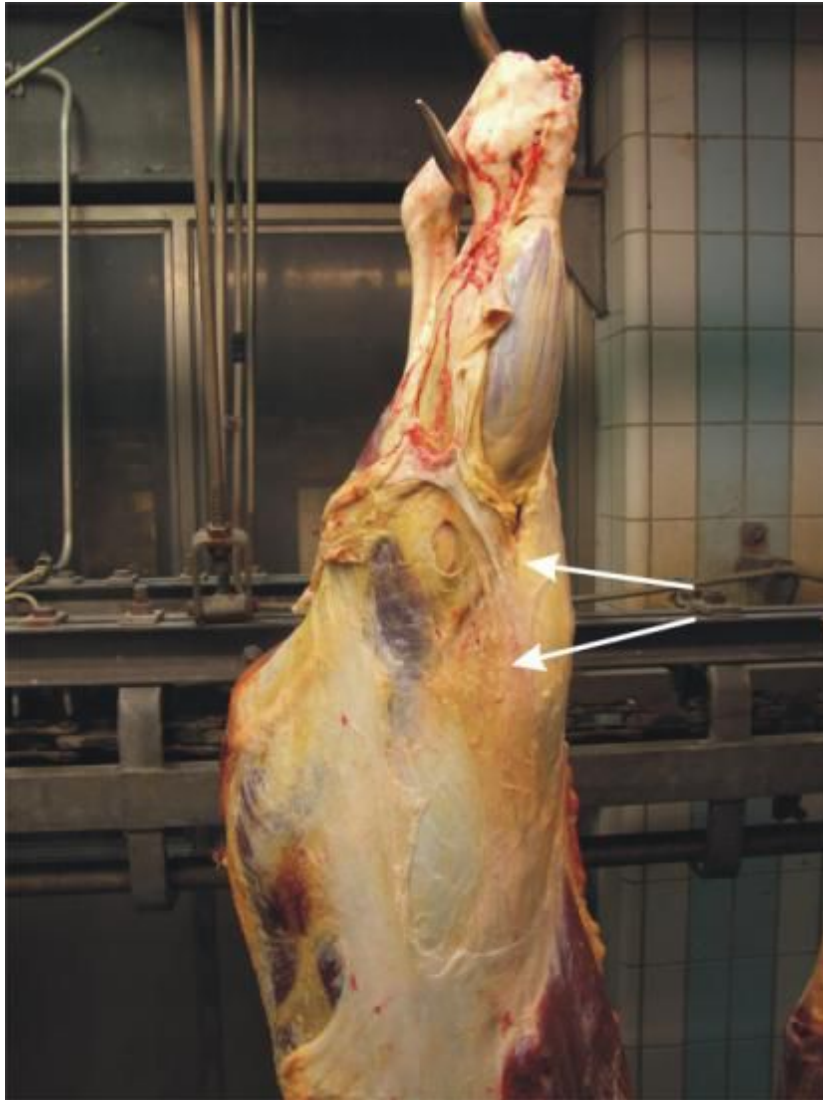


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moose





40 % of Finnish slaughter
cattle *Onchocerca microfilaria*
positive

Acta Veterinaria Scandinavica



Research

Open Access

Filarioid nematodes in cattle, sheep and horses in Finland

Milla Solismaa¹, Sauli Laaksonen^{* 1}, Minna Nylund¹, Elisa Pitkänen²,
Riitta Airakorpi³ and Antti Oksanen¹

Address: ¹Finnish Food Safety Authority Evira, Fish and Wildlife Health Research Unit, PO Box 517, 00101 Oulu, Finland; ²Finnish Food Safety Authority Evira, Inspecting veterinarian, Atira slaughterhouse, PO Box 147, 20101 Kauppi, Finland and ³Finnish Food Safety Authority Evira, Inspecting veterinarian, Vuojokas Rieki Oy slaughterhouse, Mänttälä 7, 94200 Kemi, Finland

Email: Milla Solismaa - milla.solismaa@evira.fi; Sauli Laaksonen^{*} - sauli.laaksonen@evira.fi; Minna Nylund - minna.nylund@evira.fi; Elisa Pitkänen - elisa.pitkanen@evira.fi; Riitta Airakorpi - riitta.airakorpi@evira.fi; Antti Oksanen - antti.oksanen@evira.fi

^{*} Corresponding author

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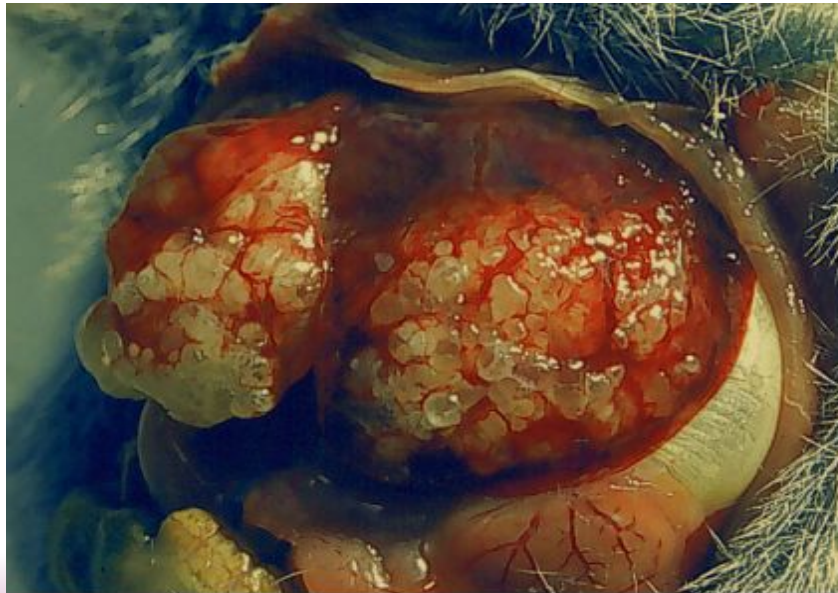
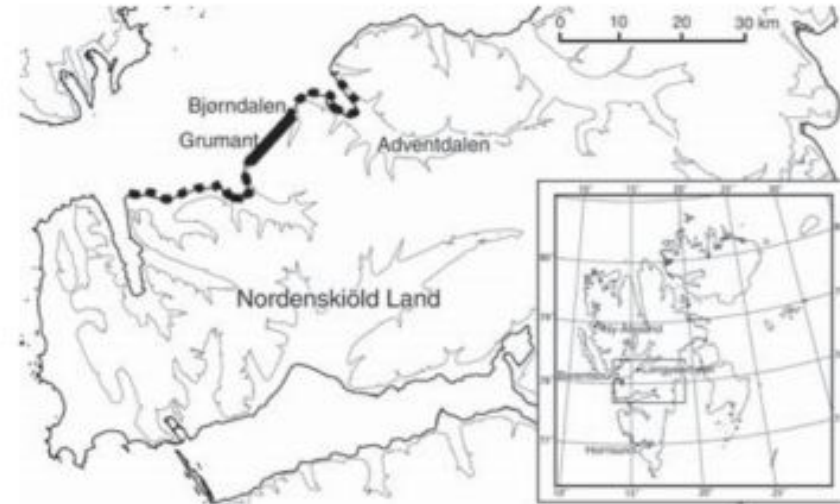
Filarioid nematodes emerge in Arctic, sub-Arctic and Boreal Europe – or is it just better research?

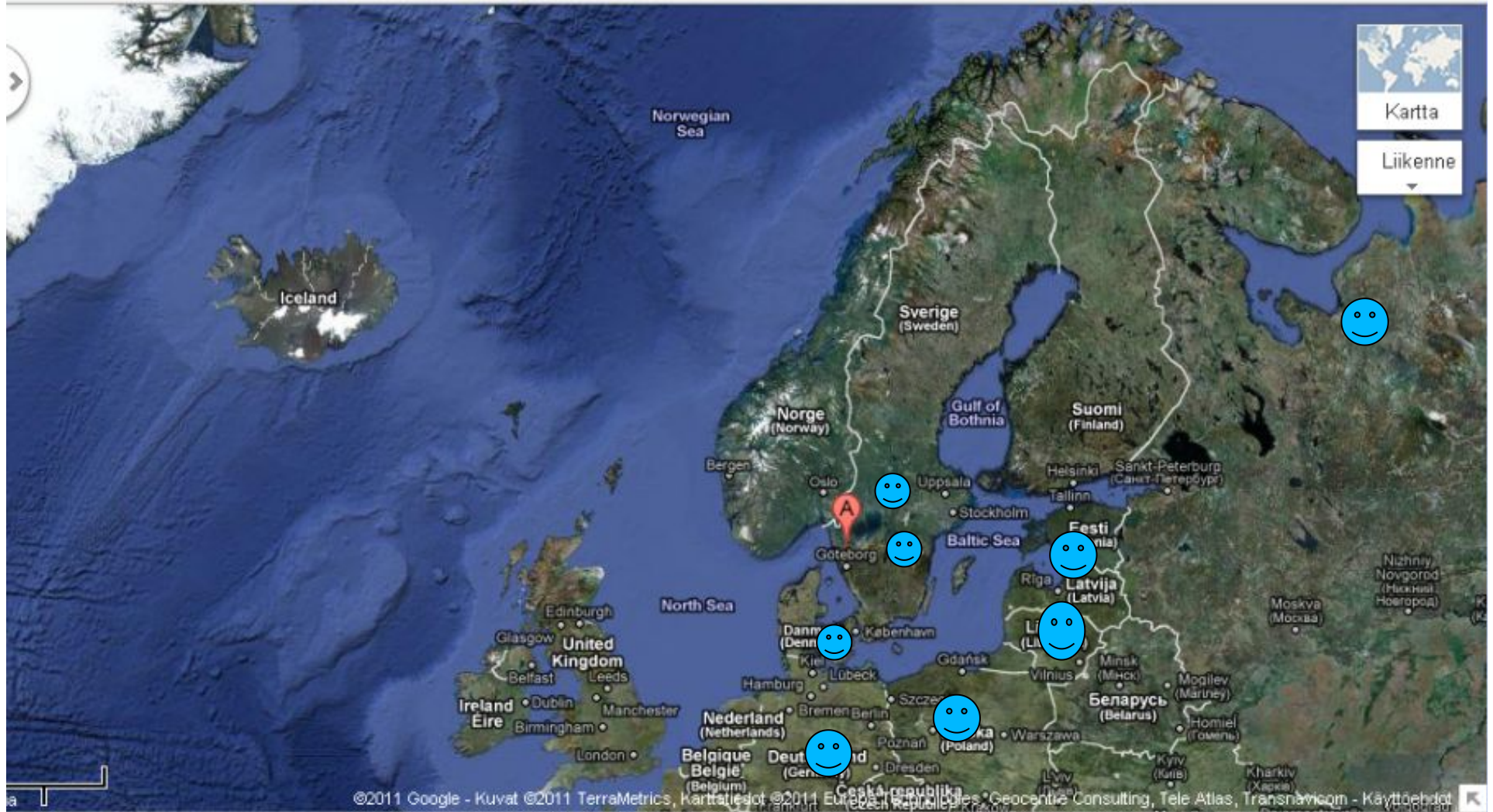
- *Dirofilaria repens* emerging (to be seen)
- *Dirofilaria ursi* neglected
- *Setaria tundra* emerging, better research
- *Rumenfilaria andersoni* invasive alien species (?)
- *Parafilaria bovicola* emerged, submerged
- *Onchocerca cervicalis* submerged, reneglected (?)
- *Onchocerca* spp. emerging, neglected (?)
- Others (?) neglected, poor research

- Who lives, sees, who dissects, sees more and clearer

Spatial Distribution of *Echinococcus multilocularis*, Svalbard, Norway

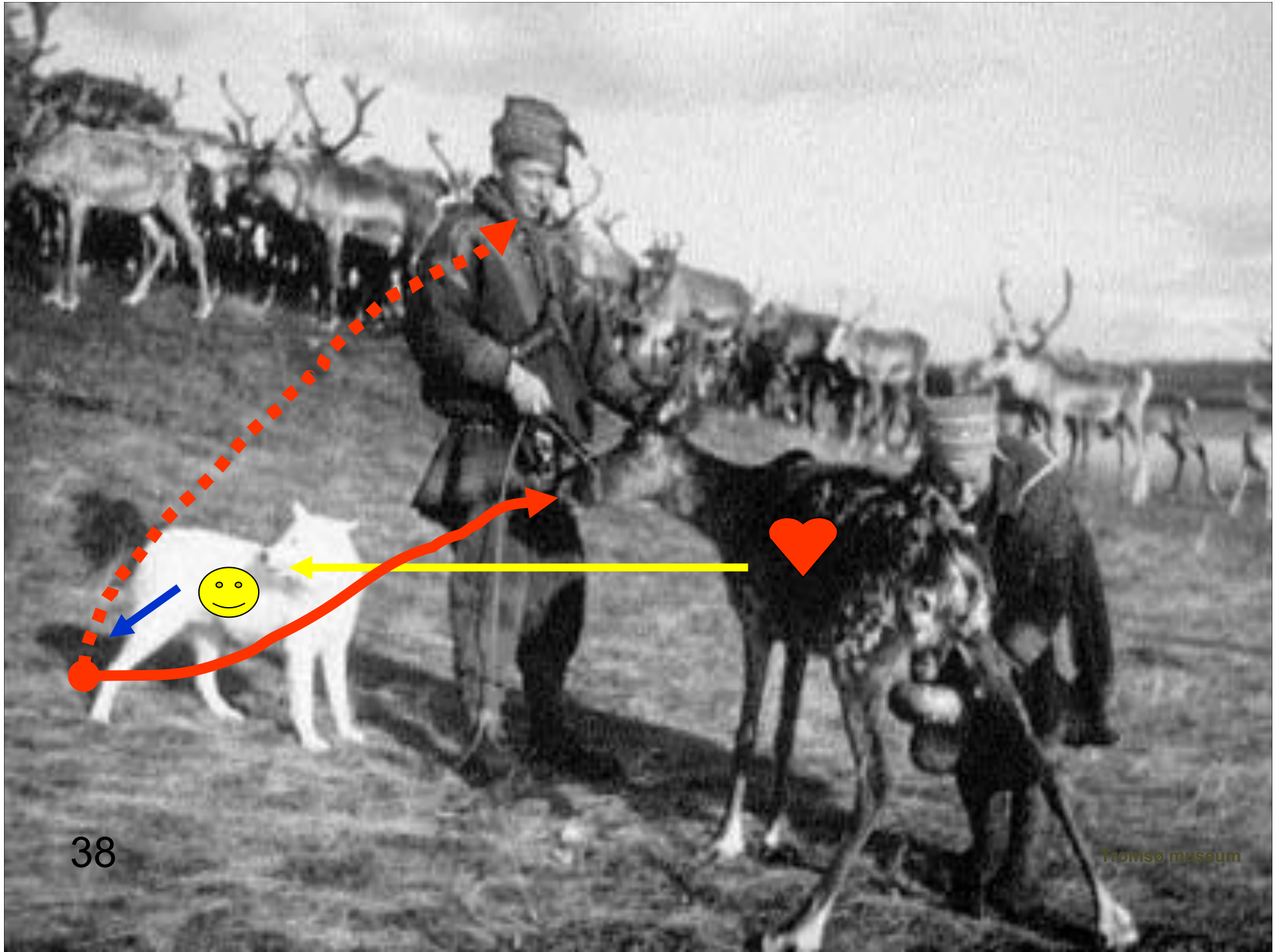
Eva Fuglei,* Audun Stien,† Nigel G. Yoccoz,‡
Rolf A. Ims,‡ Nina E. Eide,† Pål Prestrud,§
Peter Deplazes,¶ and Antti Oksanen#

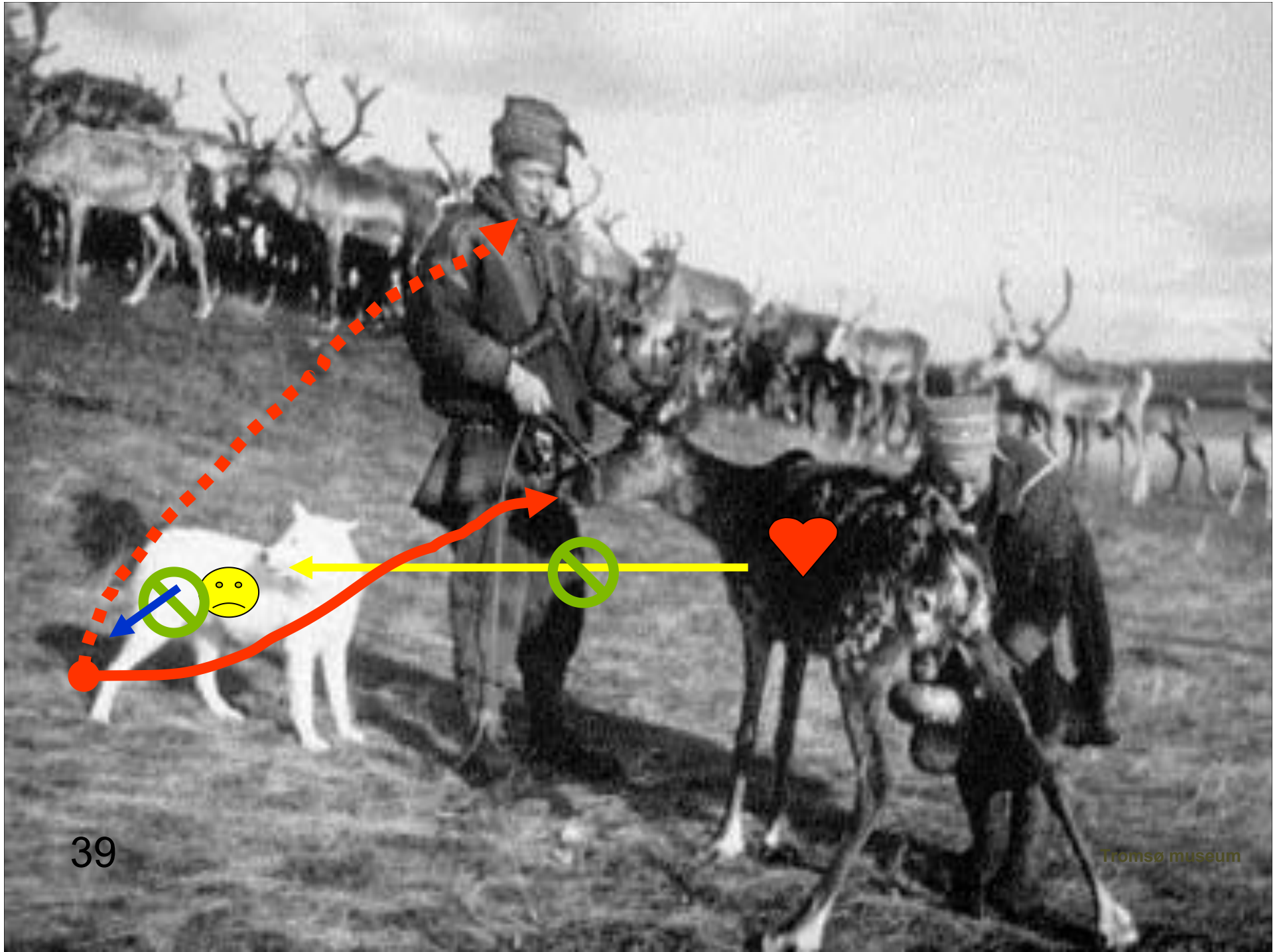




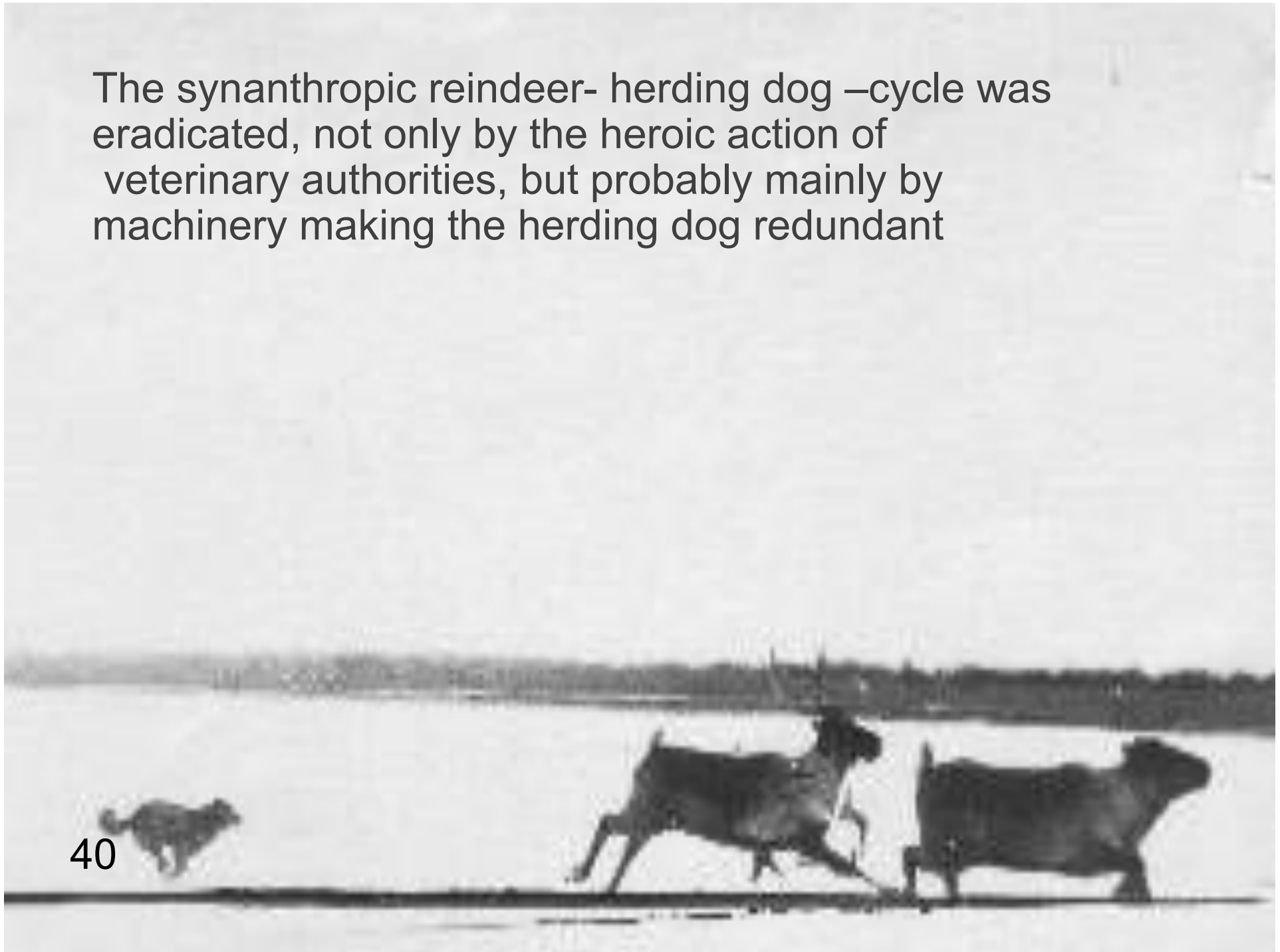


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The synanthropic reindeer-herding dog –cycle was eradicated, not only by the heroic action of veterinary authorities, but probably mainly by machinery making the herding dog redundant





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Thanks to IWAP (International Workshop on Arctic Parasitology) and Susan Kutz for funding me here



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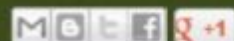
Monday, 5 August 2013

First peek on the LOGOMO venue



Getting a bottom feeling of LOGOMO Business Class seats.
Heikki Henttonen, Pekka Niemelä and Larry Huldén testing alternatives.

Lähetänyt Brian Lassen klo Monday, August 05, 2013 1 comment: 

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Tunnisteet: [emop.xii.logomo.turku.venue](#)

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