



UNIVERSITA' DEGLI STUDI DI  
TORINO

Scuola di Agraria e Medicina  
Veterinaria



UNIVERSITA'  
DEGLI STUDI  
TORINO



Selvatici-patogeni-cambiamenti globali e One Health: una  
mano di poker vincente ?

Ezio Ferroglio



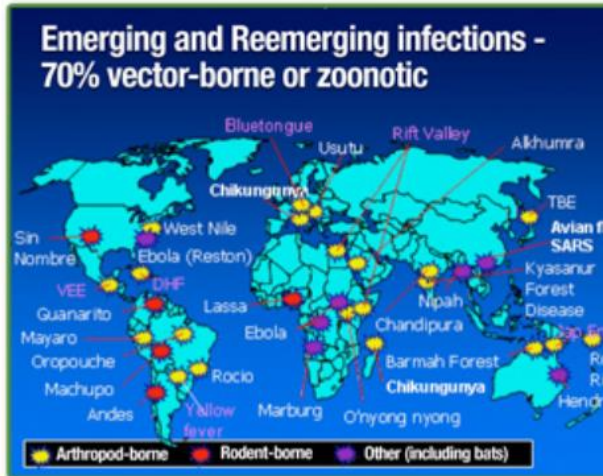
Search  
See Pro Med link for additional search function

- Home page
- About One Health
- Mission Statement
- Advisory Board (Hon.)
- One Health News
- AVMA Task Force Report
- Amer Vet Epid Soc (AVES)
- Am Assn Pub H Physicians
- One Health Newsletter
- Publications

## One Health Initiative will unite human and veterinary medicine

The One Health Initiative is a movement to forge co-equal, all inclusive collaborations between physicians, osteopathic physicians, veterinarians, dentists, nurses and other scientific-health and environmentally related disciplines, including the American Medical Association, American Veterinary Medical Association, American Academy of Pediatrics, American Nurses Association, American Association of Public Health Physicians, the American Society of Tropical Medicine and Hygiene, the Centers for Disease Control and Prevention (CDC), the United States Department of Agriculture (USDA), and the U.S. National Environmental Health Association (NEHA). Additionally, more than 950 prominent scientists, physicians and veterinarians worldwide have endorsed the initiative.

> [more about one health](#)



:: view large map ::

## The One Health Triad



3 GENNAIO 2020



# TRICHINELLOSI IN VALSUSA, INFETTATE 20 PERSONE: L'ASL SEQUESTRA I SALAMI DI CINGHIALE



**Avigliana**  
C.so Torino 96 - Tel: 011 9367507

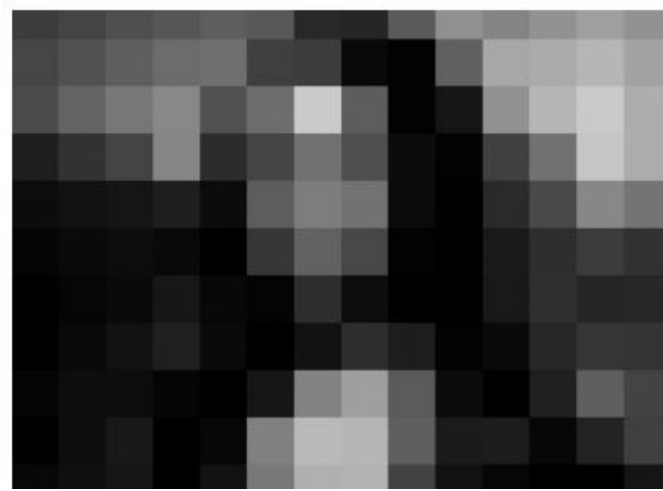
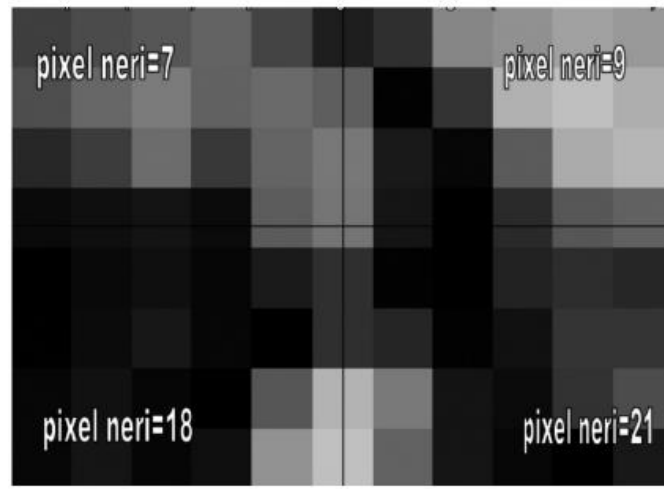
**RIVOLI (CASCINE VICA)**  
C.so Francia 224/F - Tel: 011 9539947

www.2noleggi.it info@2noleggi.it

**CERCO IMMOBILI**  
da VENDERE o AFFITTARE

LAVIGNA Geom. Salvatore  
Cell. 334 958 88 95  
slavigna@remax.it







ANIMAL DISEASES	
Diseases and control measures	
African horse sickness	
African swine fever	
BTSF training material	
High-level international ASF conference 2020	
Conference with hunters - 2019	
<b>Ministerial Conference - 2018</b>	
Foot-and-mouth disease	
Avian influenza	
Bluetongue	
Newcastle disease	
Classical Swine Fever	
Other Diseases	
Further Exotic Diseases	
Surveillance	

# Ministerial Conference - 2018

19 December 2018 - Brussels

A ministerial conference, organised by the European Commission, on the "Eradication of African swine fever (ASF) in the EU and the long-term management of wild boar populations" took place in Brussels on 19 December. Commissioners Vytenis Andriukaitis, Commissioner for Health and Food Safety, and Karmenu Vella, Commissioner for Environment, Maritime Affairs and Fisheries, welcomed ministers and representatives from EU and national institutions, civil society organizations and associations to discuss and reflect upon the control and eradication of ASF. The meeting focussed on the preparedness on ASF and notably on the long-term management of the wild boar population. Within this context, the [European Food Safety Authority](#) presented the effects of different wild board control options and the latest scientific developments on the disease.

### Concluding Statement from the Ministerial conference













#### Programme

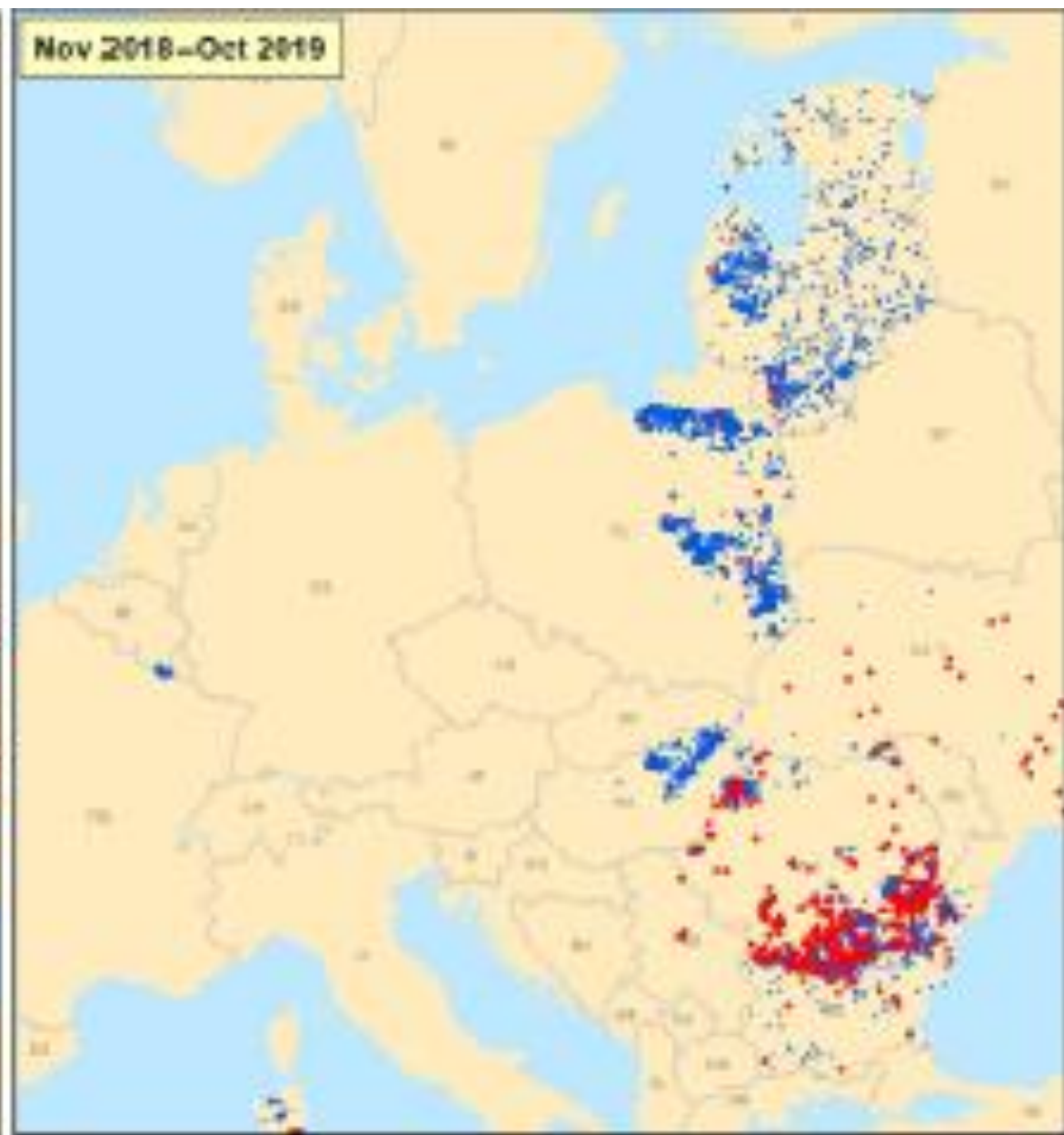
- [Factsheet !\[\]\(00454fbbe8db418db0de5eebfa916a08\_img.jpg\)](#) - African Swine fever - Where are we now?
- [Factsheet !\[\]\(fd0f3d0c9a8d9b3ff3951bcf7c4bf0c0\_img.jpg\)](#) - Control of African swine Fever in the EU, The key role of hunters

#### Speeches and presentations

- [Opening speech](#)
- [Closing speech](#)
- [Commissioner Vella's video message](#)
- [Presentation - Development and current situation - by Patrik Mlynář, Deputy Minister of Agriculture, Czech Republic !\[\]\(2cbb40928a34ecf5ce700a63c52aa374\_img.jpg\)](#)
- [Presentation - Latest developments in EFSA risk assessment on African swine fever - by](#)

### QUICK LINKS

-  [European Food Safety Authority \(EFSA\)](#)
-  [European Medicines Agency](#)
-  [Health and food audits and analysis](#)
-  [Trade Control & Expert System \(TRACES\)](#)
-  [Travelling with pets](#)
-  [Better Training for Safer Food \(BTSF\)](#)
-  [E-News](#)
-  [Press Releases](#)
-  [Events](#)
-  [Videos](#)
-  [Infographics and factsheets](#)
-  [Food Fraud](#)



Left: notifications from January 2014 to October 2018 (DP:  $n = 1,824$ ; wild boar (WB):  $n = 13,007$ ). Right: notifications from November 2018 to 31st October 2019 (DP:  $n = 1,853$ ; WB:  $n = 6,066$ ).



Home > For the media > Press releases

- For the media
  - > Aquatic animals multimedia resources
  - > OIE Photo Competition
  - > Infographics
  - > Press releases
    - > 2020
    - > 2019
    - > 2018
  - > Editorials
  - > Press packs
  - > Animal diseases
  - > Key documents
  - > Multimedia

## Lunar New Year: travel responsibly to avoid carrying ASF virus

On the eve of a new lunar year, the risk of disease spread increases due to the massive movements of people travelling to celebrate. The World Organisation for Animal Health (OIE) launches the second phase of its awareness campaign focusing on the role of travellers as carriers of African swine fever, a deadly pig disease, and how they can avoid spreading it.



- > WAHIS Interface
- > Online bookshop
- > For the media
- > OIE world conferences
- > Documentary database



# CONTROL OF AFRICAN SWINE FEVER IN THE EU

## The key role of hunters

**African swine fever (ASF) is a devastating, usually deadly, infectious disease of pigs and wild boar for which no vaccine exists.**

The **consequences** of the disease affect:

### 1. Farms and the economy:

- the virus kills animals.
- economic losses for EU farmers are aggravated by disruption of international trade of animals and meat.
- economic losses for the hunters.

### 2. Wildlife and hunting:

- because of the disease wild boar populations can decrease significantly or even disappear.

The pig sector is one of the most economically significant farming sectors in the EU.

It represents **8.5% of the total output** of the EU agricultural industry, the highest when compared to other meat sectors.

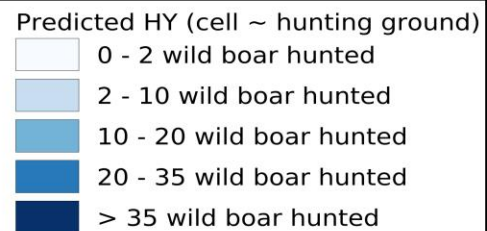
Pigmeat accounts for **50% of total EU meat production**.

Pigmeat is **the most exported of all meat produced in the EU**: it represents **62% of EU total meat exports**.



A european network of wildlife professionals capable of providing reliable data on species distribution and abundance of selected host species and their pathogens.

▼ START

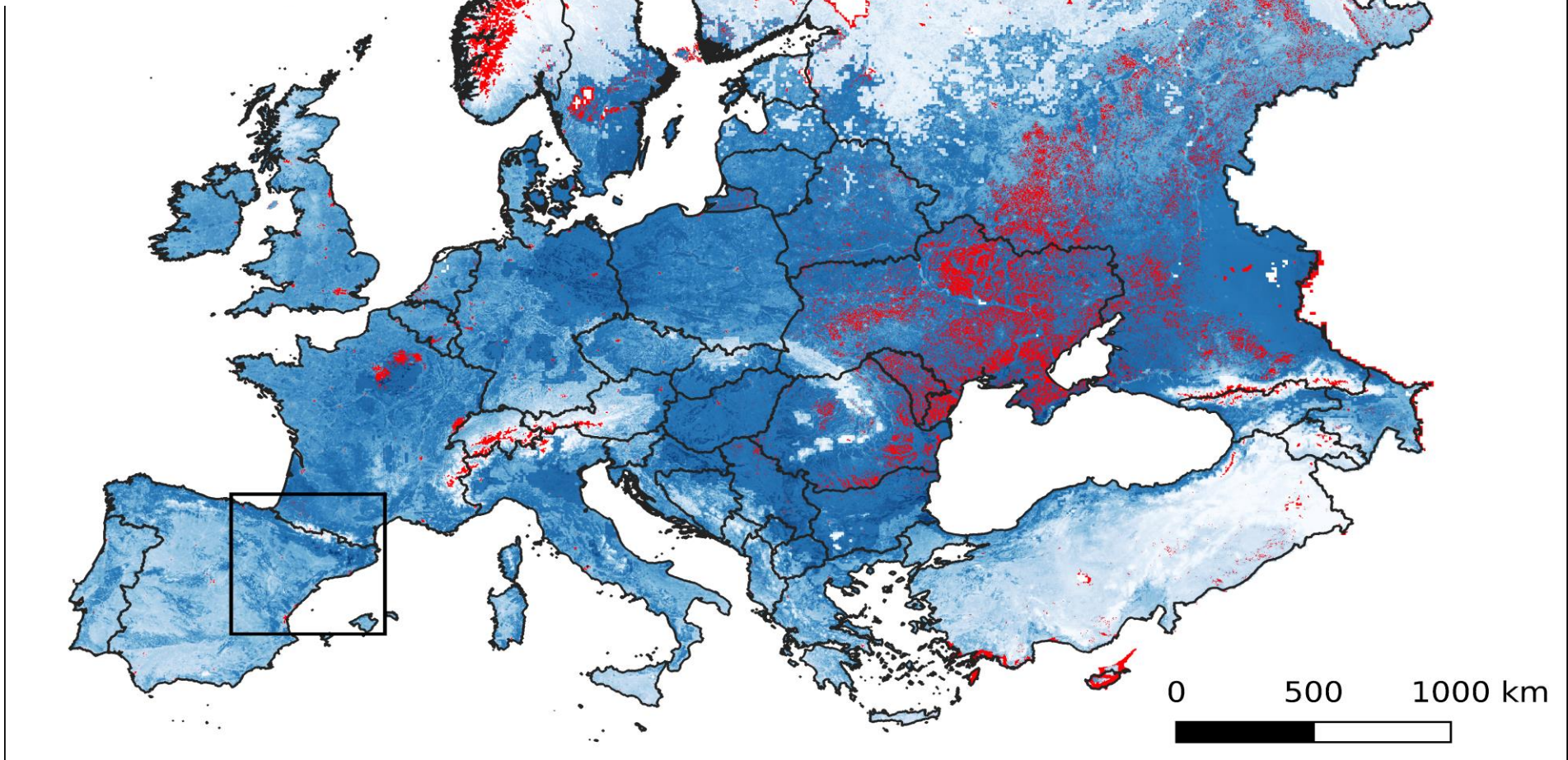


APPROVED: 24 January 2020

doi:10.2903/sp.efsa.2020.EN-1787

### Validation and inference of high-resolution information (downscaling) of ENETwild abundance model for wild boar

ENETWILD-consortium<sup>1</sup>, Pelayo Acevedo<sup>2</sup>, Simon Croft<sup>3</sup>, Graham C Smith<sup>3</sup>, Jose Antonio Blanco-Aguilar<sup>2</sup>, Javier Fernandez-Lopez<sup>2</sup>, Massimo Scandura<sup>4</sup>, Marco Apollonio<sup>4</sup>, Ezio Ferroglio<sup>5</sup>, Oliver Keuling<sup>5</sup>, Marie Sange<sup>6</sup>, Stefania Zanet<sup>5</sup>, Francesca Brivio<sup>4</sup>, Tomasz Podgórski<sup>7,8</sup>, Karolina Petrović<sup>7</sup>, Ramon Soriguer<sup>2</sup>, Joaquín Vicente<sup>2</sup>





## **COST ASF-STOP CA15116**

**Agenda Working group WG2-4 meeting, 28<sup>th</sup> January 2020, 9.00-15.00**

**Location: Istituto Zooprofilattico Sperimentale Della Lombardia Ed Emilia Romagna, Via Cremona 284, Brescia, Brescia, Italy**

9.00: Welcome to participants, Adoption of the agenda, AOB. Ferran Jori and Erika Chenais

### **Part 1a Presentations: Managing wild boar populations in “peace time”.**

9.10-9.20: Trends and drivers of wild boar population in EU countries. Carme Rosell, Minuartia Barcelona.

9.30-9.50: Current knowledge for assessing abundance and density of wild boar in EU countries. Prof. Ezio Ferroglio, University of Torino and the ENTEWILD Project.

9.50-10.10: Coffee break

### **Part 1b Presentations: Managing wild boar populations in EU countries during ASF crisis.**

10.10-10.30: Using the World Café model to evaluate methods for controlling African swine fever in European wild boar (*Sus scrofa*) populations. Ferran Jori and Erika Chenais

10.30-10.45:

10.45-11.00:

*“Sono il Signor Wolf,  
risolvo problemi.”*



Health

Background | Jun 7, 2019



# How ASF was eradicated in the Czech Republic

Of all the European countries that detected outbreaks of African Swine Fever in recent years, the Czech Republic has been the only one to actually eradicate the virus again. Strict control measures, strict biosecurity and a coordinated approach played a part in the successful eradication of the virus. Here is how that went.

The Czech Republic detected its first occurrence of **African Swine Fever** virus (ASFv) after passive surveillance that started in 2014. ASFv was detected in two wild boars, which were found dead on 21 and 22 June 2017 in the cadastral territory Příluky u Zlína, Zlín District, Zlín Region.


The National Reference Laboratory for **ASF**, the State Veterinary Institute Jihlava, confirmed the positive finding of ASFv on 26 June 2017. Since 15 April 2019 there were 230 cases of **ASF** registered in wild boar involving 212 cases of wild boar found dead and 18 cases of hunted wild boar.




**Find out more!**

**PIG PROGRESS** Our partners have great content for you!  
 Click here to read the new articles

---

 **Animal Health Investment Europe**  
 Shaping the Future of Animal Health

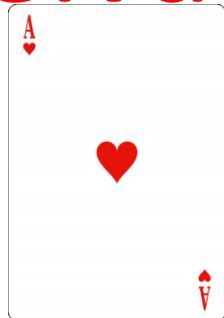
---

 **FeedChat Podcast: Trouw Nutrition**

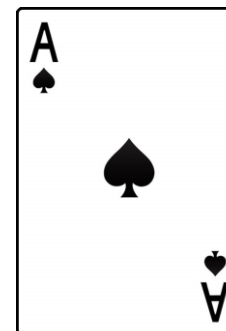




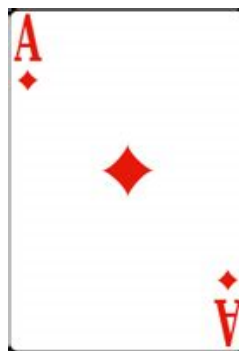
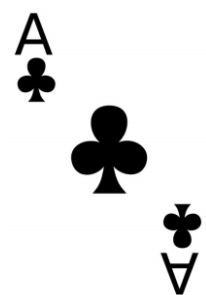
Selvatici



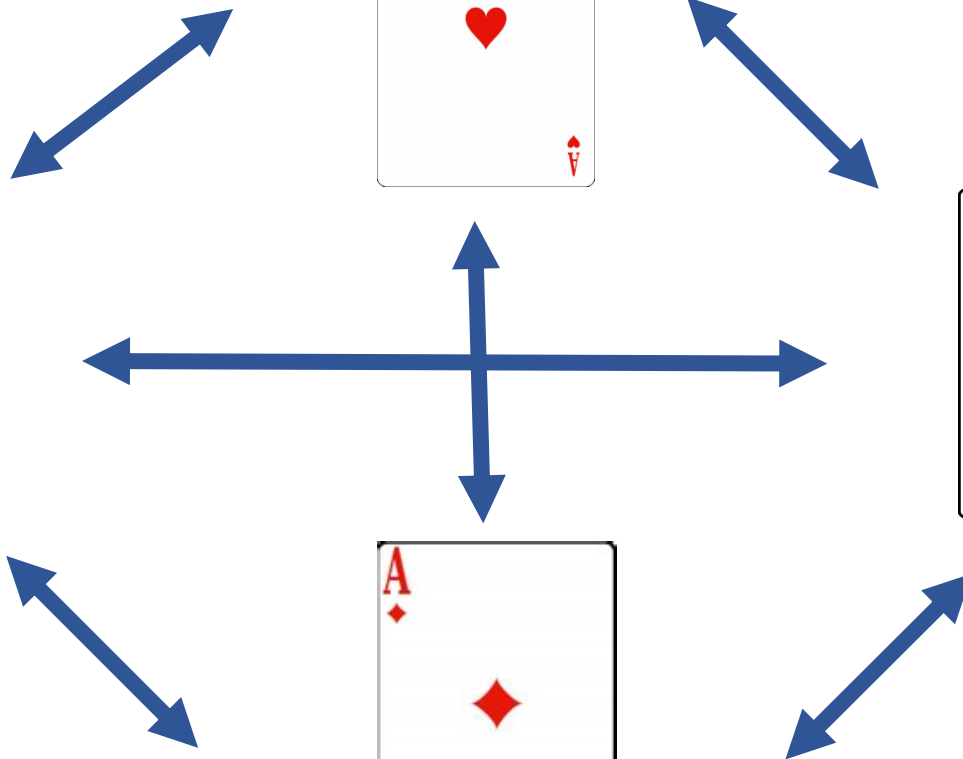
Patogeni



Salute



~~C~~  
Global changes





**Achtung!**  
**Zeckenalarm**



# One Health and Disease: Tick-Borne Disease

## Tick-Borne Disease

Ticks are a natural part of many landscapes, but changes to the landscape are causing more and more ticks to spread to more areas. Some ticks can carry bacteria and viruses that can cause disease in humans and animals. Reducing exposure to ticks and removing ticks promptly can protect you and your family from tick-borne diseases.



Blacklegged Tick (*Ixodes scapularis*)

### General Tick-Borne Disease Information

### Geographic Distribution and Seasonality

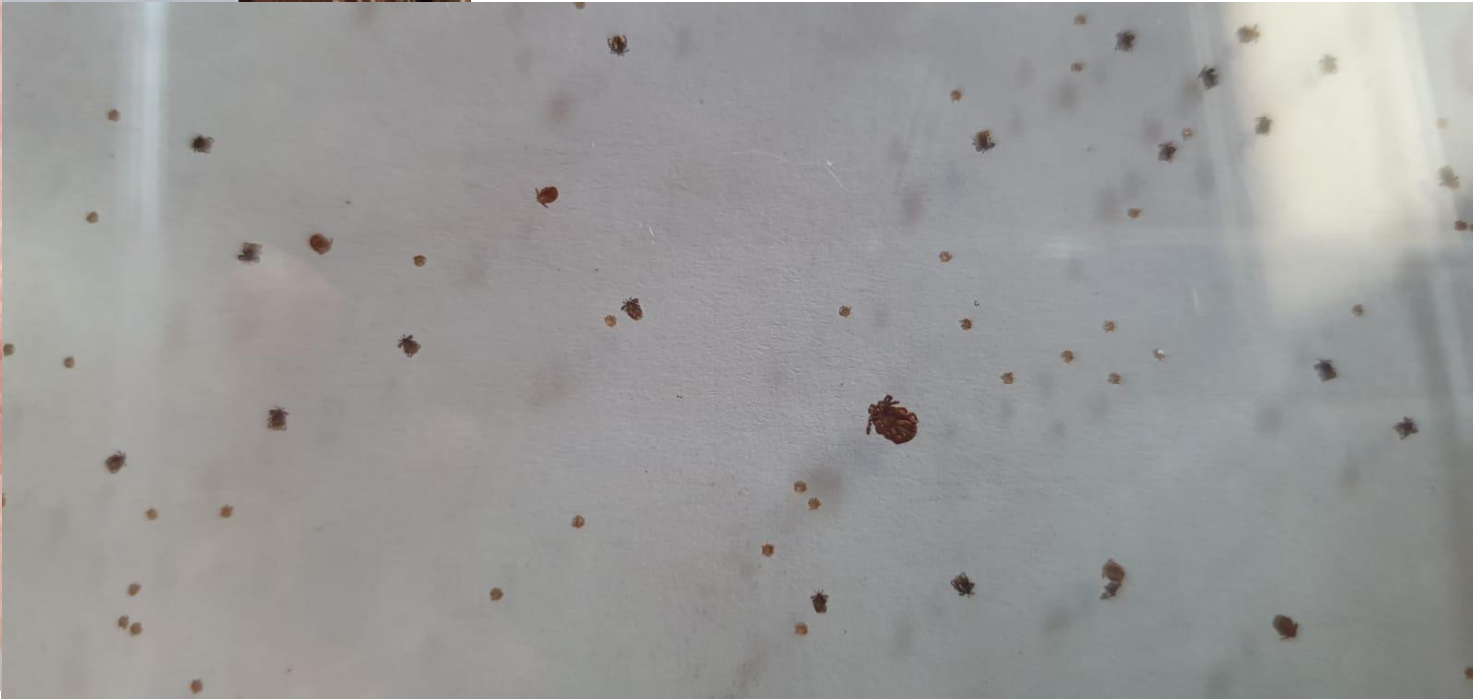
#### RELATED ARTICLES

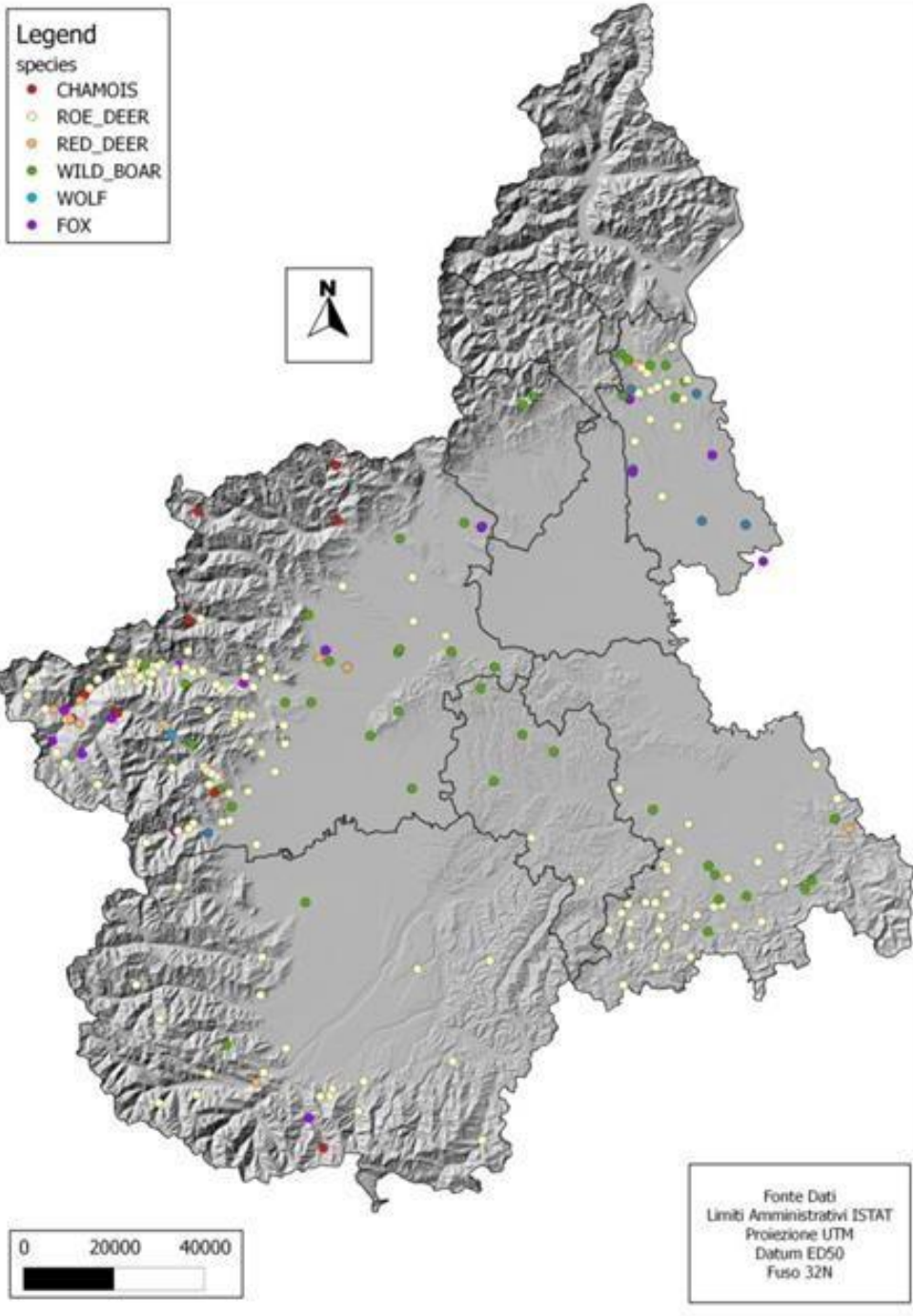
[One Health and Disease: Plague](#)

[One Health and Disease: Hantavirus](#)

[One Health and Disease: Histoplasmosis](#)







**Table 1 Prevalence of *Babesia/Theileria* spp. in wildlife species**

Species	Prevalence (IC95%)	Positive/total sampled
Roe deer	12.55% [9.84-15.89]	58/462
Wild boar	4.67% [2.69/7.98]	12/257
Fallow deer	0.00% [0.00/18.43]	0/17
Alpine chamois	22.22% [11.71/38.08]	8/36
Red deer	44.23% [31.6/57.66]	23/52
Red fox	0.98% [0.27/3.49]	2/205
Grey Wolf	0.00% [0.00/35.43]	0/7
<b>Total</b>	<b>9.94% [103/1036]</b>	<b>103/1036</b>

PCR prevalence to *Babesia/Theileria* differs greatly among sampled species. We reported detailed prevalence values and confidence intervals (95%), together with the number of tested and positive animals of each sampled species.

Erbivori (P=15.7%; IC95% 12.93-18.92)

Carnivori (P=0.94%; IC95%0.26-3.37)

Zanet et al. *Parasites & Vectors* 2014, 7:70  
<http://www.parasitesandvectors.com/content/7/1/70>



**RESEARCH**

**Open Access**

Piroplasmosis in wildlife: *Babesia* and *Theileria* affecting free-ranging ungulates and carnivores in the Italian Alps

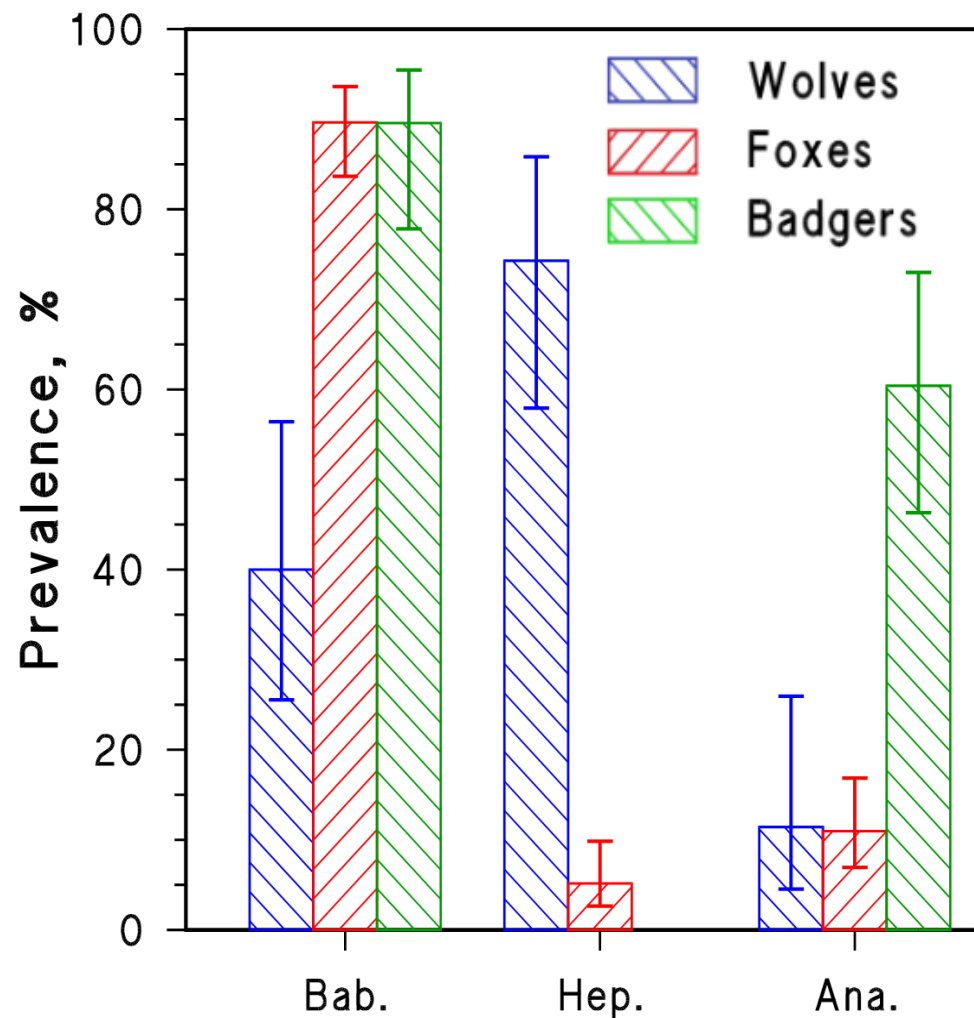




## Molecular Survey on Vector-Borne Pathogens in Alpine Wild Carnivorans

Elena Battisti<sup>1</sup>, Stefania Zanet<sup>1</sup>, Sara Khalili<sup>2</sup>, Anna Trisciuglio<sup>3</sup>, Beatrice Hertel<sup>1</sup> and Ezio Ferroglio<sup>1\*</sup>

<sup>1</sup> Department of Veterinary Science, University of Turin, Turin, Italy, <sup>2</sup> Department of Parasitology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran, <sup>3</sup> Department of Agricultural, Forest and Food Science, University of Turin, Italy



### Risultati:

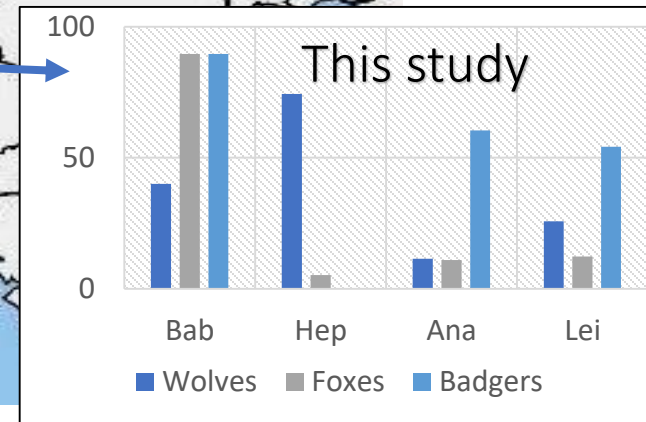
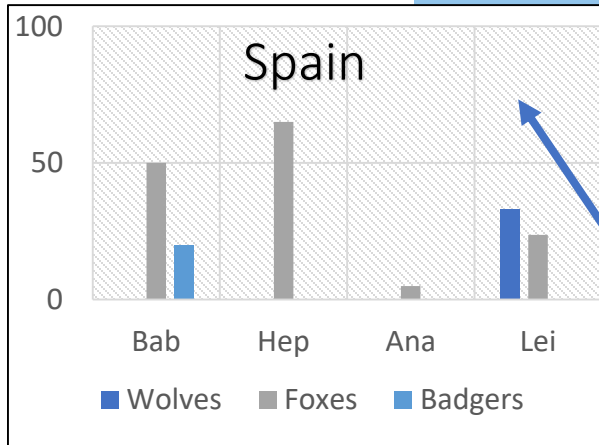
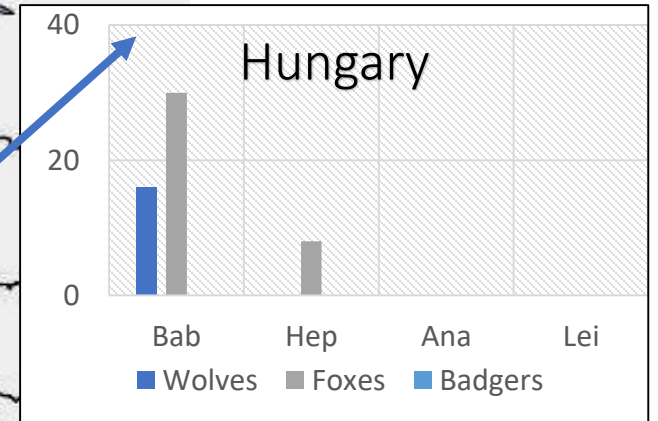
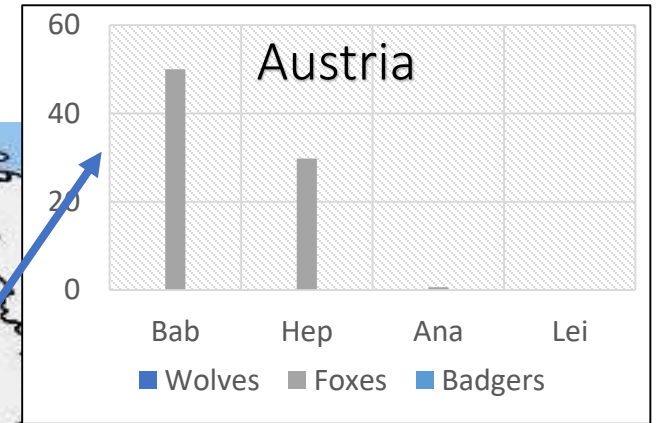
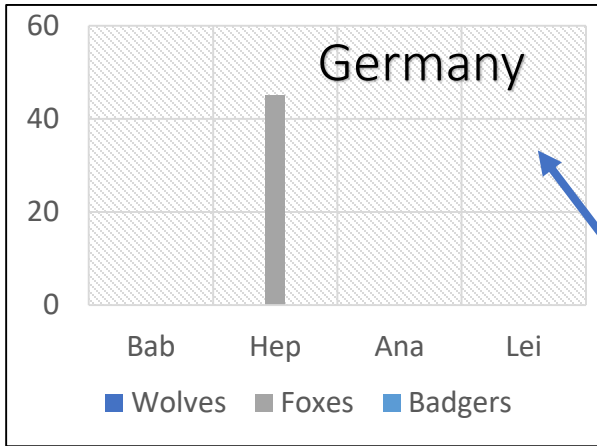
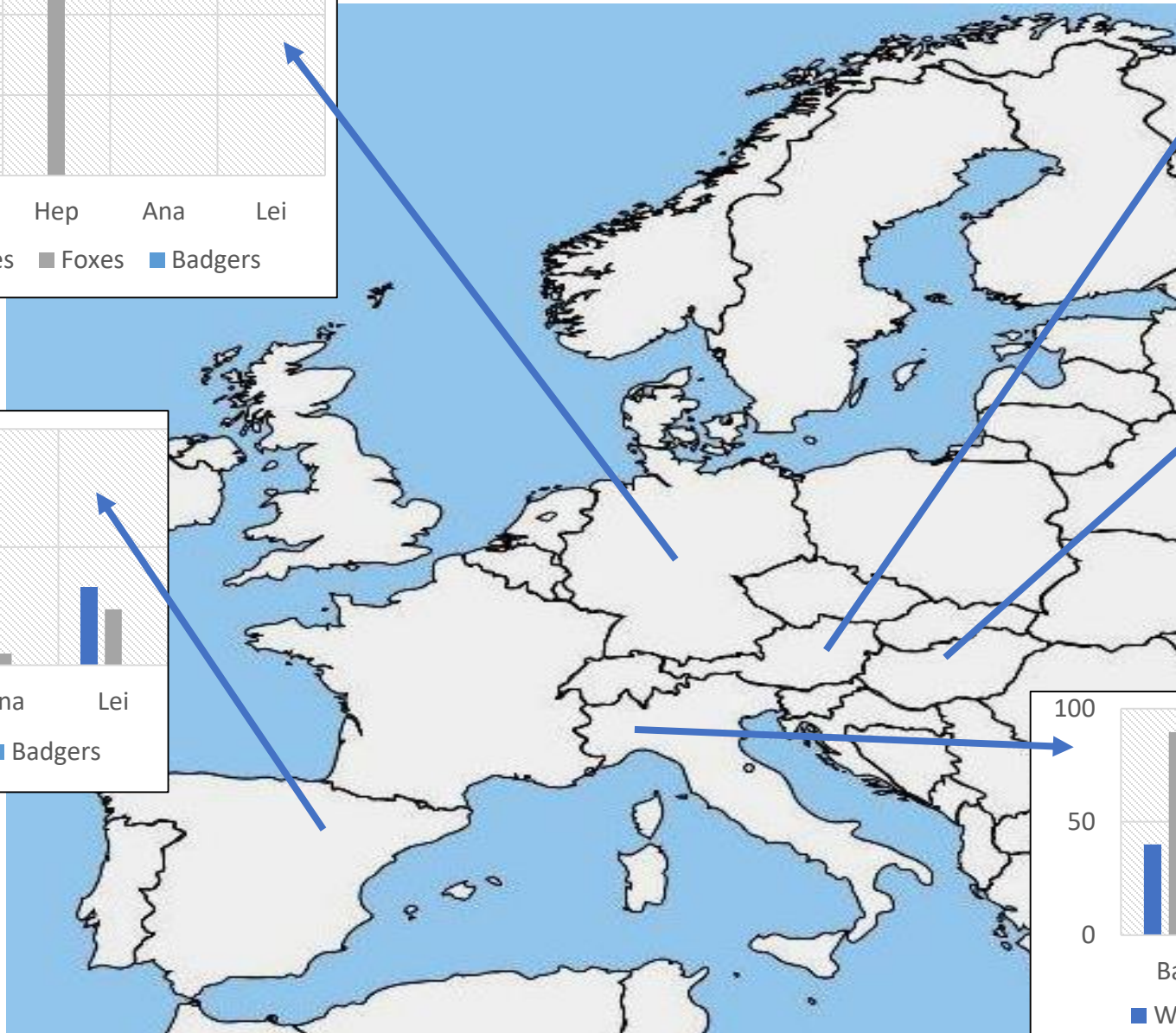
- *Babesia capreoli*
- *Babesia vulpes*
- *Babesia sp. DO23163*
- *Babesia capreoli*
- *Babesia sp. badger type A UK*
- *Babesia sp. badger type B Spain*
- *Babesia sp. DO23163*

 Wolves

 Foxes

 Badgers

# European perspective





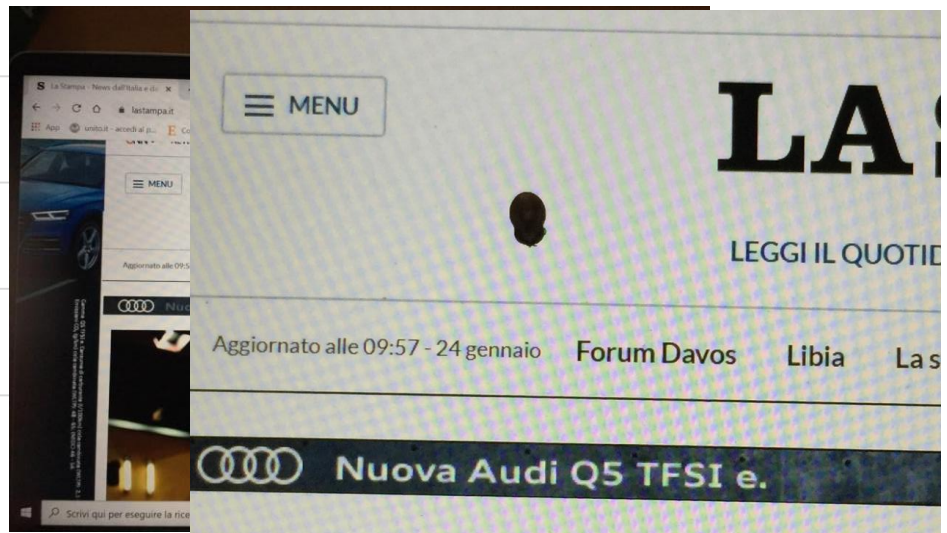
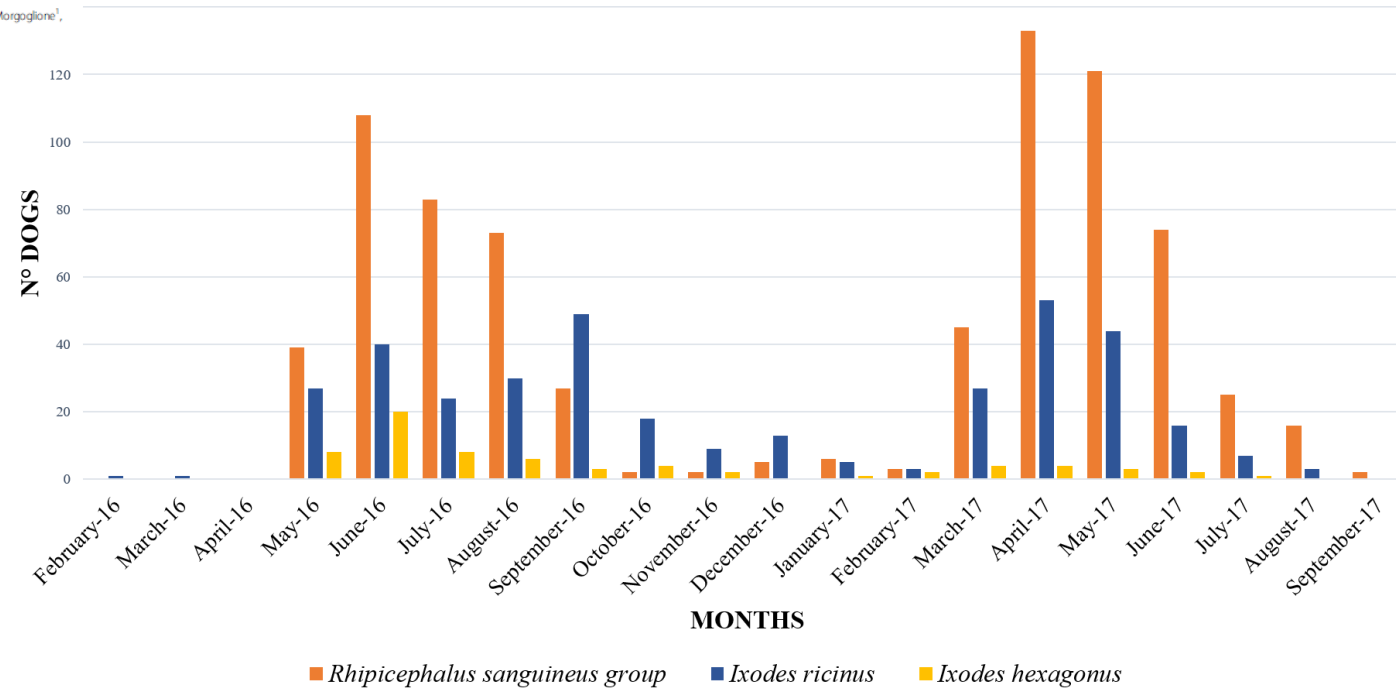
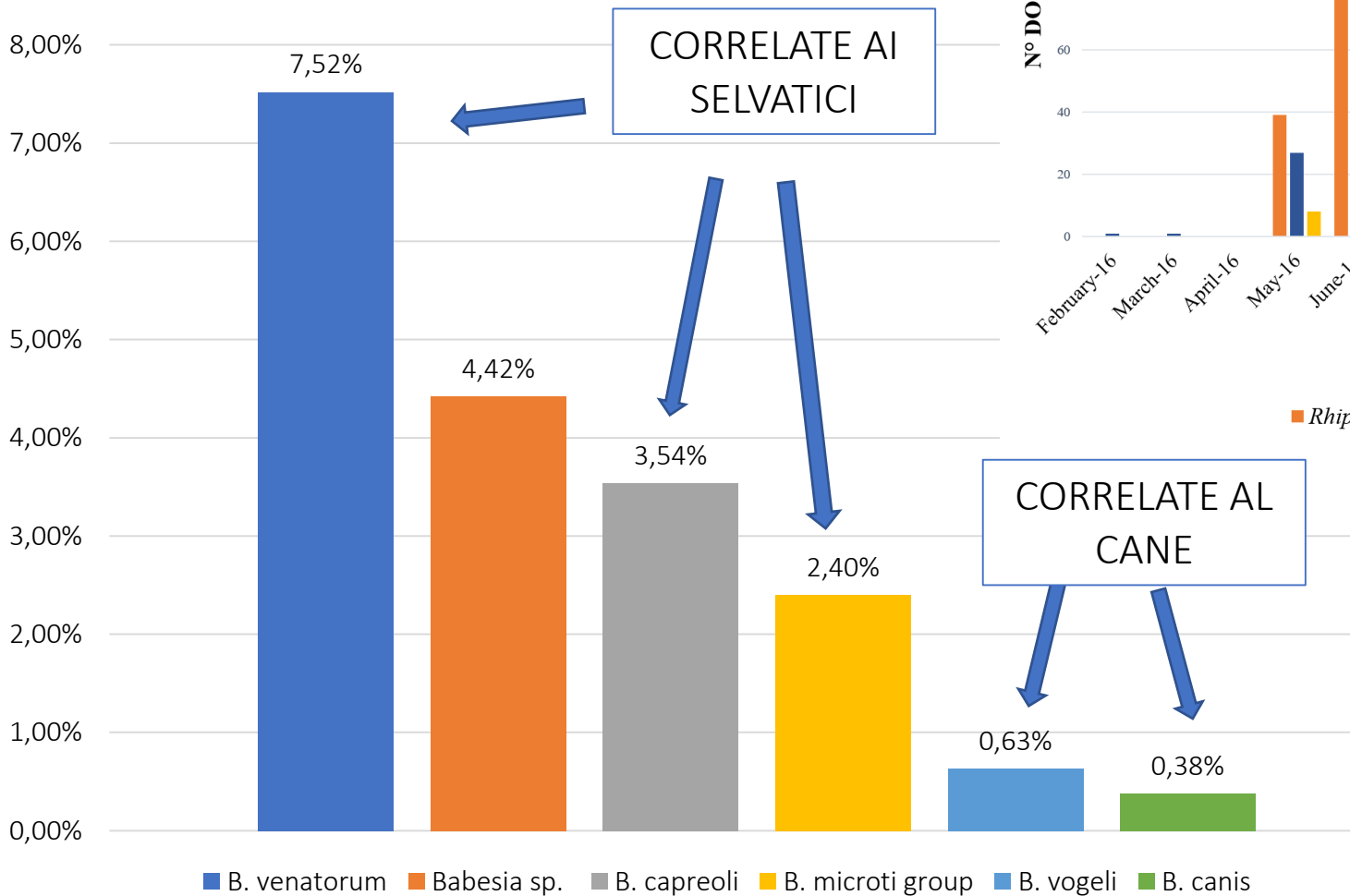
# Tick-borne pathogens in Ixodidae ticks collected from privately-owned dogs in Italy: a country-wide molecular survey

Stefania Zanet<sup>1</sup>, Elena Battisti<sup>1</sup>, Paola Pepe<sup>2</sup>, Lavinia Ciuca<sup>2</sup>, Liliana Colombo<sup>3</sup>, Anna Trisciuglio<sup>1</sup>, Ezio Ferroglio<sup>1</sup>, Giuseppe Cringoli<sup>2</sup>, Laura Rinaldi<sup>2</sup> and Maria Paola Maurelli<sup>2</sup>

RESEARCH Open Access

## A national survey of Ixodidae ticks on privately owned dogs in Italy

Maria Paola Maurelli<sup>1</sup>, Paola Pepe<sup>1</sup>, Liliana Colombo<sup>2</sup>, Rob Armstrong<sup>3\*</sup>, Elena Battisti<sup>4</sup>, Maria Elena Morgoglione<sup>1</sup>, Dimitris Courturis<sup>4</sup>, Laura Rinaldi<sup>5</sup>, Giuseppe Cringoli<sup>6</sup>, Ezio Ferroglio<sup>6</sup> and Stefania Zanet<sup>4</sup>



# Human Babesiosis in Europe: what clinicians need to know

A. Hildebrandt, J. S. Gray, K.-P. Hunfeld



Human Babesiosis in Europe: what clinicians need to know - Springer - Internet Explorer

http://link.springer.com/article/10.1007%2Fs15010-013-0526-8

File Modifica Visualizza Preferiti Strumenti ?

Google Ulteriori componenti ... Assistenza

» Look Inside » Get Access

## Abstract

Although best known as an animal disease, human babesiosis is attracting increasing attention as a worldwide emerging zoonosis. Humans are commonly infected by the bite of ixodid ticks. Rare ways of transmission are transplacental, perinatal and transfusion-associated. Infection of the human host can cause a very severe host-mediated pathology including fever, and hemolysis leading to anemia, hyperbilirubinuria, hemoglobinuria and possible organ failure. In recent years, apparently owing to increased medical awareness and better diagnostic methods, the number of reported cases in humans is rising steadily worldwide. Hitherto unknown zoonotic *Babesia* spp. are now being reported from geographic areas where babesiosis was not previously known to occur and the growing numbers of travelers and immunocompromised individuals suggest that the frequency of cases in Europe will also continue to rise. Our review is intended to provide clinicians with practical information on the clinical management of this rare, but potentially life-threatening zoonotic disease. It covers epidemiology, phylogeny, diagnostics and treatment of human babesiosis and the potential risk of transfusion-transmitted disease with a special focus on the European situation.

• Jeremy S. Gray, Klaus-Peter Hunfeld are members of the ESCMID Study Group for Lyme Borreliosis (ESGBOR).

- Epidemiology
- Vectors, lifecycles, and phylogeny
- Common clinical features of human babesiosis in Europe
- Direct detection of pathogens
- Indirect detection methods (antibody testing)
- Treatment options
- Babesia and blood products
- Prevention
- Conclusion
- References
- References

### Other actions

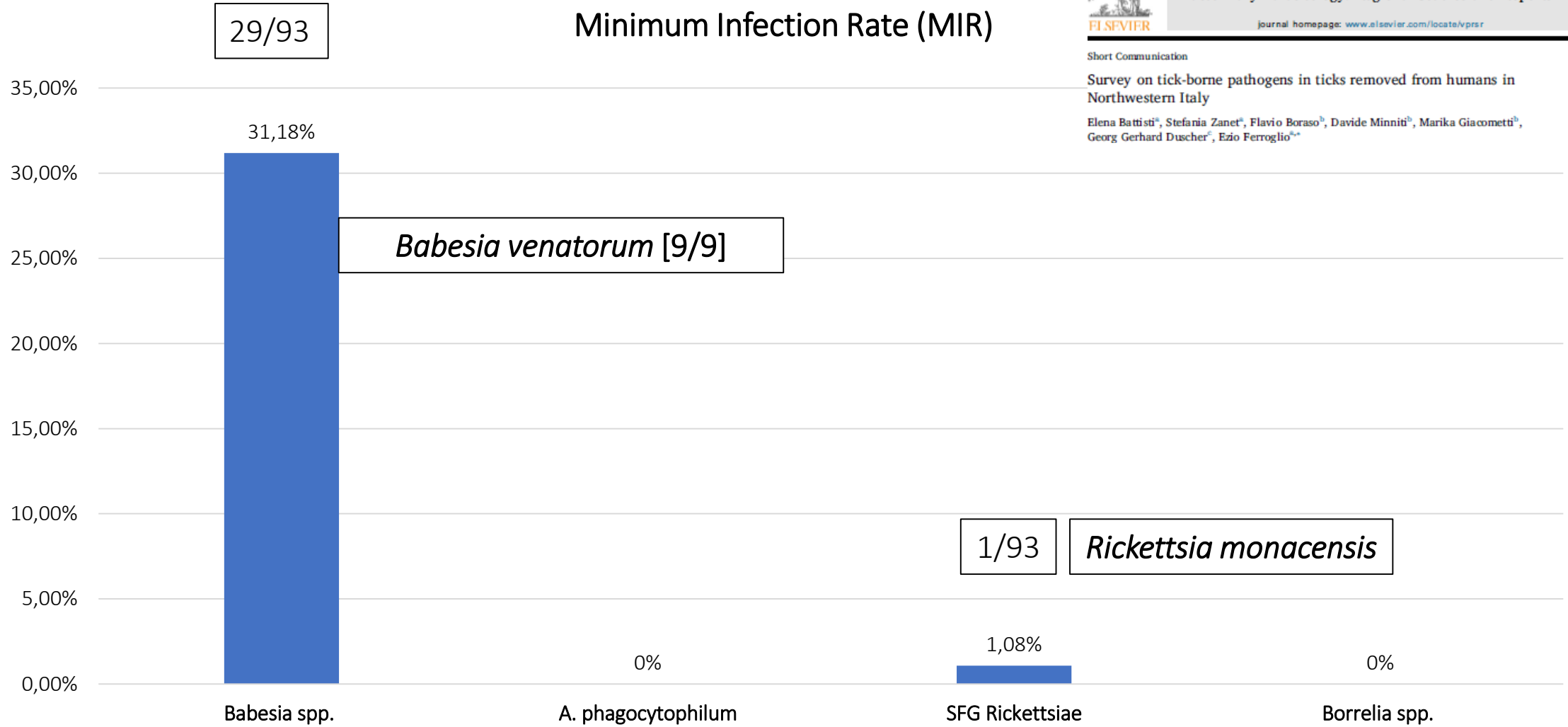
- » [Export citation](#)
- » [Register for Journal Updates](#)
- » [About This Journal](#)
- » [Reprints and Permissions](#)
- » [Add to Papers](#)

Share

75%

Start | IT | 14:00 27/10/2014

# PATOGENI IN ZECCHE RIMOSSE DA PAZIENTI AL PRONTO SOCCORSO



Veterinary Parasitology: Regional Studies and Reports 18 (2019) 100352

Contents lists available at ScienceDirect



ELSEVIER

Veterinary Parasitology: Regional Studies and Reports

journal homepage: [www.elsevier.com/locate/vprsr](http://www.elsevier.com/locate/vprsr)



Short Communication

Survey on tick-borne pathogens in ticks removed from humans in Northwestern Italy

Elena Battisti<sup>a</sup>, Stefania Zanet<sup>a</sup>, Flavio Boraso<sup>b</sup>, Davide Minniti<sup>b</sup>, Marika Giacometti<sup>b</sup>, Georg Gerhard Duscher<sup>c</sup>, Ezio Ferroglio<sup>a,\*</sup>



MENU

TOP NEWS

LA STAMPA

ABBONATI ACCEDI

SCOPRI DI PIÙ

# Zecche pericolose nel territorio di Borgo San Dalmazzo: l'Asl raccomanda prudenza

Possono trasmettere infezioni. Importante evitarne il morso o rimuoverle subito



PEUGEOT

NUOVO SUV  
PEUGEOT 2008  
UNBORING THE FUTURE

NETFLIX

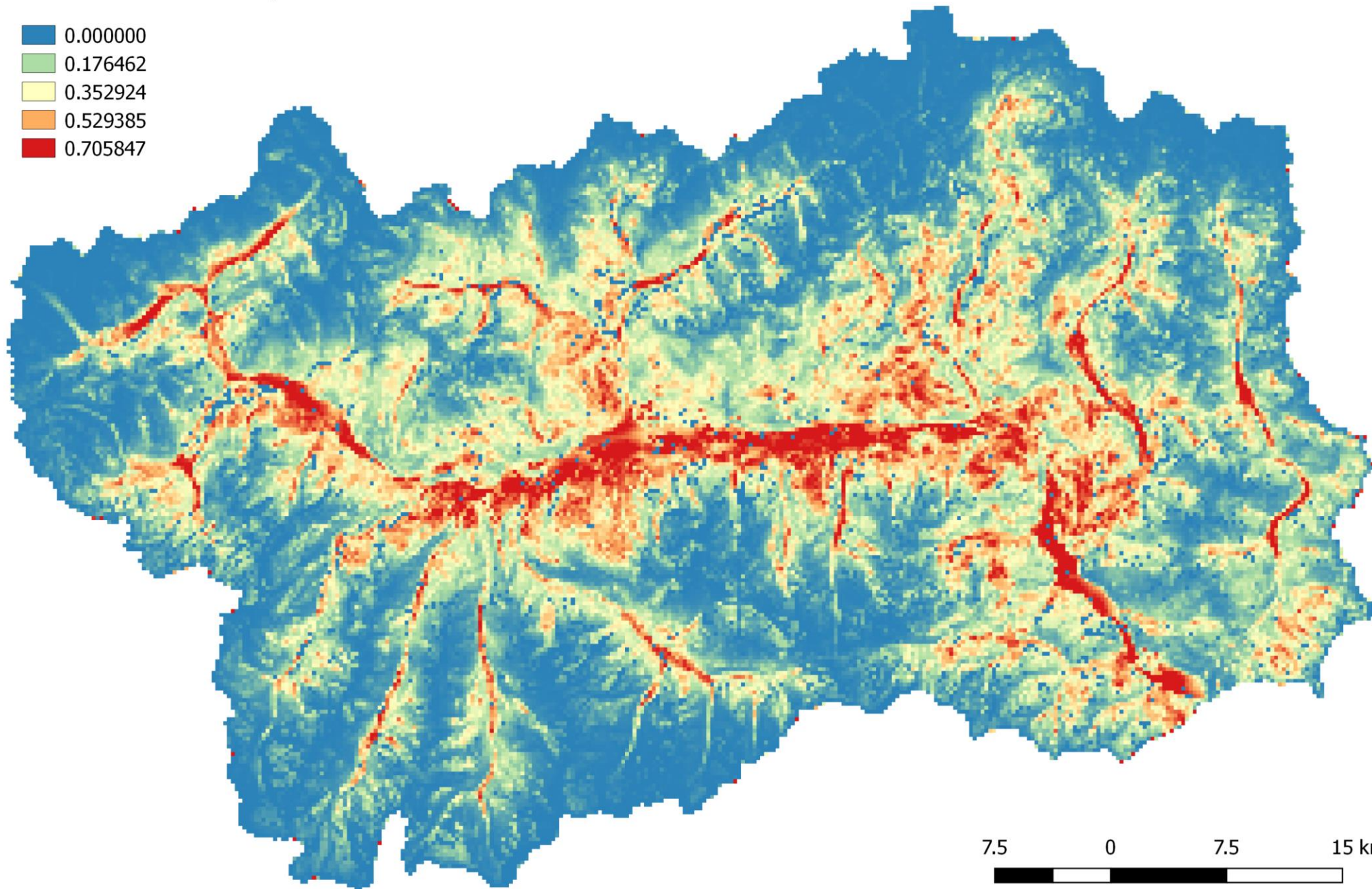
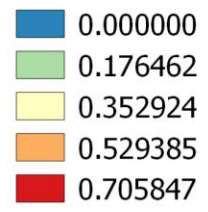
Powered by @TV rta

sky original  
sky Q

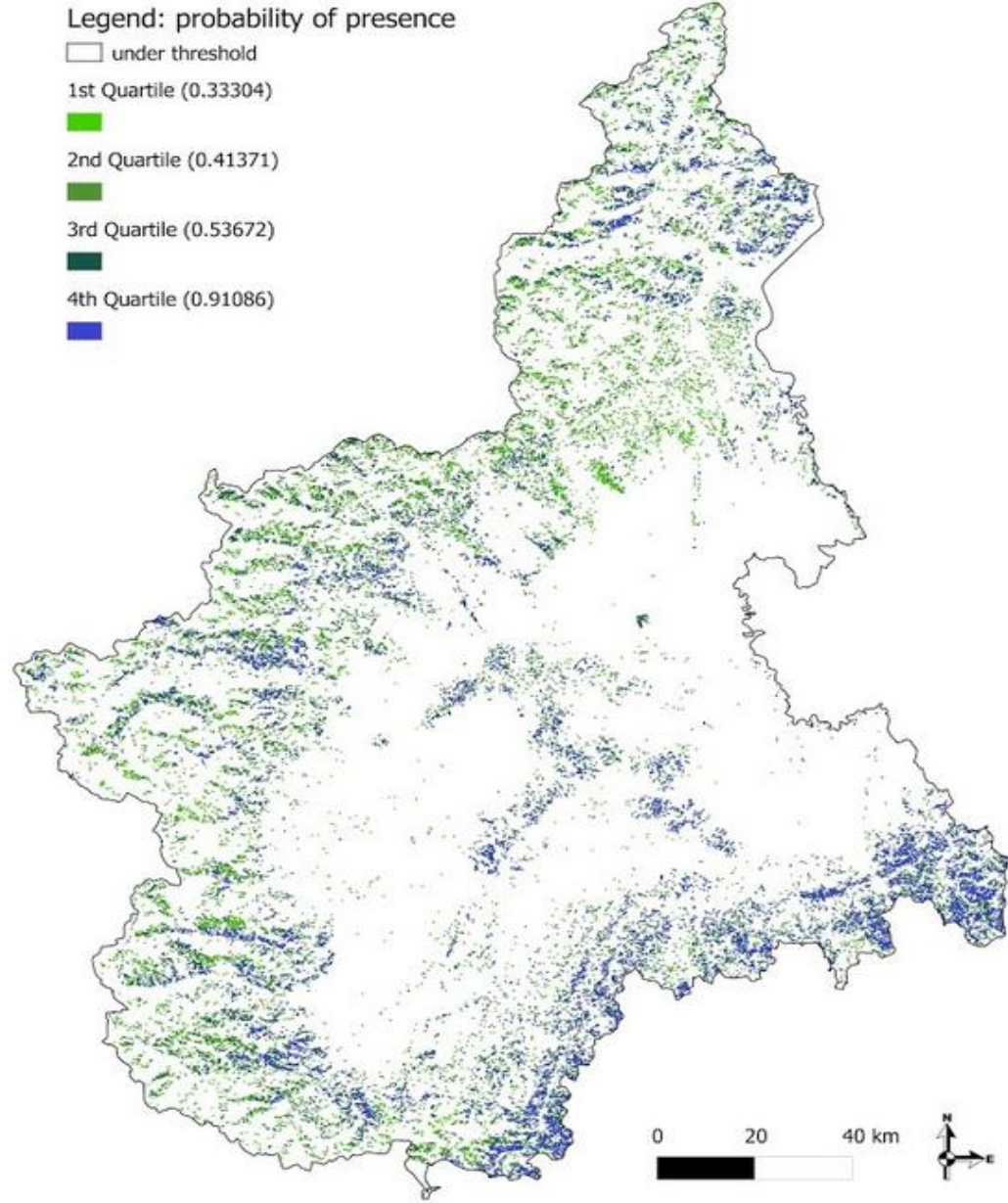
sky e NETFLIX  
Tutto in un unico posto su sky Q

SCOPRI DI PIÙ

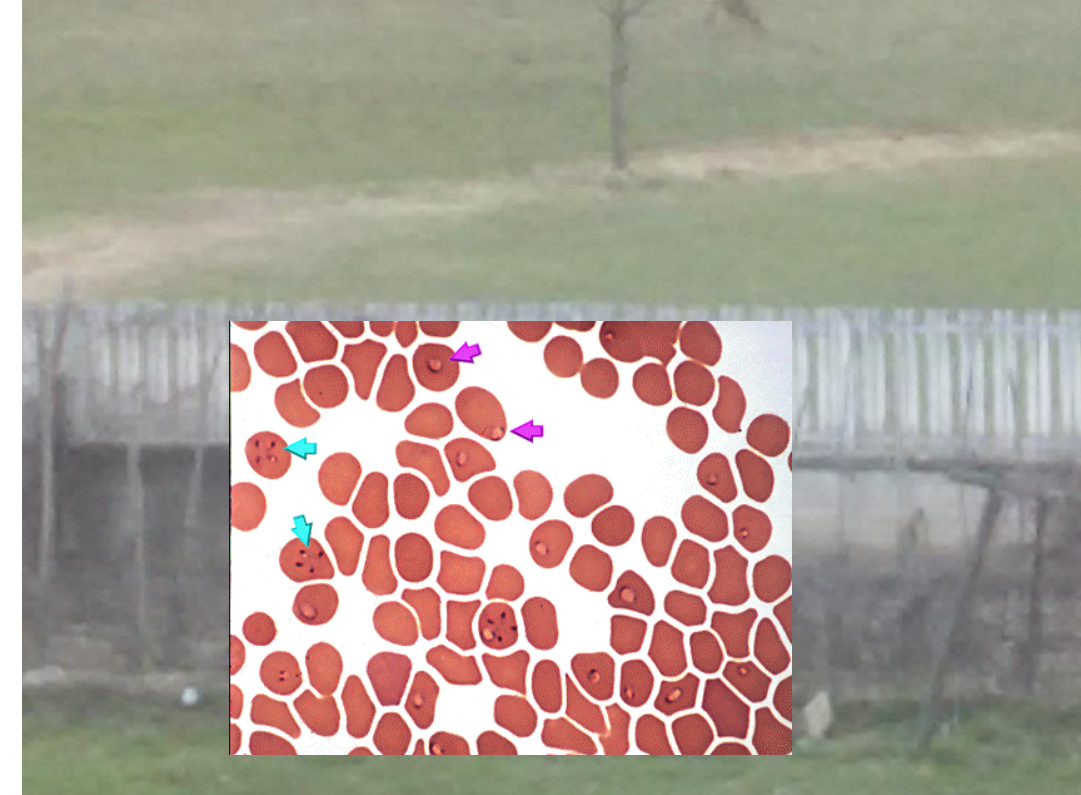
Tick Habitat Suitability AUC=0.961



# MODELLO ECOLOGICO PER PREVISIONE DI BABESIA SP. NELLA FAUNA



- Almost 15% of the regional territory suitable for Babesia sp. occurrence
- NDVI, slope, solar exposure, altitude and land cover are the most informative environmental features
- High suitability in sun exposed broad-leaved forests



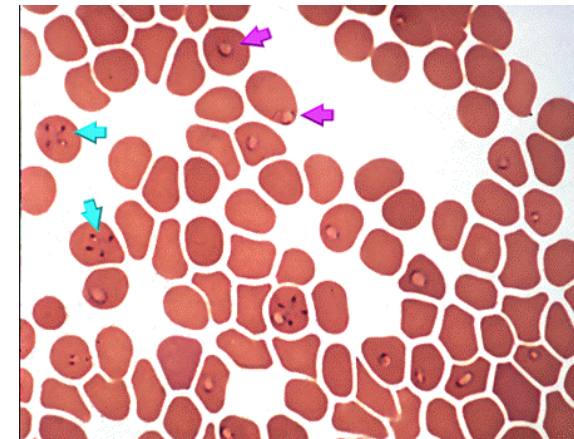
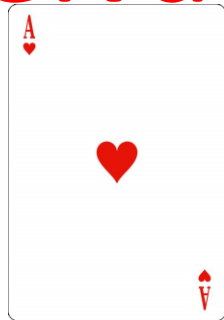
No zecche?!  
No Babesia!!

*Handwritten signature*

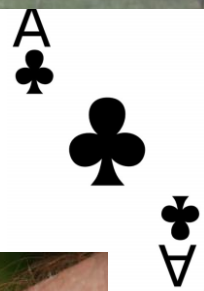




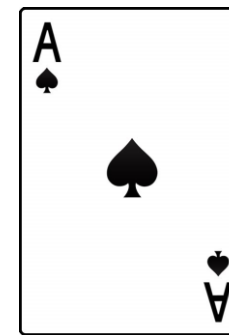
Selvatici



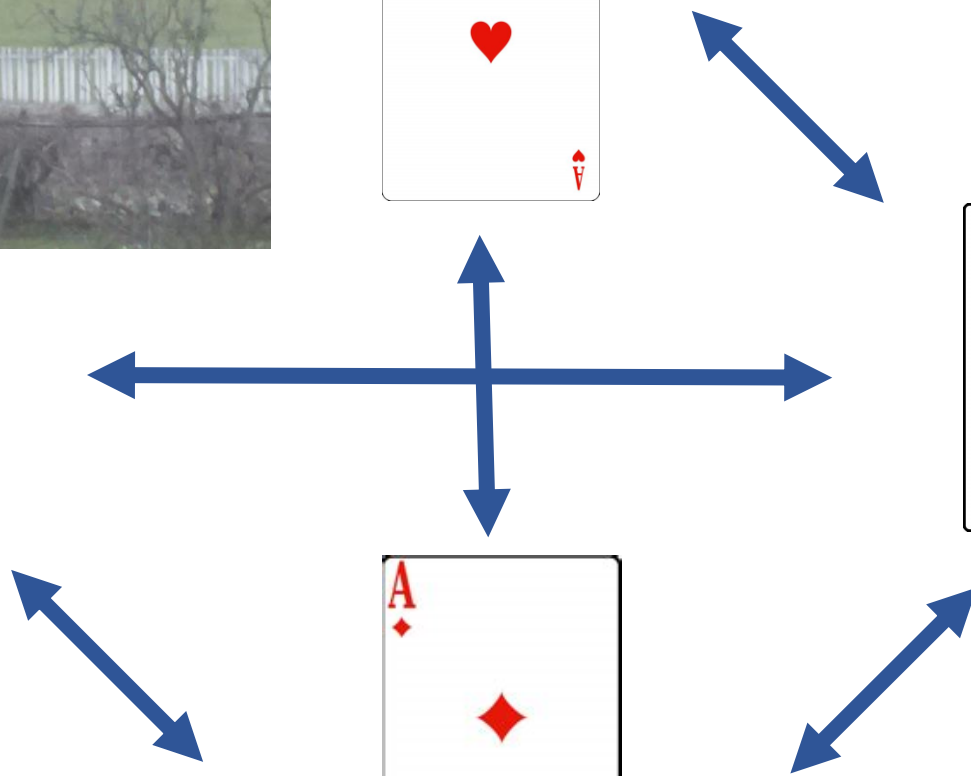
Salute



Patogeni



<sup>C</sup>  
Global ~~X~~ changes







Health Topics ▾

Countries ▾

News ▾

Emergencies ▾

About Us ▾

## Leishmaniasis

[Leishmaniasis home](#)

[The disease](#)

[Epidemiology](#)

[Diagnosis, detection and surveillance](#)

[Special conditions](#)

[Vector control](#)

[Access to medicines](#)

[Information resources](#)

### South Sudan intensifies measures against visceral leishmaniasis to improve health and social well-being of affected populations



22 November 2018 | Juba -- The Ministry of Health, WHO and partners, concluded a two-day consultative meeting to review the implementation of the Visceral Leishmaniasis (VL) control activities in South Sudan for the past seven years (2011 to 2018).

The objective of the meeting was to review the implementation of the VL control activities from 2011 to 2018; discuss the lessons learned and reporting formats as well as reporting on drug consumption at health facility level on monthly basis especially AmBisome.

[Read the article](#)



**VISCERAL leishmaniasis**

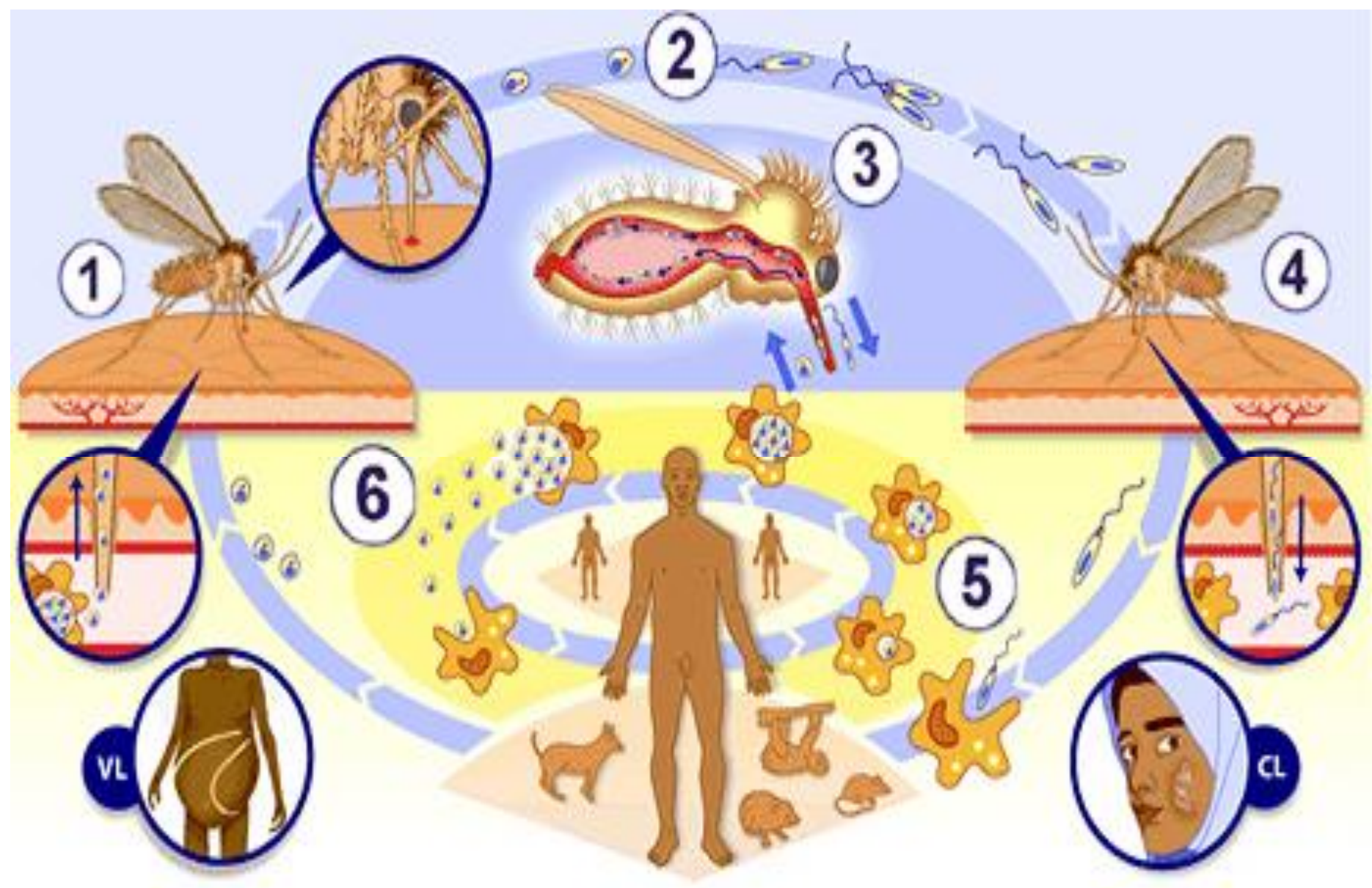
**300 000** estimated cases annually

**over 20000** deaths each year

**CUTANEOUS Leishmaniasis**

**1 million** cases reported in the last 5 years

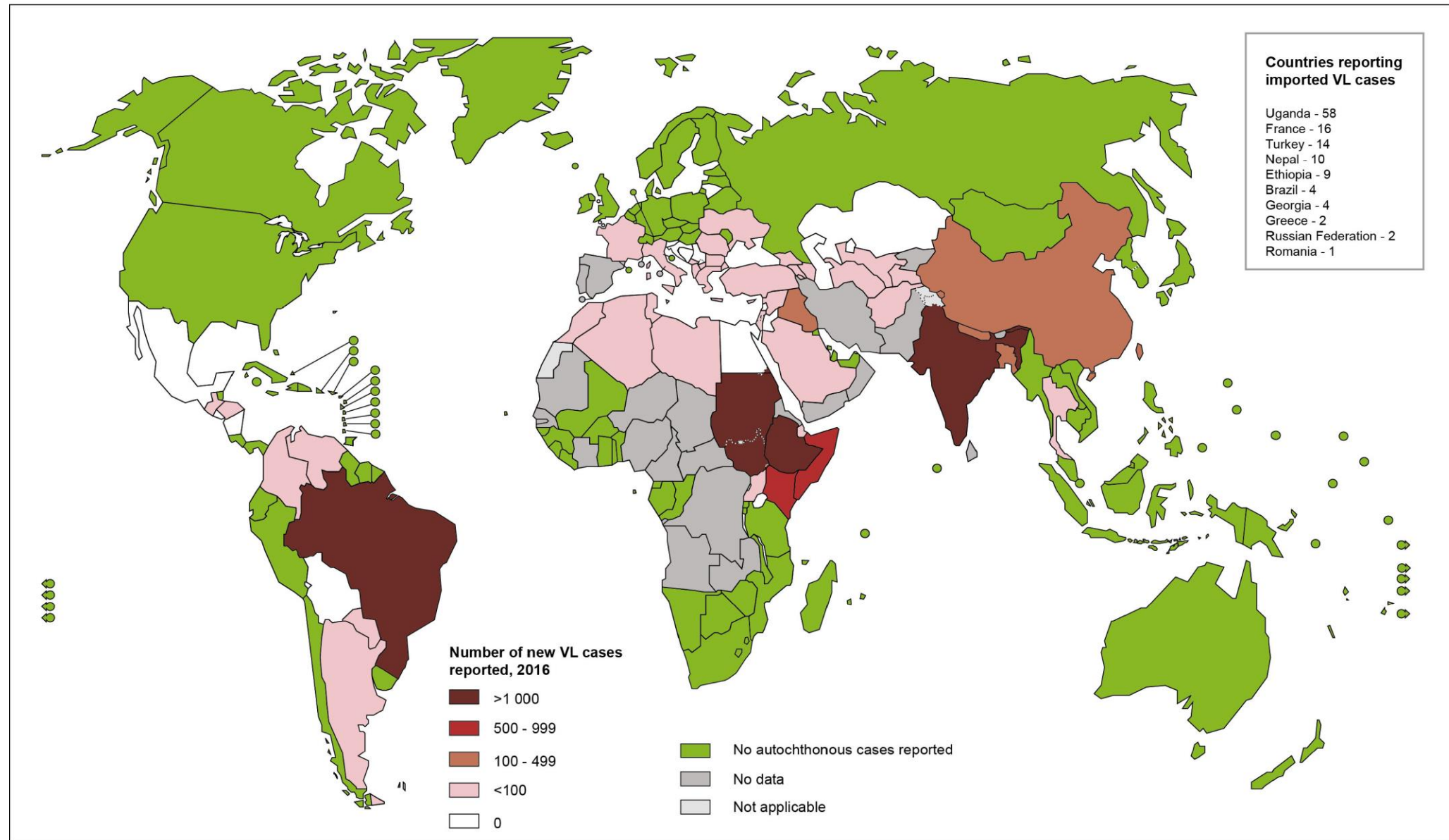
**over 1 billion** people living in endemic areas at risk of infection







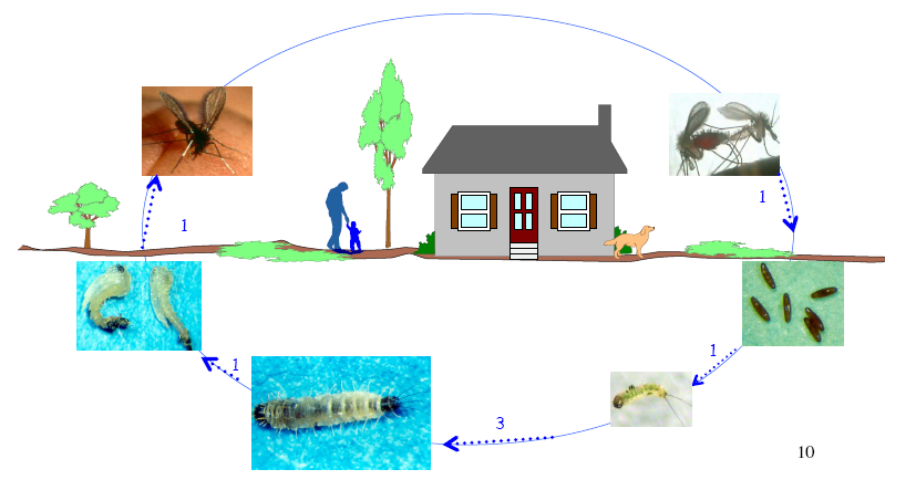
# Status of endemicity of visceral leishmaniasis worldwide, 2016



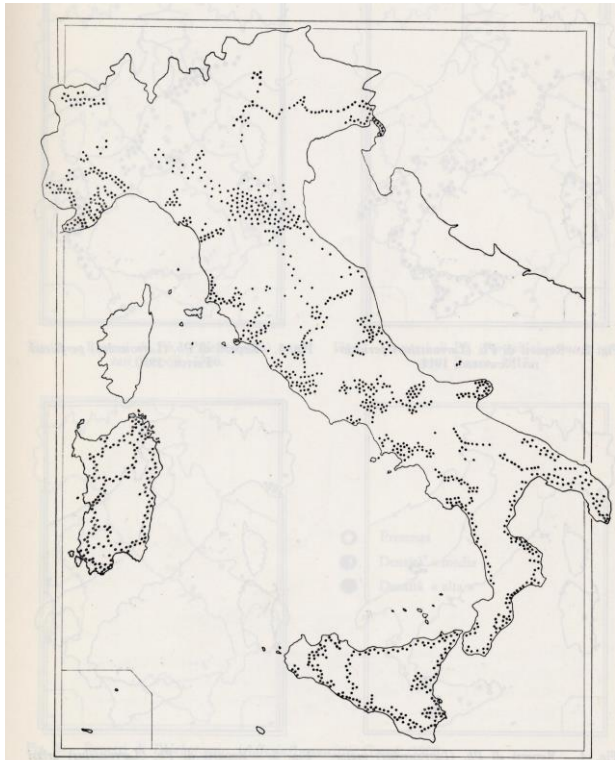
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2018. All rights reserved

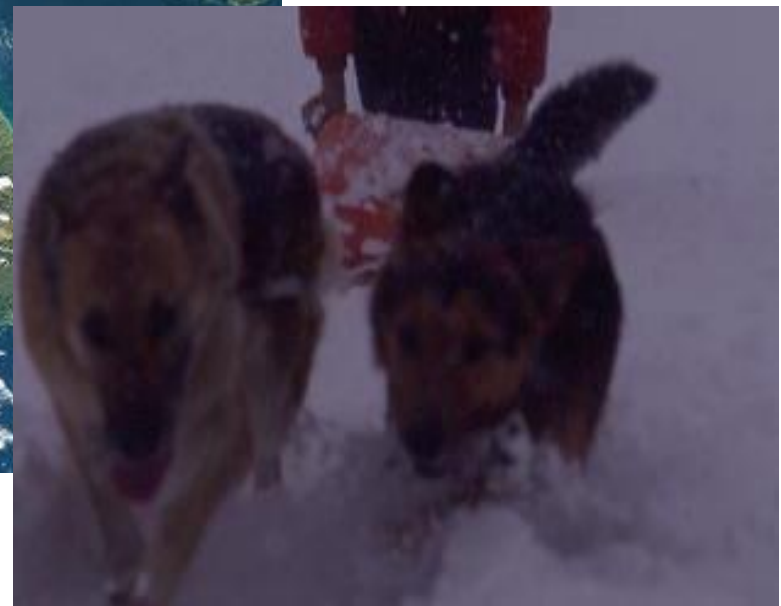
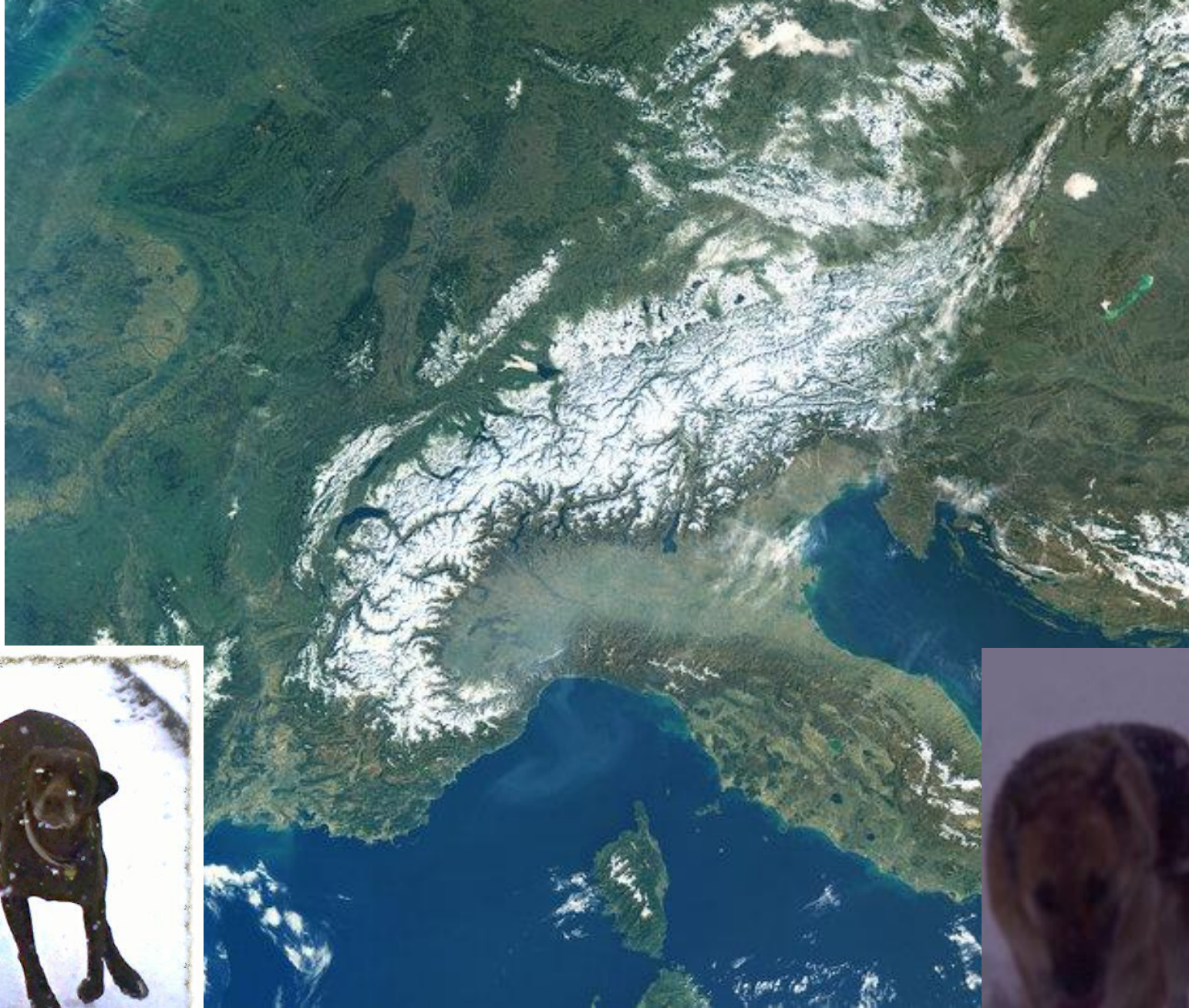
Data Source: World Health Organization  
 Map Production: Control of Neglected  
 Tropical Diseases (NTD)  
 World Health Organization





Aumento dei casi di CanL  
in NW Italia alla fine '90.  
Casi apparente autoctoni,  
ma...non ci sono flebotomi !!!!!







# Canine Leishmaniasis, Italy

Ezio Ferroglio,\* Michele Maroli,†  
Silvia Gastaldo,\* Walter Mignone,‡  
and Luca Rossi\*

We report the results of a survey to determine the prevalence of canine leishmaniasis and the presence of sand flies in northwestern Italy, where autochthonous foci of canine leishmaniasis have not been reported. Active foci of canine leishmaniasis were identified, which suggests that the disease is now also endemic in continental climate areas.

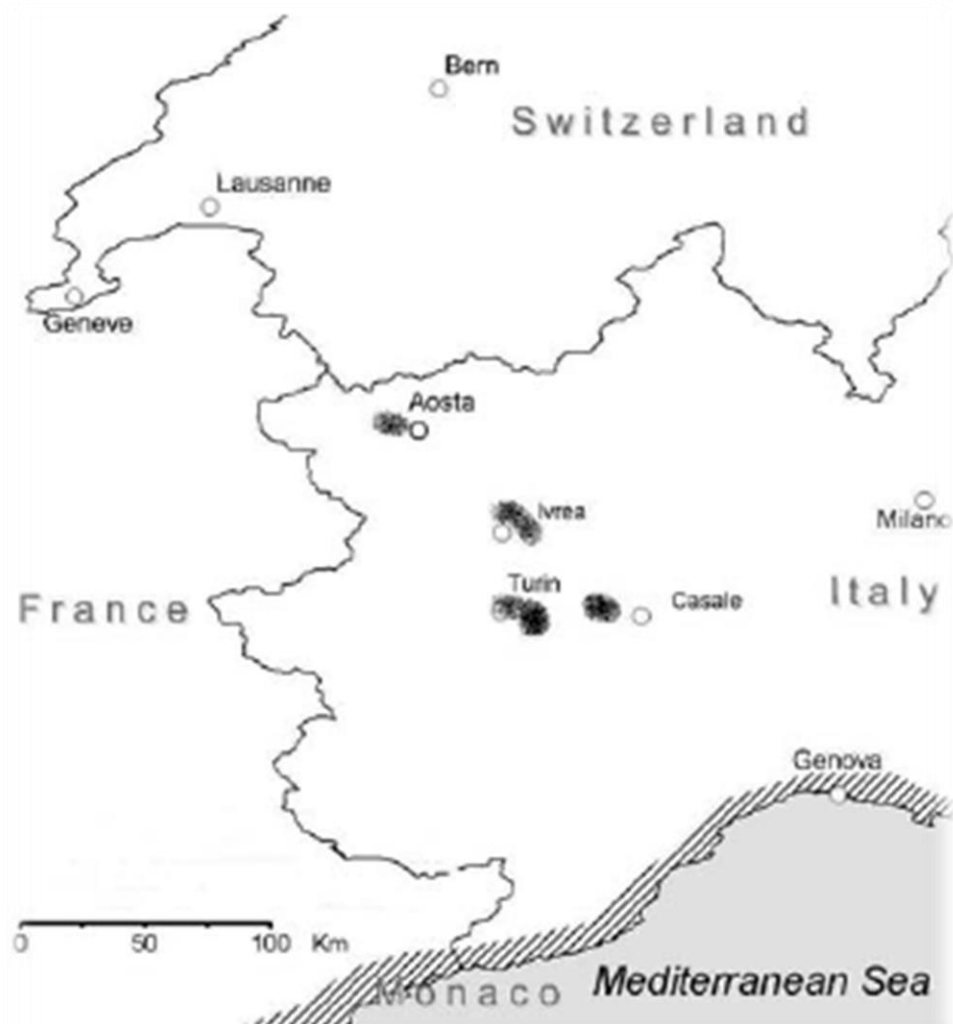
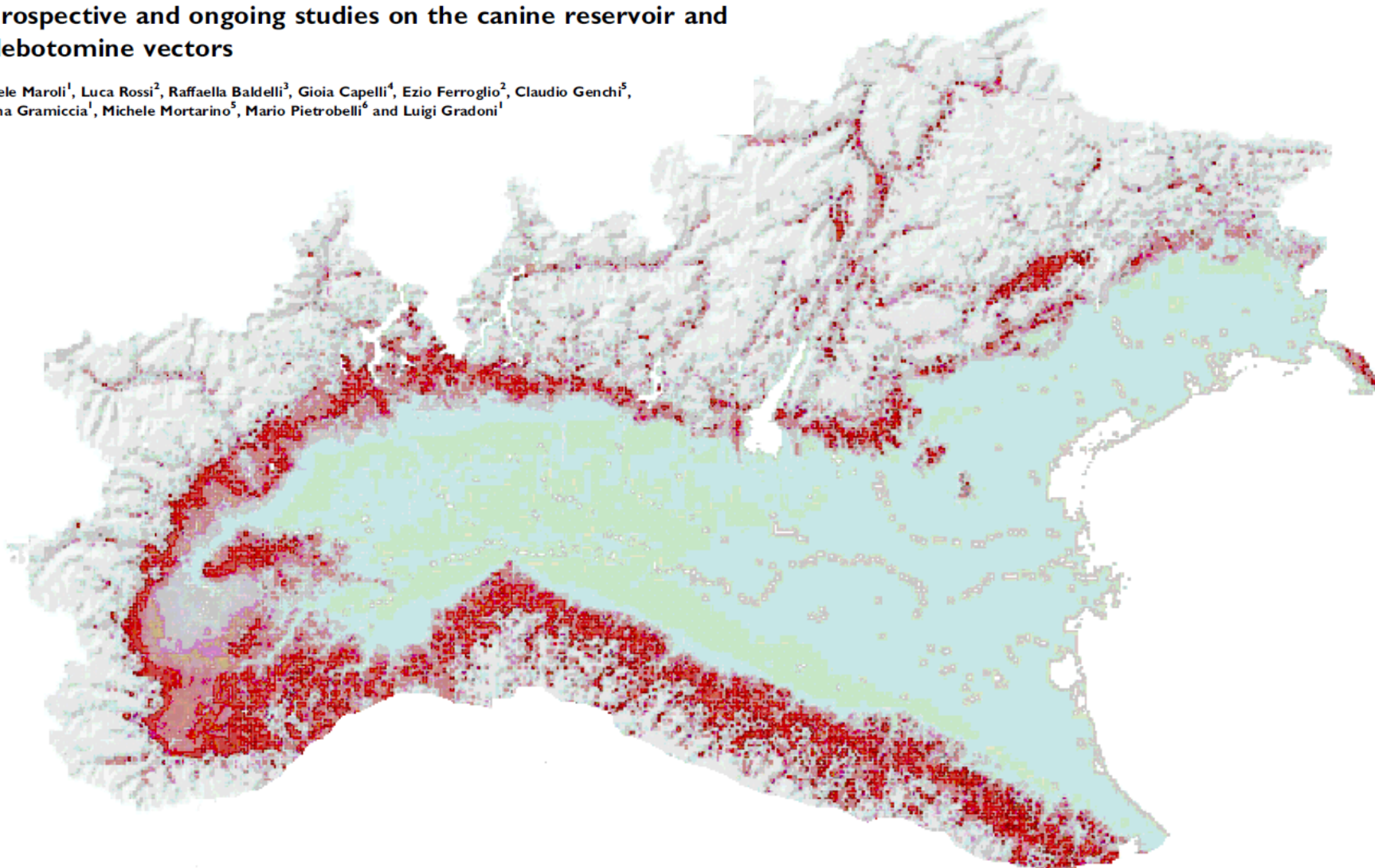


Figure. Traditionally endemic canine leishmaniasis (canine leishmaniasis) areas (slash marks) and new foci in continental climate areas of northwestern Italy (shaded areas).

## The northward spread of leishmaniasis in Italy: evidence from retrospective and ongoing studies on the canine reservoir and phlebotomine vectors

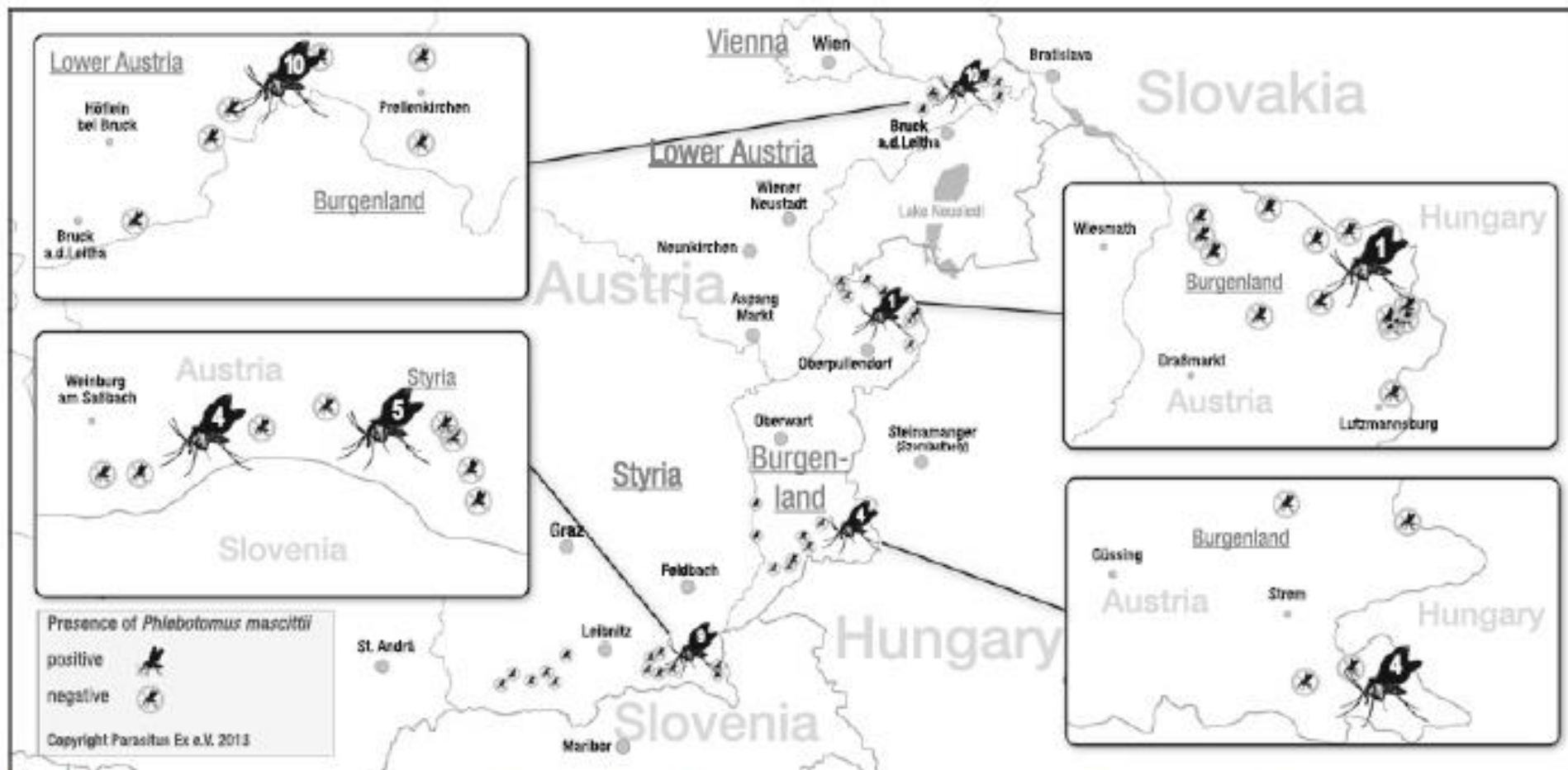
Michele Maroli<sup>1</sup>, Luca Rossi<sup>2</sup>, Raffaella Baldelli<sup>3</sup>, Gioia Capelli<sup>4</sup>, Ezio Ferroglio<sup>2</sup>, Claudio Genchi<sup>5</sup>, Marina Gramiccia<sup>1</sup>, Michele Mortarino<sup>5</sup>, Mario Pietrobelli<sup>6</sup> and Luigi Gradoni<sup>1</sup>



## Emergence of sandflies (Phlebotominae) in Austria, a Central European country

Wolfgang Poepll · Adelheid G. Obwaller · Martin Weiler · Heinz Burgmann · Gerhard Mausecker · Susanne Lorenz · Friedrich Rauchenwald · Horst Aspöck · Julia Walochnik · Torsten J. Naucke

Received: 31 July 2013 / Accepted: 19 September 2013 / Published online: 15 October 2013  
© Springer-Verlag Berlin Heidelberg 2013



**Fig. 1** Map showing capture sites in Styria, Burgenland and Lower Austria. Crosses indicate localities where no sandflies were found, the sandflies symbolise localities where *Phlebotomus* (*Transphlebotomus*)

*mascittii* Grassi 1908, was detected. The numbers within the sandfly symbols represent the total number of catches made in this area, overlapping capture sites are not shown

## First record of *Phlebotomus (Transphlebotomus) mascittii* in Slovakia

Vit Dvorak<sup>1,\*</sup>, Kristyna Hlavackova<sup>1</sup>, Alica Kocisova<sup>2</sup>, and Petr Volf<sup>1</sup>


<sup>1</sup> Charles University Prague, Faculty of Science, Department of Parasitology, Vinicna 7, Prague 2, 12844, Czech Republic

<sup>2</sup> University of Veterinary Medicine and Pharmacy, Institute of Parasitology, Komenskeho 73, Kosice 04181, Slovakia

Received 13 October 2016, Accepted 2 November 2016, Published online 16 November 2016



# SCIENTIFIC REPORTS



OPEN

## Modeling the climatic suitability of leishmaniasis vector species in Europe

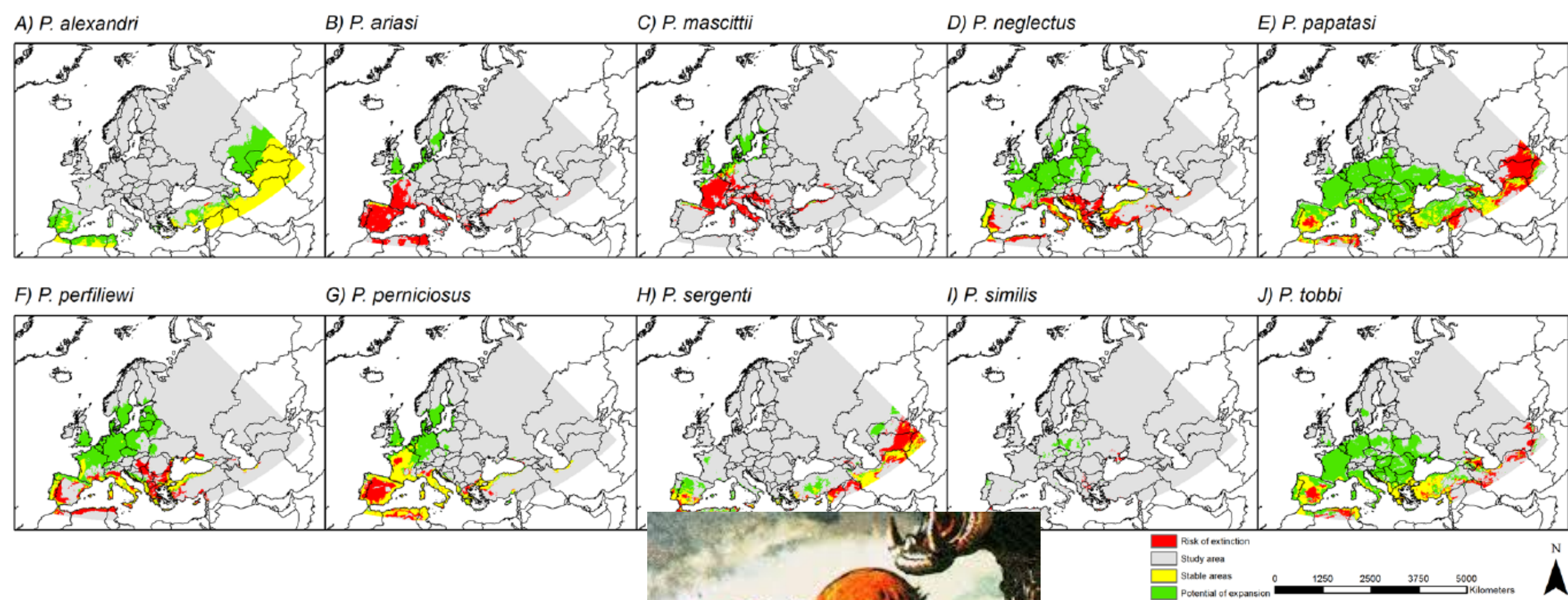
Lisa K. Koch<sup>1,2</sup>, Judith Kochmann<sup>1,2</sup>, Sven Klimpel<sup>1,2</sup> & Sarah Cunze<sup>1,2</sup>

Accepted: 23 March 2017

Published: 29 September 2017

First published online: 17 October 2017

Climate change will affect the geographical distribution of many species in the future. Phlebotomine sandflies are vector species for leishmaniasis, a tropical neglected disease. We applied an ensemble forecasting niche modeling approach to project future changes in climatic suitability for ten vector competent sandfly species in Europe. Whereas the main area of sandfly distribution currently lies in the Mediterranean region, models generally projected a northwards expansion of areas with suitable climatic conditions for most species (*P. alexandri*, *P. neglectus*, *P. papatasi*, *P. perfiliewi*, *P. tobbi*) in the future. The range of distribution for only two species (*P. ariasi*, *P. mascittii*) was projected to decline in the future. According to our results, a higher number of vector competent species in Central Europe can generally be expected, assuming no limitations to dispersal. We recommend monitoring for the establishment of vector species, especially in areas with projected climatic suitability for multiple vector species, as a precautionary strategy. An increased number of vector species, or a higher abundance of a single species, might result in a higher transmission risk of leishmaniasis, provided that the pathogens follow the projected range shifts.



**Figure 5.** Projected changes in climatically suitable habitats (red = areas with risk of extinction; green = areas with potential of expansion; yellow = areas with stable climatic conditions). Projected coordinates are built using Esri ArcGIS 10.3<sup>77</sup> ([www.esri.com/software/arcgis](http://www.esri.com/software/arcgis)).



currently climatically suitable habitats to the binary modeling. Areas with a risk of extinction under current conditions; areas with a potential for expansion under future conditions; stable areas under future conditions. Projected coordinates are built using Esri ArcGIS 10.3<sup>77</sup> ([www.esri.com/software/arcgis](http://www.esri.com/software/arcgis)).

Climate Change Drives Disease To New Territory - washingtonpost.com - Microsoft Internet Explorer

File Modifica Visualizza Preferiti Strumenti ?

Indirizzo <http://www.washingtonpost.com/wp-dyn/content/article/2006/05/04/AR2006050401931.html> Vai Collegamenti >>

EPSON Web-To-Page Stampa Anteprima di stampa

Cronok Visualiz >>

3 se...  
2 se...  
Ultim...  
lunedì  
mart...  
merc...  
giovedì  
Oggi

washingtonpost.com Sign In | Register Now  
The Washington Post Print Edition | Subscribe | PostPoints

Advertisement  

 The Treadmill for Swimmers!  
 FREE DVD!

NEWS POLITICS OPINIONS LOCAL SPORTS ARTS & LIVING CITY GUIDE JOBS CARS REAL ESTATE RENTALS SHOPPING

SEARCH:  go  washingtonpost.com  Web: Results by Google™ | Search Archives

washingtonpost.com > Nation > Special Reports > Global Warming

Print This Article  
E-Mail This Article

**Climate Change Drives Disease To New Territory**  
Viruses Moving North to Areas Unprepared for Them, Experts Say

By Doug Struck  
Washington Post Foreign Service  
Friday, May 5, 2006; Page A16

TORONTO -- Valere Rommelaere, 82, survived the D-Day invasion in Normandy, but not a mosquito bite. Six decades after the war, the hardy Saskatchewan farmer was bitten by a bug carrying a disease that has spread from the equator to Canada as temperatures have risen. Within weeks, he died from West Nile virus.

Global warming -- with an accompanying rise in floods and droughts -- is fueling the spread of epidemics in areas unprepared for the diseases, say many health experts worldwide. Mosquitoes, ticks, mice and other carriers are surviving warmer winters and expanding their range, bringing health threats with them.

Advertisement  
 Earn up to 40,000 bonus points in one year – enough for one domestic round-trip airline ticket plus other business supplies  
 Earn 1 point for virtually every dollar you spend  
 Fly any airline anytime  
  
 Get a decision in 60 seconds  
 Apply Now  
 OPEN FOR BUSINESS

Advertisement  
 A better job is right around the corner.  
 Find it now with CareerBuilder.com

Operazione completata

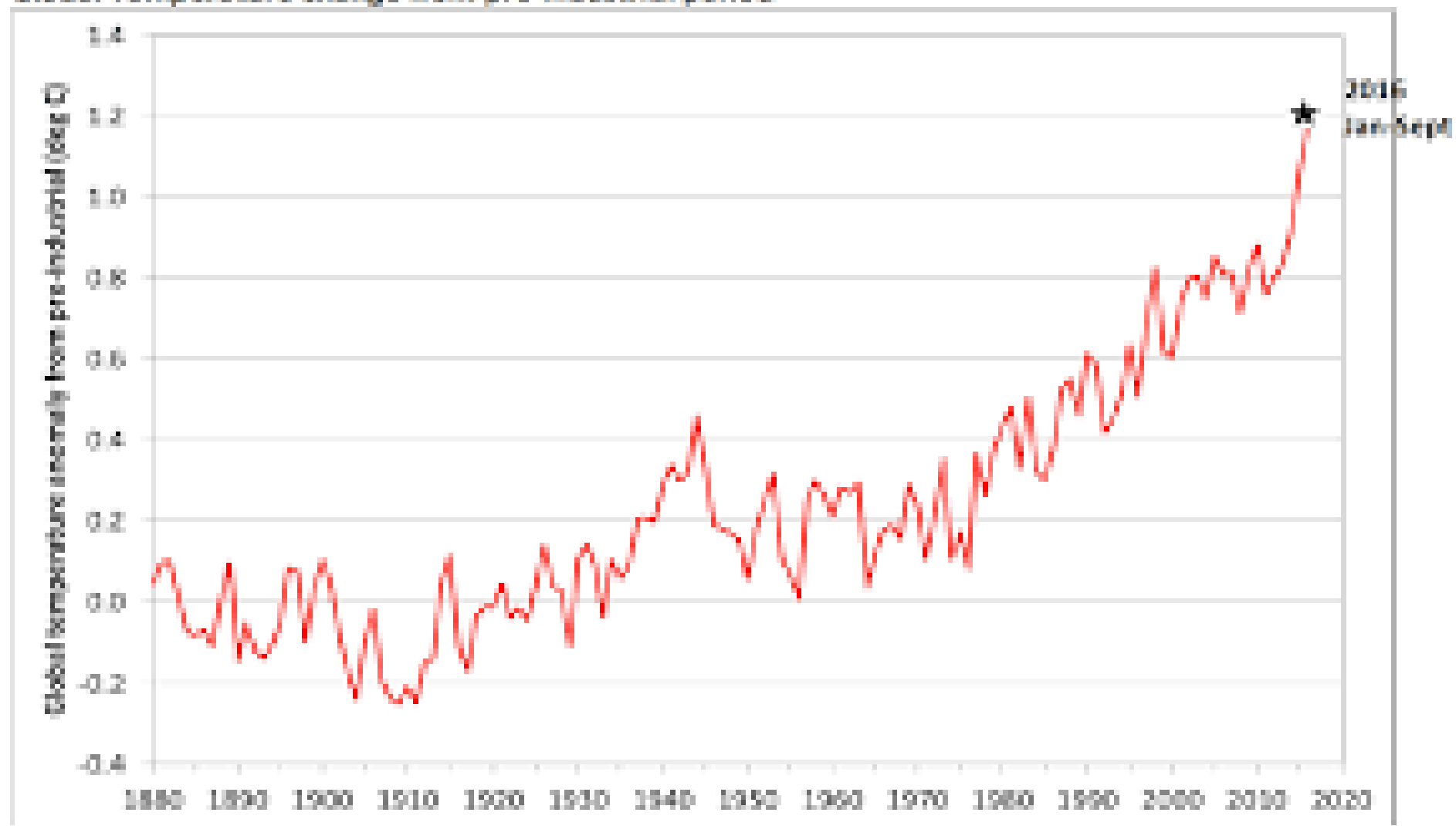
start Posta in arrivo per ezi... Climate Change Drive... IT 15.44

Office  
Microsoft





Global Temperature change from pre-industrial period



# Mapping climate change in European temperature distributions

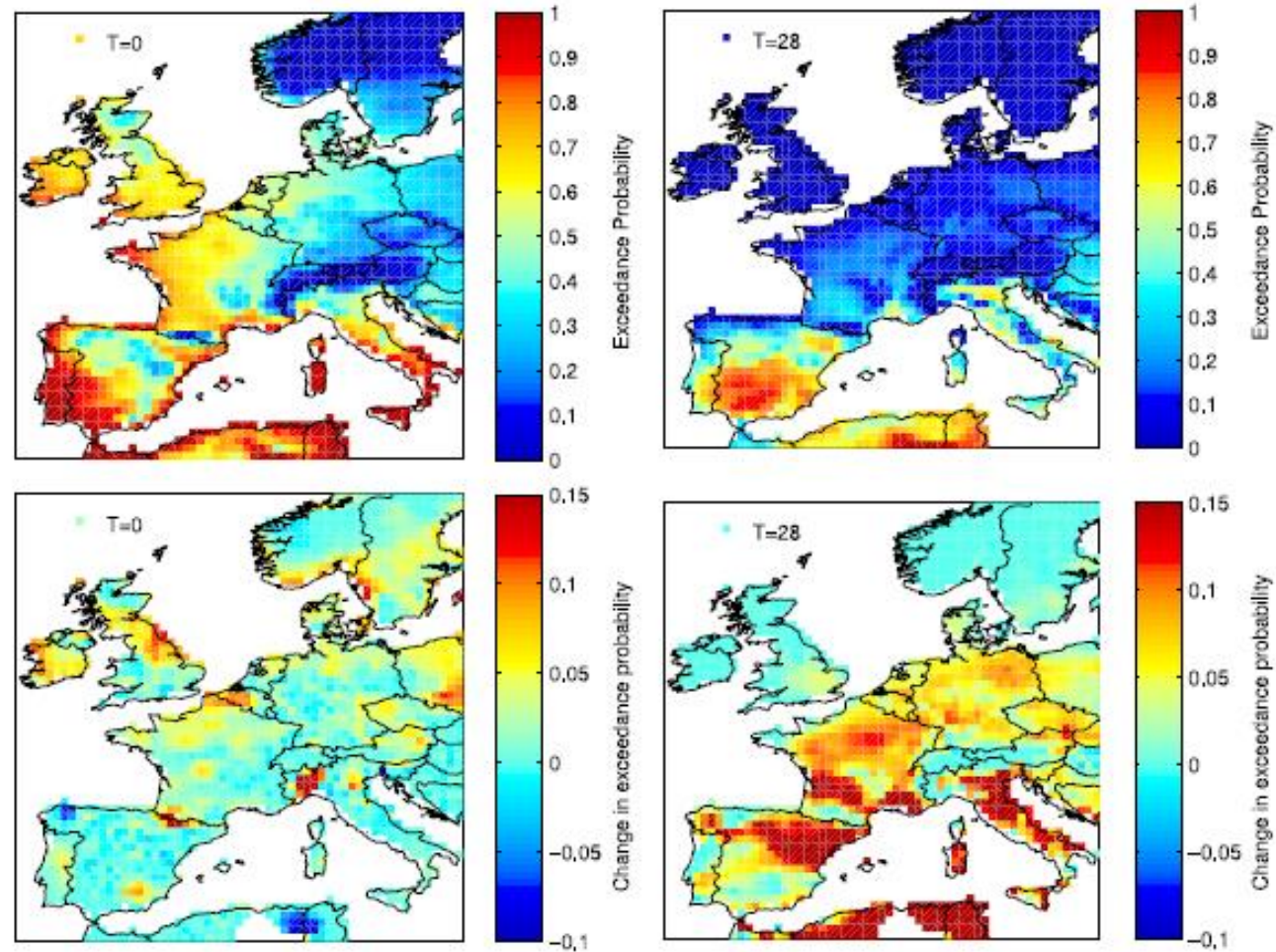
David A Stainforth<sup>1,2,3,6</sup>, Sandra C Chapman<sup>3,4</sup> and Nicholas W Watkins<sup>2,3,5</sup>

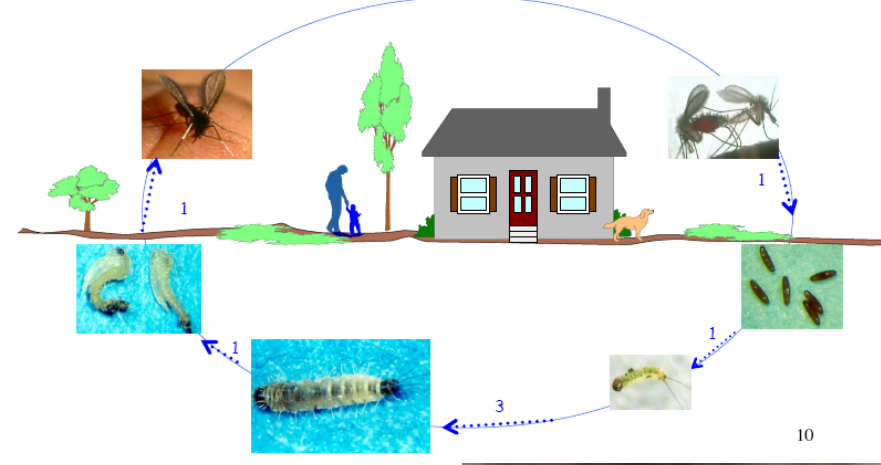
<sup>1</sup> Grantham Research Institute on Climate Change and the Environment, London School of Economics, Houghton Street, London, UK

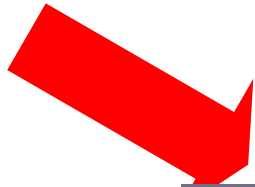
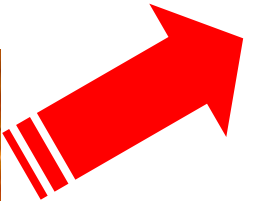
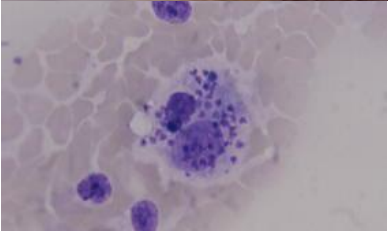
<sup>2</sup> Centre for the Analysis of Timeseries, London School of Economics, Houghton Street, London, UK

<sup>3</sup> Department of Physics, University of Warwick, Coventry CV4 7AL, UK

<sup>4</sup> Department of Mathematics and Statistics, University of Tromsø, NO-9037 Tromsø, Norway











Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



Veterinary Parasitology 155 (2008) 198–203

veterinary  
parasitology

[www.elsevier.com/locate/vetpar](http://www.elsevier.com/locate/vetpar)

### Characterization of widespread canine leishmaniasis among wild carnivores from Spain

R. Sobrino<sup>a</sup>, E. Ferroglio<sup>b</sup>, A. Oleaga<sup>a</sup>, A. Romano<sup>b</sup>, J. Millán<sup>c</sup>,  
M. Revilla<sup>d</sup>, M.C. Arnal<sup>d</sup>, A. Trisciuglio<sup>b</sup>, C. Gortázar<sup>a,\*</sup>

Transboundary and Emerging Diseases

Transboundary and Emerging Diseases

ORIGINAL ARTICLE

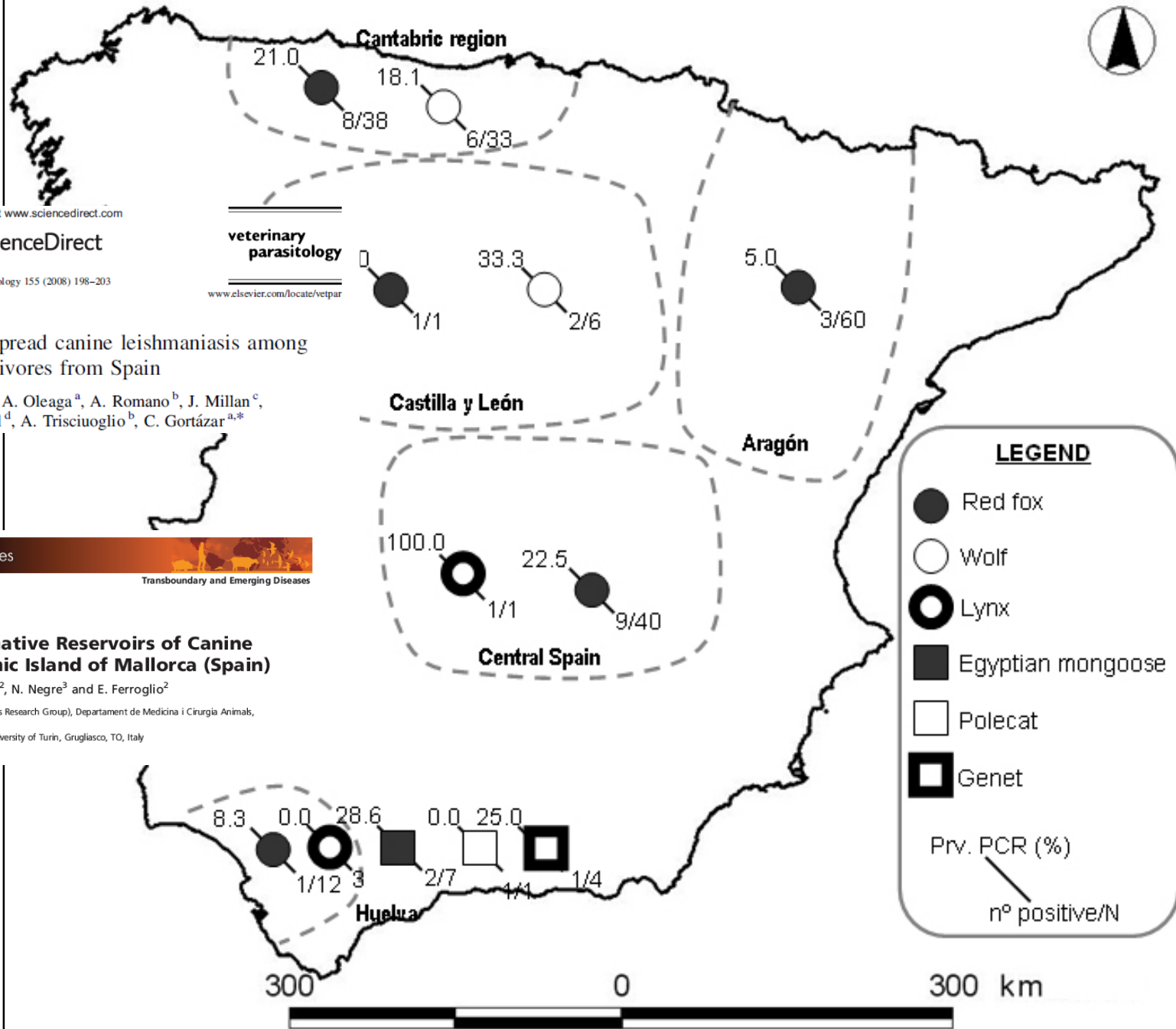
### An Investigation into Alternative Reservoirs of Canine Leishmaniasis on the Endemic Island of Mallorca (Spain)

J. Millán<sup>1</sup>, S. Zanet<sup>2</sup>, M. Gomis<sup>3</sup>, A. Trisciuglio<sup>2</sup>, N. Negre<sup>3</sup> and E. Ferroglio<sup>2</sup>

<sup>1</sup> Servicio de Ecopatología de Fauna Salvaje (SEFaS, Wildlife Diseases Research Group), Departament de Medicina i Cirurgia Animals, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain

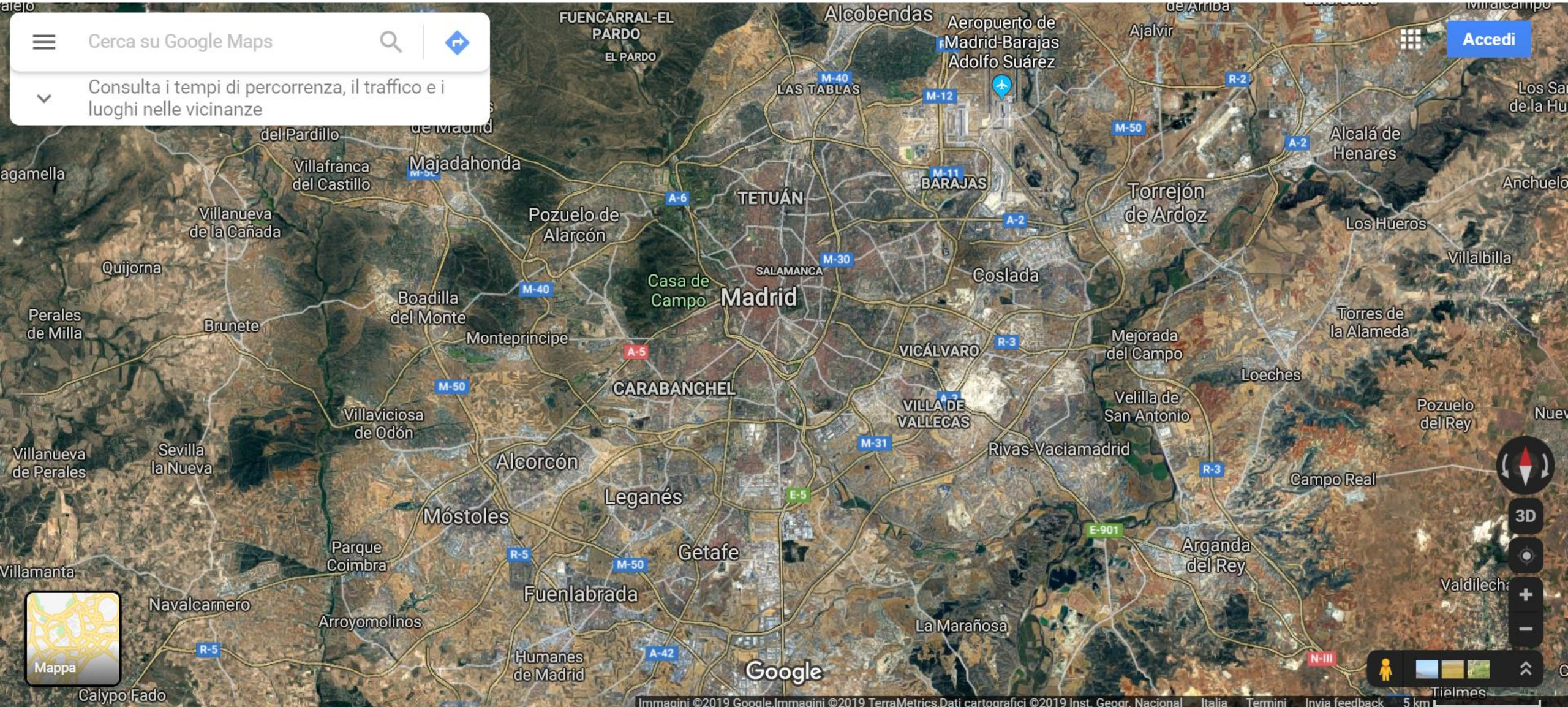
<sup>2</sup> Department of Animal Production, Epidemiology and Ecology, University of Turin, Grugliasco, TO, Italy

<sup>3</sup> Fundació Natura Parc, Santa Eugènia, Balearic Islands, Spain



Cerca su Google Maps

Consulta i tempi di percorrenza, il traffico e i luoghi nelle vicinanze



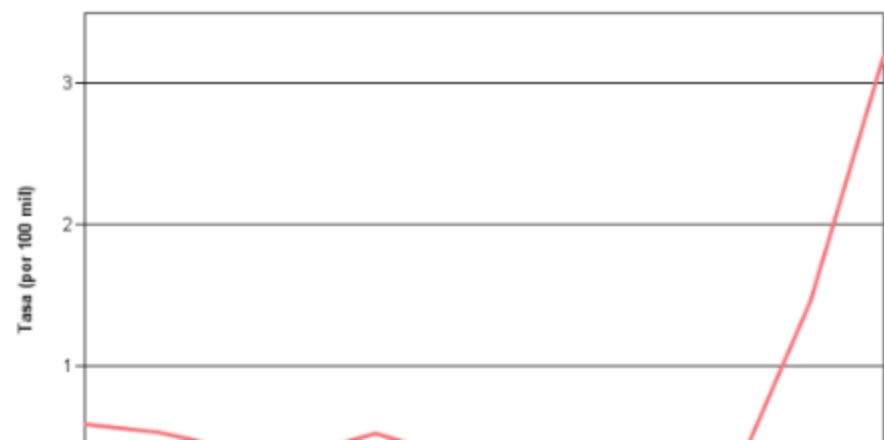
SANIDAD

## El brote de leishmaniasis sigue activo y sumó el año pasado 150 casos

- El Informe del Estado de Salud de la Población muestra el alcance de la leishmaniasis
- La esperanza de vida en Madrid está en 83,7 años, bajan los fumadores, crece la obesidad

ELENA G. SEVILLANO | Madrid | 11 FEB 2013 - 21:40 CET 5

Archivado en: Sanidad pública Javier Fernández Lasquetty Obesidad Envejecimiento población Fuenlabrada Leganés Getafe Sistema sanitario Esperanza vida Enfermedades parasitarias



PUBLICIDAD

ONO

Si no contratas Fibra Óptica con ONO a precio de ADSL, es que eres un bicho raro

Eskup Twitter

**Elena Sevillano**  
Redactora de Sanidad y Medio Ambiente

ÚLTIMA HORA

Madrid ahora Última hora

**Nueva protesta de la marea blanca en Madrid.** La manifestación, de Neptuno a Sol, reivindica la sanidad pública



Neglected tropical diseases [+ Add to myFT](#)

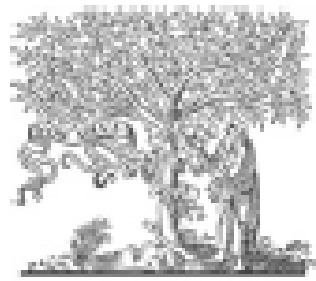
## A mysterious leishmaniasis outbreak in Spain

The cause of an epidemic in a Madrid suburb mystified doctors, so they turned detective

🐦  
f  
in  
🔖  
Save



In attesa di risposta da spoor-api.ft.com...



ELSEVIER

Contents lists available at SciVerse ScienceDirect

# Veterinary Parasitology

journal homepage: [www.elsevier.com/locate/vetpar](http://www.elsevier.com/locate/vetpar)



Rapid communication

## The hare (*Lepus granatensis*) as potential sylvatic reservoir of *Leishmania infantum* in Spain

R. Molina<sup>a,\*</sup>, M.I. Jiménez<sup>a,\*</sup>, I. Cruz<sup>a</sup>, A. Iriso<sup>b</sup>, I. Martín-Martín<sup>a</sup>, O. Sevillano<sup>b</sup>, S. Melero<sup>c</sup>, J. Bernal<sup>b</sup>

<sup>a</sup> Servicio de Parasitología, Centro Nacional de Microbiología, Instituto de Salud Carlos III, Ctra. Majadahonda-Pozuelo s/n, 28220 Majadahonda, Madrid, Spain

<sup>b</sup> Dirección General de Medio Ambiente, Comunidad Autónoma de Madrid, Spain

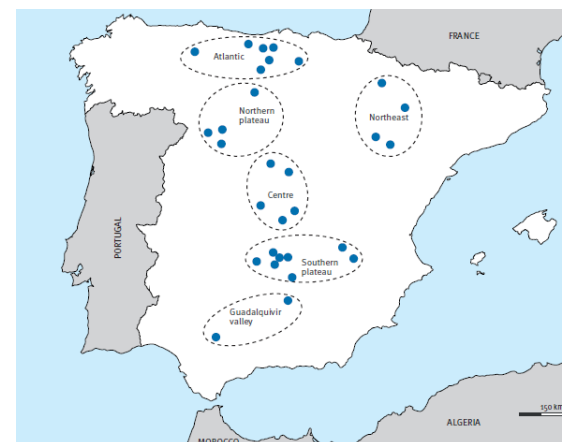
<sup>c</sup> Leganés Council, Madrid, Spain

# *Leishmania infantum* in free-ranging hares, Spain, 2004-2010

F Ruiz-Fons (josefrancisco.ruiz@uclm.es)<sup>1</sup>, E Ferrogllo<sup>2</sup>, C Gortázar<sup>1</sup>

1. Instituto de Investigación en Recursos Cinegéticos, Animal Health and Biotechnology (SaBio) Group, Ciudad Real, Spain

2. Dipartimento di Produzioni Animali, Epidemiologia ed Ecologia, Facoltà di Medicina Veterinaria, Università degli Studi di Torino, Grugliasco, Italy



Prevalence of *Leishmania infantum* infection in hares by geographic region and species, Spain, 2004-2010 (n=94)

Geographic region	Hare species	Number of samples	Positive	Prevalence in percent (95% CI)
Atlantic	<i>Le. europaeus</i>	14	9	64.3 (39.2-89.4)
	<i>Le. castroviejo</i>	2	0	0.0 (n.a.)
Northern plateau	<i>Le. granatensis</i>	5	1	20.0 (0.0-55.1)
Northeast	<i>Le. europaeus</i>	2	0	0.0 (n.a.)
	<i>Le. granatensis</i>	5	3	60.0 (17.1-100.0)
Centre	<i>Le. granatensis</i>	10	6	60.0 (29.6-90.3)
Southern plateau	<i>Le. granatensis</i>	54	21	38.8 (21.8-51.8)
Guadalquivir river valley	<i>Le. granatensis</i>	2	1	50.0 (0.0-100.0)
<b>Total</b>		<b>94</b>	<b>41</b>	<b>43.6 (33.6-53.6)</b>

# First evidence of *Leishmania* infection in European brown hare (*Lepus europaeus*) in Greece: GIS analysis and phylogenetic position within the *Leishmania* spp

C. N. Tsokana<sup>1</sup> · C. Sokos<sup>1,2</sup> · A. Giannakopoulos<sup>1</sup> · Z. Mamuris<sup>3</sup> · P. Birtsas<sup>4</sup> · K. Papaspyropoulos<sup>2</sup> · G. Valiakos<sup>1</sup> · V. Spyrou<sup>5</sup> · M. Lefkaditis<sup>1</sup> · D. C. Chatzo M. Kantere<sup>1</sup> · K. Manolakou<sup>6</sup> · A. Touloudi<sup>1</sup> · A. Rodi Burriel<sup>1</sup> · E. Ferroglio<sup>7</sup> · C. Hadjichristodoulou<sup>8,9</sup> · C. Billinis<sup>1</sup>

Received: 14 May 2015 / Accepted: 11 September 2015  
© Springer-Verlag Berlin Heidelberg 2015

Prevalence 23,49%  
(95%CI 17,27– 30,69)

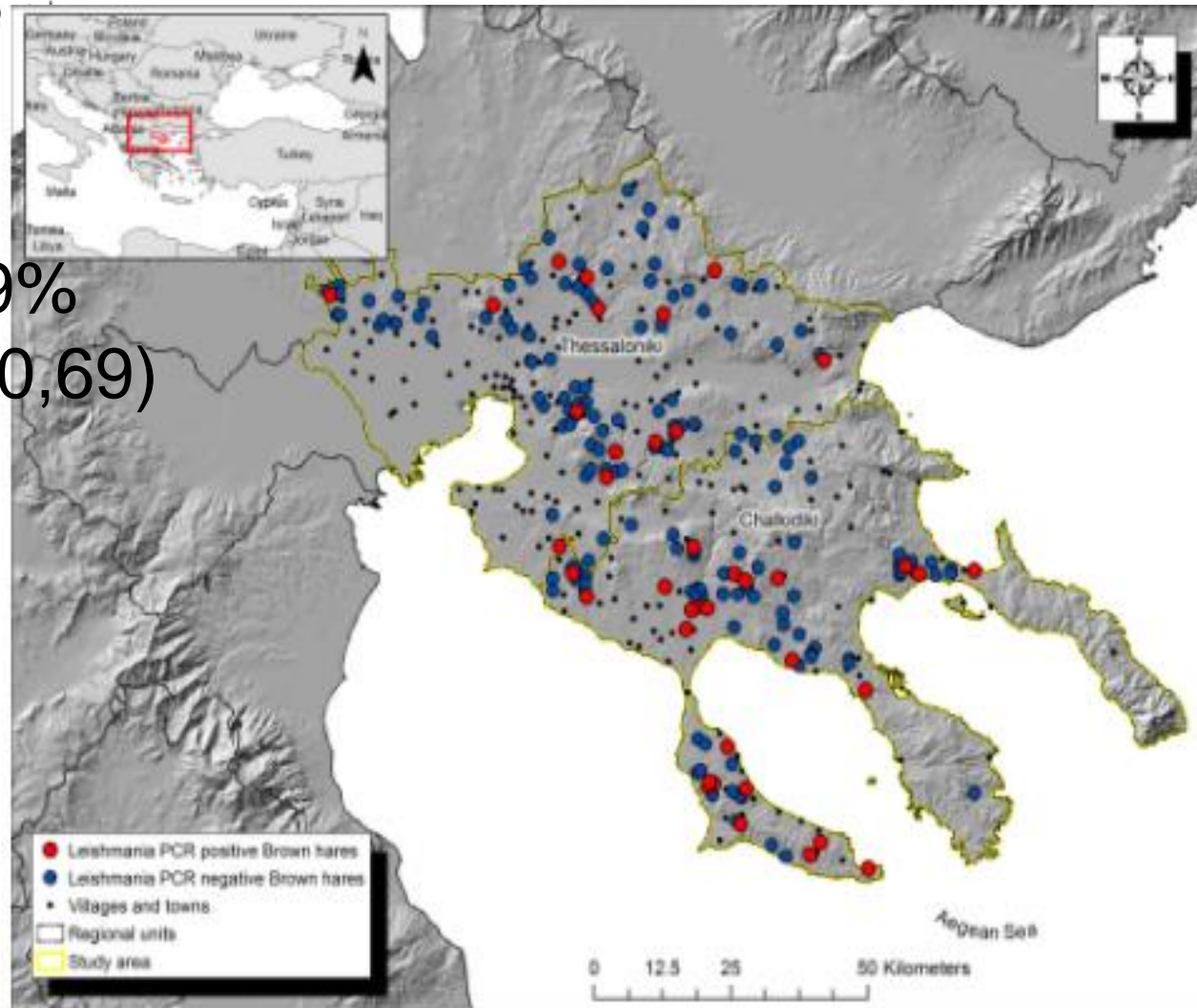


Fig. 1 Map of Greece showing the geographical distribution of *Leishmania* PCR-positive hares between 2007 and 2011 in the prefectures of Thessaloniki and Chalkidiki. Red and blue dots indicate the *Leishmania* PCR-positive and the *Leishmania* PCR-negative hares, respectively



*Eastern cottontails (Sylvilagus floridanus ) 28/104 P=26.92% (CI95% 19.33%-36.16%).*

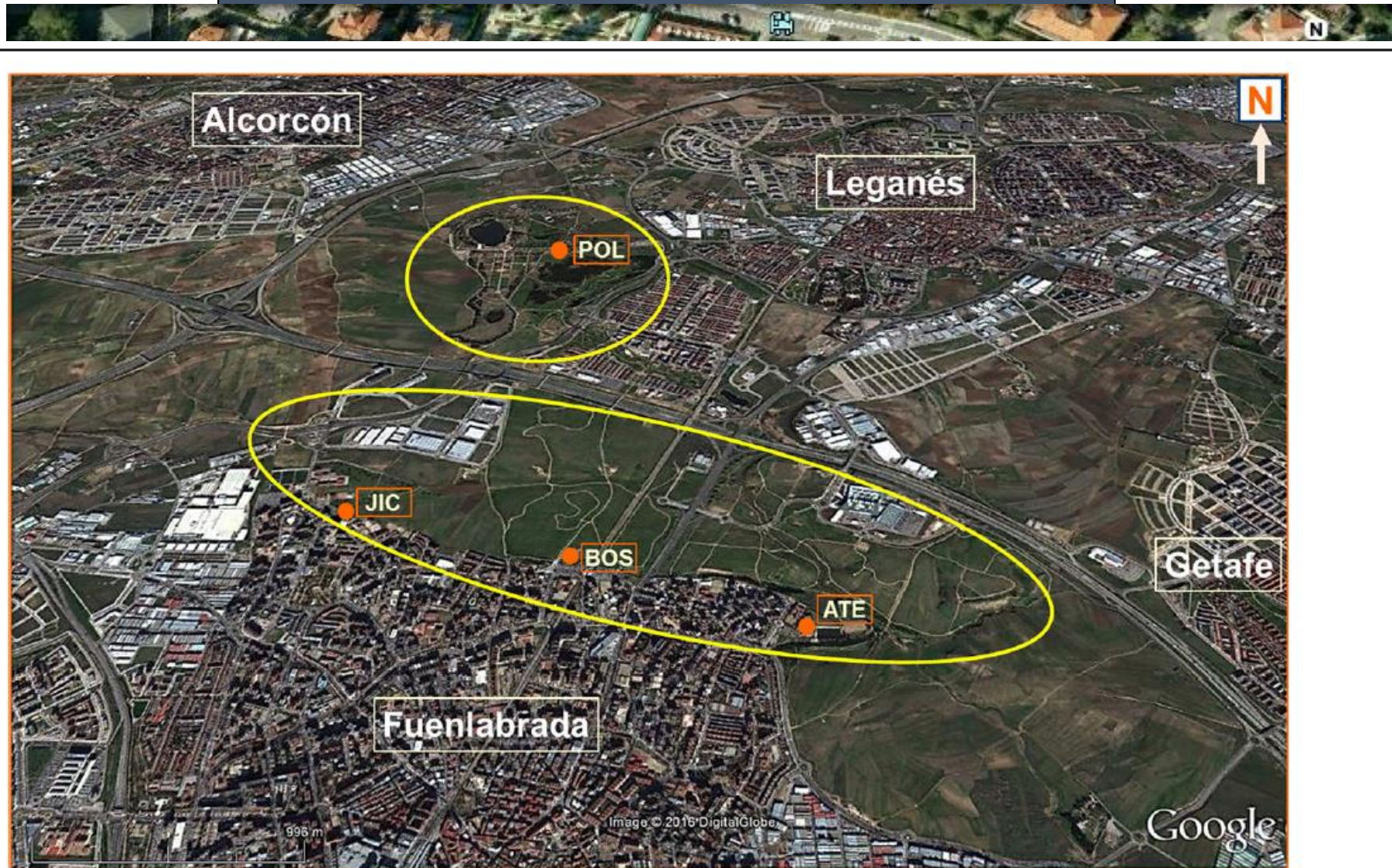


*European brown hare (Lepus europaeus ) 20/108 P=18.52% (CI95% 12.32%-26.88%)*



*Wild rabbits (Oryctolagus cuniculus) 3/10 P=30% (CI95% 10.78%-60.32%)*

# "NATURBAN"



**Fig. 1** Map of the area of study in southwestern region of Madrid (Spain) showing the location of the four stations selected

## Asymptomatic *Leishmania infantum* Infection in an Area of Northwestern Italy (Piedmont Region) Where Such Infections Are Traditionally Nonendemic<sup>∇</sup>


Alberto Biglino,<sup>1\*</sup> Cesare Bolla,<sup>1</sup> Erika Concialdi,<sup>1</sup> Anna Trisciuglio,<sup>2</sup>  
Angelo Romano,<sup>2</sup> and Ezio Ferroglia<sup>2</sup>

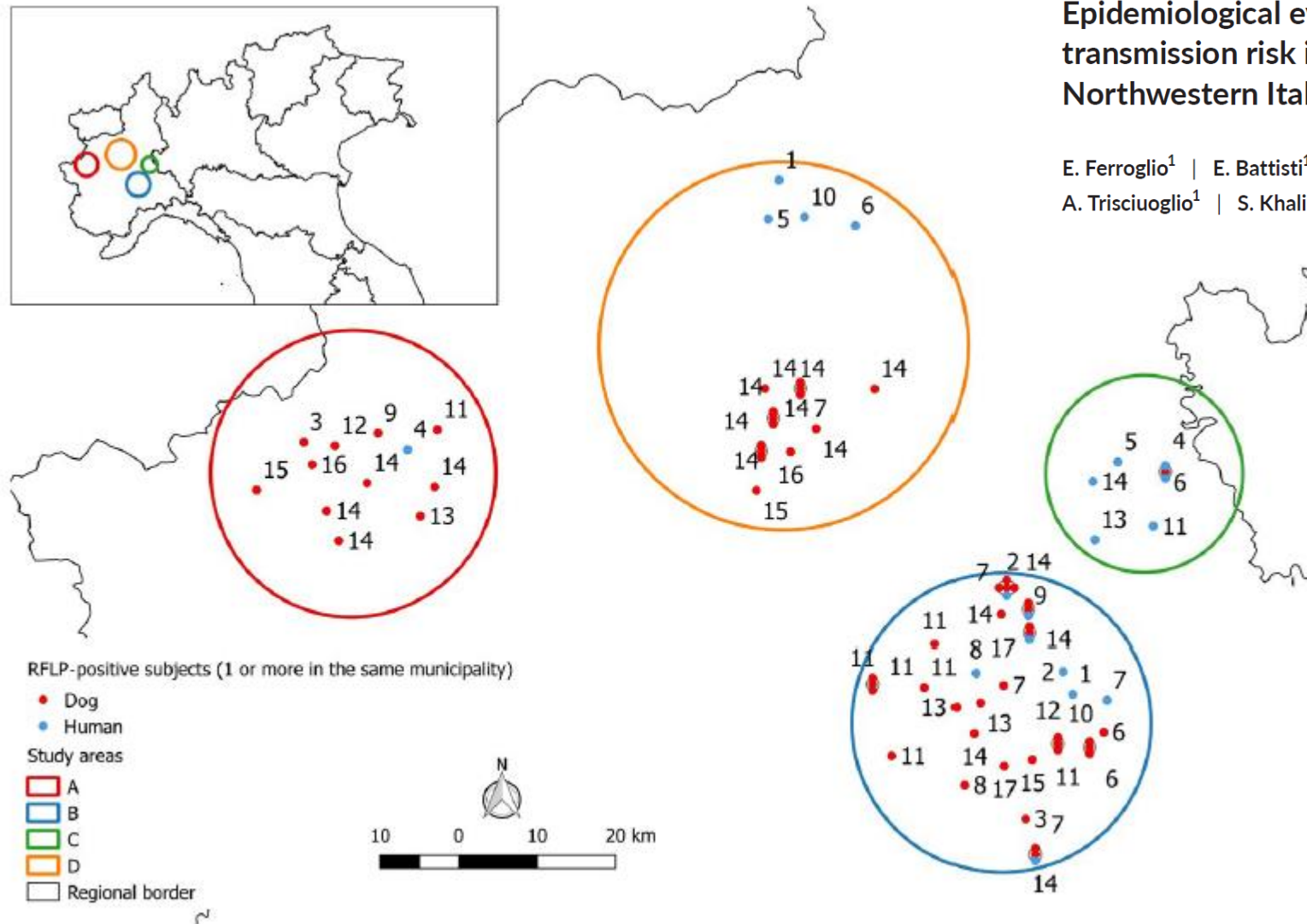
### • **RISULTATI:**

- 39 positivi W-B
- 22 positivi PCR

**SIEROPREVALENZA: 7,4% W-B**  
**PARASSITEMIA: 54% dei W-B pos.**

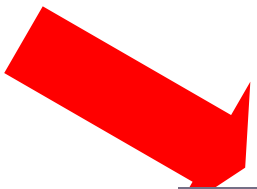
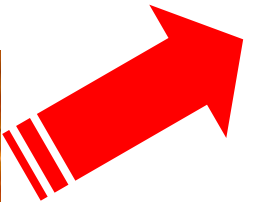
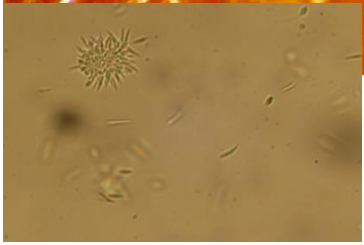
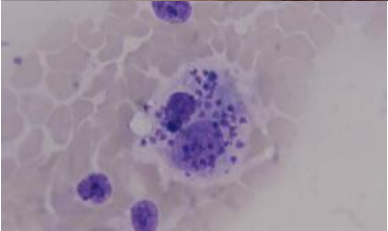
## Epidemiological evaluation of *Leishmania infantum* zoonotic transmission risk in the recently established endemic area of Northwestern Italy

E. Ferroglio<sup>1</sup> | E. Battisti<sup>1</sup> | S. Zanet<sup>1</sup>  | C. Bolla<sup>2</sup> | E. Concialdi<sup>2</sup> |  
A. Trisciuglio<sup>1</sup> | S. Khalili<sup>3</sup> | A. Biglino<sup>2</sup>



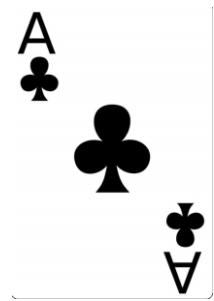
**FIGURE 1** Geographical distribution of RFLP patterns identified in dogs and humans in study areas A, B, C and D. The pattern identification number is reported close to each identifier on the map [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



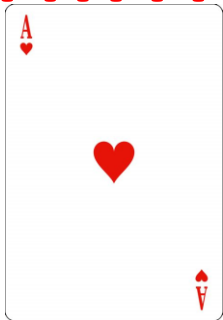




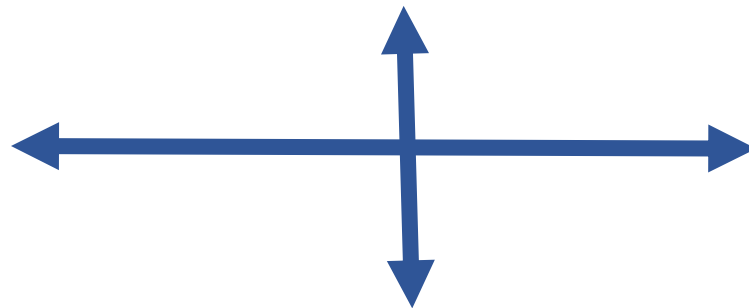
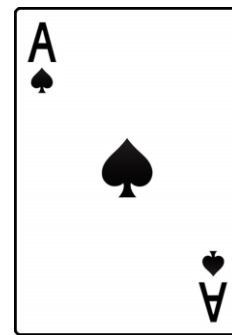
Patogeni



Animali



Salute



Glocal changes

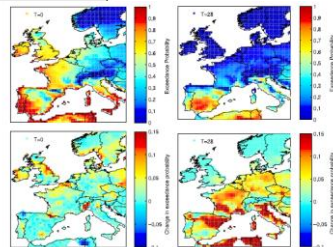
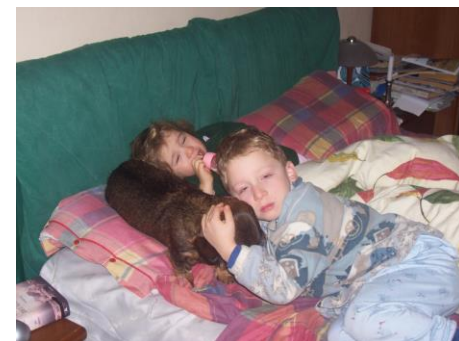
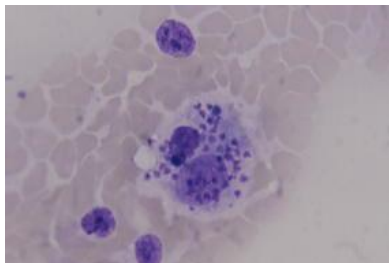


Fig. 1 Map of the area of study in southwestern region of Madrid (Spain) showing the location of the four stations selected

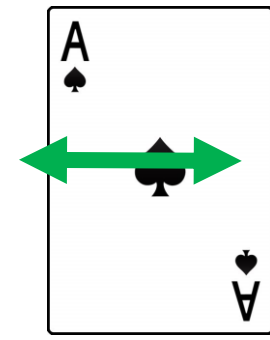
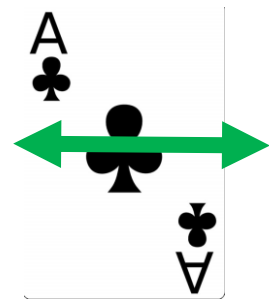




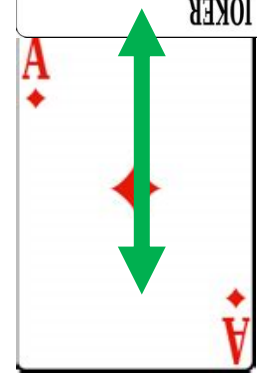
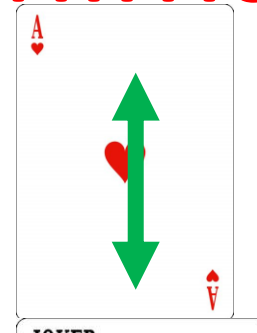
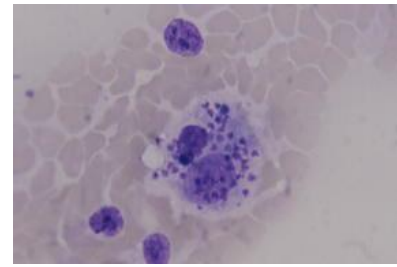
# Animali



# Patogeni



# Salute



# Glocal changes

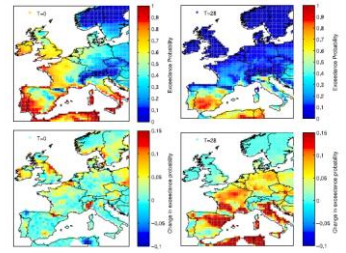
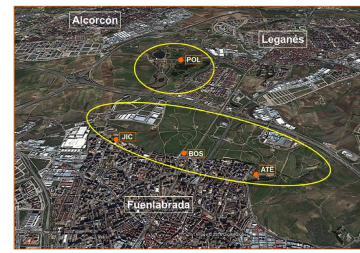


Fig. 1 Map of the area of study in southwestern region of Madrid (Spain) showing the location of the four stations selected

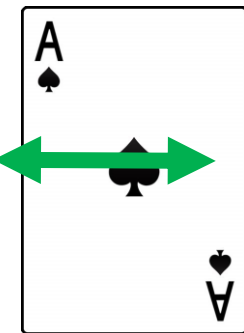
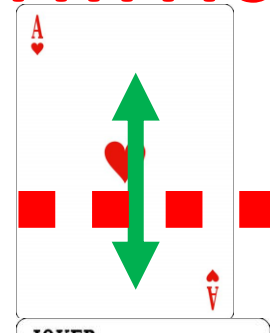
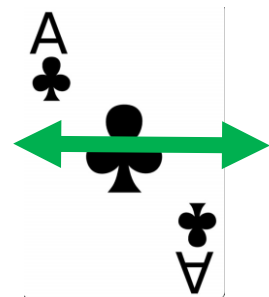




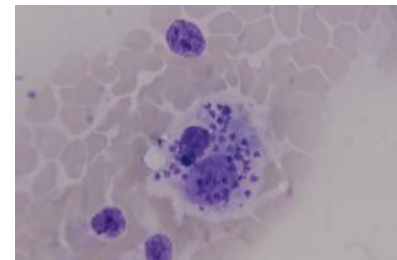


Animali

Patogeni



Salute



Glocal changes

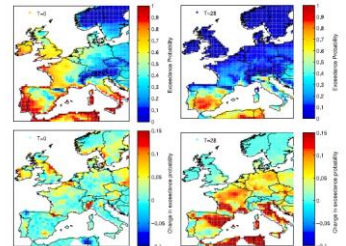
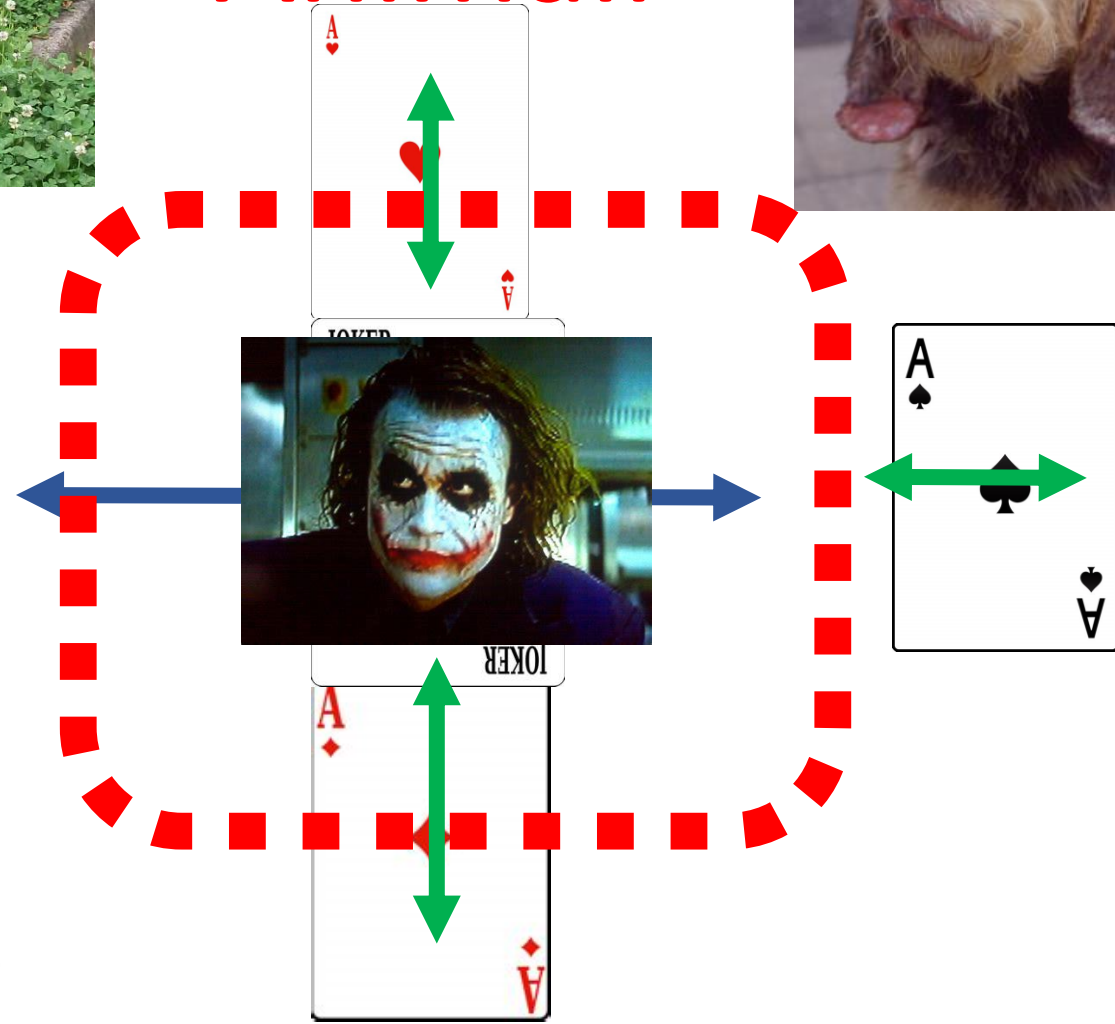
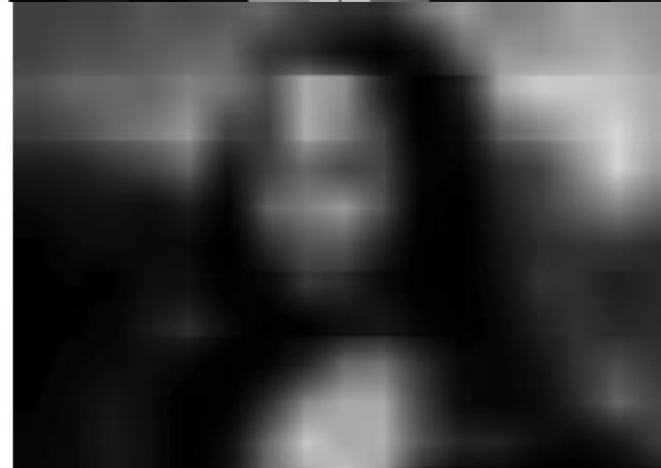
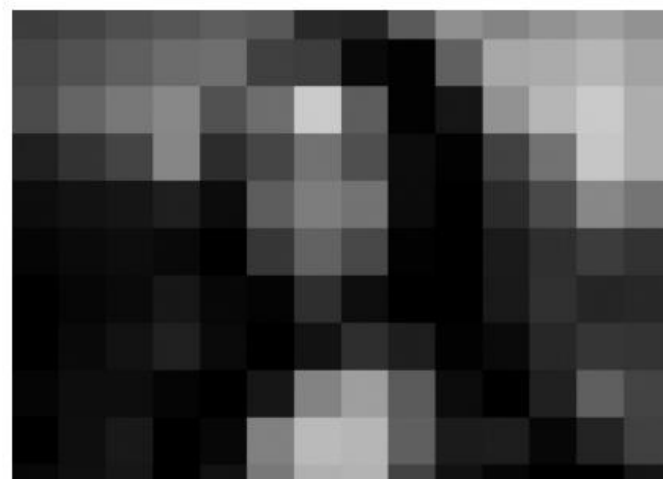
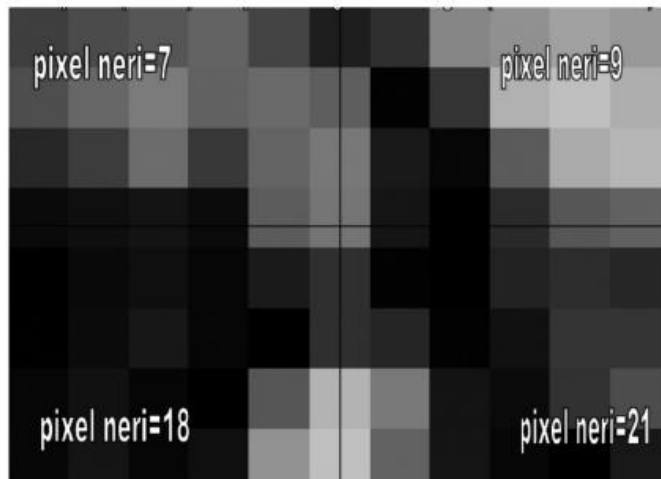
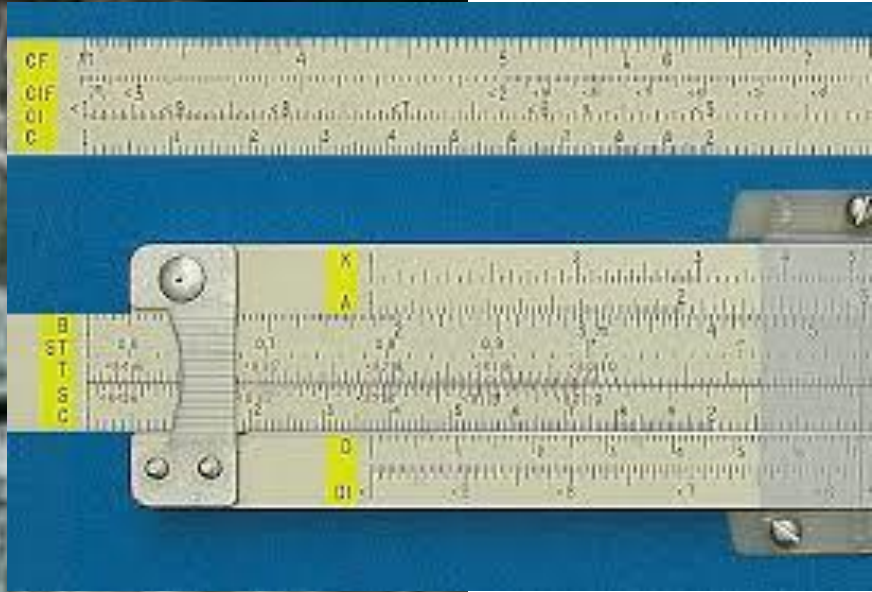
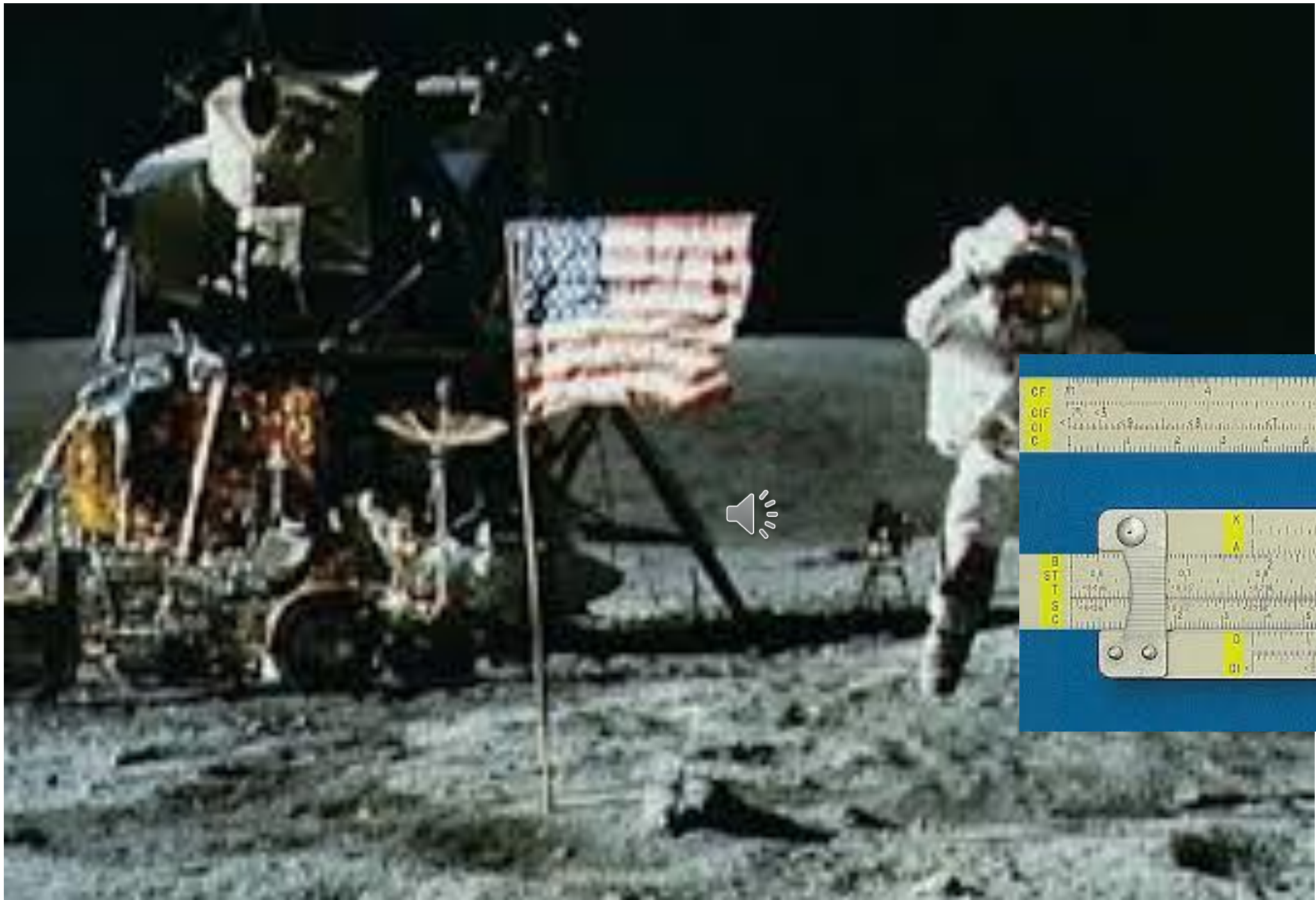


Fig. 1 Map of the area of study in southwestern region of Madrid (Spain) showing the location of the four stations selected











2.598.960 combinazioni!!!!





*“Sono il Signor Wolf,  
risolvo problemi.”*





# Science-based wildlife disease response

In 2007, the current outbreak of African swine fever (ASF), which severely affects wild boar populations and pigs, reached the Caucasus region. Since then, the virus has spread into eastern Europe and some places in central and western Europe (such as Belgium) through wild boar, domestic pigs, and human activities. The virus has raised serious concerns in countries with large pork industries, which may suffer economic losses due to trade restrictions (1). To control the outbreak, national authorities have taken drastic but likely ineffective measures that disregard the science of wildlife management.

Poland, for example, has massively increased culling of wild boar to minimize ASF spread and the risk of transmission to domestic pigs, despite opposition by experts (2, 3). The policy does not include population monitoring that could evaluate its effectiveness (4). It also does not limit wild boar access to agricultural crops and

game feed, which is a key driver of population growth (5). Meanwhile, Denmark is building a 70-km border fence to exclude cross-border migration of wild boar (6). The fence will disrupt wildlife habitats (6), but it will not stop the virus from spreading through the transportation of live pigs, wild boar, or pig- and wild boar-derived tissues and products or through the movement of other objects carrying the virus, such as human clothing (1). Factors that govern wild boar abundance and virus spread are not bound by national borders. Instead of haphazard policies, we urge governments to agree on a coordinated response that adheres to the principles of modern wildlife management (7).

Adaptive wildlife management strategies consider the human dimension and prevent unsound reactive management. Improved wildlife population monitoring (4) and analysis are the best ways to determine which approaches to wildlife management are successful ecologically, economically, and socially. Sustainable management will depend on local circumstances and national wildlife management regulations, but science-based strategies can be implemented at the continental scale. Legislators across Europe should

scale. Legislators across Europe should consult scientists and wildlife and animal health agencies before making decisions about wildlife policy. European countries should coordinate population monitoring and management. Shared responsibility for wildlife management among countries will enable funding for research that can critically evaluate its success. The ASF crisis can serve as a chance to develop a science-based wildlife policy for Europe.

**Joaquín Vicente<sup>1,2\*</sup>, Marco Apollonio<sup>3</sup>, Jose A. Blanco-Aguilar<sup>1</sup>, Tomasz Borowik<sup>4</sup>, Francesca Brivio<sup>3</sup>, Jim Casaer<sup>5</sup>, Simon Croft<sup>6</sup>, Göran Ericsson<sup>7</sup>, Ezio Ferroglio<sup>8</sup>, Dolores Gavier-Widen<sup>9</sup>, Christian Gortázar<sup>1</sup>, Patrick A. Jansen<sup>10, 11</sup>, Oliver Keuling<sup>12</sup>, Rafał Kowalczyk<sup>4</sup>, Karolina Petrovic<sup>4</sup>, Radim Plhal<sup>13</sup>, Tomasz Podgórski<sup>4,14</sup>, Marie Sange<sup>12</sup>, Massimo Scandura<sup>3</sup>, Krzysztof Schmidt<sup>3</sup>, Graham C. Smith<sup>6</sup>, Ramon Soriguer<sup>2</sup>, Hans-Hermann Thulke<sup>15</sup>, Stefania Zanet<sup>8</sup>, Pelayo Acevedo<sup>1,2</sup>**

<sup>1</sup>National Institute on Wildlife Research (IREC), University of Castilla-La Mancha and Consejo Superior de Investigaciones Científicas, Ciudad Real, Spain. <sup>2</sup>E.T.S. Ingenieros Agrónomos Ciudad Real, University of Castilla-La Mancha, Ciudad Real, Spain.

<sup>3</sup>Department of Veterinary Medicine, University of Sassari, Sassari, Italy. <sup>4</sup>Mammal Research Institute, Polish Academy of Sciences, Białowieża, Poland.

<sup>5</sup>Research Institute for Nature and Forest, Brussels, Belgium. <sup>6</sup>National Wildlife Management Centre, Animal and Plant Health Agency, Sand Hutton, York, UK. <sup>7</sup>Department of Wildlife, Fish, and Environmental Studies, Swedish University of Agricultural Sciences, Umea, Sweden. <sup>8</sup>University of Torino, Torino, Italy.





**Grazie per l'attenzione!!!**