

**“Harmonized national and international wildlife monitoring and coordinated decision-making in Europe”**

# Are we ready for the future?

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FINANCIAL TIMES

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Neglected tropical diseases

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## A mysterious leishmaniasis outbreak in Spain

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



Emerging trends in the seroprevalence of canine leishmaniasis in the Madrid region (central Spain)

R. Gálvez<sup>a</sup>, G. Miró<sup>b</sup>, M.A. Descalzo<sup>c</sup>, J. Nieto<sup>d</sup>, D. Dado<sup>e</sup>, O. Martín<sup>a</sup>, E. Cubero<sup>a</sup>, R. Molina<sup>a,\*</sup>

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### ARTICLE INFO

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Seroepidemiology  
Risk factors  
Madrid  
Immunofluorescent antibody test

### ABSTRACT

This report describes a cross-sectional serological survey of the epidemiology of canine leishmaniasis (CL) performed in 2006 and 2007 in the Madrid region (central Spain) where the disease is endemic. The work presented here is one of the several studies conducted in different Spanish regions under the Integrated Project of the European Commission entitled Emerging Zoonoses in a Changing European Environment (EZNE). The aim of this project is to identify and catalogue European zoonoses and environmental conditions that determine the spatial and temporal distributions and dynamics of several pathogenic agents including *Leishmania* infection (LEISH-LEI). The study area (Madrid Autonomous Region) was selected on the grounds of its wide altitude range. This area was surveyed from N-30°W across the mountain range (Sierra Central) and plain areas. One thousand and seventy-six dogs from 22 villages were examined for clinical signs of CL and serum samples were obtained to determine several haematological and biochemical variables. Leishmaniasis-specific antibodies were identified using an indirect immunofluorescence antibody test (IFAT). 87 of the 1076 dogs were seropositive for the protozoan (IFAT cut-off = 1:80) indicating a seroprevalence of 8.1% (9–16.1% depending on the village). On the basis of a physical examination and the biochemical/haematological status of each dog, 32 of the 87 infected dogs were described as clinically healthy (37%). Seroprevalence showed a peak in young dogs (1–2 years) and a second larger peak among the older dogs (7–8 years). Factors correlated with a higher infection risk were age (OR = 1.13 [95%CI: 1.07–1.22]), weight (OR = 1.10 [95%CI: 1.04–1.16]), and living outdoors as opposed to in a house (OR = 2.38 [95%CI: 1.40–4.05]). According to data from studies performed in 1982 in the same area, the seroprevalence of CL had increased 1.64–1.68 [95%CI: 1.04–2.20]. Given that this increasing trend cannot be attributed to differences in the socio-demographic characteristics of the dog population, it is proposed that environmental changes could have had an impact on vector and reservoir densities and their geographical distribution. Further studies designed to explain this trend should attempt to correlate sand fly densities and CL seroprevalence with climate, land use and human changes.



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Veterinary Parasitology 155 (2008) 198–203

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Characterization of widespread canine leishmaniasis among wild canivores 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>a</sup>,  
M. Revilla<sup>a</sup>, M.C. Arnal<sup>a</sup>, A. Trisicuglio<sup>b</sup>, C. Gortázar<sup>a,\*</sup>

Transboundary and Emerging Diseases

### ORIGINAL ARTICLE

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

J. Millán<sup>a</sup>, S. Zanot<sup>a</sup>, M. Gomis<sup>a</sup>, A. Trisicuglio<sup>b</sup>, N. Negro<sup>a</sup> and E. Ferroglio<sup>b</sup>

<sup>a</sup> Servicio de Epidemiología de Fauna Salvaje (EFSa), Wildlife Diseases Research Group, Departamento de Medicina y Cirugía Animal, Universidad Autónoma de Barcelona, Bellaterra, Barcelona, Spain; <sup>b</sup> Department of Animal Production, Epidemiology and Ecology, University of Turin, Grugliasco, Italy; <sup>c</sup> Fondazione Istituto IRI, Santa Eugenia, Madrid, Spain

### RESEARCH ARTICLES

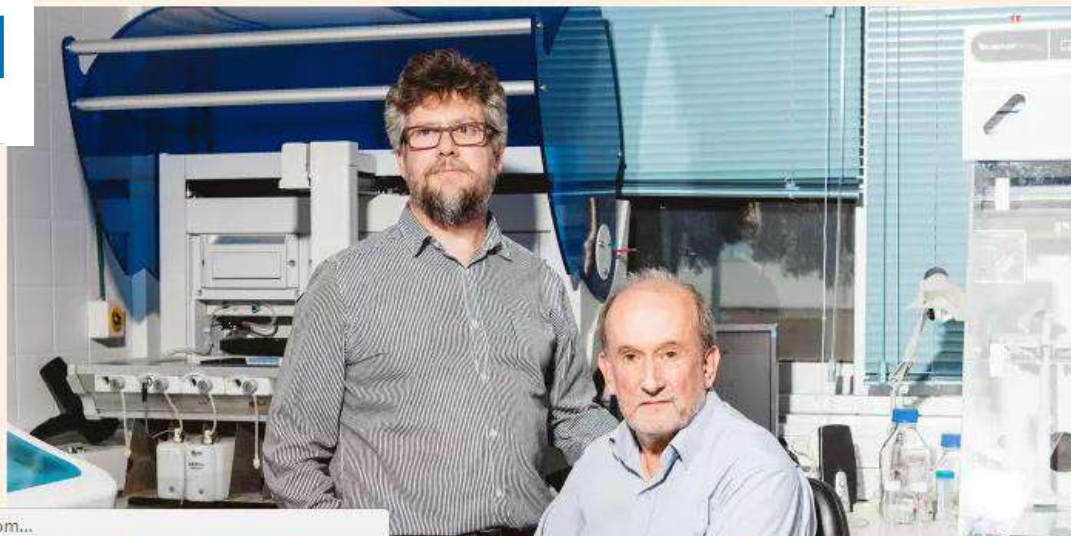
Leishmania infantum in free-ranging hares, Spain, 2004–2010

F. Ruiz-Fons (Josefrancisco.ruiz@uclm.es), E. Ferroglio<sup>a</sup>, C. Gortázar<sup>a</sup>

<sup>a</sup> Instituto de Investigación en Recursos Cinegéticos, Animal Health and Biotechnology (SaBio) Group, Ciudad Real, Spain; <sup>b</sup> Dipartimento di Produzioni Animali, Epidemiologia ed Ecologia, Facoltà di Medicina Veterinaria, Università degli Studi di Torino, Grugliasco, Italy

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## AFRICAN SWINE FEVER (ASF) – SITUATION REPORT 3

12/01/2022

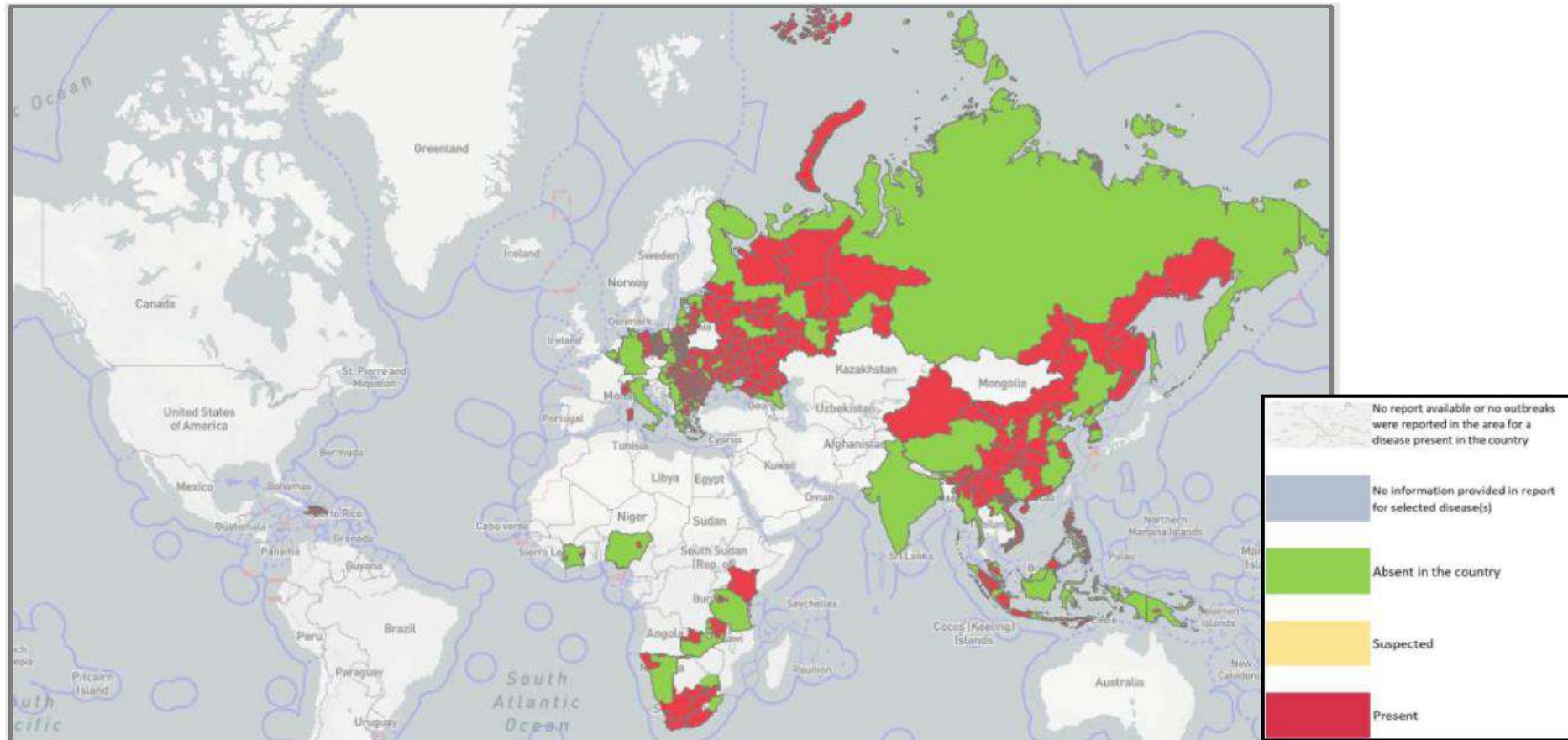
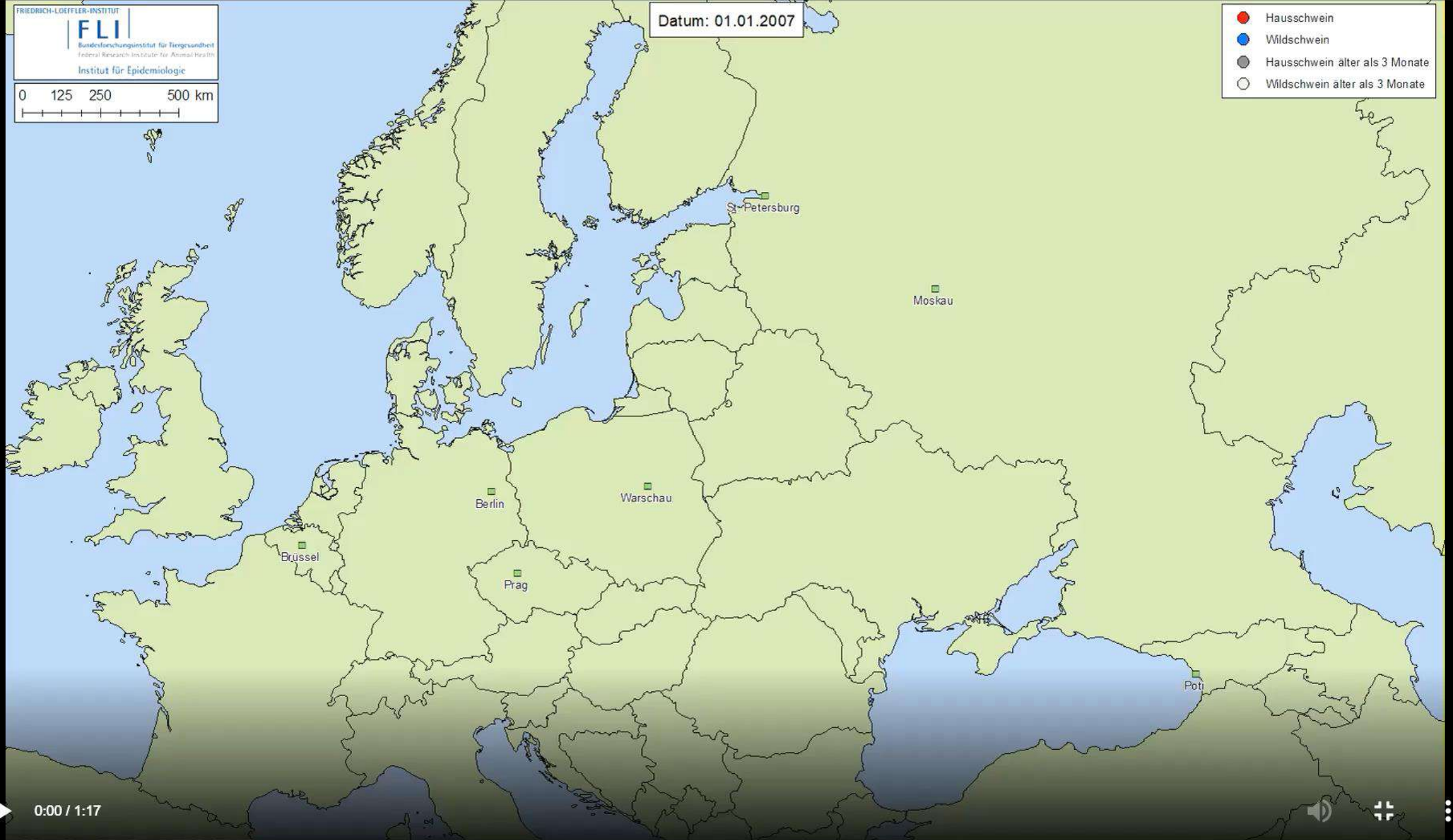


Figure 1. Map of the world displaying the presence of ASF by Administrative divisions (2020 – 07/01/2022)



Datum: 01.01.2007

- Hausschwein
- Wildschwein
- Hausschwein älter als 3 Monate
- Wildschwein älter als 3 Monate



Le scandaleux massacre des bouquetins du Bargy (pétition) - AgoraVox le média citoyen - Windows Internet Explorer

http://www.agoravox.fr/actualites/environnement/article/le-scand... unito.it - Università di Tori... Le scandaleux massacre des...

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## Le scandaleux massacre des bouquetins du Bargy (pétition)

L'Etat a décidé de fusiller les bouquetins du Bargy âgés de plus de 5 ans. Ce choix, guidé par un souci d'économie, n'est absolument pas justifié. Une pétition est lancée afin de préserver cette espèce protégée et interdite de chasse.



Voir ses articles, sa fiche et ses statistiques

### Derniers articles de l'auteur

- Plus tard, je veux être bouquetin !
- Principe de précaution : la France pourrait-elle exterminer ses chats ?
- Massacre des bouquetins : lettre au Président de la République
- Massacre des bouquetins du Bargy : la paranoïa plus forte que la raison !

Tous les articles de cet auteur

### A lire dans la même rubrique

Environnement

- Lyon, la ville la plus « intelligente » de France par **Quentin**
- L'Union Européenne, le Canada et les Bisounours par **Bonneteau**
- Climat en 2020 : chaos ou espoir ? par **Enjeux Electriques**

Voir tous les articles de la rubrique

### Les thématiques de l'article

Environnement Animaux













$$\text{Prevalence; incidence} = \frac{\text{Cases}}{\text{Population}}$$

## SCIENTIFIC OPINION



ADOPTED: 12 June 2018  
doi: 10.2903/j.efsa.2018.5344

### African swine fever in wild boar

EFSA Panel on Animal Health and Welfare (AHAW),  
Simon More, Miguel Angel Miranda, Dominique Bécot, Anette Botner, Andrew Buttarworth,  
Paolo Calistri, Sandra Edwards, Bruno Gaín-Bastuji, Margaret Good, Virginie Michel,  
Mohan Raj, Søren Saxmose Nielsen, Liisa Sihvonan, Hans Spoolder, Jan Arend Stegeman,  
Antonio Velarde, Preben Willeberg, Christoph Windecker, Klaus Depner, Vittorio Guberti,  
Marius Masiulis, Edvins Olsēvskis, Petr Šatran, Mihaila Spiridon, Hans-Hermann Thulke,  
Arvo Virep, Grzegorz Wozniakowski, Andrea Bai, Alessandro Brogli,  
José Cortiñas Abrahantes, Sofie D'hollander, Andrey Gogin, Irene Muñoz Sajardo,  
Frank Verdonck, Laura Amato and Christian Gortázar Schmidt

African swine fever in wild boar



## 2. Data and methodologies

### 2.1. Data

#### 2.1.1. Numbers of harvested wild boar per hunting ground

##### 2.1.1.1. Numbers of harvested wild boar per hunting ground

Data on the maximum available numbers of wild boar harvested between 2014 and 2017 in the hunting grounds of the EU MSs were collected through EnetWild's wild boar data model (WBDM) (<http://www.enetwild.com/data-repository/>).

##### 2.1.1.2. Efficacy of wild boar population reduction and separation measures

Data on the efficacy of measures applied to reduce or separate wild boar populations were extracted from published scientific papers during an extensive literature review (see Appendix A).

### 2.2. Methodologies

#### 2.2.1. Wild boar density (ToR 1)

##### 2.2.1.1. Numbers of harvested wild boar per hunting ground

As a proxy of wild boar density estimates, the numbers of wild boar harvested in 2017 in the hunting grounds of the EU MSs were provided and were mapped using ArcGIS software (ESRI). The underlying data are provided in the data repository of EnetWild.

Estimates of wild boar hunting bags trends were calculated using version 3.54 of the TRIM (Trends and Indices for Monitoring data) software package (Pannekoek and Van Strien 2001). TRIM estimates annual counts with missing observation by fitting a generalised linear model with Poisson errors and logarithmic link (McCullagh and Nelder 1989; Pannekoek and Van Strien 2001).

The linear trend model was used with all years as change points and all models were run with serial correlation and overdispersion was taken into account. Yearly indices and an overall trend estimate are presented in Section 3.1.2.2. The annual index uses the first-year arbitrarily set at one and each annual index was calculated in relation to the first, standardising population trends.

##### 2.2.1.2. Reliability and comparability of wild boar density estimation methods

The reliability (i.e. the extent to which the various measures to estimate wild boar density relate to the real wild boar density in the region) and comparability (i.e. how comparable are the data collected by the same methods in different areas) of wild boar density were assessed by the EnetWild consortium. This assessment was mainly based on expert opinion and a narrative literature review.

##### 2.2.1.3. Guidance for estimating wild boar density

Experts from the EnetWild consortium developed guidelines on how to measure wild boar densities in a comparable and harmonised manner. This is described in an External Scientific Report (ENETWILD et al., 2018) delivered to EFSA. A summary of this report is provided in Section 3.1.3.

## TENDER SPECIFICATIONS

**Reference:** OC/EFSA/ALPHA/2016/01

**Title: Wildlife: collecting and sharing data on wildlife populations, transmitting animal disease agents.**

**Subject:** Data collection on the geographic distribution and abundance of wildlife populations and the pathogens they transmit to animals.

**Procurement procedure:** open call

**Project/Process code:** ALPHA-10 AHAW Internal projects

**Activity Code:** A.3.3

Tender specifications purpose:

1. specify what EFSA is to buy under the contract resulting from this tender procedure
2. announce the criteria which EFSA will apply to determine the successful contractor among the offers received
3. guide tenderers to establish and dispatch their offer in the required form and time



Enetwild – Project

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ENETWILD

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

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19:10 28/02/2022

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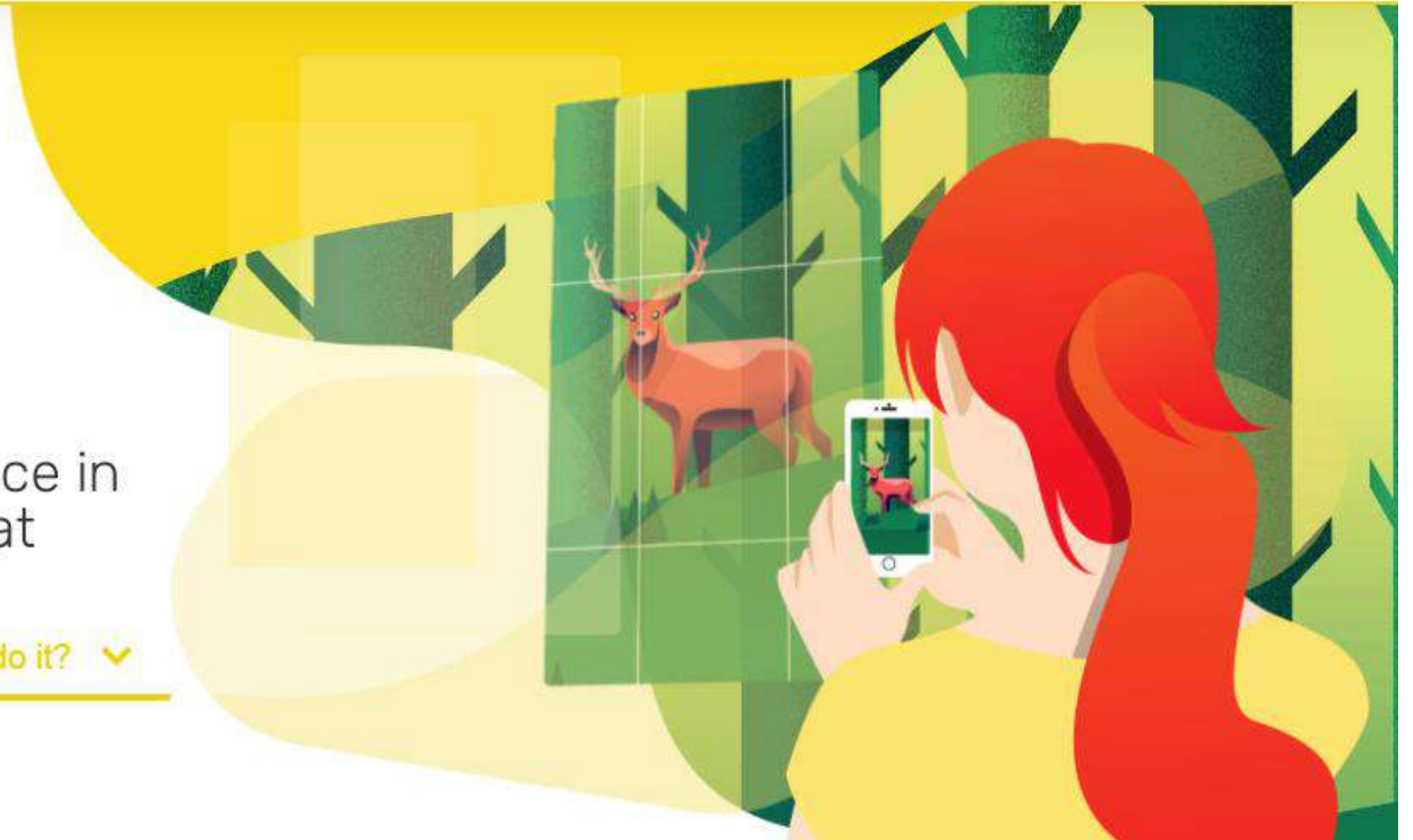
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## Mammalnet

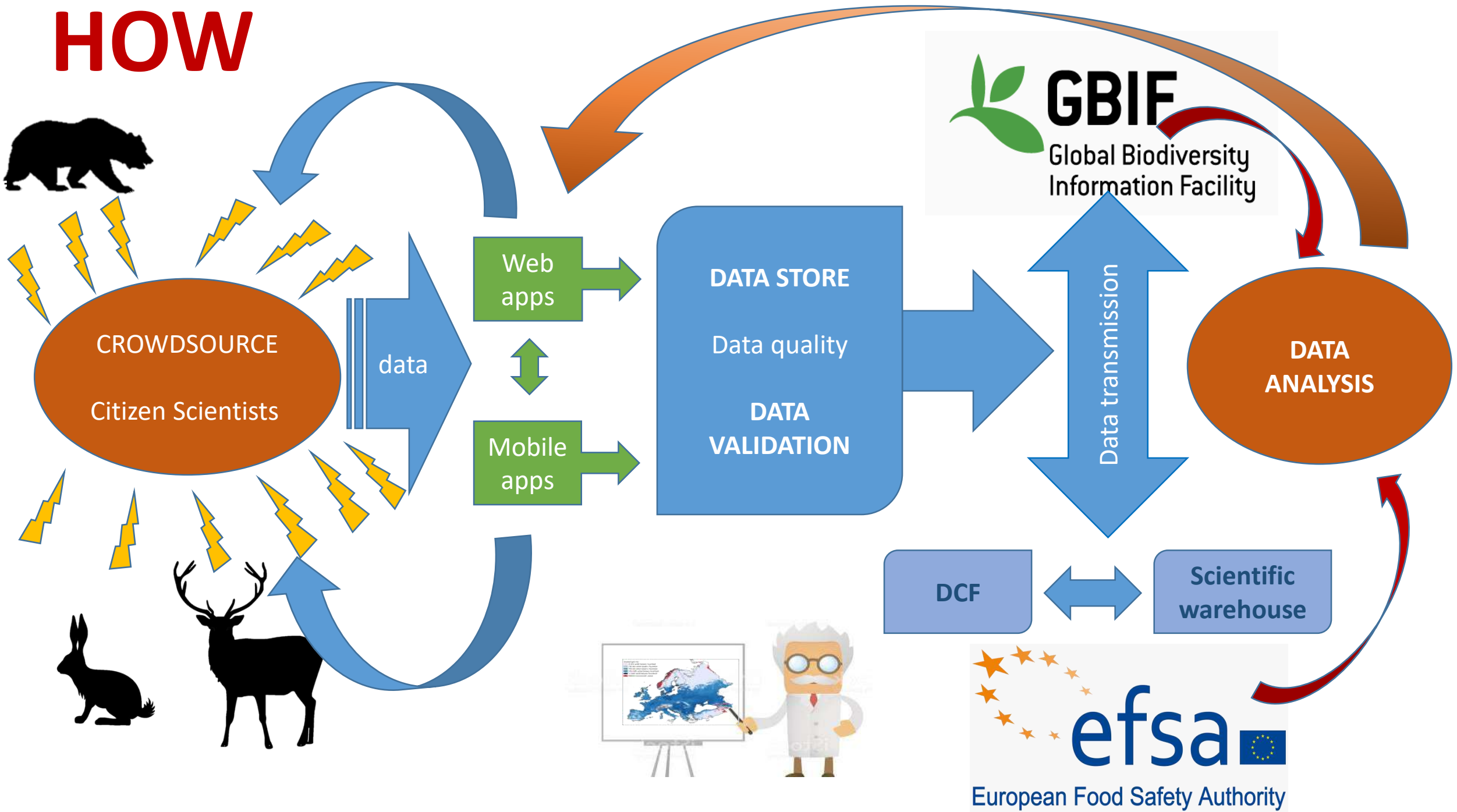
Can we apply Citizen Science in monitoring wild mammals at European scale?

[How can we do it?](#) ▼





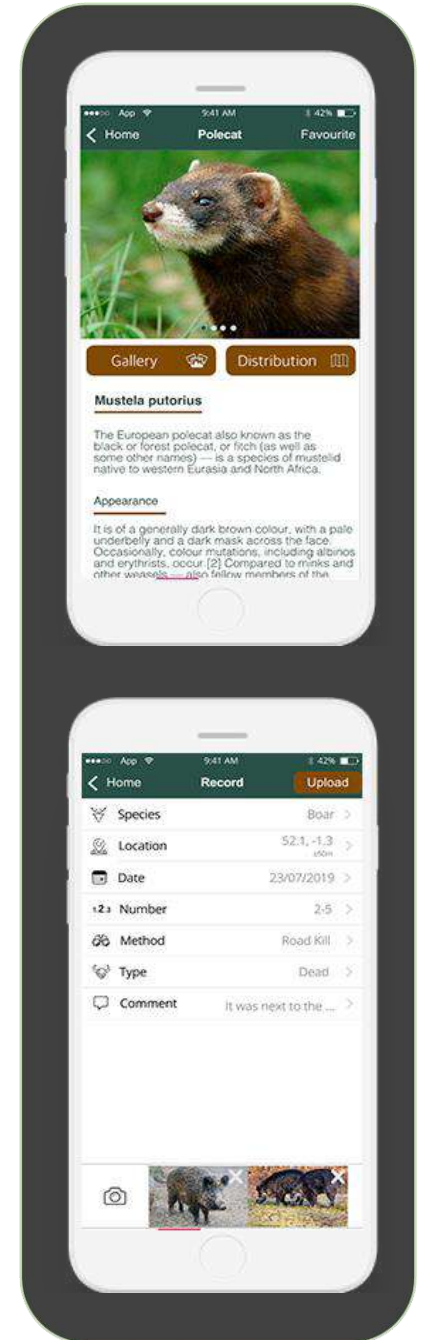
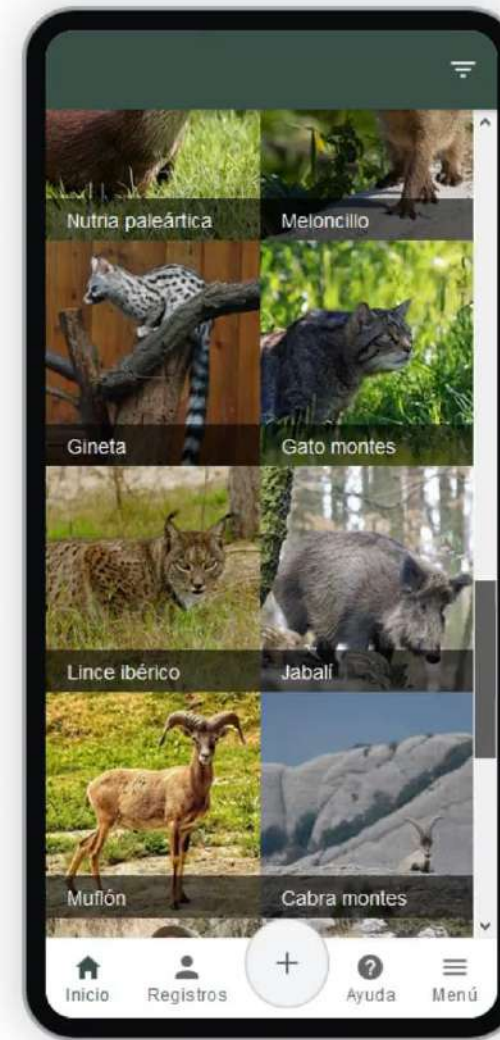
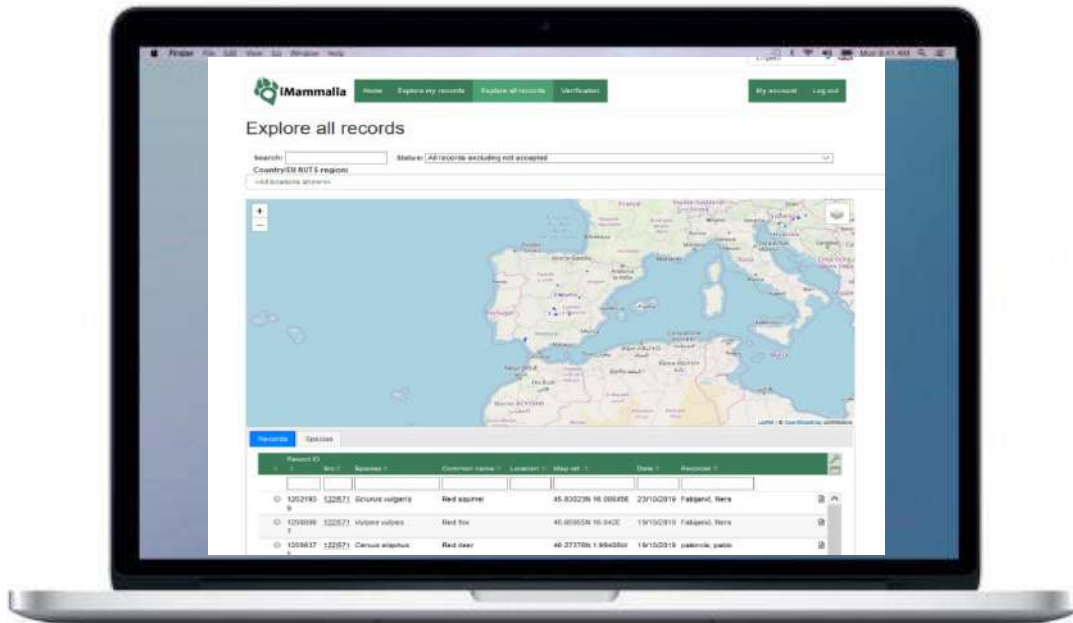
# HOW





## Free mobile app

- For everybody (i.e. any citizen)
- To record and share mammal direct observations or signs of presence
- Available in different languages
- Guidelines for identification
- Access to maps on the web, containing all users' records
- Data are shared on GBIF







Example: ASF in Easter Europe:  
confirmed cases in the border  
Serbia-Romania)

**iMammalia** Inicio Explorar mis registros Explorar todos los registros Mi cuenta Cerrar sesión

### Explorar todos los registros

Search:  Status: All records excluding not accepted Country/EU NUTS region: <All locations shown>

**Records** Species

Record ID	Site	Species	Common name	Location Map ref.	Date	Recorder	Obs. type
1828313 12257	3 1	<i>Vulpes vulpes</i>	Red fox	42.27728N 0.71417W	03/12/202	Ferreres, Javier	Alive
1828313 12257	1 1	<i>Vulpes vulpes</i>	Red fox	42.27195N 0.75195W	03/12/202	Ferreres, Javier	Alive
1828311 12257	5 1	<i>Sciurus vulgaris</i>	Red squirrel	42.29264N 0.80345W	03/12/202	Ferreres, Javier	Other
1828304 12257	5 1	<i>Mosia mosia</i>	Eurasian badger	42.29488N 0.81639W	03/12/202	Ferreres, Javier	Other









## Land abandonment and rewilding

☐ no abandonment

**LA STAMPA**  
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Quotidiano  


Data 07-04-2020  
Pagina 39+50  
Foglio 1 / 2

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### Lupi e cinghiali, gli animali si riprendono le strade deserte

Una riconquista, una sorta di rivincita. Lì dove l'uomo arretra, la natura avanza: riprendendosi i suoi spazi. Sepur coinquilini dello stesso pianeta dalla notte dei tempi, da generazioni uomini e animali non erano così vicini. Ai tempi della “desertificazione” umana succede che il silenzio tra le strade deserte di Alessandria sia interrotto dal rumore dei passi di tre caprioli che zampettano per le vie del Centro. A Oulx, invece, una telecamera ha ripreso un lupo aggirarsi di prima mattina nei pressi di un centro commerciale. DI PACO, GIACOMINO – P. 50

L'esperto spiega gli effetti della “desertificazione” umana delle città

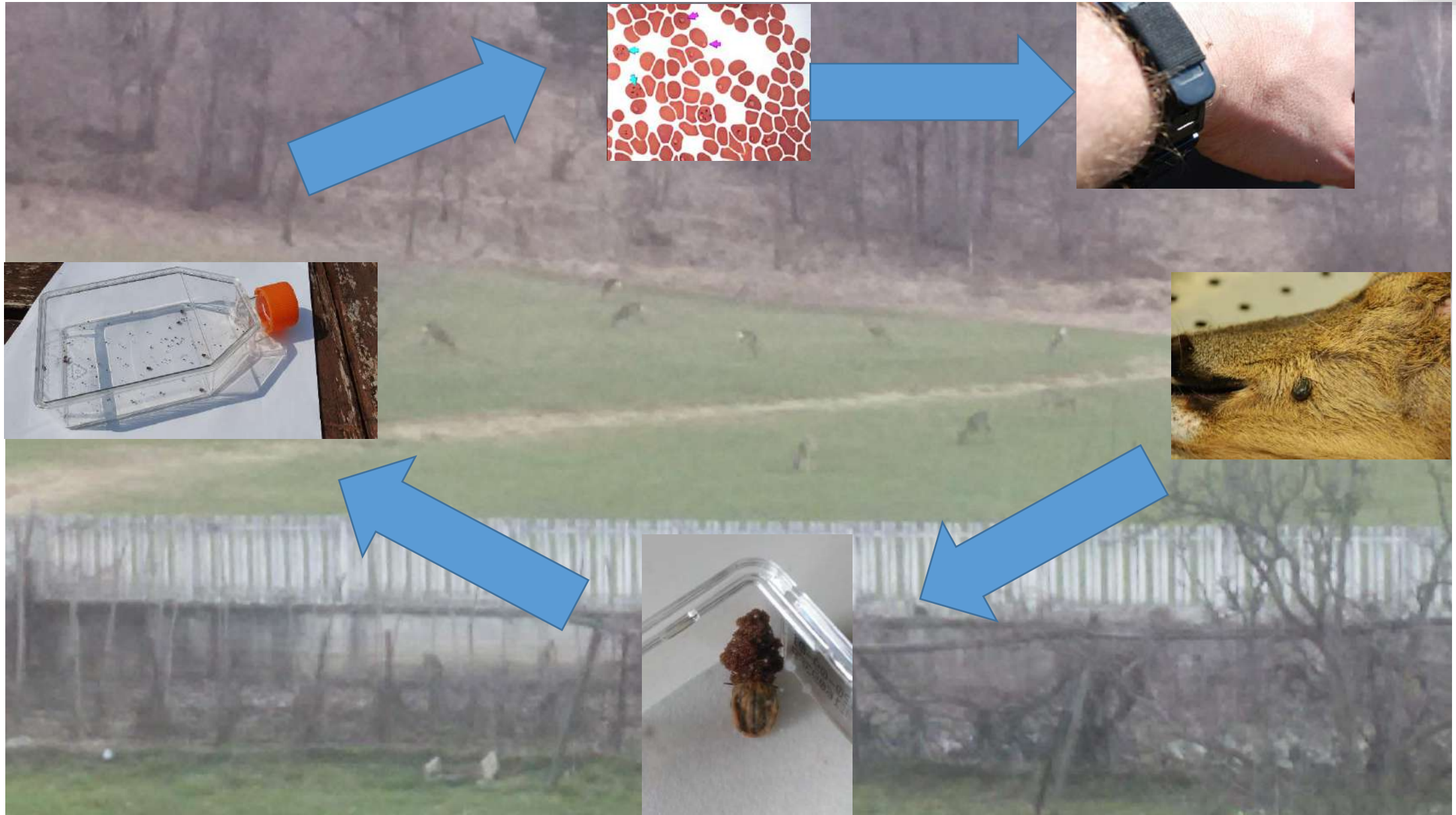
## “È la rivincita degli animali Ritornano nei centri urbani”

**IL CASO**  
**LEONARDO DI PACO**  
**T**na riconquista, una sorta di rivinci-

pressi di un centro commerciale. Poi ci sono i cinghiali che si avvicinano sempre di più ai centri abitati mettendo a rischio le colture nelle campagne piemontesi, scate-

non è diminuito in maniera così significativa se si rapporta al numero di veicoli in circolazione». Pur specificando che ci sono differenze tra specie e specie, sottolinea il do-

Questa situazione così particolare, secondo Ferroglia, deve spingere l'uomo a riflettere sul suo rapporto con l'ambiente che lo circonda. «Questa sorta di “rivinci-





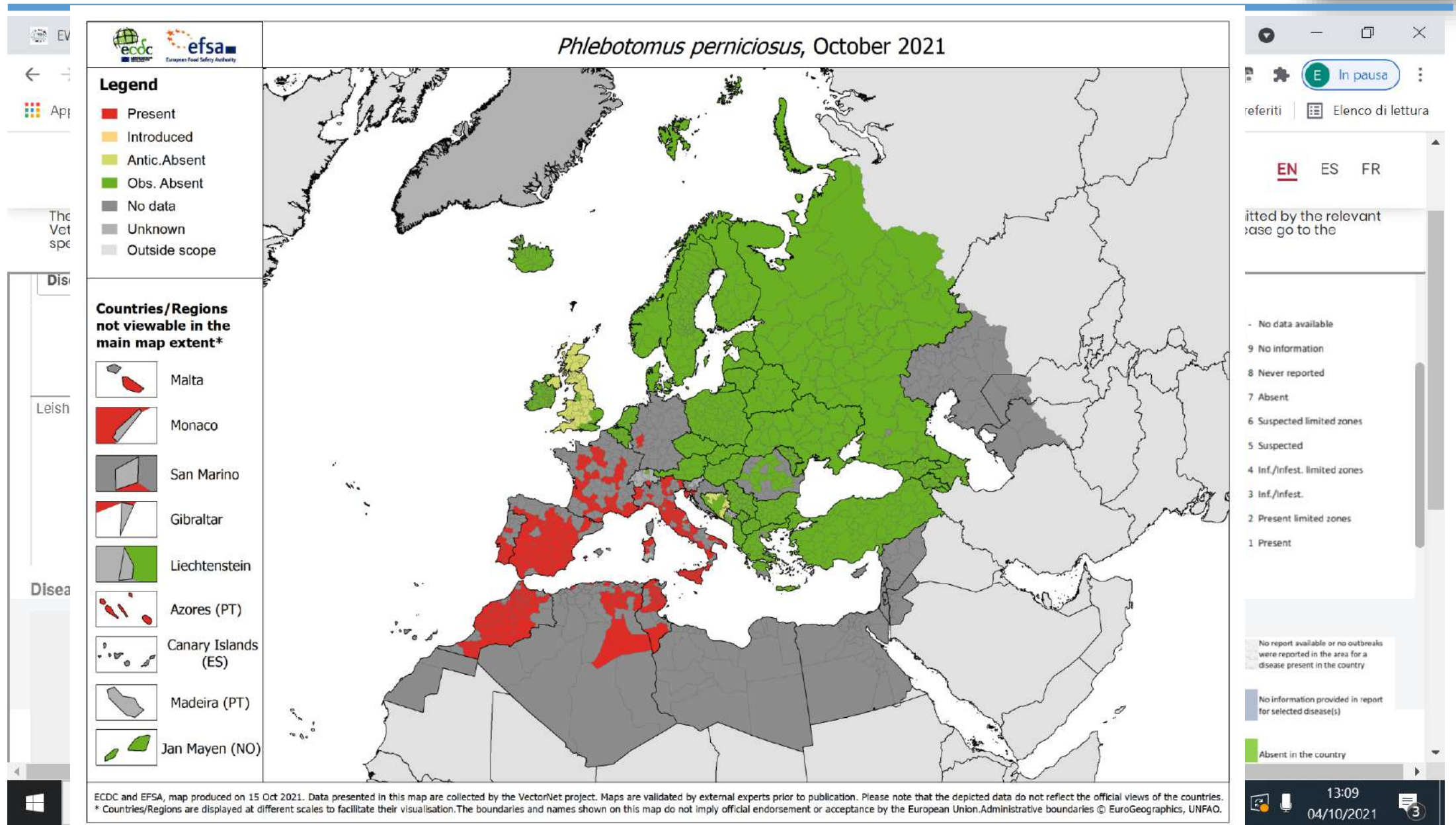


Summary of Reported Case Counts of Notifiable <sup>a</sup> Vector-Borne Diseases in the United States.		
Diseases	2013 Reported Cases	Median (range) 2004–2013 <sup>b</sup>
Tick-Borne		
Lyme disease	36,307	30,495 (19,804–38,468)
Spotted Fever Rickettsia	3,359	2,255 (1,713–4,470)
Anaplasmosis/Ehrlichiosis	4,551	2,187 (875–4,551)
Babesiosis <sup>b</sup>	1,792	1,128 (940–1,792)
Tularemia	203	136 (93–203)
Powassan	15	7 (1–16)
Mosquito-Borne		
West Nile virus	2,469	1,913 (712–5,673)
Malaria <sup>c</sup>	1,594	1,484 (1,255–1,773)
Dengue <sup>b,c</sup>	843	624 (254–843)
California serogroup viruses	112	78 (55–137)
Eastern equine encephalitis	8	7 (4–21)
St. Louis encephalitis	1	10 (1–13)
Flea-Borne		
Plague	4	4 (2–17)













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Veterinary Parasitology 155 (2008) 198–203

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## Characterization of widespread canine leishmaniasis among wild canivores 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. Triscioglio<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. Triscioglio<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

### POPULATION ECOLOGY

## *Leishmania infantum* (Trypanosomatida: Trypanosomatidae) Phlebotomine Sand Fly Vectors in Continental Mediterranean Spain

MAURICIO DURÁN-MARTÍNEZ,<sup>1</sup> EZIO FERROGLIO,<sup>2</sup> PELAYO ACEVEDO,<sup>3,4</sup>  
ANNA TRISCIUOGLIO,<sup>2</sup> STEFANIA ZANET,<sup>2</sup> CHRISTIAN CORTÁZAR,<sup>1</sup>  
AND FRANCISCO RUIZ-FONS<sup>1,5</sup>

### RESEARCH ARTICLES

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

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

<sup>1</sup> Instituto de Investigación en Recursos Cinegéticos, Animal Health and Biotechnology (SaBio) Group, Ciudad Real, Spain  
<sup>2</sup> Dipartimento di Produzioni Animali, Epidemiologia ed Ecologia, Facoltà di Medicina Veterinaria, Università degli Studi di Torino, Grugliasco, Italy

Veterinary Parasitology 255 (2018) 26–31



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Research paper

## *Leishmania* in wolves in northern Spain: A spreading zoonosis evidenced by wildlife sanitary surveillance

Alvaro Oleaga<sup>a,b,\*</sup>, Stefania Zanet<sup>c</sup>, Alberto Espí<sup>d</sup>, Marcia Raquel Pegoraro de Macedo<sup>e</sup>,  
Christian Gortázar<sup>b</sup>, Ezio Ferroglio<sup>c</sup>



Veterinary Parasitology 202 (2014) 119–127



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High rates of *Leishmania infantum* and *Trypanosoma nabiasi* infection in wild rabbits (*Oryctolagus cuniculus*) in sympatric and syntrophic conditions in an endemic canine leishmaniasis area: Epidemiological consequences













Cinghiali: il caos peste suina - La

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Cinghiali: il caos peste suina

Secondo le direttive Ue si sarebbe dovuto ridurre il numero dei cinghiali attraverso un controllo faunistico di tipo sanitario, che non ha nulla a che fare con l'attività venatoria

22 Febbraio 2022 | Modificato il: 22 Febbraio 2022 | 1 minuti di lettura



(ansa)

L' Italia è totalmente inadempiente per quanto riguarda l'attività di gestione faunistica sull'animale vettore della peste suina africana, il cinghiale, stabilita a scopo preventivo dall'Unione Europea (attraverso l'Efsa) sin dal 2015 nel documento "Sante", quando il virus aveva cominciato a diffondersi in alcuni paesi europei».



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09:08

28/02/2022

1





# «Officialdom»

**Officialdom** is used to refer to officials who work for the government or in other organizations, especially when you think that their rules are unhelpful.

Science and life

Officialdom

VS

Resilience

Homeostasis







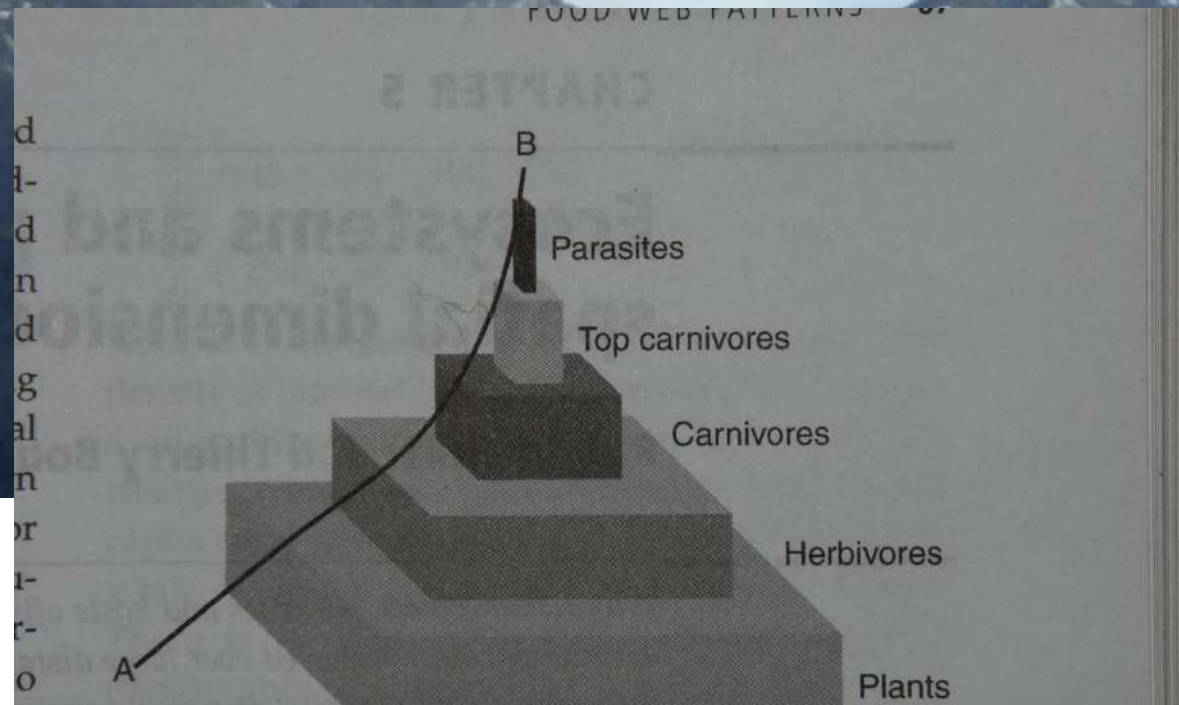








**Monitoring wildlife pathogens/vectors is monitoring biodiversity and GloCal changes, shortly it is also preserving the future of our sons.  
To be fitted to nature we can not waste resources**





## *Wildlife disease surveillance as a predefined system*

- **Wildlife disease surveillance is not a program**, but a predefined system aiming at collecting data for subsequent analysis, interpretation, and management to improve health within wildlife populations but also domestic animals and humans.
- **Make One Health really ONE** - do not focus on just one of the three parts. As a general comment, it was stated that the One Health perspective is often not fully understood and/or applied. Often, there are completely different objectives and points of view among specific policy makers.
- There is also a **need for increasing vertical (regional to international) and horizontal coordination (e.g., agriculture, wildlife, and human health) among agencies and between governmental agencies and academia.**
- **Supra-national coordination and collection of data** is required, involving authorities at the European level: complementing top-down and bottom-up approaches.
- The roles in **wildlife population wildlife disease surveillance must be defined and coordinated. The academia must be involved in surveillance to potentiate an under powered system**: testing methods, consulting, monitoring, research on specific items, supporting data analysis, consultants for multi/transdisciplinary approach, training. **The integration of the medical sector into wildlife disease surveillance is key to fully monitor disease emergence.**



Collaborative  
approach



# ENETWILD WORKSHOP “Harmonised and integrated wildlife disease surveillance across Europe: experts’ analysis and future perspectives”



Mammal Research Institute  
Polish Academy of Sciences  
Białowieża



$u^b$

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Universiteit Utrecht



# Thank you!