



THE UNIVERSITY
of LIVERPOOL

ZOONOTIC IMPLICATIONS OF TRAVELLING PETS

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Bon voyage



THE PET TRAVEL SCHEME (PETS)

- Introduced 2000
- Following Kennedy report which assessed risks related to rabies
- Subsequently extended to cover many countries
- Primarily concerned with rabies prevention
- Includes
 - identification, rabies vaccination and certification
 - treatment before entry for
 - ticks
 - tapeworms

NUMBERS OF ANIMALS IMPORTED PRE- AND POST THE PET TRAVEL SCHEME

Before

- 1996 7267

After

- 2000 14,549

- 2001 26,722

- 2002 41,091

- 2003 54,572

HAZARDS POSED BY INCREASED PET MOVEMENTS

- Exposure and disease in travelling animals

The Daily Telegraph

Passport dog dies after French trip

By David Brown, Agriculture Editor

A BRITISH dog has died from a foreign disease after accompanying its owners to France under the "pet passport" scheme.

Vets called on pet owners yesterday to take extra precautions after Bliss, an 11-year-old West Highland terrier, became the first animal under the Pet Travel Scheme to die from a disease contracted abroad.

The dog died from *Babesia canis*, a disease carried by ticks, less than three weeks after returning from France and despite being vaccinated against tick infection before coming back to Britain.

Under the Government's pet passport rules, introduced on Feb 28, dogs and cats must be treated against ticks between 24 and 48 hours before they return to

Britain. Now vets are to urge owners in Britain to have their animals treated against ticks before travelling abroad.

Bliss's owners live in Lancashire and own a holiday home in Brittany. Their vet, Ian McConnel, of Oldham, said: "The owners had complied with all the requirements of the Pet Travel Scheme.

"This may be the first case of *Babesia canis* in a dog returning under the scheme but I am certain it will not be the last. I will be warning my clients of the dangers and advising them to have pets treated against ticks before they take them abroad."

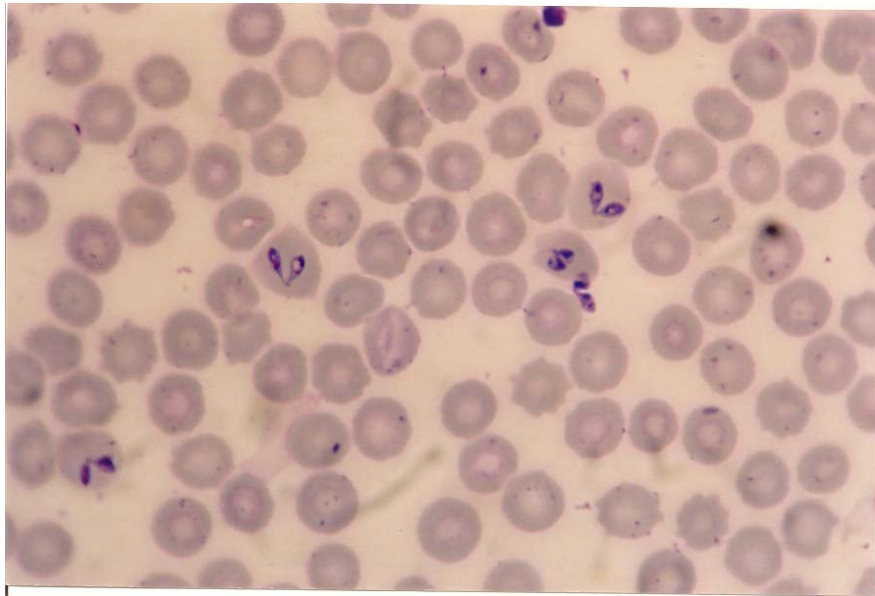
The British Veterinary Association said it had raised the issue with the Ministry of Agriculture.

Tuesday, April 18, 2000

HAZARDS POSED BY INCREASED PET MOVEMENTS

- Establishment of endemic foci of 'exotic' animal disease

Babesia canis in a British dog

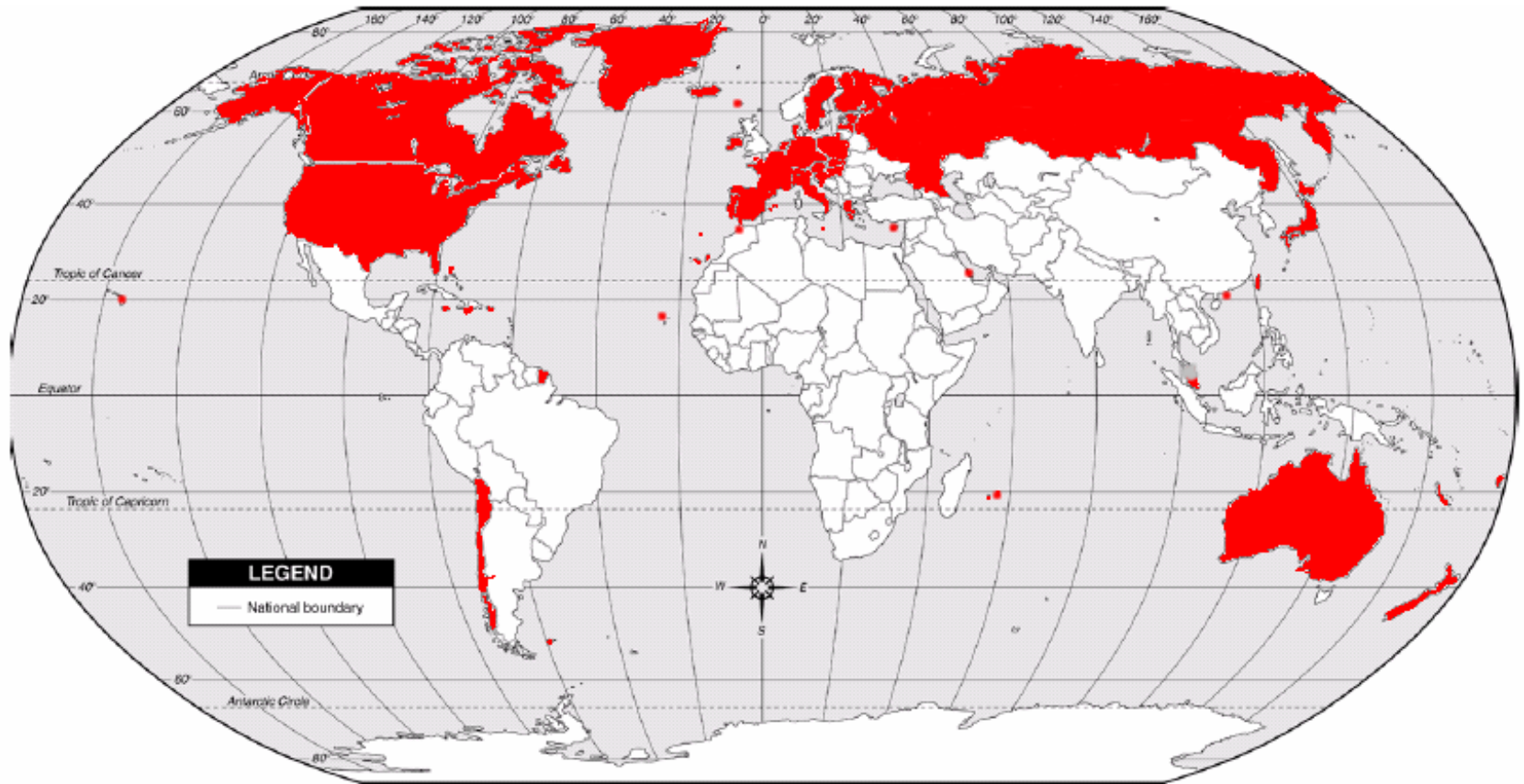




HAZARDS POSED BY INCREASED PET MOVEMENTS

- Exposure and disease in travelling animals
- Establishment of endemic foci of 'exotic' animal disease
- Transmission of imported zoonoses in UK

COUNTRIES ELIGIBLE FOR 'PETS' SCHEME (2005)



KENNEDY REPORT 1998 - Risk assessment for rabies

- Vaccination¹ compared with 6m quarantine

	Relative risk	Absolute risk ²
- quarantine	0	36 (21,87)
(C3) - importation restricted to rabies-free islands, EU and N. America	+12%	25 (19,71)
(C4) - unrestricted – all countries	+81%	18 (11,43)

- based on 120,000 - 360,000 / yr imports
- actual 2003 - 54,572

¹ Assumed 89% vaccinated

² Interval in years between animal cases

COMMISSIONED REPORTS TO MAFF / DEFRA

- 1999 'The risk of importing exotic agents with cats and dogs from rabies-free islands and other qualifying countries'
- 2000 'The risk of importing exotic agents with pets other than cats and dogs from rabies-free islands and other qualifying countries'
- 2001 'Exotic agents of cats and dogs potentially imported from North America'

Bennett *et al*

Centre for Comparative Infectious Diseases,
University of Liverpool



KENNEDY REPORT 1998

ZOONOTIC INFECTIONS IN EU WITH POTENTIAL TO BE ESTABLISHED IN GREAT BRITAIN

Leishmaniasis

Dirofilariasis

Echinococcus multilocularis

Rickettsia conorii

Bartonella henselae

Sandflies transmit the parasite. No sandflies in UK (yet!)





EPIDEMIOLOGY OF HUMAN LEISHMANIASIS IN EUROPE

- Rare
- HIV / immunocompromised individuals
- Canine reservoir / phlebotomine transmission



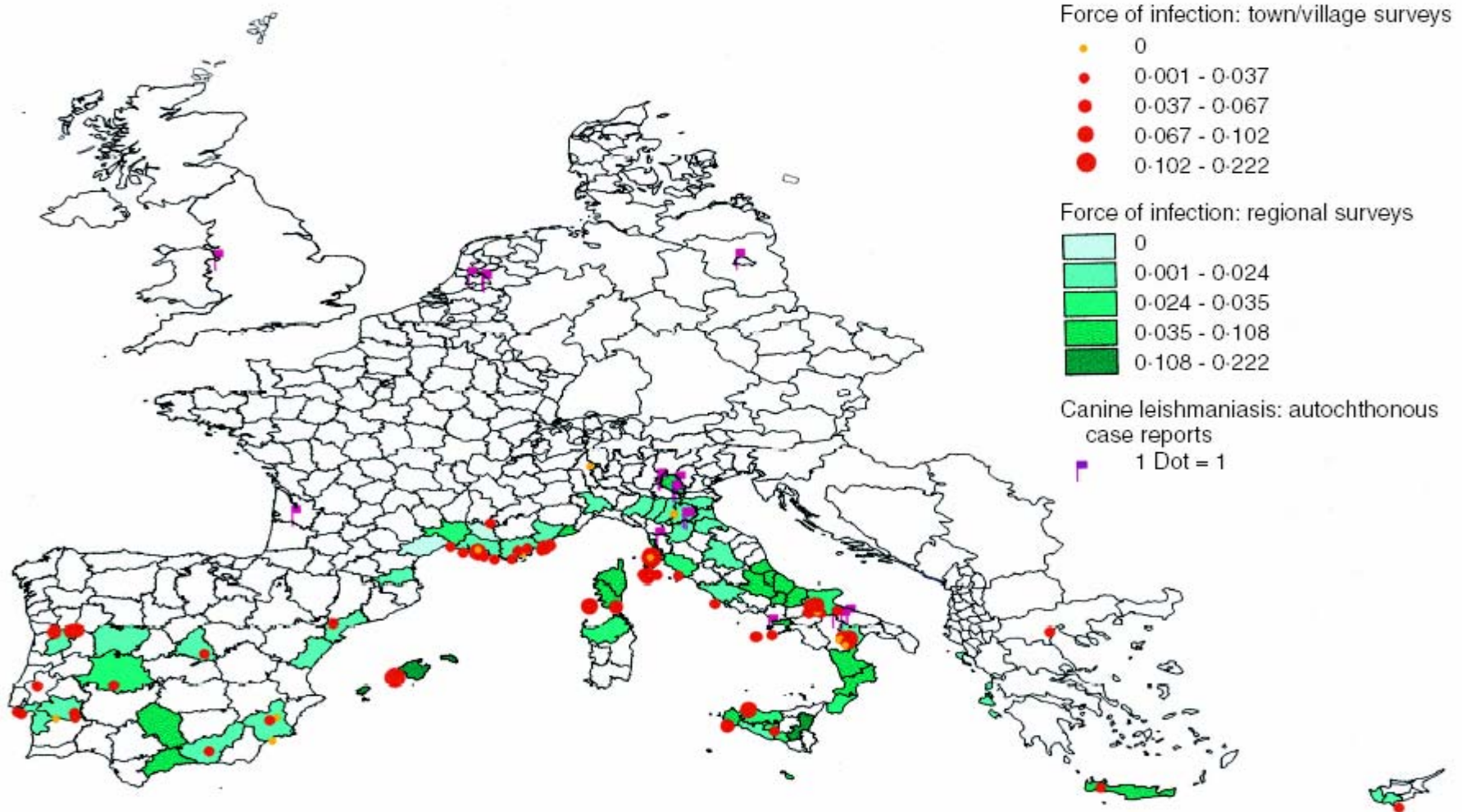
ZOONOTIC LEISHMANIASIS

THE IMPORTANCE OF PHELBOTOMINE TRANSMISSION FROM DOGS

- Iranian intervention study
- Deltamethrin – impregnated collars on all dogs in treated villages
- Matched control villages
- After one year, seroconversion in children significantly reduced

(Gavgani *et al*, 2002)

CANINE LEISHMANIASIS



CANINE LEISHMANIASIS – NON-PHLEBOTOMINE TRANSMISSION UK AUTOCHTHONOUS CASE



(Harris, 1994; Trees & Shaw, 1999)



CANINE LEISHMANIASIS

AUTOCHTHONOUS TRANSMISSION - UK

Single dog (Kidderminster)

- RSPCA home 1991
- Frequent problems from 1992
 - cutaneous lesions, cysts, ulcers, nodules
- 1996 diagnosis leishmaniasis
- parasite isolated
- DNA and isoenzymes indicate *Leishmania infantum*



CANINE LEISHMANIASIS – U.S.

- Foxhounds, New York State
- Clinical disease, 1999
- 41% seropositive
- *L. donovani*
- Historical cases in other hound packs
- Recent blood testing has revealed widespread seroreactors in 11 states and Canada

(Schantz *et al*, 2000)

CANINE LEISHMANIASIS IN THE UK

LSTM 'TestAPet' – positive serology

Year	Total	IFAT POSITIVE	
		@ 1/50	@ 1/200
2002	36	9	7
2003	58	34	17
2004	154	49	32



LEISHMANIASIS IN A BRITISH DOG?

- If high risk individuals in household – recommend euthanasia
- Treatment will reduce risk of transmission
- Not likely to establish focus of infection unless in a colony



CONCLUSIONS

- Pet travel is more hazardous for the pets than their owners
- Zoonotic risks are modest assuming anti-rabies and anti-cestode measures are not breached
- Knowledge and awareness nonetheless important





THANKS

Malcolm Bennett
Jackie Barber