

World Rabies Day

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What's ahead?

- Overview of Rabies (canine mediated)
- Reducing rabies in endemic countries
- Surveillance in Australia
- Travelling overseas
- Australia Bat Lyssavirus
- What to do if you find a bat
- Why we need bats in our lives



This historic image from 1960, depicted a rabid dog that displayed saliva dripping from its mouth, which is a primary indicator for the presence of rabies. Image: CDC Public Health Image Library

Rabies

RNA virus in the Rhabdoviridae family and *Lyssavirus* genus

All mammals are thought to be able to contract rabies

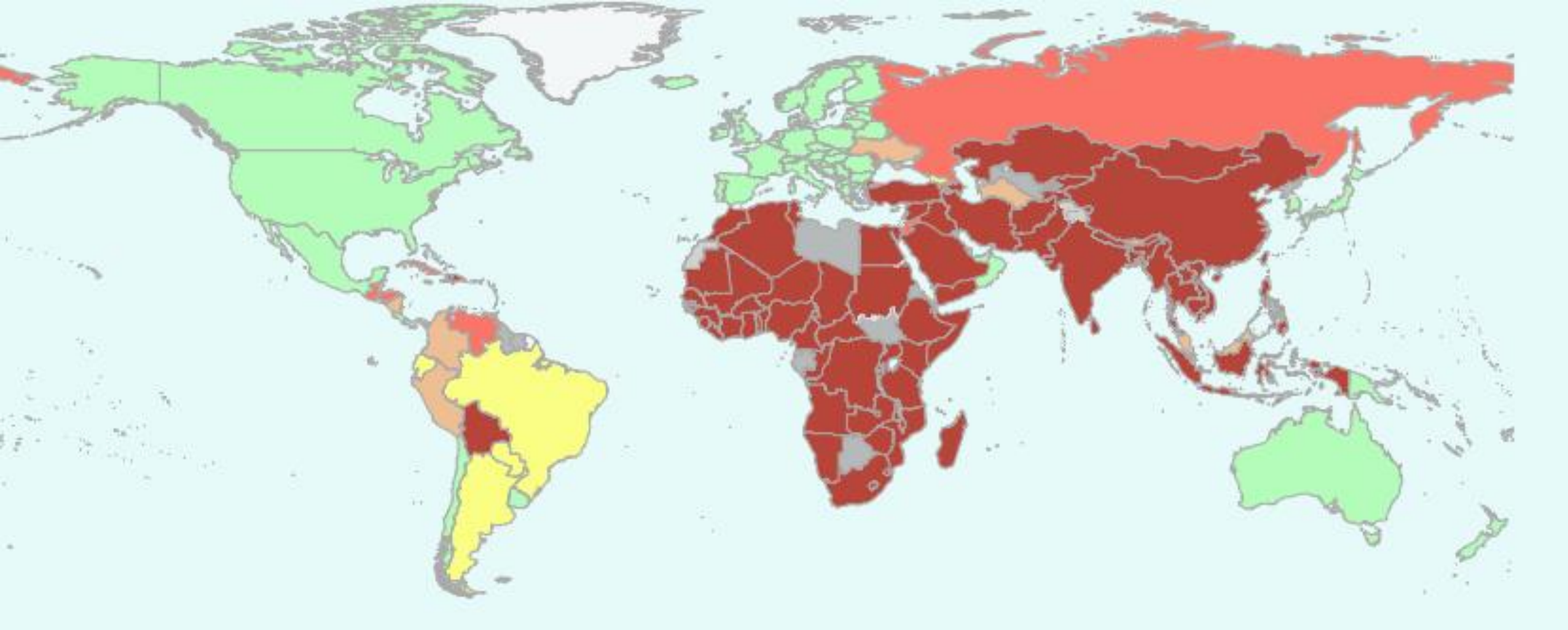
- only a few species act as reservoir hosts
 - *Canidae* family (dogs, jackals, wolves ...)
 - *Mustilidae* (skunks, ferrets, badgers)
 - *Viverridae* (mongoose)
 - *Procyonidae* (raccoons)
 - Order Chiroptera (bats)

Transmission

- Bite from infected animal / contact with saliva or neurological tissue
- Mucous membranes or breaks in the skin

Incubation period - 2 to 3 weeks to 3 mths (up to 6 mths)

No cure



Presence of dog transmitted rabies, 2021

Source: WHO
https://apps.who.int/neglected_diseases/ntddata/rabies/rabies.html

- Endemic human rabies
- Endemic dog rabies
- Sporadic
- Controlled dog rabies
- No dog rabies
- No data
- Not applicable

Rabies

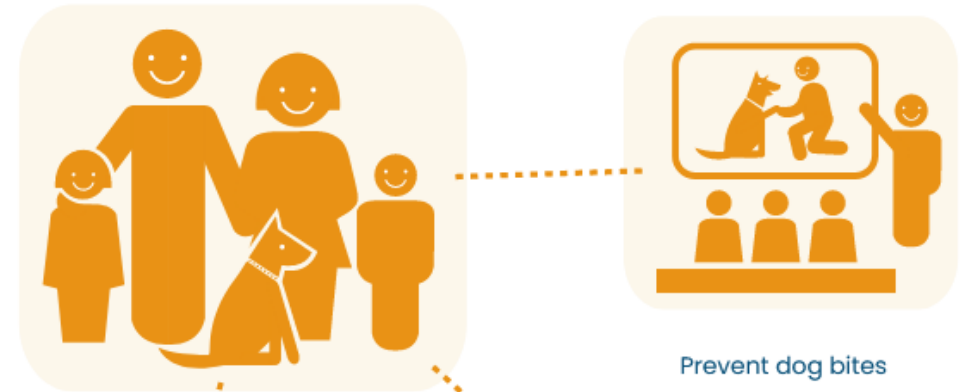


Link: <https://rabiesalliance.org/about>



Community Dogs
Source: Darkaoui, S., et al (2014)

Rabies: Keep your family safe



If bitten, wash the wound and seek medical care



Keep your animals vaccinated



www.rabiesalliance.org/world-rabies-day

#WorldRabiesDay

What to look for

- Unusual and erratic behaviour - dogs
- Three common forms:
 - Encephalitic,
 - Paralytic
 - Non-classic

Animals can also present as normal



Animals with rabies may drool excessively and will act strangely.

Image courtesy of Michael Health, Australia

Surveillance



International Partnerships

- World Organisation for Animal Health (WOAH)
- Papua New Guinea & Timor Leste
 - *Rabies Prevention & Response*
 - *Early detection – diagnostic capacity and surveillance*
 - *Preparedness and Response – National Rabies Management Plans*
- Indonesia
 - *Rabies Vaccination project*

Australian Communities

- Northern Australia Quarantine Strategy (NAQS)
 - Community Animal Health Reporting (CAHR) programme
 - Torres Strait Islands dog survey

Source: <https://www.agriculture.gov.au/agriculture-land/animal/health/rabies>

Managing The Rabies Threat

- The Department of Agriculture, Fisheries, and Forestry (DAFF), is part of the Australian Government.
- DAFF manages the biosecurity risks to Australia to protect agricultural industries and our way of life.
- Ensuring dogs and cats imported into Australia are rabies-free, vaccinated and undergo strict quarantine requirements in Mickleham, near Melbourne.



Preventative Measures

- Pre-exposure vaccination (PreP) recommended
- At-risk groups
 - Bat handlers, veterinarians, wildlife officers, veterinary nurses, zoo keepers, wildlife researchers, or anyone who comes into contact with a bat.
 - Laboratory technicians working with live lyssaviruses
 - Anyone working with mammals in a rabies zone
 - Tourists visiting a known rabies zone
- Rabies vaccination



Travelling Overseas

- Rabies vaccination? - Seek advice from a Travel Doctor
- Care with stray dogs, cats, wild monkeys etc.
 - No playing, feeding or allowing them to lick you
 - Take care when taking photos at tourist hot spots
 - Animals with rabies can look well
- First Aid if unvaccinated - wash site well with soap and water → medical attention immediately
- Post Exposure Prophylaxis - can be difficult to access and not as effective



Source: Monkey bites woman - Video by Tube BBC on YouTube

Travelling Overseas With Our Pets

Every country has specific importing requirements

- Identified – microchip / description – Breed/age
- Vaccinations e.g. Rabies vaccination
 - Final vaccinations at least 14 days pre-export
 - Rabies Antibody titre test – 21 days post vaccination
- Documentation – including vaccine sticker and animal identification
 - Give yourself plenty of time
 - Consider a Pet Transport Company
 - Check requirements for re-entry into Australia

Australian Bat Lyssavirus (ABLV)

- Rabies, ABLV and other lyssaviruses (e.g. European bat lyssavirus) are closely related
 - All bats - microbats and flying foxes (fruit bats)
 - Less than 1% of bats carry ABLV
- Infections are RARE
 - Transmission via bite or scratch from an infected bat
- Notifiable

Prevention

- Don't touch!
- Rabies vaccination



Contents lists available at [ScienceDirect](#)

Veterinary Microbiology

journal homepage: www.elsevier.com/locate/vetmic



Australian bat lyssavirus infection in two horses



Mustaghfira Wafa Shinwari^a, Edward J. Annand^b, Luke Driver^a,
David Warrilow^c, Bruce Harrower^c, Richard J.N. Allcock^{d,e}, Dennis Pukallus^c,
Jennifer Harper^f, John Bingham^f, Nina Kung^g, Ibrahim S. Diallo^{a,*}



RESEARCH ARTICLE

Potential Exposures to Australian Bat Lyssavirus Notified in Queensland, Australia, 2009–2014

Damin Si^{1*}, John Marquess¹, Ellen Donnan¹, Bruce Harrower², Bradley McCall³,
Sonya Bennett¹, Stephen Lambert^{1,4}

1515 Exposures

- 56% Intentional
- 33% Accidental
- 5% Occupational/carer
- 2% ABLV +ve horse/human
- 4% Unknown

Finding An Injured Or Dead Bat



Avoid handling bats - live or dead

Use PPE to keep from being bitten or scratched.

Injured bats – not all veterinary practices will take them

Contact local vet if your pet interacts with a bat.

Dead bats – report if bitten or scratched.

Picture: Dee Hartin, NSW



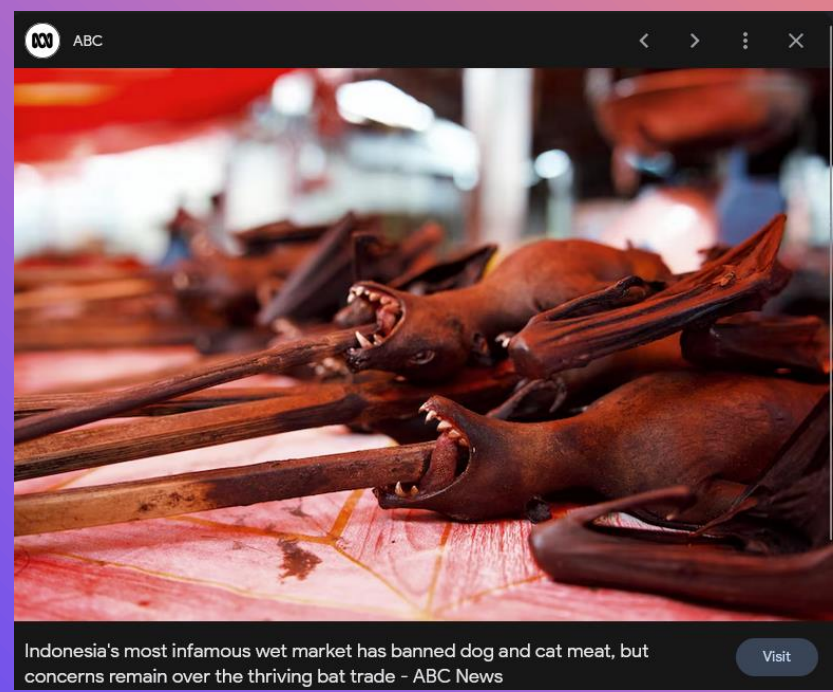


What If My Dog Eats A Bat?

- Less than 1% of bats are infected with ABLV
- Low likelihood of infection if a dead bat is consumed.
- First aid if required
 - Wash wound with soap and water
 - Apply an antiseptic (care with cats)
- Seek veterinary advice
 - vaccination is available

Reduce the risk - Keep dogs and cats indoors / confined at night

What about humans eating bats?



Source: Daily Mail

Why We Need Bats In Our Lives

- Protected species
- Flying foxes – ONLY nocturnal long distance pollinator & seed disperser
- Flying foxes, play an important role in our ecosystem by pollinating our native trees.
- Extensive clearing of forests has displaced bats from their natural habitat.
- Leads to Zoonotic spillover. e.g. SARS-CoV-2, Nipah and Hendra viruses.
- Plant [Flying Fox food sources](#)



Bat safety



Source: Wires <https://www.wires.org.au/wildlife-information/wildlife-friendly-netting>)

Small / densely woven mesh only

We recommend a densely woven net that will not trap wildlife and doesn't need a frame, such as the Fruit Saver nets, Hail Guard or Vege Net. These nets are all white - the colour best seen by animals at night.



Wires

<https://www.wires.org.au> › wildlife-information › wildlif...

Wildlife friendly netting - Wires

Source: <https://www.wires.org.au/wildlife-information/wildlife-friendly-netting>

- Replace barbed wire with plain wire if possible
- Cover barbs with split polypipe or attach white electric fence tape to increase visibility
- Avoid barbed wire near feed trees, across wildlife corridors, over or near water



Key points

Rabies kills 65,000 people globally
Australia is rabies free

ABLV occurs rarely

Don't panic!

If you find a sick / dead bat - Ring
your local wildlife organisation

If your dog plays with a dead or
injured bat - contact your local vet

Plant bat friendly trees



Questions?

Wildlife Information and Rescue Emergency Service
(WIRES)
1300 094 737



Resources & references



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