



Regione
Lombardia



Cofinanziato
dall'Unione europea



LIFE
NatConnect
2030



Biosicurezza

Gestione del rischio zoonotico, utilizzo corretto dei DPI, protocollo di primo soccorso e sorveglianza in caso di contatto accidentale o morso

Riserva Naturale Torbiere del Serino

03/07/2026

In collaborazione con:

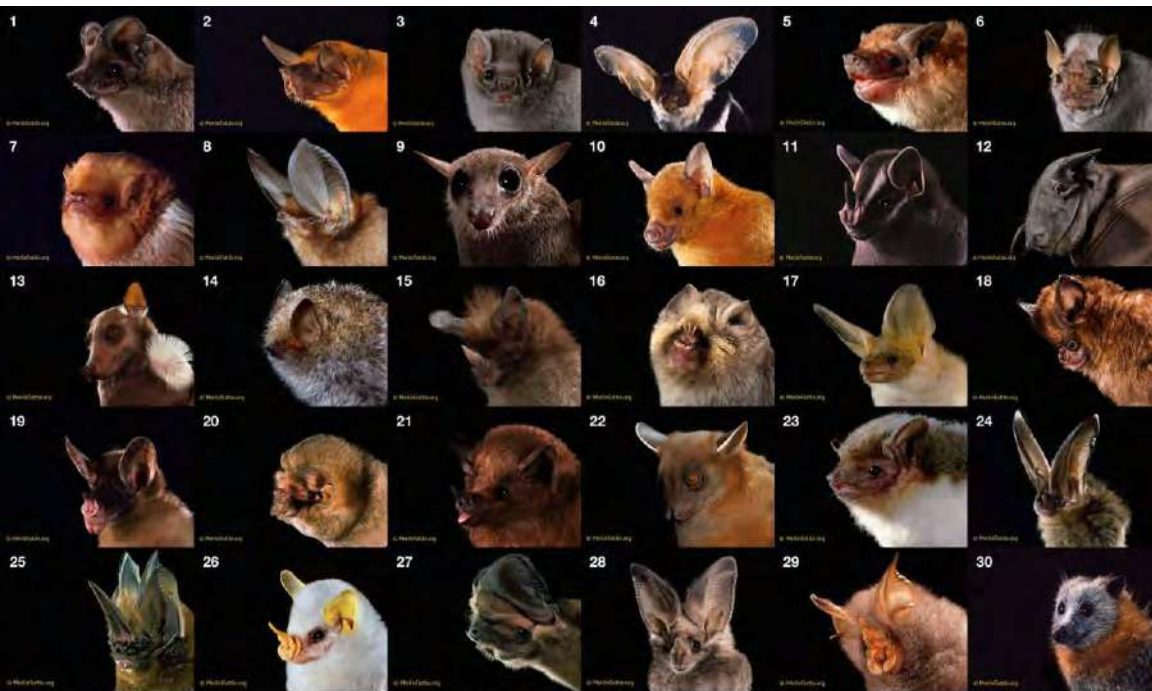


Patrocinato da:



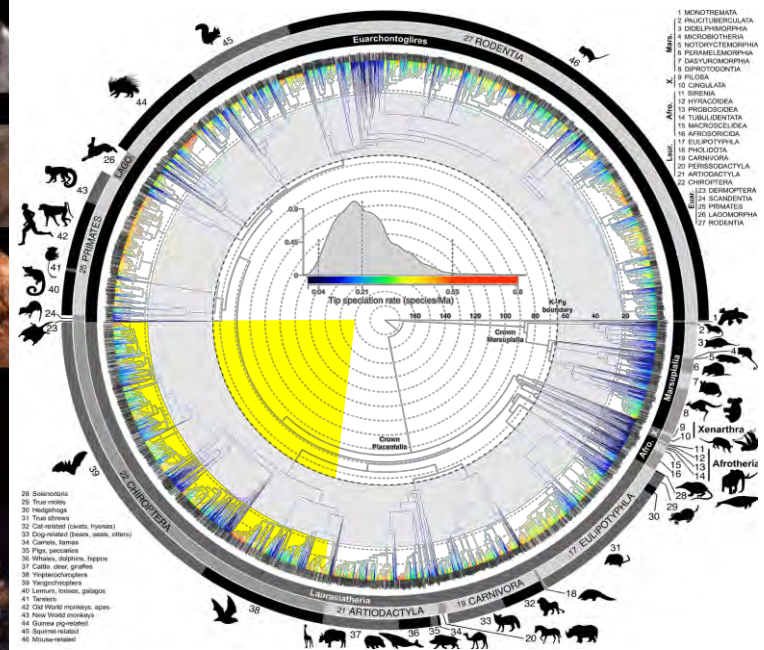
Obiettivo

Creare una procedura semplice e di facile esecuzione

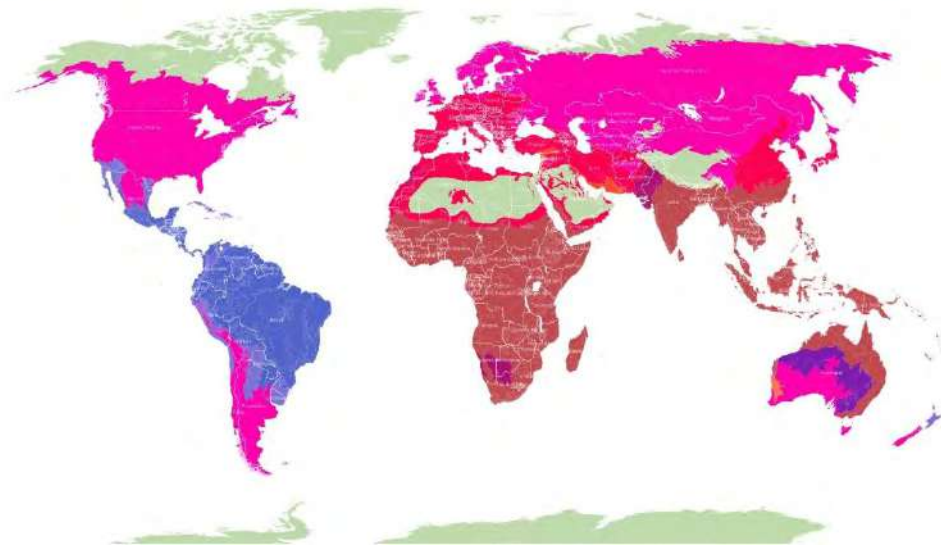


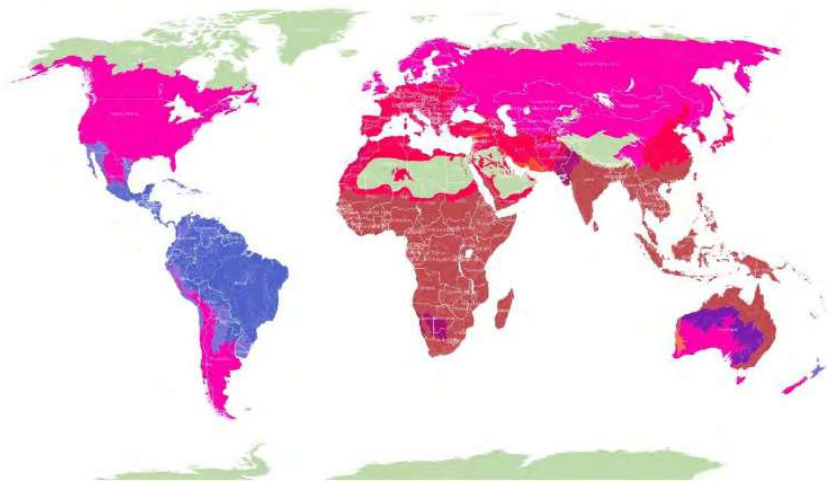
1: Brazilian Free-tailed Bat (*Tadarida brasiliensis*), 2: Greater Bulldog Bat (*Noctilio leporinus*), 3: Hairy-legged Vampire Bat (*Diphylla ecaudata*), 4: Spotted Bat (*Euderma maculatum*), 5: Dwarf Dog-faced Bat (*Molossops temminckii*), 6: Wrinkle-faced Bat (*Centurio senex*), 7: Eastern Red Bat (*Lasiurus borealis*), 8: Madagascar Sucker-footed Bat (*Myzopoda aurita*), 9: Cave Nectar Bat (*Eonycteris spelaea*), 10: Cuban Flower Bat (*Phyllonycteris poeyi*), 11: Tent-making Bat (*Uroderma bilobatum*), 12: Greater Naked Bat (*Cheiromeles torquatus*), 13: Franquet's Epauletted Fruit Bat (*Epomops franqueti*), 14: Lesser Woolly Bat (*Kerivoula lanosa*), 15: Hairy Big-eared Bat (*Micronycteris hirsuta*), 16: Short-eared Trident Bat (*Clootis percivali*), 17: Pallid Bat (*Antrozous pallidus*), 18: Least Roundleaf Bat (*Hipposideros doriae*), 19: Spectral Bat (*Vampyrus spectrum*), 20: Ghost-faced Bat (*Mormoops megalophylla*), 21: Chestnut Long-tongued Bat (*Llonycteris spurrellii*), 22: Greater Short-nosed Fruit Bat (*Cynopterus sphinx*), 23: Ruppell's Pipistrelle (*Pipistrellus ruppellii*), 24: Townsend's Big-Eared Bat (*Corynorhinus townsendii*), 25: Tomes's Sword-nosed Bat (*Lonchorhina aurita*), 26: Honduran White Bat (*Ectophylla alba*), 27: Western Mastiff Bat (*Eumops perotis*), 28: California Leaf-nosed Bat (*Macrotus californicus*), 29: Trefoil Horseshoe Bat (*Rhinolophus trifoliatu*), 30: Gray-headed Flying Fox (*Pteropus paliocephalus*).

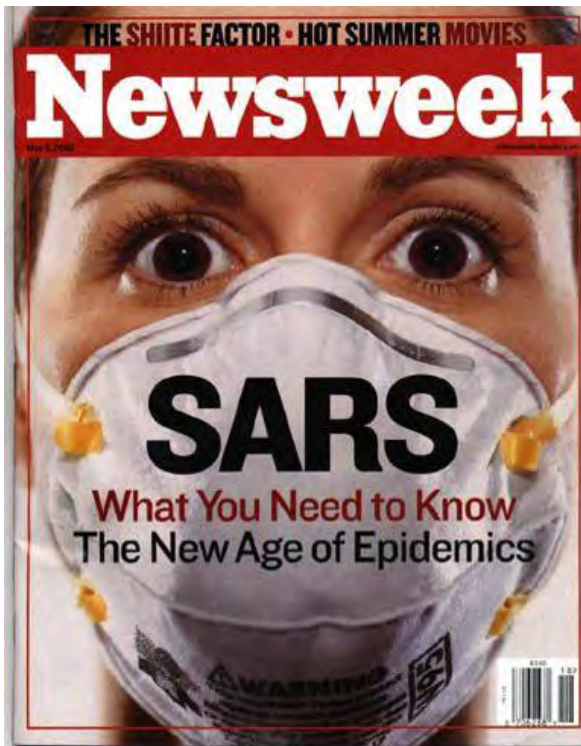
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Bats: Important Reservoir Hosts of Emerging Viruses

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INTRODUCTION

The remarkable mammals known as “bats” and “flying foxes” (order Chiroptera [“hand wing”]) may be the most abundant, diverse, and geographically dispersed vertebrates (Table 1). Although a great deal is known about them, detailed information is needed to explain the astonishing variations of their anatomy, their lifestyles, their roles in ecosystems ecology, and their importance as reservoir hosts of viruses of proven or potential significance for human and veterinary health.

Bats fly with wings which range in span from 130 mm to 2 m. Bats of various species feed on insects, mammals, fish, blood, fruit, and pollen. Bats of most species echolocate to navigate and to find prey. Bats are found on all continents except Antarctica. Bats also are being increasingly recognized as reservoir hosts for viruses which can cross species barriers (i.e., “spill

over”) to infect humans and other domestic and wild mammals. Nonetheless, studies of the natural histories of bats and their importance as reservoir hosts of zoonotic viruses largely have been underappreciated and underfunded, except for their role in maintaining and transmitting rabies virus. Irrespective of the negative public perception of bats, they are critical elements of all terrestrial biotic communities. They help control insects, reseed cut forests, and pollinate plants that provide food for humans and other species, and their guano is used as a fertilizer and for manufacturing soaps, gasoline, and antibiotics (21, 69, 83). Bat echolocation and signal processing have provided models for sonar systems (112, 130).

Myths and misunderstandings about the roles of bats in ecosystems and their danger to other species as hosts of rabies virus have led to efforts to extirpate bat populations, with serious consequent effects on insect control and crop production, without coincidental reduction in the already low incidence of rabies virus transmission by bats (93).

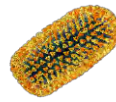
This paper summarizes what is known about viruses isolated from bats. Although there is serologic evidence for infection of bats with many viruses (see, for example, references 82 and 101), we will focus here only on the 66 viruses that have been



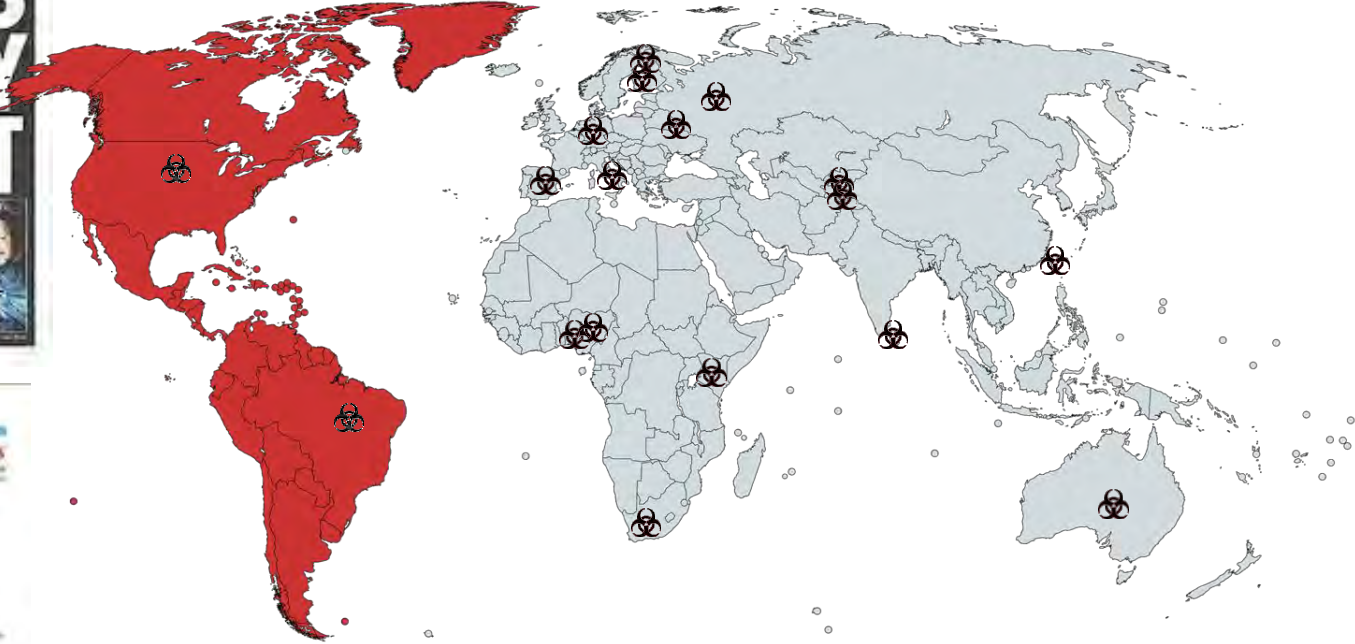
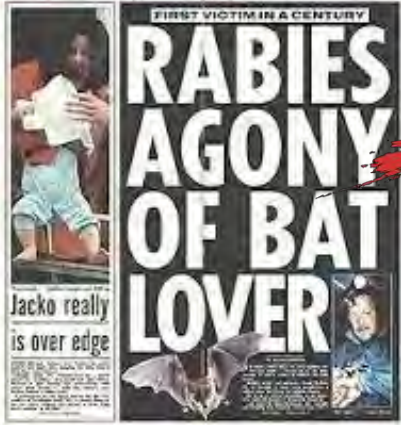
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Lyssavirus

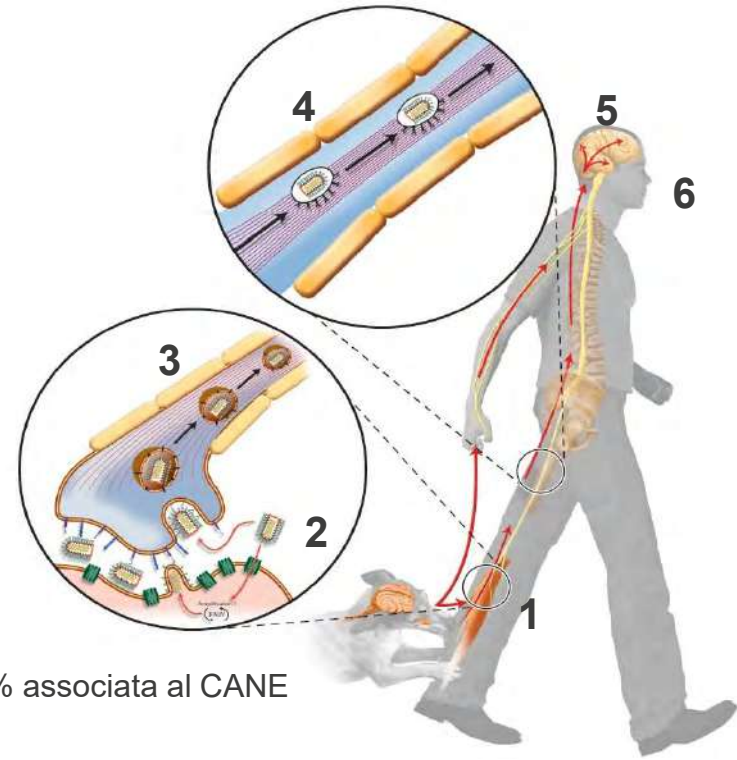


2020 West Caucasian Bat Lyssavirus



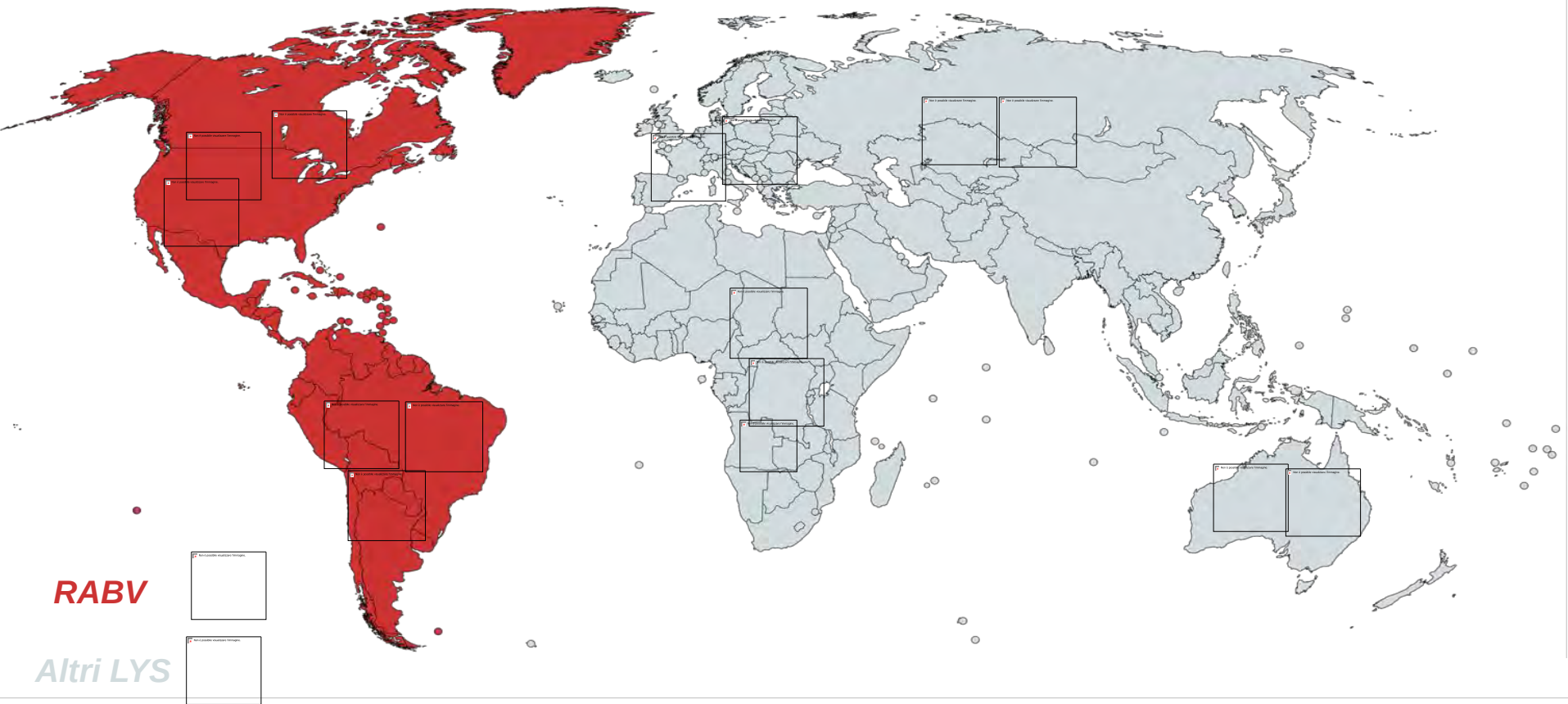
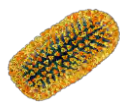
La Rabbia

- Encefalomyelite zoonotica
- Causato da virus del genere *Lyssavirus*
- Sempre fatale se sintomatico
- Diffusione mondiale
- 59.000 decessi stimati all'anno
- Trasmesso attraverso morsi di animali infetti
- Prevenibile al 100%.
- 99% correlata alla trasmissione del virus Rabbia Virus, per il 99% associata al CANE

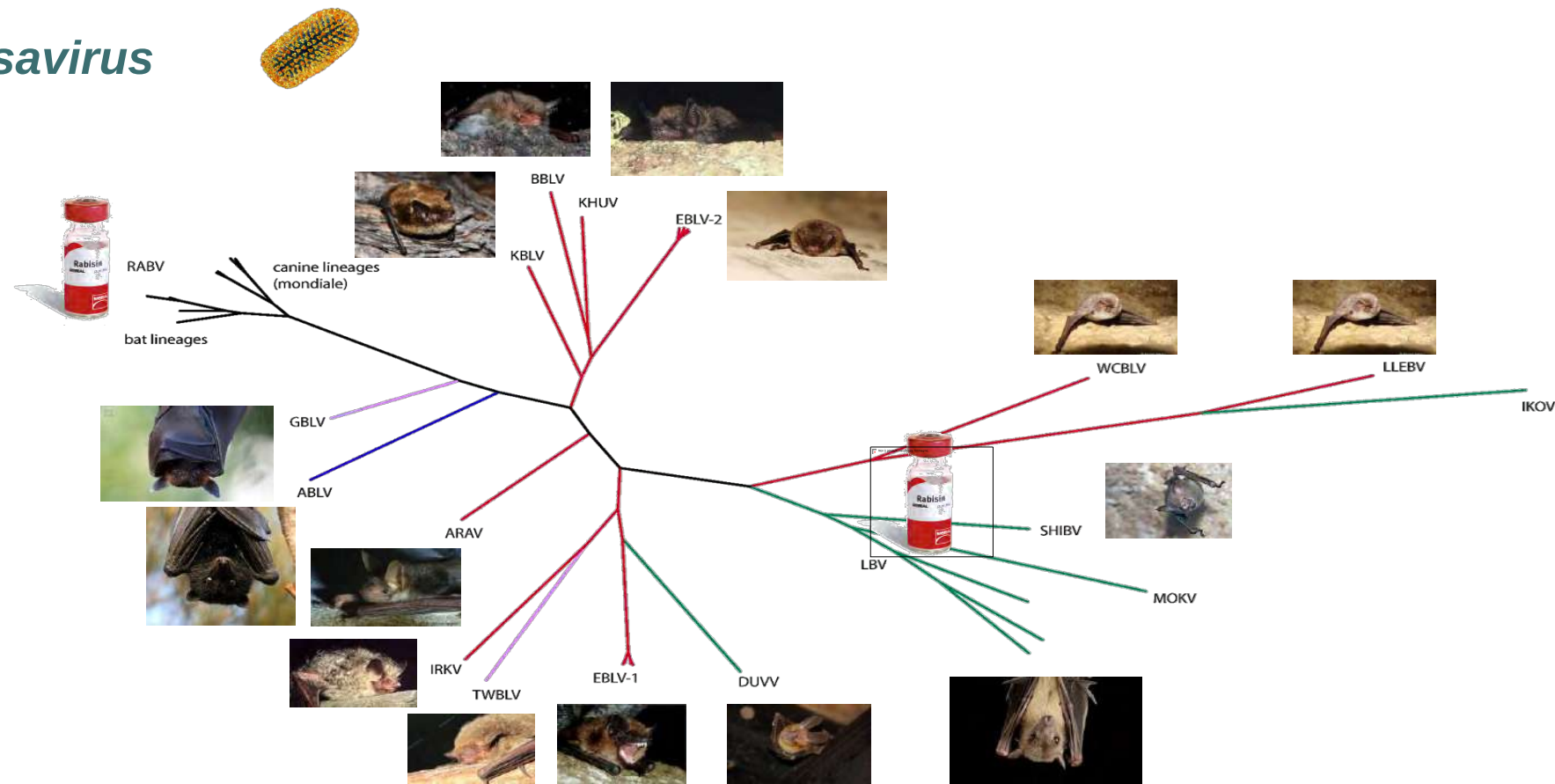


Davis et al., 2015
10.1146/annurev-virology-100114-055157

Lyssavirus



Lyssavirus



0.2

Caratterizzazione del Rischio

Comprendere il pericolo, l'esposizione e la gravità

Prevenzione

Procedure per minimizzare il rischio di trasmissione di malattie infettive tra uomo e animali

Protezione

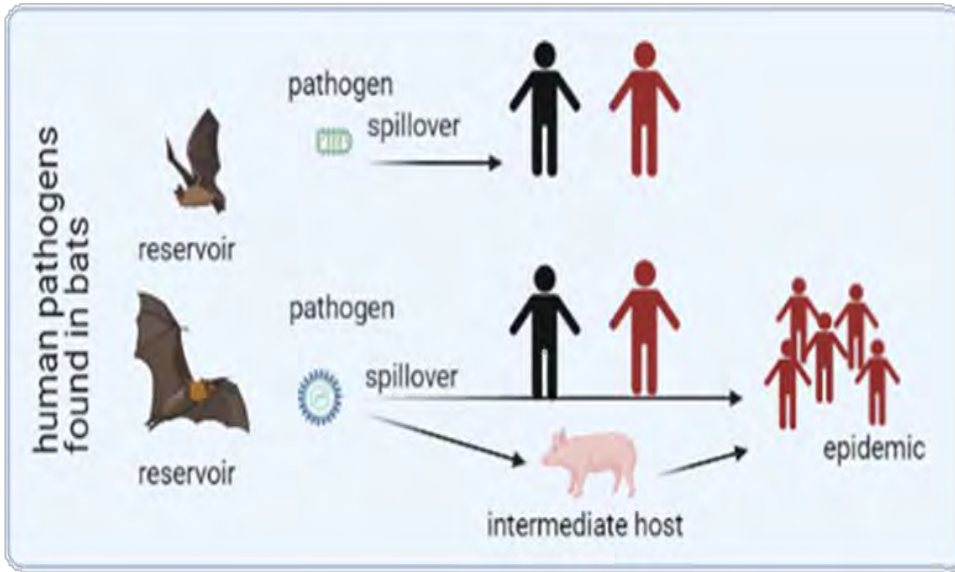
Le misure di protezione sono l'insieme delle misure previste e finalizzate a limitare le conseguenze di un evento dannoso, dal momento che si verifica.

Lyssavirus rabbia-correlati

Linee guida per il personale a contatto frequente con i chirotteri



Rischio ≠ Pericolo



Pericolo

presenza potenziale
di un patogeno



Esposizione

morso, saliva,
mucose, cute lesa

**Nel lavoro di campo il punto controllabile
è quasi sempre l'esposizione**

Caratterizzazione del Rischio

Morso

anche piccolo o poco visibile

Graffio

soprattutto se contaminato da saliva

Cute lesa

tagli, abrasioni, dermatiti



Caratterizzazione del Rischio

Comprendere il pericolo, l'esposizione e la gravità

Prevenzione

Procedure per minimizzare il rischio di trasmissione di malattie infettive tra uomo e animali

Protezione

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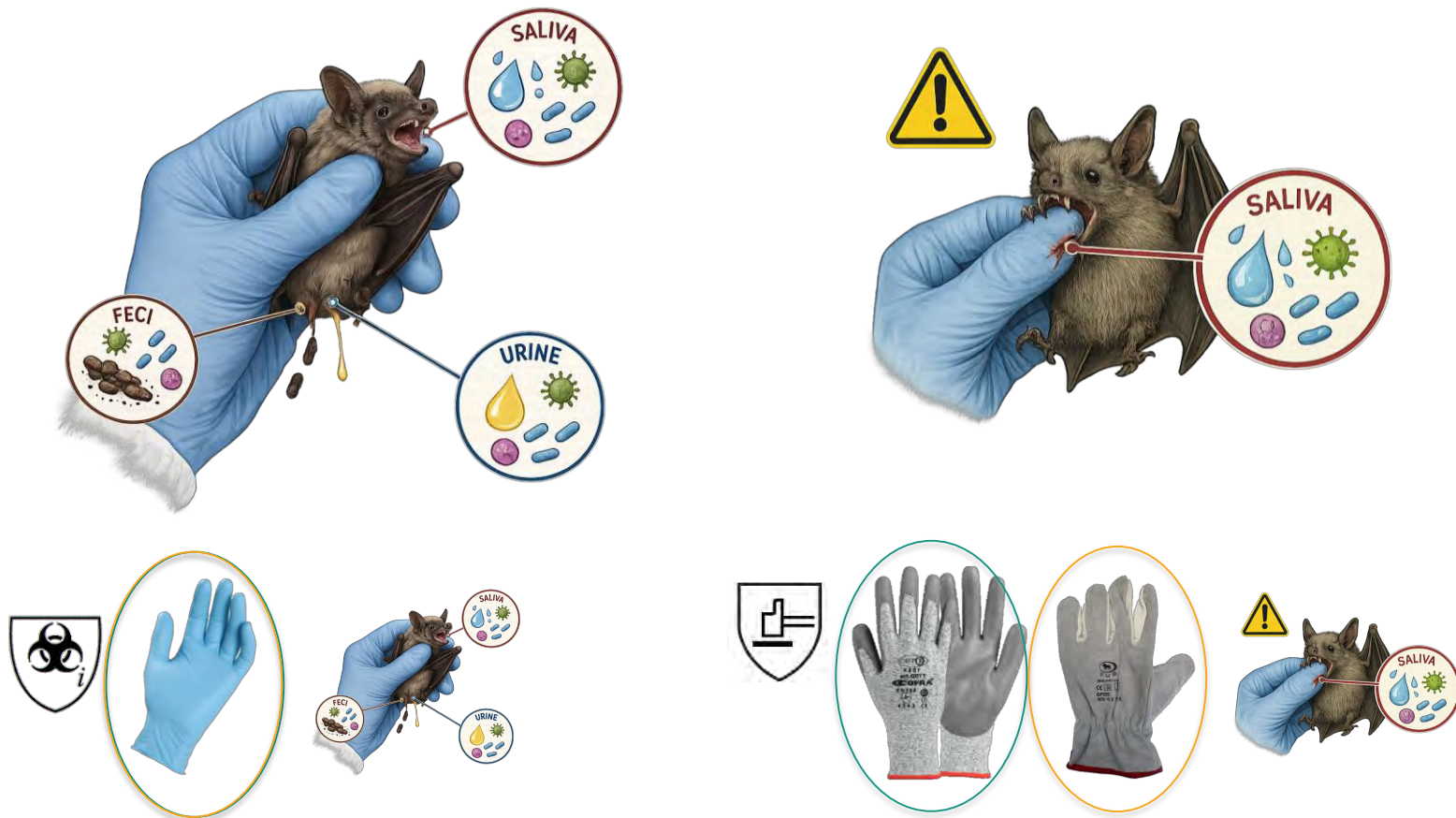
Lyssavirus rabbia-correlati

Linee guida per il personale a contatto frequente con i chiroteri



Prevenzione

Utilizzo di DPI



Prevenzione

Utilizzo di DPI

1. Fermarsi

evitare manovre rapide o improvvisate

2. Indossare i DPI

guanti adeguati prima di toccare rete o animale

3. Immobilizzare senza comprimere

controllare testa e ali, riducendo stress e morso

4. Liberare con calma

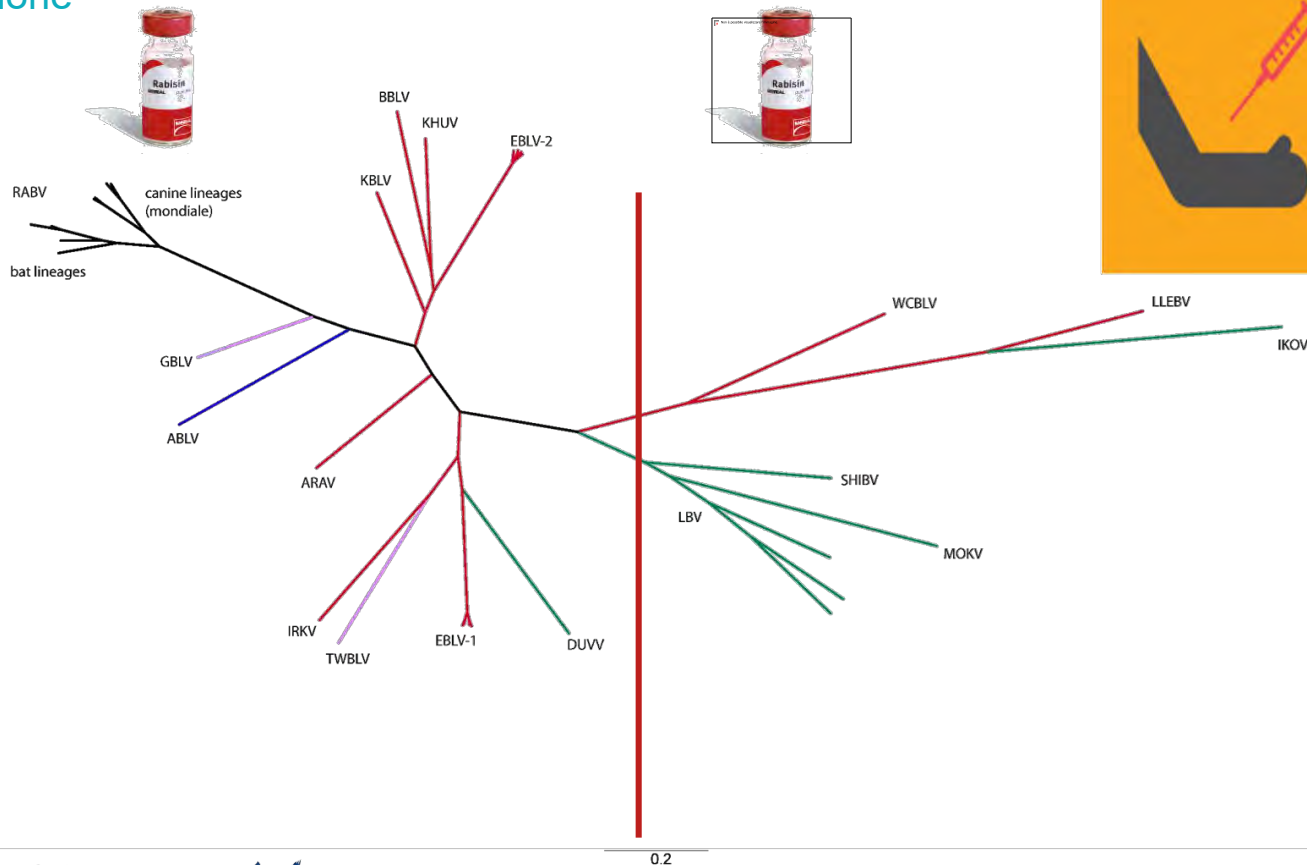
non tirare arti, dita o membrana alare

5. Registrare l'evento

specie se c'è stato contatto, morso o animale debilitato

Prevenzione

Vaccinazione



1. Vaccinazione primaria (D0 – D7)

2. Controllo annuale del titolo anticorpale (>0.5 UI/ml)

3. Ripetere la vaccinazione ove necessario

4. Protocollo di Post Esposizione in caso di morso

Caratterizzazione del Rischio

Comprendere il pericolo, l'esposizione e la gravità

Prevenzione

Procedure per minimizzare il rischio di trasmissione di malattie infettive tra uomo e animali

Protezione

Le misure di protezione sono l'insieme delle misure previste e finalizzate a limitare le conseguenze di un evento dannoso, dal momento che si verifica.

Lyssavirus rabbia-correlati

Linee guida per il personale a contatto frequente con i chiroteri



Protezione

Procedure post-esposizione

1 Mettere in sicurezza

fermare la manipolazione senza nuovi contatti

2 Lavare

acqua corrente e sapone per almeno 15 minuti

3 Disinfettare

iodopovidone/clorexidina o presidio disponibile

4 Segnalare

responsabile attività, medico competente

5 Valutazione sanitaria

PS/servizio vaccinale per PEP e CNR Rabbia

Take-home messages

- 1 Il rischio è basso, ma non nullo
- 2 La manipolazione non protetta va evitata
- 3 DPI e presidi di primo soccorso devono essere disponibili prima dell'attività di campo
- 4 Vaccinazione preventiva: raccomandabile per chi ha esposizioni frequenti





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Grazie per l'attenzione!

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