

# Clusters of Australian bat lyssavirus

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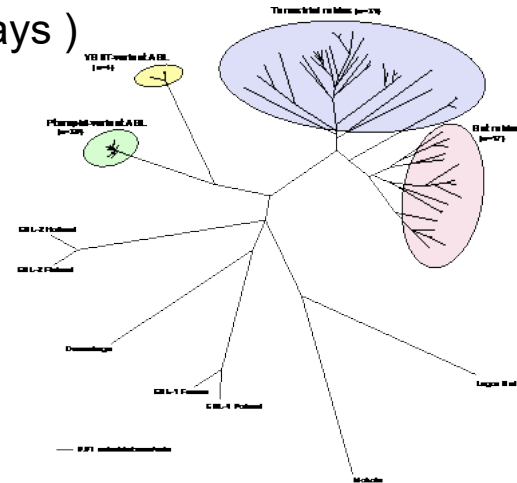
PhD BVSc MVSc MANZCVS (Pathology)

Tuesday 14 September 2021 (HopIt)

National Flying-fox Forum 2021

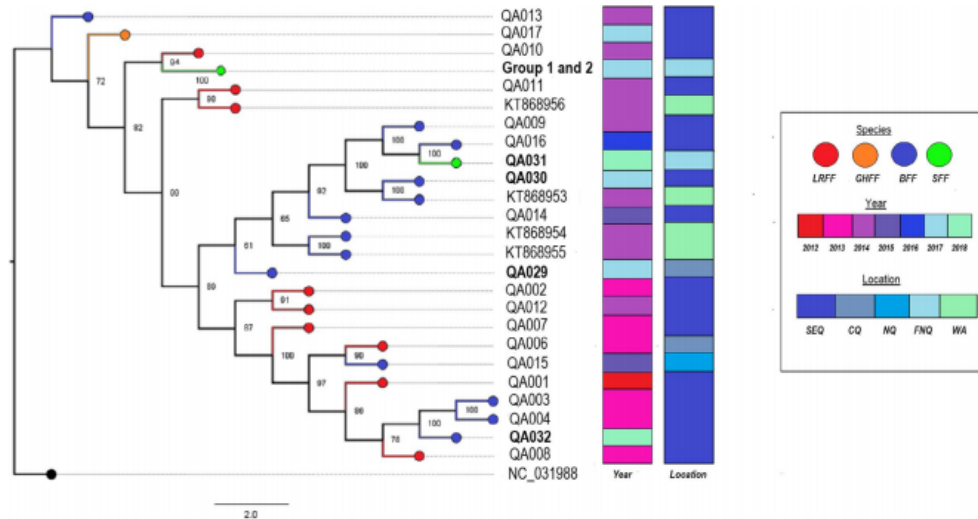
# Australian bat lyssavirus – the short version

- Rabies like disease - ABLV causes encephalitis, invariably fatal
- Long incubation period (exposure to sick time = weeks to years)
- Rapidly progressive neurological signs (sick to dead time < 10 days )
- All four common species of flying fox + YBST
- Head count
  - 377+ bats
  - 3 people (3 incidents)
  - 2 horses (1 incident)
- Entirely preventable – pre-exposure rabies vaccine
- Cluster = disease cases grouped in place and time (related infections, not coincidental)



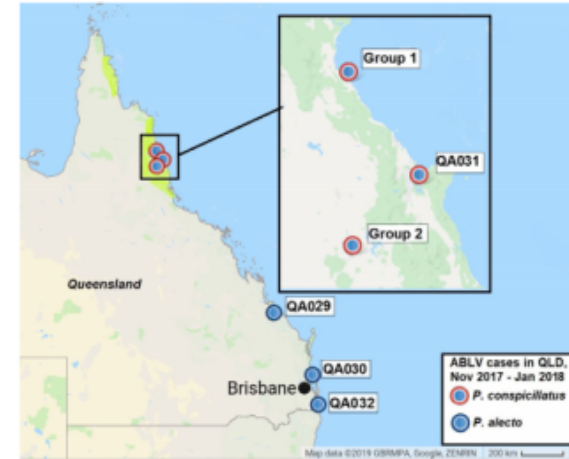
# What is normal?

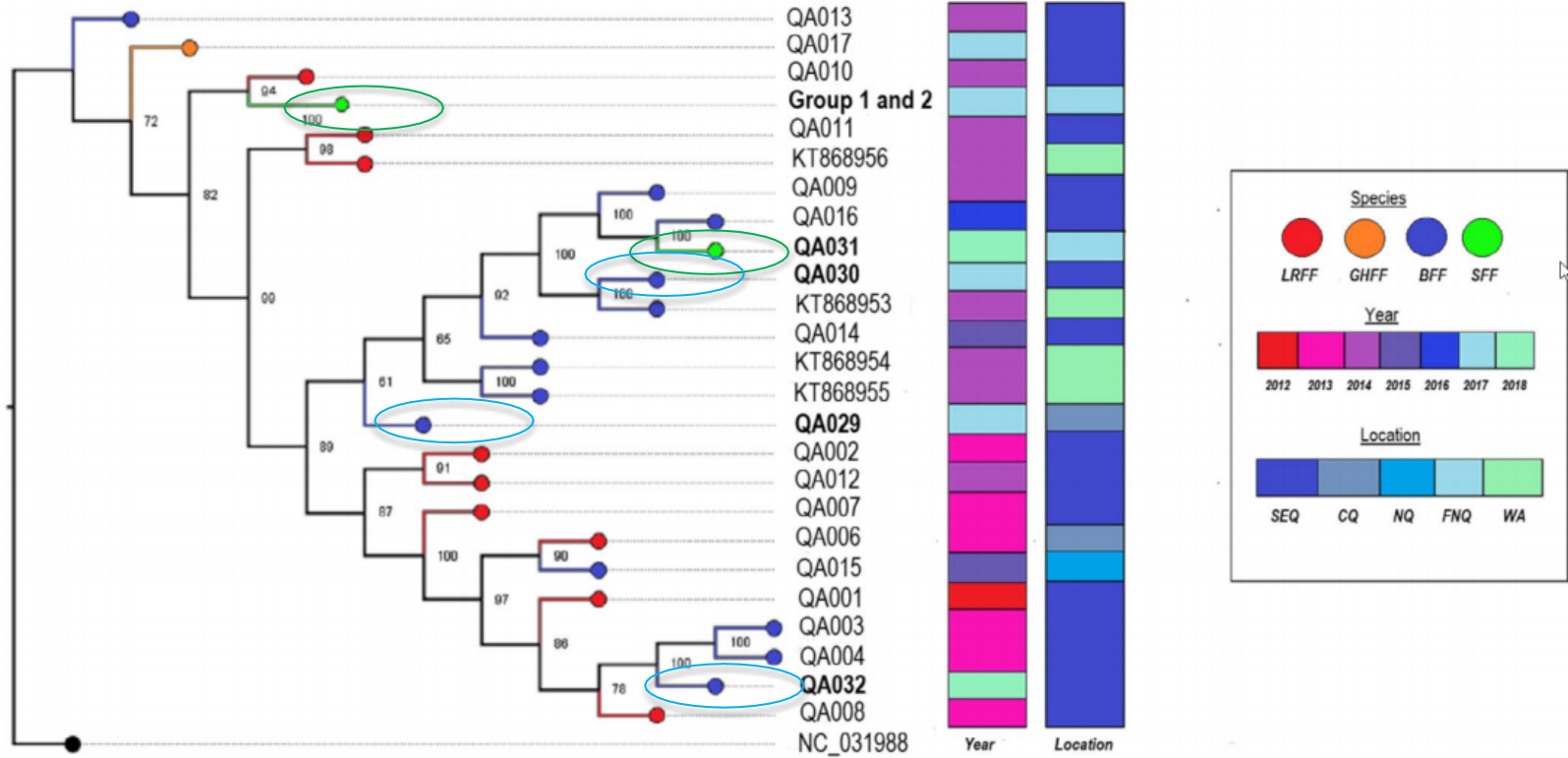
- Sporadic cases in all species of flying fox throughout the year
  - Bats clinically ill with ABLV disease at rescue – all ages
  - Apparently healthy orphans at rescue – become ill weeks later



# First Queensland cluster – Spec pups spring 2017

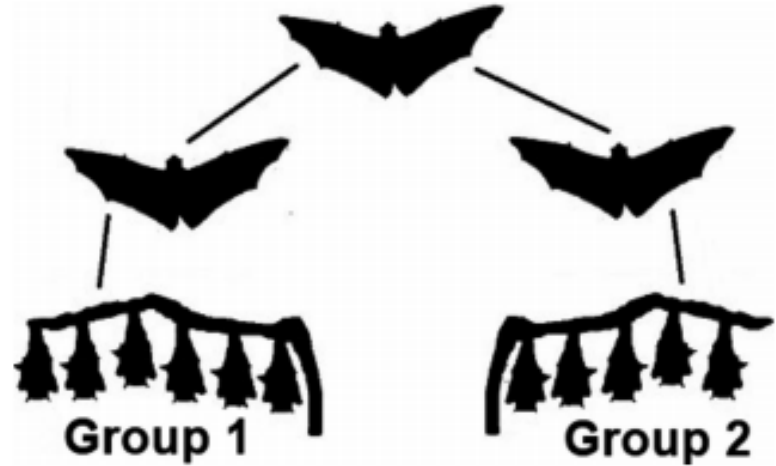
- Late Oct 2017 – 9 pups rescued
  - 4 to 7 weeks old, hanging on a fence
  - Some with bite wounds (one euthanased, 8 into care)
  - 13 days later – pups started to get ill
  - 6 of 8 died or were euthasased within 9 days
- Early November 2017 – 18 pups rescued 80 km away
  - 4 to 9 weeks of age, on ground under a tree.
  - 2 weeks later 5 of 18 became ill and died/euth within 2 days
- Coincidence? Two clusters? One cluster? The others?





2.0

Sequence	Group	*	*	*	*	*	*	*	*	*	*	*	*	
QA018	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA019	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA020	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA021	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA022	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA023	Group 1	T	C	T	C	A	T	G	C	G	T	C	T	G
QA024	Group 2	T	C	T	C	T	T	G	C	G	T	C	T	G
QA025	Group 2	T	C	T	C	T	T	G	C	G	T	C	T	G
QA026	Group 2	T	C	T	C	T	T	G	C	G	T	C	T	G
QA027	Group 2	T	C	T	C	T	T	G	C	G	T	C	T	G
QA028	Group 2	T	C	T	C	T	T	G	C	G	T	C	T	G



- Bats that can fly – sporadic, individual, unrelated cases (adults/juveniles)
- Pups in crèche (no mum, can't fly) at risk of being infected as a group

Pre-flight pups at more risk of being infected *as a group* – but *not* at more risk of being infected *overall*



## 2nd Queensland cluster: Little Reds, summer 2020-21

- Unusual event
  - 110 submissions - far more bats than usual for that that time of year/period
  - Unprecedented number of LRFF (48/110 = 44%)
  - 18 flying foxes infected with ABLV/ 5 months – more than usually detected nationally in a year
  - Most (14/18 = 78%) of those infected were little red flying foxes.
- Simply more bats = more ABLV?
- Had the LRFF moved into town – normal disease pattern more easily seen?
- Was it an outbreak of closely related chains of infection?

## Scientific papers

- Iglesias, R. et al. (2021). Australian Bat Lyssavirus: Analysis of National Bat Surveillance Data from 2010 to 2016, *Viruses*. 13(12) 189 DOI: [10.3390/V13020189](https://doi.org/10.3390/V13020189)
- Barrett, J. et., al. (2020). An unprecedented cluster of Australian bat lyssavirus in *Pteropus conspicillatus* indicates pre-flight flying fox pups are at risk of mass infection. *Zoonoses and Public Health* DOI: [10.1111/ZPH.12703](https://doi.org/10.1111/ZPH.12703)
- Barrett J. (2021). Atypical cluster of lyssavirus (ABLV) infections in little red flying foxes in South East Queensland. *Animal Health Surveillance Quarterly Report*. 26(1), 7-8.  
[http://www.sciquest.org.nz/elibrary/download/165925/Atypical\\_cluster\\_of\\_lyssavirus\\_ABLV\\_infections\\_i.pdf](http://www.sciquest.org.nz/elibrary/download/165925/Atypical_cluster_of_lyssavirus_ABLV_infections_i.pdf)

## Acknowledgments and thanks

- Bat caring community of Queensland
- The University of Queensland: **Ali Höger** and Assoc. Prof. Ricardo Soares Magalhães
- Biosecurity Queensland: Dr Craig Smith
- Wildlife Health Australia: Keren Cox-Witton







**Thank You**

# ABLV The Movie!



Two videos of bats ill with ABLV are available at

<https://animalhealthaustralia.com.au/ahsq-resources/>



Google

Microsoft Bing **ablv and vets**

ALL WORK

Introduction  
<https://www.dhs.gov/ablv>  
 Introduction to ABLV is a virus that can be transmitted to humans.

ABLV info for  
<https://www.dhs.gov/ablv>  
 Under Quarantine Act 2010  
 Bitten or scratched  
 Biosecurity Queensland

Australian I  
<https://www.dhs.gov/ablv>  
 Australian bat lyssavirus (ABLV) is a virus that can be transmitted to humans.

NORTHERN I  
<https://www.dhs.gov/ablv>  
 These guidelines apply to people who acquire Australia.

Australian I  
<https://www.dhs.gov/ablv>  
 ABLV is from the same family as the rabies virus. ABLV has been found in Australian bats.

Australian I  
<https://www.dhs.gov/ablv>  
 Australian bat lyssavirus (ABLV) is a virus that can be transmitted to humans through contact with bats.

Rabies and Australian bat lyssavirus (ABLV) are viruses that can be transmitted to humans through contact with bats. ABLV is a virus that can be transmitted to humans through contact with bats. ABLV is a virus that can be transmitted to humans through contact with bats.

ABLV – veterinarian community  
<https://www.vetba.org.au/images/Files/ABLV%20veterinarian%20community%20information%202019.pdf>



# Australian bat lyssavirus

## Information for veterinarians

November 2020



BM water

Find services For Queensland

Industries COVID-19 business recovery

After the state election. Minimal updates will be made to this site until after the state election.

Industries > Service industries, regulated industries, and professionals > Industries > Veterinary surgeons > Introduction to ABLV for veterinarians > Information for veterinarians

### ABLV information for veterinarians

**Alert**

Under Queensland legislation, if you suspect an animal is clinically ill with ABLV, or if an animal has been bitten or scratched by a bat or other animal known to be infected with ABLV, you must report it to **Biosecurity Queensland on 13 25 23** or contact the **Emergency Disease Watch Hotline on 1800 675 888**.

You don't need to notify us about animal contact with a bat unless the bat is known to have ABLV.

If you are a veterinarian in Queensland, you may be required to manage incidents involving ABLV between animals (often dogs or cats) and bats. This would include minimising the risk of ABLV infection to domestic animals to acquire and transmit Australian bat lyssavirus infection. Managing the ABLV-risk may include using the rabies vaccine.

Additional information is provided to assist veterinarians in managing these incidents. This information is provided to assist veterinarians in managing these incidents. This information is provided to assist veterinarians in managing these incidents.

For a complete document, ABLV—Information for veterinarians, includes information on ABLV, how to manage ABLV, and how to manage ABLV. Addressing common queries. For a complete document, ABLV—Information for veterinarians, includes information on ABLV, how to manage ABLV, and how to manage ABLV. Addressing common queries.

Australian bat lyssavirus (ABLV) is a virus that can be transmitted to humans through contact with bats. ABLV is a virus that can be transmitted to humans through contact with bats. ABLV is a virus that can be transmitted to humans through contact with bats.

Pre-exposure prevention of disease due to ABLV. Pre-exposure prevention of disease due to ABLV. Pre-exposure prevention of disease due to ABLV.

What to do if a person is bitten or scratched. What to do if a person is bitten or scratched. What to do if a person is bitten or scratched.

Post-contact management of contacts of potential exposure to ABLV in animals. Post-contact management of contacts of potential exposure to ABLV in animals. Post-contact management of contacts of potential exposure to ABLV in animals.