ABLV BAT STATS

Australian Bat Lyssavirus Report - June 2024

Cases of ABLV infection - January to June 2024

There were 5 cases of Australian bat lyssavirus (ABLV) infection reported in bats in Australia between January and June 2024. This includes 2 from Queensland, 2 from South Australia and one from New South Wales. (Table 1).

Queensland

Two little red flying-foxes (*Pteropus scapulatus*) tested positive for ABLV in January from the same South East Queensland location. The first was found on the ground able to open its eyes but unable to move its limbs. The second was also found on the ground underneath a colony tree, responsive but unable to move its hindlegs. The next day it suffered seizures and hypersalivation, and was euthanised. ABLV has been found in this species at this location in previous years, including a cluster in 2021 (Barrett 2021[1]; ABLV Bat Stats June 2021).

New South Wales

A grey-headed flying fox (*P. poliocephalus*) tested positive for ABLV after it was discovered partially eaten by a dog. The dog was vaccinated for rabies and titres checked post-vaccination, with adequate seroconversion noted. There is no evidence to indicate that the dog has contracted ABLV.

Little red flying-foxes
Photo: Paisie Hadley (CC)

Table 1: ABLV infection in Australian bats^

YEAR	NSW	NT	QLD	VIC	WA	SA	Total
1995 - 2000	10	1	83#+	0	0	0	94
2001	0	0	9	1	4	0	14
2002	4	0	10	2	1	0	17
2003	5	0	3	2	0	0	10
2004	5	0	6	1	0	0	12
2005	6	0	5	0	0	0	11
2006	2	0	4	0	0	0	6
2007	6	0	2	0	0	0	8
2008	0	0	0	0	0	0	0
2009	2	0	8	0	0	0	10
2010	0	0	8	0	1	0	9
2011	0	0	4	2	0	0	6
2012	1	0	3	0	0	1	5
2013	3	0	11	0	0	0	14
2014	5	1	14	1	11	0	32
2015	10	1	11	0	0	0	22
2016	5	1	8	1	0	0	15
2017	4	0	19	3	2	0	28
2018	5	0	5	1	0	0	11
2019	6	0	1	0	0	0	7
2020	5	0	9	4	0	0	18
2021	10	1	17	5	0	2	35
2022	1	1	8	1	0	1	12
2023	1	1	11	1	0	5	19
2024 (to June)	1	0	2	0	0	2	5
Total	97	7	261	25	19	11	420

^ Infection confirmed by FAT, PCR, IHC and/or virus isolation. ACT and TAS have not recorded any cases of ABLV infection that satisfy this case definition.
[#] A BFF from QLD was diagnosed retrospectively in 1996, when ABLV was first recognised.
[+] Higher numbers of ABLV infected bats were associated with peak years of testing in 1997-1998.

South Australia

Two grey-headed flying-foxes, both of which were in care with rehabilitators, tested positive for ABLV in the first half of the year. The first, an adult male, was euthanised after it began showing signs including twitching and star gazing. The second showed neurological signs including aggression, shuddering and incoordination.

Human contact

No potentially infectious contact with humans was reported for any of the ABLV infected flying-foxes.

Bent-wing bats
Photo: Manda via Flickr (CC)

Why are bats submitted for ABLV testing?

Bats are submitted for ABLV testing for a variety of reasons. A common reason is contact between the bat and a person with the potential for ABLV transmission (e.g. a bite or scratch). Bats are also regularly submitted following contact with a pet dog or cat (Figure 1). The number of submissions due to pet contact is high this year with 102 submissions, the highest January to June total since 2020. Bats displaying unusual or aggressive behaviour or other neurological signs may be tested; these signs can occur with ABLV infection but can also be due to a number of other diseases. Bats that show other clinical signs e.g. respiratory signs, bats that die or are euthanased due to trauma, and bats that are found dead may also be submitted for testing.

Figure 1: ABLV tested bats – Contact with people and pets

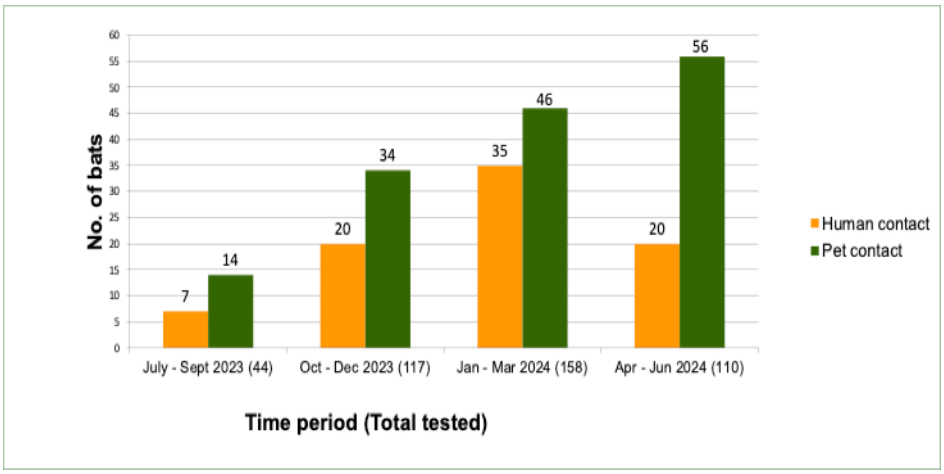

Figure 1 presents reported human-bat contacts which, based on Young & McCall 2010,[2] is an underestimate of the true contact frequency. Not all bat contact is reported, and for the majority of reports the bat is not available for testing.

If bats had both human and pet contact, they are only reported as human contact in the figure.

ABLV prevalence in bats and public health significance

There are no recent surveys on the prevalence of ABLV infection in wild bats. Surveys of wild-caught bats in the early 2000s indicated an ABLV prevalence in the wild bat population of less than 1%.[3] ABLV infection is more common in sick, injured and orphaned bats, especially those with neurological signs.[4] People are more likely to have contact with bats that are unwell or debilitated, as these bats may be found on or near the ground.[5]

Grey-headed flying foxes
Photo: Emmett Anderson via Flickr (CC)

ABLV infection causes a range of clinical signs in bats, which can include abnormal behaviour such as uncharacteristic aggression, paralysis or paresis, and seizures. The behavioural changes may increase the likelihood of a person or pet being bitten or scratched when coming in contact with the bat. The likelihood of a person developing ABLV disease from contact with a bat is influenced by a number of factors including whether the bat was ABLV-infected, the type of contact e.g. bite or scratch, the vaccination status of the person, and whether the person sought medical attention.

ABLV prevalence in bats submitted for testing

Some of the bats that come into contact with people or pets are tested for ABLV. The percentage of ABLV infection in bats submitted for testing is of interest as an indicator of public exposure, however it is also heavily influenced by factors affecting which bats are submitted for testing.

A total of 268 bats were tested for ABLV in Australia between January and June 2024 (Table 2). This is an increase in the number of bats tested compared to the same period in 2023 (203 bats). There were 5 cases of ABLV infection reported in bats (1.9% of the bats submitted for testing) (Table 3). There were 5 cases in flying-foxes (2.5% of flying-foxes tested), and zero detections in microbats. As described above, testing of unwell bats is not representative of the whole bat population; consequently these results over-estimate the level of ABLV infection in the wider bat population.

Table 2: ABLV testing by bat species (Jan - Jun 2024)

Species	No. tested	No. ABLV infected
Flying-foxes, blossom & tube-nosed bats		
Pteropus poliocephalus/Grey-headed Flying-fox	107	3
Pteropus alecto/Black Flying-fox	69	0
Pteropus scapulatus/Little Red Flying-fox	15	2
Pteropus spp.	9	0
Pteropus conspicillatus/Spectacled Flying-fox	1	0
Insectivorous bats (microbats)		
Vespertilionidae spp.	10	0
Nyctophilus geoffroyi/Lesser Long-eared Bat	7	0
Chalinolobus gouldii/Gould's Wattled Bat	5	0
Vespadelus darlingtoni/Large Forest Bat	3	0
Vespadelus vulturnus/Little Forest Bat	2	0
Miniopterus orianae bassani/Southern Bent-wing Bat	1	0
Nyctophilus gouldi/Gould's Long-Eared Bat	1	0
Nyctophilus arnhemensis/Arnhem Long-eared Bat	1	0
Nyctophilus bifax/Eastern Long-eared Bat	1	0
Nyctophilus spp.	1	0
Chalinolobus morio/Chocolate Wattled Bat	1	0
Macroderma gigas/Ghost Bat	1	0
Microbat; species not identified	33	0
TOTAL	**268**	**5**

**ABLV Bat Stats* is published twice a year. The June issue presents data from the 6 month period of January to June. The December issue presents 12 months of data for the calendar year.

Little forest bat
Photo: © Australian Museum

Goulds long-eared bat
Photo: Jan Tilden via Flickr (CC)

Table 3: ABLV infection (%) in bats submitted for testing (Jan - Jun 2024)

	No. tested	No. infected	% infected[+]
Flying-foxes	201	5	2.5%
Microbats	67	0	0%
TOTAL	**268**	**5**	**1.9%**

[+] This figure represents the percentage of ABLV infection in the bats tested. The level of ABLV infection in the wider bat population is estimated to be significantly lower.

Bat facts

- **ABLV is a virus** that infects Australian flying-foxes and insectivorous bats.
- **ABLV is closely related to**, but distinct from rabies virus.
- **ABLV can infect people and other mammals with a fatal outcome.** ABLV infection has led to the deaths of three people, two horses and many bats in Australia.
- **Community members should not handle bats.** If you find an injured or sick bat, contact a wildlife rehabilitation organisation or your local veterinarian.
- People trained in the care of bats **should be vaccinated and always use appropriate protection** when interacting with bats.
- **ABLV is transmitted** by the saliva of an infected animal introduced via a bite or scratch, or by contamination of mucous membranes or broken skin. In the event of a bat bite, scratch or other significant contact, **seek medical attention URGENTLY**. **Bite or scratch wounds** should immediately be washed thoroughly with soap and copious water for approximately 15 minutes and a virucidal antiseptic such as an iodine based antiseptic applied.* Bat saliva in the eyes or mouth should be rinsed out immediately and thoroughly with water.
- **For more information** contact your local Public Health agency for advice.
- **ABLV can also be transmitted to other mammals.** Prevent pets and other animals from coming into contact with bats. If an animal might have been bitten or scratched by a bat, **seek urgent veterinary advice.**
- ABLV is a nationally notifiable disease in Australia. **If you suspect a bat is infected with ABLV** contact your department of agriculture or primary industries, or call the Emergency Animal Disease Hotline on 1800 675 888.
- **Where to find more information:** See page 5 & 6.

* Department of Health. Rabies Virus and Other Lyssavirus (including Australian Bat Lyssavirus) Exposures and Infections. CDNA National Guidelines for Public Health Units. Canberra. 2022. Available from https://www.health.gov.au/resources/publications/rabies-and-other-lyssavirus-cdna-national-guidelines-for-public-health-units

Clinical signs of ABLV

An ABLV infected bat may display any of these clinical signs:

- Abnormal behaviour such as excitation / agitation / aggression
- Paralysis or paresis
- Unprovoked attacks
- Unusual vocalisation
- Inability to fly
- Convulsions / seizures / tremors

Apparently healthy bats with normal behaviours may still be infected with ABLV

DO NOT ATTEMPT TO HANDLE an injured, unwell or aggressive bat

REPORT it to your local wildlife service, vet or bat rehabilitation group

Ghost bat
Photo: Liz Lawley via Flickr (CC)

Recent news and publications

Effective Bat Imagery: a new bat photography guide

The US White-nose Syndrome Response Team has published an Effective Bat Imagery guide that includes tips, information and examples of how to take and select photos of bats for your communications or outreach. For more information on communicating about bats also see WHA's Public Health Communication Guide.

Field testing Australian bat lyssavirus communication resources

January 2024: "…The purpose of this study was to field test resources aimed at educating the public about risks to humans and bats from human-bat interaction, then update these resources based upon feedback to ensure they were relevant and appropriately targeted to the public…"
Uren & Young (2024). Field testing Australian bat lyssavirus risk communication resources. *Health Promotion Journal of Australia* https://doi.org/10.1002/hpja.837.

Grey-headed flying-fox population is stable - 10 years of monitoring reveals this threatened species is doing well

March 2024: The Conversation "…Our decade-long survey of one of these species – the grey-headed flying fox – brings some encouraging news. Our data show the population has been relatively stable since 2012, when surveys first began under the National Flying-fox Monitoring Program. (Vanderduys et al. 2024)."

NSW Health rabies and other lyssavirus (including ABLV) control guidelines

April 2024: The NSW Health rabies and other lyssavirus (including ABLV) control guidelines for public health units has been updated. The update is to ensure consistency with the CNDA Rabies and Other Lyssavirus Series of National Guidelines, and the Australian Immunisation Handbook. The guidelines also provide NSW-specific operational advice.

Fruit bat dubbed 'Fig' has been found in south-east Tasmania, the furthest south they've ever been spotted

June 2024: ABC Radio [audio, 5mins]: "When Dave MacDonald went to his orchard to see what his dog was barking at, he was shocked to find a fruit bat flying about his apple trees… Matt Clement from Bonorong Wildlife Sanctuary says that Fig isn't the first fruit bat spotted in Tasmania, but he is the furthest south of any reported yet. As fruit bats aren't usually found in Tasmania, talks have begun about how to get Fig back to the mainland…"

Black flying-fox
Photo: Andrew Mercer via Flickr (CC)

Are you interested in bat health?

Grey-headed flying fox
Photo: © Shana Ahmed

Wildlife Health Australia collates recent media articles and publications relating to bat health into a monthly **'Bat News'** email. If you would like to receive the monthly email, please contact WHA: admin@wildlifehealthaustralia.com.au

Where to find information

Wildlife Health Australia (WHA)
www.wildlifehealthaustralia.com.au

- Wildlife disease fact sheets, including *Australian Bat Lyssavirus* and *Zoonoses in Australian Bats*
- Links: WHA Bat Health Page - https://wildlifehealthaustralia.com.au/Resource-Centre/Bat-Health

State/Territory departments of agriculture, health and environment

For links to agency websites see:
State/ Territory Australian Bat Lyssavirus Resources

Commonwealth Department of Health and Aged Care

- For current information for medical professionals, see the Series of National Guidelines on Rabies & ABLV: https://www.health.gov.au/resources/publications/rabies-and-other-lyssavirus-cdna-national-guidelines-for-public-health-units
- For vaccination information contact your local or regional Public Health Unit, or see the immunisation handbook: https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/rabies-and-other-lyssaviruses

AUSVETPLAN

For current policy on surveillance and management see AUSVETPLAN - Lyssaviruses:
https://animalhealthaustralia.com.au//wp-content/uploads/dlm_uploads/2021/05/AUSVETPLAN-ResponseStrategy_Lyssaviruses-1.pdf

ABLV BAT STATS

WHA Bat Health Focus Group

This document has been approved by the Wildlife Health Australia (WHA) Bat Health Focus Group. Using a collaborative One Health approach, the Bat Health Focus Group considers bat health issues in relation to the broader context of biosecurity, public health, livestock health and environmental impacts in Australia. Members come from organisations including Australian and State Government departments of agriculture, public health and environment; CSIRO Australian Centre for Disease Preparedness, universities, the Australasian Bat Society and the Australian Speleological Federation. Members include veterinarians, biologists, ecologists, virologists, epidemiologists and wildlife/bat carers.

Information sources

This report presents the latest information on ABLV testing across Australia. Information has been made available by CSIRO Australian Centre for Disease Preparedness, Janine Barrett PhD thesis 2004 (with permission), QLD Health, zoo & wildlife veterinarians, universities, Wildlife Health Australia members, and State/Territory WHA Coordinators (representatives of Chief Veterinary Officers), and is collated by Wildlife Health Australia. More detailed information is available in the electronic Wildlife Health Information System (eWHIS).

References

[1] Barrett J (2021). Atypical cluster of lyssavirus (ABLV) infections in little red flying foxes in South East Queensland. Animal Health Surveillance Quarterly, 26(1), 7-8 https://www.sciquest.org.nz/browse/publications/article/165925

[2] Young MK & McCall BJ (2010). Potential exposure to Australian bat lyssavirus in South East Queensland: What has changed in 12 years? *Comm Dis Intell,* 34(3), 334-8 www1.health.gov.au/internet/main/publishing.nsf/Content/cda-cdi3403l.htm

[3] Field HE (2005). The Ecology of Hendra virus and Australian bat lyssavirus, PhD thesis, The University of Queensland https://espace.library.uq.edu.au/view/UQ:13859

[4] Barrett J (2004). Australian Bat Lyssavirus, PhD thesis, The University of Queensland https://espace.library.uq.edu.au/view/UQ:9486

[5] McCall B, Field HE, Smith GA, Storie GJ, Harrower BJ (2005). Defining the risk of human exposure to Australian bat lyssavirus through potential non-bat animal infection. *Comm Dis Intell,* 29(2), 200-203 www1.health.gov.au/internet/main/publishing.nsf/

State/Territory WHA Coordinators

Contact your state/territory department of primary industries/agriculture or WHA Coordinator for more information on ABLV testing, or to report a suspected ABLV infected bat.

STATE	CONTACT	PHONE	EMAIL
ACT	Kyeelee Driver	(02) 6207 2357	kyeelee.driver@act.gov.au
NSW	Cecily Moore	0437 405 202	cecily.moore@dpi.nsw.gov.au
NT	Cathy Shilton	(08) 8999 2122	cathy.shilton@nt.gov.au
QLD	Stephanie Grimmett Anita Gordon	(07) 3708 8762	bslwildlife@daf.gov.au
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