

ABLV BAT STATS



Australian Bat Lyssavirus Report - June 2022

Cases of ABLV infection - January to June 2022

There were 8 cases of Australian bat lyssavirus (ABLV) infection reported in bats in Australia between January and June 2022. This includes 6 from Queensland, one from Victoria and one from South Australia (Table 1).

Queensland

Four black flying-foxes (BFF, *Pteropus alecto*), one little red flying-fox (LRFF, *P. scapulatus*) and one yellow-bellied sheathtail bat (*Saccolaimus flaviventris*) were found to be infected with ABLV in the first half of 2022.

Four of the five flying-foxes showed neurological signs. One bat, found hanging low on a clothes airer, deteriorated rapidly and became unable to hang with rigid and weak limbs, hypersalivation, and reduced eyelid movement, and died within hours. Another bat showed aggression, ear twitching and reduced limb movement. Aggression was reported in one bat. Another bat had a protruding tongue and reduced blinking, and died suddenly within a few hours. This bat was submitted with six other bats which all tested negative, as part of the ongoing paralysis event reported in [ABLV Bat Stats June 2021](#). The fifth flying-fox was submitted for testing following contact with a pet dog.

The yellow-bellied sheathtail bat was underweight, could not eat or swallow, and had progressive paralysis of one side of the face. This finding is unusual as ABLV is only rarely detected in microbats. This bat was submitted as part of a surveillance project conducted jointly by the University of Queensland and Queensland Department of Agriculture and Fisheries. *[Continued overleaf]*



Yellow-bellied sheathtail bat
Photo: Hans & Judy Beste, ©Australian Museum

Table 1: ABLV infection in Australian bats[^]

YEAR	NSW	NT	QLD	VIC	WA	SA	Total
1995	0	0	1 [#]	0	0	0	1
1996	1	0	9	1	0	0	11
1997	7	1	27 ⁺	0	0	0	35
1998	1	0	26 ⁺	0	0	0	27
1999	0	0	6	0	0	0	6
2000	1	0	14	0	0	0	15
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 (to Jun)	0	0	6	1	0	1	8
Total	94	5	246	25	19	4	393

[^] 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

One GHFF was found to be infected with ABLV. The bat was in care and was initially aggressive, then became quiet, deteriorated and died. There were two infections in GHFFs in SA in 2021, prior to that there had only been one infection recorded in 2012 (Table 1).

Victoria

One GHFF was found to be infected with ABLV. This was a male with unusual vocalisation.

Human contact

Potentially infectious contact with humans was reported for one of the ABLV infected flying-foxes. Clinical advice was provided by an experienced public health official.



Chocolate wattled bat
Photo: Michael Pennay / iNaturalist (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). 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

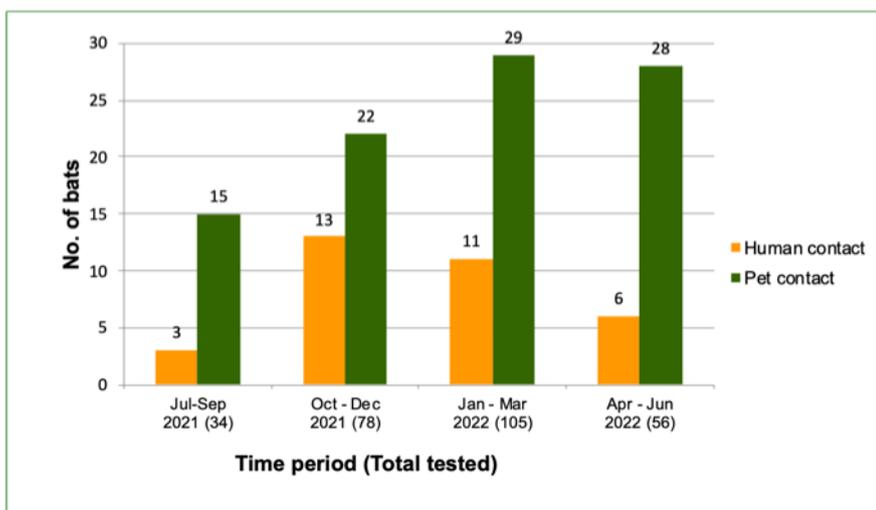


Figure 1 presents reported human-bat contacts which, based on Young & McCall 2010,¹ is an underestimate of the true contact frequency. Not all bat contact is reported, and for the majority of reports the bat is not available for testing.

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%.² ABLV infection is more common in sick, injured and orphaned bats, especially those with neurological signs.³ 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.⁴



Black flying-fox
Photo: Duncan McCaskill / 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 161 bats were tested for ABLV in Australia between January and June 2022 (Table 2), which is relatively low compared to previous years. There were 8 cases of ABLV infection reported in bats (5.2% of the bats submitted for testing) (Table 3). There were 7 cases in flying-foxes (6.5% of flying-foxes tested), and one in a microbat. 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.

The paralysis event that has occurred over the last two summers in northern NSW and southeast Qld appears to be extending further into the colder months this year ([WHA website](#); AHSQ 2021).⁵

Table 2: ABLV testing by bat species (Jan - Jun 2022)

Species	No. tested	No. ABLV infected
Flying-foxes		
<i>Pteropus alecto</i> /Black flying-fox	55	4
<i>Pteropus poliocephalus</i> /Grey-headed flying-fox	49	2
<i>Pteropus scapulatus</i> /Little red flying-fox	7	1
<i>Pteropus conspicillatus</i> /Spectacled flying-fox	1	0
<i>Pteropus</i> spp.	2	0
Insectivorous microbats		
<i>Chalinolobus gouldii</i> /Gould's wattled bat	10	0
<i>Nyctophilus geoffroyi</i> /Lesser long-eared bat	7	0
<i>Nyctophilus gouldi</i> /Gould's Long-eared bat	4	0
<i>Vespadelus vulturnus</i> /Little forest bat	3	0
<i>Molossidae</i> spp.	2	0
<i>Vespertilionidae</i> spp.	2	0
<i>Chalinolobus</i> spp.	1	0
<i>Emballonuridae</i> /Sheathtail bats	1	0
<i>Falsistrellus tasmaniensis</i> /Eastern false pipistrelle	1	0
<i>Miniopterus australis</i> /Little bent-wing bat	1	0
<i>Myotis macropus</i> /Large-footed bat	1	0
<i>Nyctophilus arnhemensis</i> /Arnhem long-eared bat	1	0
<i>Saccolaimus flaviventris</i> /Yellow-bellied sheathtail bat	1	1
<i>Scotorepens orion</i> /Eastern broad-nosed bat	1	0
<i>Scotorepens</i> spp.	1	0
Microbat; species not specified	10	0
TOTAL	161	8



Little red flying-foxes Photo: Mdk572 / wikimedia ([CC](#))

* *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.

Some data from this and previous periods have not yet been reported due to delays with data submission caused by COVID-19 & resourcing.



Lesser long-eared bat Photo: bronmerritt / iNaturalist ([CC](#))

Table 3: ABLV infection (%) in bats submitted for testing (Jan - Jun 2022)

	No. tested	No. infected	% infected ⁺
Flying-foxes	114	7	6.1%
Microbats	47	1	2.1%
TOTAL	161	8	5.0%

⁺ 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 care 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 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 Watch 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 carer group



Grey-headed flying-fox Photo by James Wainscoat on Unsplash

Recent news and publications

What can we learn from over a decade of testing bats in New South Wales to exclude infection with Australian bat lyssaviruses?

O'Connor et al (2022). What can we learn from over a decade of testing bats in New South Wales to exclude infection with Australian bat lyssaviruses? *Australian Veterinary Journal* <https://onlinelibrary.wiley.com/doi/full/10.1111/avj.13143>

Abstract: "Australian Bat lyssaviruses (ABLV) are known to be endemic in bats in New South Wales... The aim of this study was to establish the prevalence of ABLV infection in bats submitted for testing in NSW and to document any trends or changes in submission and bat details. We examined all submissions of samples for ABLV testing received by the NSW Department of Primary Industries Virology Laboratory for the 13-year period between 1 May 2008 and 30 April 2021. Fifty-four (4.9%) ABLV-infected bats were detected, with some clustering of positive results... This review of ABLV cases in NSW will help veterinarians to recognise the clinical presentations of ABLV infection in bats and emphasises the importance of adequate rabies vaccination for veterinarians."

Public Health guidelines updated: Rabies virus and other lyssavirus (including Australian bat lyssavirus) exposures and infections

The CDNA National Guidelines for Public Health Units on rabies virus and other lyssaviruses (including ABLV) have been updated, including revisions to ensure consistency with The Australian Immunisation Handbook, and clarification of bat exposures. The updated guidelines can be downloaded from the Department of Health and Aged Care website: www.health.gov.au/resources/publications/rabies-and-other-lyssavirus-cdna-national-guidelines-for-public-health-units



Spectacled flying-foxes

Photo: David Cunningham / iNaturalist [cropped] (CC)

Are you interested in bat health?



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

Grey-headed flying-fox Photo: TheB@t / Flickr (CC)

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: Useful links to wildlife and animal health organisations and agencies in Australia and overseas

State/Territory departments of agriculture, health and environment

See WHA Resources for links to agency websites:

[Queensland >>](#)

[New South Wales & ACT >>](#)

[Victoria >>](#)

[South Australia, Western Australia & Northern Territory >>](#)

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 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-cdi34031.htm
- ² 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>
- ³ Barrett J (2004). Australian Bat Lyssavirus, PhD thesis, The University of Queensland <https://espace.library.uq.edu.au/view/UQ:9486>
- ⁴ 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/Content/cda-cdi2902k.htm
- ⁵ Cox-Witton K, Gordon A (2021). Paralysis event in flying foxes in Queensland and New South Wales. *Animal Health Surveillance Quarterly*, 26(1), 25-26 www.sciquest.org.nz/browse/publications/article/165929

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
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NT	Cathy Shilton	(08) 8999 2122	cathy.shilton@nt.gov.au
QLD	Anita Gordon	(07) 3708 8762	anita.gordon@daf.qld.gov.au
SA	Allison Crawley	(08) 8429 0866	allison.crawley@sa.gov.au
TAS	Annie Philips	0400 954 295	annie.philips@dpipwe.tas.gov.au
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