

ABLV BAT STATS



Australian Bat Lyssavirus Report - December 2020

Cases of ABLV infection - January to December 2020

Twenty cases of Australian bat lyssavirus (ABLV) infection were reported in bats in Australia between January and December 2020 - 11 from Queensland, 5 from New South Wales and 4 from Victoria (Table 1).

New South Wales

An unspecified flying-fox (*Pteropus* sp.) and 3 grey-headed flying-foxes (*P. poliocephalus*) were found to be infected with ABLV in the first half of the year. See ABLV Bat Stats June 2020 for further details. In October, one grey-headed flying-fox from the far north coast was found to be infected. This bat was found dead at the same time as multiple reports of sick flying-foxes with a range of signs including paralysis from northern NSW and south-east Qld (see [WHA event notification](#)).

Victoria

Four grey-headed flying-foxes from the Melbourne region were found to be infected with ABLV from January to June (see ABLV Bat Stats June 2020). There were no cases in the second half of the year.

Queensland

In the first half of the year, an unspecified flying-fox and a grey-headed flying-fox were found to be infected with ABLV (see ABLV Bat Stats June 2020). In late 2020, seven little red flying-foxes (*P. scapulatus*) from far north and south-east Queensland were found to be infected. [Continued overleaf]



Little red flying-fox Photo by David Clode on Unsplash

Table 1: ABLV infection in Australian bats as confirmed by FAT, PCR, IHC and/or virus isolation[^]

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	11	4	0	0	20
Total	84	4	225	19	19	1	352

Source: see page 6, 'Australian Bat Lyssavirus Report'.

[^] ACT and TAS have not recorded any cases of ABLV infection that satisfy this case definition.

[#] ABLV was first recognised in 1996. A black flying-fox from Townsville, QLD that died in 1995 was subsequently diagnosed with ABLV.

⁺ Higher numbers of ABLV infected bats were associated with peak years of testing in 1997-1998.

One adult female was found at the base of a tree in a park with left-sided weakness. This progressed to affect both sides, the bat was biting at its wrist, became unable to swallow and died the following day. An adult male fell out of a tree after being hosed by a member of the public. It showed unusual vocalisation, followed by aggression, lethargy, inco-ordination, and an inability to hang or retract its tongue. Two further bats showed dullness, depression and lethargy. The other three were part of the ongoing paralysis event (see NSW above).



Chocolate wattled bat Photo: patrickkavanagh / Flickr (CC)

An orphaned spectacled flying-fox (*P. conspicillatus*) pup was lethargic and had conjunctivitis, and later became agitated with hypersalivation. Another orphaned pup from the same area with similar signs was negative for ABLV and found to have mild hydrocephalus (fluid in the brain) and a bacterial infection affecting multiple organs. A black flying-fox (*P. alecto*) was submitted after human contact.

Human contact

Potentially infectious contact with humans was reported for two of the ABLV infected flying-foxes reported. In these cases clinical advice was provided by an experienced public health official.

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

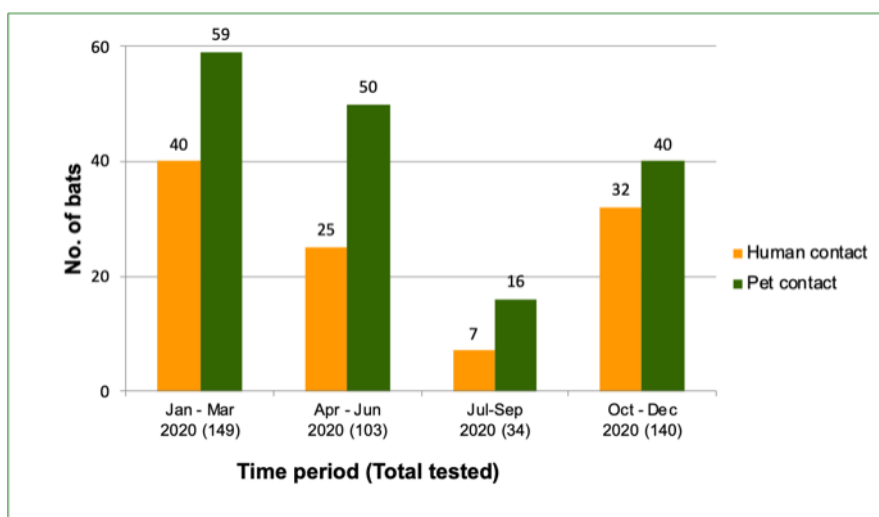


Figure 1 presents reported human-bat contacts which, based on Young & McCall 2010,¹ is an underestimate of the true contact frequency. Not all bat contact is reported, and for the majority of reports the bat is not available for testing. Some of the bats that had human contact also had contact with a pet (not shown in the graph).

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



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.⁵ 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.

Grey-headed flying-foxes
Photo by Rene Riegal on Unsplash

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 430 bats were tested for ABLV in Australia between January and December 2020 (Table 2). Twenty cases of ABLV infection were reported in bats (4.7% of the bats submitted for testing) (Table 3). 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 number of bats submitted for ABLV testing appears to be returning to normal after an unusually high number of submissions in 2019, which was believed to be due to starvation, heat stress and bushfires. Similarly, the proportion of tested bats infected with ABLV has returned to the usual range for 2020, compared to a lower than normal level in 2019.

Table 2: ABLV testing by bat species (Jan - Dec 2020)

Species	No. tested	No. ABLV infected
Flying-foxes, blossom & tube-nosed bats		
<i>Pteropus poliocephalus</i> /Grey-headed flying-fox	157	9
<i>Pteropus alecto</i> /Black flying-fox	122	1
<i>Pteropus scapulatus</i> /Little red flying-fox	50	7
<i>Pteropus conspicillatus</i> /Spectacled flying-fox	2	1
<i>Pteropus</i> sp.	24	2
Insectivorous bats (microbats)		
<i>Chalinolobus gouldii</i> /Gould's wattled bat	14	0
<i>Vespertilionidae</i> sp.	6	0
<i>Nyctophilus geoffroyi</i> /Lesser long-eared bat	5	0
<i>Chalinolobus morio</i> /Chocolate wattled bat	3	0
<i>Molossidae</i> sp.	2	0
<i>Nyctophilus walkeri</i> /Pygmy long-eared bat	2	0
<i>Vespadelus darlingtoni</i> /Large forest bat	2	0
<i>Nyctophilus bifax</i> /Eastern long-eared bat	2	0
<i>Vespadelus regulus</i> /Southern forest bat	2	0
<i>Tadarida australis</i> /White-striped freetail bat	1	0
<i>Rhinolophus megaphyllus</i> /Eastern horseshoe bat	1	0
<i>Chalinolobus</i> sp.	1	0
<i>Nyctophilus</i> sp.	1	0
<i>Vespadelus vulturnus</i> /Little forest bat	1	0
<i>Miniopterus</i> sp.	1	0
<i>Ozimops planiceps</i> /South-eastern free-tailed bat	1	0
Microbat; species not identified	30	0
TOTAL	430	20



Spectacled flying-foxes Photo by [sylvie charron](#) on [Unsplash](#)

* *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.



Eastern horseshoe bat
Photo: Doug Beckers / Flickr ([CC](#))

Table 3: ABLV infection (%) in bats submitted for testing (Jan-Dec 2020)

	No. tested	No. infected	% infected*
Flying-foxes, blossom & tube-nosed bats	355	20	5.6%
Microbats	75	0	0%
TOTAL	430	20	4.7%

* 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. 2014. Available from www.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-abvl-rabies.htm

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: bishib70 / Flickr (CC)

Recent news and publications

ABLV in bats in Queensland

7/10/2020 ABC News: Lyssavirus infection confirmed in Far North Queensland as bat-related injuries rise
<https://www.abc.net.au/news/2020-12-07/lyssavirus-infection-confirmed-as-bat-discovered-with-disease/12958286>

13/12/2020 City of Ipswich: Flying fox confirmed with Australian Bat Lyssavirus in Queens Park, Ipswich
https://www.ipswich.qld.gov.au/about_council/media/media-releases/articles/2020/flying-fox-confirmed-with-australian-bat-lyssavirus-in-queens-park,-ipswich

Identification of focus areas for Australian Bat Lyssavirus potential exposure prevention in the Metro North Hospital and Health Service region

May F et al (2020). Identification of focus areas for Australian Bat Lyssavirus potential exposure prevention in the Metro North Hospital and Health Service region. *Zoonoses and Public Health*
<https://onlinelibrary.wiley.com/doi/abs/10.1111/zph.12755>

Updated: QLD ABLV Information for Veterinarians

Biosecurity Queensland has published a new guide for veterinarians about how to assess and respond to the risk of potential transmission of ABLV, in particular from bats to domestic animals. This includes information on: ABLV, pre-exposure prevention of disease, what to do if a person is bitten or scratched, and post-contact management in animals. Download 'Australian bat lyssavirus - information for veterinarians': <https://www.publications.qld.gov.au/dataset/australian-bat-lyssavirus-information-for-veterinarians>

This complements existing Qld information:

- [Disease overview of Australian bat lyssavirus](#)
- [Australian bat lyssavirus and your general biosecurity obligation](#)

Immunisation Handbook changes – use of rabies vaccine

The Immunisation Handbook chapter on 'Rabies and other lyssaviruses' is under revision. The public consultation period closed on 18 November, however the proposed changes can still be viewed on the [Department of Health](#) website. The current Immunisation Handbook chapter is here:

<https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/rabies-and-other-lyssaviruses>

NSW Wildlife Heroes Vaccination Fund Grant Recipients Announced

24/09/2020 FNPW: "Two not-for-profit wildlife veterinary hospitals and 7 wildlife rescue groups have received a total of \$56,400 of funding through the NSW Wildlife Heroes Vaccination Fund Grant program. The grants of between \$3,000 and \$9,000 will pay for rabies vaccinations, valued at \$100 each, a requirement for anyone working with bats and at risk of exposure to Australian Bat Lyssavirus (ABLV). The fund was set up to increase the number of people who can rescue and care for Australian bats and improve outcomes for threatened species such as flying foxes... This project has been assisted by the New South Wales Government through its Environmental Trust."

<https://www.fnpw.org.au/news-and-events/nsw-wildlife-heroes-vaccination-fund-grant-recipients-announced>

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*
- **Resources**: News and information on specific diseases and hosts
- **Links**: Useful links to wildlife and animal health organisations and agencies in Australia and overseas

State/Territory departments of agriculture, health and environment

Visit the agency websites, or see WHA Resources for a summary of available information & links:

[Queensland >>](#)

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

[Victoria >>](#)

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

Commonwealth Department of Health

- For current Department of Health information for medical professionals, see the Series of National Guidelines on Rabies & ABLV:
www.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-abvl-rabies.htm
- For **vaccination** information contact your local or regional Public Health Unit, or see the immunisation handbook: <https://immunisationhandbook.health.gov.au>

AUSVETPLAN

For current policy on surveillance and management consult AUSVETPLAN: <https://www.animalhealthaustralia.com.au/our-publications/ausvetplan-manuals-and-documents/>

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 Animal Health Laboratory, universities, the Australasian Bat Society and the Australian Speleological Federation. Members include veterinarians, biologists, ecologists, virologists, epidemiologists and wildlife/bat carers.

For further information please contact WHA on admin@wildlifehealthaustralia.com.au

Australian Bat Lyssavirus Report

This report presents the latest information on Australian bat lyssavirus (ABLV) testing across Australia. Information has been made available by CSIRO Australian Animal Health Laboratory, 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):

www.wildlifehealthaustralia.com.au

References

- ¹ Young MK & McCall BJ (2010). Potential exposure to Australian bat lyssavirus in South East Queensland: What has changed in 12 years? *Communicable Diseases Intelligence*, 34(3), 334-8
- ² Field HE (2005). "The Ecology of Hendra virus and Australian bat lyssavirus", PhD thesis, The University of Queensland
- ³ Barrett J (2004). "Australian Bat Lyssavirus", PhD thesis, The University of Queensland
- 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. *Communicable Diseases Intelligence*, 29(2), 200-203
- ⁵ Animal Health Australia (2009). Disease strategy: Australian bat lyssavirus (Version 3.0). Australian Veterinary Emergency Plan (AUSVETPLAN), Edition 3, Primary Industries Ministerial Council, Canberra, ACT

State/Territory WHA Coordinators

If you would like information on ABLV testing or wish to report a suspected ABLV infected bat please contact your State/Territory Department of Primary Industries/Agriculture or local WHA Coordinator (below).

STATE	CONTACT	PHONE	EMAIL
ACT	Wendy Townsend	(02) 6205 3737	wendy.townsend@act.gov.au
NSW	Claire Harrison	(02) 6391 3490	claire.harrison@dpi.nsw.gov.au
NT	Cathy Shilton	(08) 8999 2122	cathy.shilton@nt.gov.au
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