

# ABLV BAT STATS



## Australian Bat Lyssavirus Report - June 2018

### Cases of ABLV infection - January to June 2018

Five cases of Australian bat lyssavirus (ABLV) infection were reported in bats in Australia between January and June 2018, from Queensland, New South Wales and Victoria (Table 1).

#### Queensland

Three black flying-foxes (*Pteropus alecto*) from South East Queensland were found to be infected with ABLV in the first half of 2018. Two of these flying-foxes had similar presentations. They were each found hanging low, behaved aggressively and died overnight. Necropsy in one case found no significant gross findings, and some gliosis and Negri-like bodies were detected histologically. In the other case, there was a small subdural haemorrhage posterior to the right orbit but no significant findings on histology in a range of tissues including the brain. The third flying-fox presented with aggression.

#### New South Wales

A little red flying-fox (*P. scapulatus*) from north-eastern NSW was found on the ground although it was able to climb. It was partially paralysed in the left leg and had a change in vocalisation described as a 'chirping' noise.

(Continued overleaf)



Little red flying-foxes Photo: Paislie Hadley / Flickr (CC)

**Table 1: ABLV infection in Australian bats as confirmed by FAT, PCR, IHC and/or virus isolation<sup>^</sup>**

YEAR	NSW	NT	QLD	VIC	WA	SA	Total
1995	0	0	1 <sup>#</sup>	0	0	0	1
1996	1	0	9	1	0	0	11
1997	7	1	27 <sup>+</sup>	0	0	0	35
1998	1	0	26 <sup>+</sup>	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	6	0	3	2	0	0	11
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 <sup>a</sup>	0	0	0	10
2010	0	0	8	0	1	0	9
2011	0	0	4 <sup>a</sup>	2	0	0	6
2012	1	0	3	0	0	1	5
2013	3 <sup>a</sup>	0	11 <sup>a</sup>	0	0	0	14
2014	5	1	14 <sup>a</sup>	1	11 <sup>a</sup>	0	32 <sup>a</sup>
2015	10	1	11 <sup>a</sup>	0	0	0	22
2016	5	1	8 <sup>a</sup>	1	0	0	15 <sup>a</sup>
2017	4 <sup>a</sup>	0	19 <sup>a</sup>	3	2	0	28 <sup>a</sup>
2018 (to June)	1	0	3 <sup>a</sup>	1	0	0	5 <sup>a</sup>
<b>Total</b>	<b>70<sup>a</sup></b>	<b>4</b>	<b>211<sup>a</sup></b>	<b>15</b>	<b>19</b>	<b>1</b>	<b>320<sup>a</sup></b>

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

<sup>^</sup> ACT and TAS have not recorded any cases of ABLV infection that satisfy this case definition.

<sup>#</sup> ABLV was first recognised in 1996. A black flying-fox from Townsville, QLD that died in 1995 was subsequently diagnosed with ABLV.

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

<sup>a</sup> For some bats, one equivocal and one negative result (FAT/PCR) was recorded. These bats are not included in these figures as they were not confirmed to be ABLV infected.

## Victoria

A female grey-headed flying-fox (*P. poliocephalus*) was found on the ground and was diagnosed with a fractured wing.

## Human contact

Potentially infectious contact with humans was reported for four of the five ABLV infected flying-foxes reported above. In each case clinical advice was provided by an experienced public health official.



Black flying-fox Photo: Duncan McCaskill / 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). 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

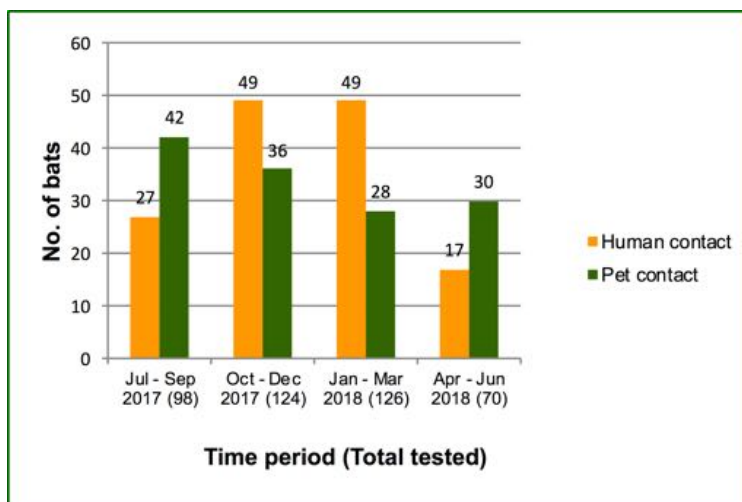


Figure 1 presents reported human-bat contacts which, based on Young & McCall 2010,<sup>1</sup> is an underestimate of the true contact frequency. Not all bat contact is reported, and for the majority of reports the bat is not available for testing. Some of the bats that had human contact also had contact 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 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%.<sup>2</sup> ABLV infection is more common in sick, injured and orphaned bats, especially those with neurological signs.<sup>3</sup> 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.<sup>4</sup>



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.<sup>5</sup> 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.

Southern bent-wing bat  
Photo: Steve Bourne (CC)

# 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 196 bats were tested for ABLV in Australia between January and June 2018 (Table 2). This includes 19 insectivorous bats submitted by bat carers as part of an ongoing surveillance project conducted by the Queensland Department of Agriculture and Fisheries. Five cases of ABLV infection were reported in bats (2.6% 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.

**Table 2: ABLV testing by bat species (Jan - Jun 2018)**

Species	No. tested	No. ABLV infected
<b>Flying-foxes</b>		
<i>Pteropus poliocephalus</i> /Grey-headed flying-fox	54	1
<i>Pteropus alecto</i> /Black flying-fox	43	3
<i>Pteropus scapulatus</i> /Little red flying-fox	3	1
<i>Pteropus</i> sp.	35	
<b>Insectivorous bats (microbats)</b>		
<i>Scotorepens greyii</i> /Little broad-nosed bat	5	0
<i>Vespertilionidae</i> sp.	5	0
<i>Chalinolobus morio</i> /Chocolate wattled bat	4	0
<i>Nyctophilus geoffroyi</i> /Lesser Long-eared bat	4	0
<i>Scotorepens</i> sp.	4	0
<i>Chalinolobus gouldii</i> /Gould's wattled bat	3	0
<i>Miniopterus australis</i> /Little bent-wing bat	2	0
<i>Ozimops ridei</i> /Ride's free-tailed bat	2	0
<i>Nyctophilus gouldi</i> /Gould's long-eared bat	2	0
<i>Rhinolophus megaphyllus</i> /Eastern horseshoe bat	2	0
<i>Rhinonictis aurantia</i> /Orange leaf-nosed bat	2	0
<i>Scotorepens orion</i> /South-eastern broad-nosed bat	2	0
<i>Chalinolobus</i> sp.	1	0
<i>Macroderma gigas</i> /Ghost bat	1	0
<i>Nyctophilus bifax</i> /Eastern long-eared bat	1	0
<i>Austronomus australis</i> /White-striped freetail bat	1	0
Microbat; species not identified	18	0
<b>Bat - unidentified</b>	2	0
<b>TOTAL</b>	<b>196</b>	<b>5</b>



Lesser long-eared bat Photo: D Whitford © Australian Museum



Northern blossom bat  
Photo: R & A Williams © Australian Museum

**Table 3: ABLV infection (%) in bats submitted for testing (Jan - Jun 2018)**

	No. tested	No. infected*	% infected*
Flying-foxes	135	5	3.7%
Microbats	59	0	0%
Bats - unidentified	2	0	0%
<b>TOTAL</b>	<b>196</b>	<b>5</b>	<b>2.6%</b>

\* 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.

+ In one bat there was one equivocal and one negative result (FAT/PCR). This bat is not included in these figures as it was not confirmed to be ABLV infected.

## 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 5 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.**
- ✿ **If you suspect a bat is infected** with ABLV contact your biosecurity authority (department of agriculture or primary industries) for advice about testing.
- ✿ **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](http://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**



Gould's long-eared bat Photo: Catching the Eye / Flickr (CC)

## Recent news and publications

### Heat stress events in flying-foxes - Summer 2018

In January there were reports of a number of heat stress events causing mortality in flying-fox camps across NSW and into Victoria and South Australia. As well as the impact on flying-foxes, events such as this can result in increased contact between flying-foxes and people, and an increase in ABLV testing. Media articles included the following:

9/01/2018 The Sunday Times: **Flying foxes drop dead in NSW heatwave**

<https://www.perthnow.com.au/news/disaster-and-emergency/flying-foxes-drop-dead-in-nsw-heatwave-ng-s-1817617>

19/01/2018 Western Advocate: **WIRES issues heatwave alert for Bathurst**

<http://www.westernadvocate.com.au/story/5177351/heatwave-high-alert-for-the-machattie-park-flying-foxes-video/>

17/01/2018 Bendigo Advertiser: **Hot temperatures see council and DELWP workers caring for bats**

<http://www.bendigoadvertiser.com.au/story/5174761/hot-temperatures-see-council-and-delwp-workers-caring-for-bats/>

For alerts, sign up to the [Flying-fox Heat Stress Forecaster](#). A report form for flying-fox heat stress events is available from the Lab of Animal Ecology, Western Sydney University: [flying-fox heat-stress data form](#).

### Health warning on handling bats

10/05/2018 Health Victoria

<https://www2.health.vic.gov.au/about/media-centre/mediareleases/health-warning-on-handling-bats>

### Why we shouldn't be so quick to demonise bats

22/12/2017 The Conversation, by Justin Welbergen (ABS, UWS) & Kyle Armstrong (ABS, SA Museum, UA):

<https://theconversation.com/why-we-shouldnt-be-so-quick-to-demonise-bats-87693>

### Workplace Health and Safety Queensland - ABLV resources

The following resources are available on the **Workplace Health and Safety Queensland** website:

- Fact Sheet: [Australian Bat Lyssavirus & Handling Bats](#)
- Video: [Safe Bat Handling](#)

This **Queensland Health** fact sheet can be provided to members of the public: "What to do if you find a sick or injured bat".

For more links to **ABLV information** from government agencies around Australia, go to WHA 'Resources' or click on your state/territory: [Queensland](#), [SA/WA/NT](#), [Victoria](#), [NSW/ACT](#).

### Evidence of Australian bat lyssavirus infection in diverse Australian bat taxa

Field HE (2018). *Zoonoses and Public Health*, doi: 10.1111/zph.12480 <https://onlinelibrary.wiley.com/doi/full/10.1111/zph.12480>

### Australian bat lyssavirus

Merritt T et al (2018). *Australian Journal for General Practice*, 47(3), 93-96 [Open access] <https://www.racgp.org.au/AJGP/2018/March/Australian-bat-lyssavirus>

### Survey of rabies vaccination status of Queensland veterinarians and veterinary students

Mendez D et al (2018). *Australian Veterinary Journal*, 96(5), 155-160 <https://onlinelibrary.wiley.com/doi/abs/10.1111/avj.12692>

## 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](mailto: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](http://www.wildlifehealthaustralia.com.au)

- **Wildlife disease fact sheets**, including ABLV and Zoonoses (*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 regarding ABLV, see the Series of National Guidelines on Rabies & ABLV: [www.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-abvl-rabies.htm](http://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: <http://www.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>

### 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](mailto: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, Wildlife Health Australia subscribers, zoo & wildlife veterinarians, 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](http://www.wildlifehealthaustralia.com.au)

### References

- <sup>1</sup> 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
- <sup>2</sup> Field HE (2005). "The Ecology of Hendra virus and Australian bat lyssavirus", PhD thesis, The University of Queensland
- <sup>3</sup> Barrett J (2004). "Australian Bat Lyssavirus", PhD thesis, The University of Queensland
- <sup>4</sup> 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
- <sup>5</sup> 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	<a href="mailto:wendy.townsend@act.gov.au">wendy.townsend@act.gov.au</a>
NSW	Claire Harrison	(02) 6391 3490	<a href="mailto:claire.harrison@dpi.nsw.gov.au">claire.harrison@dpi.nsw.gov.au</a>
NT	Cathy Shilton	(08) 8999 2122	<a href="mailto:cathy.shilton@nt.gov.au">cathy.shilton@nt.gov.au</a>
QLD	Anita Gordon	(07) 3708 8756	<a href="mailto:anita.gordon@daf.qld.gov.au">anita.gordon@daf.qld.gov.au</a>
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