

ABLV BAT STATS



Australian Bat Lyssavirus Report - June 2016

Cases of ABLV infection - January to June 2016

Nine cases of Australian bat lyssavirus (ABLV) infection were reported in bats in Australia between January and June 2016, from Queensland, New South Wales and Victoria (Table 1).

Queensland

Two black flying-foxes (*Pteropus alecto*), two little red flying-foxes (*P. scapulatus*) and one spectacled flying-fox (*P. conspicillatus*) from Queensland were found to be infected with ABLV to June 2016. In three bats, behaviour changes and neurological signs were reported such as hanging low in a tree, agitation, being subdued and easy to handle, twitching, nystagmus, paresis and inability to hang. Increased respiratory rate and effort were additionally reported in one bat. One bat was submitted because a person was bitten when picking the bat up, and the other due to contact with a pet dog.

Histopathological findings included mild to severe non-suppurative meningoencephalitis, ganglioneuritis, subacute aspiration pneumonia and mild sialoadenitis. In one bat the urinary bladder was markedly distended with urine and the bladder wall was haemorrhagic. There was also mild subcutaneous bruising over the lumbar spine.

New South Wales

Three flying-foxes from NSW were found to be infected with ABLV. An infant grey-headed flying-fox (*P. poliocephalus*) was rescued from a region where other ABLV positive bats had been recovered (see Bat Stats December 2015). It showed a change in behaviour, becoming dominant and then progressing to agitation, constant vocalisation and attempting to bite. A little red flying-fox presented with seizures and weakness. An unidentified flying-fox (*Pteropus* sp.) was submitted because a member of the public was scratched; there were no clinical signs consistent with ABLV infection in this case.



Grey-headed flying-fox Photo: Andrew Mercer / Flickr (CC)

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

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	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 ^a	0	0	0	10
2010	0	0	8	0	1	0	9
2011	0	0	4 ^a	2	0	0	6
2012	1	0	3	0	0	1	5
2013	3 ^a	0	11 ^a	0	0	0	14
2014	5	1	14 ^a	1	11 ^a	0	32 ^a
2015	10	1	11 ^a	0	0	0	22
2016	3	0	5	1	0	0	9
Total	63^a	3	186^a	11	17	1	281^a

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

^A 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.

^a 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

One adult male grey-headed flying-fox from Victoria, which was found under a car, had Xrays and received fluids at a veterinary hospital but did not recover as expected. Head trauma was suspected and it was euthanased. It was found to be infected with ABLV.

Human contact

Potentially infectious contact with humans was reported for two ABLV infected flying-foxes. In each case appropriate counselling and information were provided by an experienced public health official.



Little forest bat Photo: D Whitford © Australian Museum

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

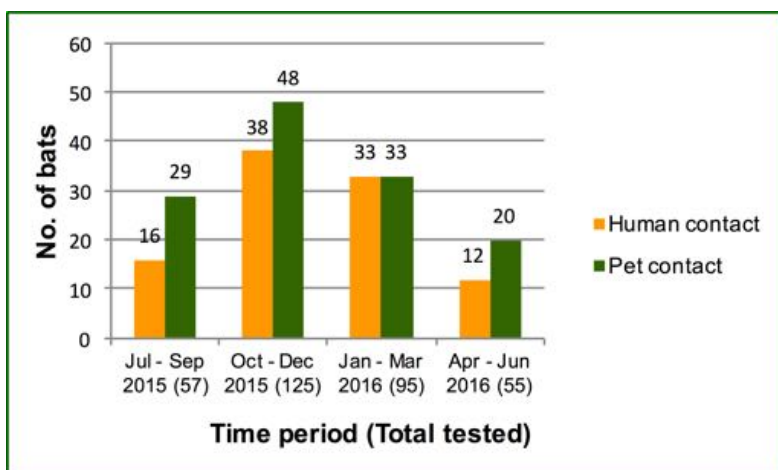


Figure 1 presents reported human-bat contacts which, based on Young & McCall 2010,¹ is an underestimate of the true contact frequency. Not all bat contact is reported, and for the majority of reports the bat is not available for testing. Some of the bats that had human contact also had contact with a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

ABLV prevalence in bats and public health significance

There are no recent surveys on the prevalence of ABLV 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



Grey-headed flying-foxes Photo: Paislie Hadley / 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.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, and the vaccination status of the person.

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 150 bats were tested for ABLV in Australia between January and June 2016 (Table 2). Nine cases of ABLV infection were reported in bats (6.0% 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 2016)

Species	No. tested	No. ABLV infected
Flying-foxes & blossom bats		
Black flying-fox (<i>Pteropus alecto</i>)	44	2
Grey-headed flying-fox (<i>Pteropus poliocephalus</i>)	29	2
Little red flying-fox (<i>Pteropus scapulatus</i>)	18	3
Flying-fox (<i>Pteropus</i> sp.); species not identified	10	1
Spectacled flying-fox (<i>Pteropus conspicillatus</i>)	1	1
Eastern tube-nosed bat (<i>Nyctimene robinsoni</i>)	1	0
Blossom bat (<i>Syconycteris australis</i>)	1	0
Insectivorous bats (microbats)		
Lesser long-eared bat (<i>Nyctophilus geoffroyi</i>)	6	0
Little forest bat (<i>Vespadelus vulturnus</i>)	5	0
Gould's long-eared bat (<i>Nyctophilus gouldi</i>)	2	0
Large forest bat (<i>Vespadelus darlingtoni</i>)	2	0
Chocolate wattled bat (<i>Chalinolobus morio</i>)	2	0
<i>Scotorepens</i> sp.	2	0
Ghost bat (<i>Macroderma gigas</i>)	1	0
<i>Mormopterus</i> sp.	1	0
Arnhem long-eared bat (<i>Nyctophilus arnhemensis</i>)	1	0
Gould's wattled bat (<i>Chalinolobus gouldii</i>)	1	0
Eastern long-eared bat (<i>Nyctophilus bifax</i>)	1	0
Microbat; species not identified	19	0
Bat - unidentified	3	0
TOTAL	150	9



Arnhem Land long-eared bat
Photo: GB Baker/Nature Focus © Australian Museum

Table 3: ABLV infection (%) in bats submitted for testing (Jan - Jun 2016)



Grey-headed flying foxes
Photo: Leonora Enking / Flickr ([CC](#), [cropped](#))

	No. tested	No. infected	% infected*
Flying-foxes & blossom bats	104	9	8.7%
Microbats	43	0	0%
Bats - unidentified	3	0	0%
TOTAL	150	9	6.0%

* 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 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

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



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

Recent news and publications

Disease risk perception and safety practices: a survey of Australian flying fox rehabilitators

Sanchez CA and Baker ML (2016) PLoS Negl Trop Dis, 10(2); e0004411 <http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0004411> [Open access]

Abstract: "Interactions with flying foxes pose disease transmission risks to volunteer rehabilitators (carers) who treat injured, ill, and orphaned bats. In particular, Australian bat lyssavirus (ABLV) can be transmitted directly from flying foxes to humans in Australia. Personal protective equipment (PPE) and rabies vaccination can be used to protect against lyssavirus infection. During May and June 2014, active Australian flying fox carers participated in an online survey (SOAR: Survey Of Australian flying fox Rehabilitators) designed to gather demographic data, assess perceptions of disease risk, and explore safety practices.... Carers provide an important community service by rescuing and rehabilitating flying foxes. While rehabilitators in this study have many excellent safety practices, including a 100% vaccination rate against rabies, there is room for improvement in PPE use. We recommend 1) the establishment of an Australia-wide set of guidelines for safety when caring for bats and 2) that the responsible government agencies in Australia support carers who rescue potentially ABLV-infected bats by offering compensation for PPE."

Related media: 2/02/2016 University of Georgia: Helping the helpers: Improving safety for volunteer wildlife rehabilitators <http://news.uga.edu/releases/article/safety-volunteer-wildlife-rehabilitators-0216/>

South Australian health authorities issue bat signal as weather warms

11/03/2016 The Advertiser
<http://www.adelaidenow.com.au/news/south-australia/south-australian-health-authorities-issue-bat-signal-as-weather-warms/news-story/d594770d901362270149dbc76e02b287>

"Adelaide's weird weather this week has caused frizzy hair and hay fever and now health authorities are warning the public to beware of bats. With warm weather forecast this weekend, SA Health has urged people to keep away and not touch bats that live near Adelaide Botanic Park because they could be subjected to a number of diseases, including Australian bat lyssavirus....."

ABLV media release

21/04/2016 Sunshine Coast Hospital and Health Service
https://www.facebook.com/permalink.php?story_fbid=1034271489981801&id=329931313749159

"A total of 17 people have been bitten or scratched by a bat on the Sunshine Coast since the start of the year. The figures come after Queensland Health issued a warning a sick bat found in the Lion's Park at Tewantin on April 16 had tested positive for the deadly lyssavirus...."

Related article: 29/04/2016 Sunshine Coast Daily: Lyssavirus warning as flying fox dispersal begins
<http://www.sunshinecoastdaily.com.au/news/17-people-bitten-by-bats-since-start-of-the-year/3011282/>

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 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
- 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

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

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
QLD	Anita Gordon	(07) 3276 6056	anita.gordon@daf.qld.gov.au
SA	Celia Dickason	(08) 8389 8840	celia.dickason@sa.gov.au
TAS	Judy Clarke	(03) 6165 4301	judy.clarke@dpiwve.tas.gov.au
VIC	Mark Hawes	(03) 9032 7275	mark.hawes@ecodev.vic.gov.au
WA	Emily Glass	(08) 9368 3360	emily.glass@agric.wa.gov.au



Wildlife Health Australia

Suite E, 34 Suakin Drive, Mosman NSW 2088
Phone: (02) 9960 6333 Fax: (02) 9960 3386
email: admin@wildlifehealthaustralia.com.au
www.wildlifehealthaustralia.com.au