

ABLV BAT STATS



Australian Bat Lyssavirus Report - June 2013

Positive ABLV Cases - January to June 2013

There have been five positive cases of Australian Bat Lyssavirus (ABLV) reported in bats in Australia between January and June 2013, all from Queensland (Table 1).

Queensland bats

Four black flying foxes (*Pteropus alecto*) and a little red flying fox (*Pteropus scapulatus*) from south-east Queensland tested positive for ABLV. Four of the five bats presented with neurological signs such as paralysis and seizures; one also had trauma from a barbed wire fence. The fifth bat showed respiratory distress and dull mentation. None of these bats were submitted because of contact with humans, however the positive results were reported to Queensland Health for follow-up.

Human case of ABLV infection

Tragically, a young Queensland boy died of ABLV infection in February after contact with a bat. The bat was not available for testing. For information on ABLV and human health see later in this publication or go to www.health.qld.gov.au.

ABLV infection in two horses

Bats are the natural host for ABLV. The first detection of ABLV in a species other than bats and humans occurred in two horses in south-east Queensland in May 2013. Testing confirmed that the horses were infected with the variant of ABLV that has been found in the yellow-bellied sheath-tail bat (*Saccolaimus flaviventris*). No bat was available for testing. For more information about ABLV go to the Queensland Department of Agriculture, Fisheries and Forestry website: www.daff.qld.gov.au/animal-industries/animal-health-and-diseases/a-z-list/australian-bat-lyssavirus.

These cases are a reminder that domestic animals such as horses, dogs and cats may be exposed to ABLV through contact with bats. Where possible contact of animals with bats should be avoided. If contact occurs, owners should contact the government animal health authority or their local veterinarian. Where possible, the bat should be submitted for testing.



Photo: Terry Reardon

Table 1: ABLV cases 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	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	0	0	5 ^a	0	0	0	5
Total	42	1	150^a	9	6	1	209^a

Source: see page 4, 'Australian Bat Lyssavirus Report'.

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

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

^{*} Higher numbers of positive results were associated with peak years of testing in 1997-1998.

^a Two cases in 2009, one case in 2011 and three cases in 2013 had an equivocal FAT and negative PCR result. These cases are not included in the number positive or the totals as they were not confirmed to be ABLV positive.



Photo: James Cox



Photo: Wikipedia, © Mdk572

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 and pets 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, 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 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.

Table 2: ABLV testing by bat species (January to June 2013)

Species	No. tested	No. ABLV positive
Flying foxes & blossom bats		
Black flying fox (<i>Pteropus alecto</i>)	98	4
Grey-headed flying fox (<i>Pteropus poliocephalus</i>)	41	0
Little red flying fox (<i>Pteropus scapulatus</i>)	12	1
Flying fox (<i>Pteropus</i> sp.); species not identified	13	0
Blossom bat (<i>Syconycteris australis</i>)	1	0
Insectivorous bats (microbats)		
Lesser long-eared bat (<i>Nyctophilus geoffroyi</i>)	9	0
Gould's wattled bat (<i>Chalinolobus gouldii</i>)	5	0
Chocolate wattled bat (<i>Chalinolobus morio</i>)	3	0
Little bent-wing bat (<i>Miniopterus australis</i>)	2	0
Beccari's freetail bat (<i>Mormopterus beccarii</i>)	2	0
South-eastern broad-nosed bat (<i>Scotorepens orion</i>)	2	0
<i>Vespertilionidae</i>	2	0
Northern freetail bat (<i>Chaerephon jobensis</i>)	1	0
Common bent-wing bat (<i>Miniopterus schreibersii</i>)	1	0
<i>Mormopterus</i> sp.	1	0
<i>Nyctophilus</i> sp.	1	0
Yellow-bellied sheath-tail bat (<i>Saccolaimus flaviventris</i>)	1	0
White-striped free-tailed bat (<i>Tadarida australis</i>)	1	0
Microbat; species not identified	13	0
TOTAL	209	5

A total of 209 bats were tested for ABLV in Australia between January and June 2013 (Table 2). The number of bats submitted for testing was higher than usual. This may have been due to an increased awareness of ABLV and potential human health risks following the announcement in early February of infection of a Queensland boy with ABLV. There were also submissions associated with a number of heat-stress events in flying foxes in NSW and SA early in the year.

Five bats tested positive for ABLV (2.4% 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 overestimate the level of ABLV infection in the wider bat population.

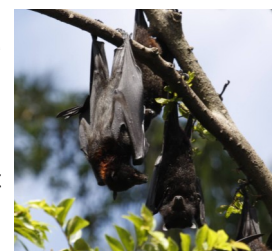


Photo: Lee K Curtis
www.ataglance.com.au

Table 3: Percentage ABLV positive in bats submitted for testing (January to June 2013)

	No. tested	No. positive*	% positive*
Flying foxes & blossom bats	165	5	3.0%
Microbats	44	0	0%
TOTAL	209	5	2.4%

* Percentage of bats tested that were ABLV positive. The level of ABLV infection in the wider bat population is estimated to be significantly lower.

+ Three cases had an equivocal FAT and negative PCR result. These cases are not included in the number or percentage positive as they were not confirmed to be ABLV positive.

Why are bats submitted for testing?

Bats are submitted for ABLV testing for a variety of reasons. The most 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

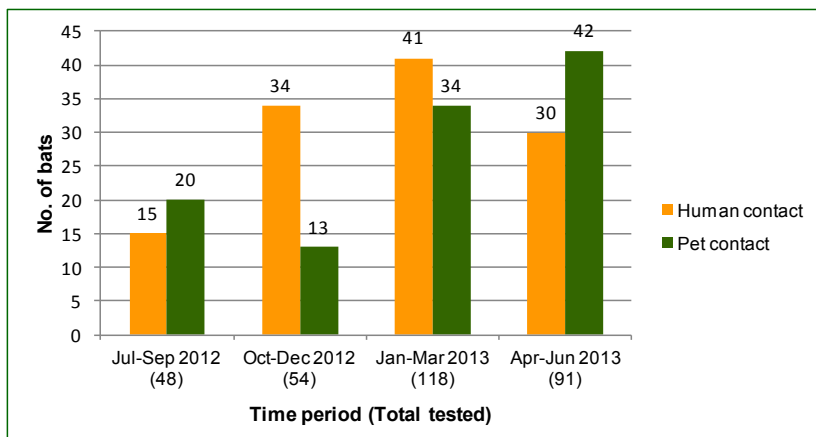


Figure 1 represents a subset of human contact cases. In the majority of cases where there is human contact, the bat is not available for testing, and not all cases are reported. Some of the cases reported in the graph as 'human contact' may also have had contact with a pet.



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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 causes a fatal disease in people and to date has been responsible for the deaths of three people in Australia.
- * People should not handle bats unless they are appropriately vaccinated.
- * ABLV is transmitted to humans through biting and scratching, and potentially also through contact with saliva. In the event of a bat bite, scratch or other significant contact, seek medical attention URGENTLY.
- * If you suspect a bat is infected with ABLV contact your biosecurity authority (department of agriculture or primary industries) for advice about testing.
- * Penetrating 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 Unit for advice.

[†] As per current World Health Organisation (WHO) guidelines

Clinical signs

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

DO NOT ATTEMPT TO HANDLE AN INJURED, UNWELL OR AGGRESSIVE BAT — REPORT IT TO YOUR LOCAL WILDLIFE SERVICE, VET OR BAT CARER GROUP

Useful links

For current policy on surveillance and management consult AUSVETPLAN:

<http://www.animalhealthaustralia.com.au/wp-content/uploads/2011/04/ABL-07EDIT20Jan10.pdf>

For current Department of Health and Ageing information regarding ABLV:

<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>

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AWHN Bat Health Focus Group

This document has been approved by the 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 the AWHN on awhn@zoo.nsw.gov.au or (02) 9932 4368.

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, Australian Wildlife Health Network subscribers, zoo veterinarians, and State/Territory wildlife coordinators (representatives of Chief Veterinary Officers), and is collated by the Australian Wildlife Health Network. More detailed information is available in the electronic Wildlife Health Information System (eWHIS): www.wildlifehealth.org.au.

References

- http://www.environment.sa.gov.au/Plants_Animals/Living_with_wildlife/Grey-headed_flying_foxes
- Field HE (2005). "The Ecology of Hendra virus and Australian bat lyssavirus", PhD thesis, The University of Queensland
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- 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

Wildlife Coordinators

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

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