ABLV BAT STATS

Australian Bat Lyssavirus Report - December 2012

Positive ABLV Cases - July to December 2012

There have been four positive cases of Australian Bat Lyssavirus (ABLV) reported in bats in Australia between July and December 2012, which brings the total for 2012 to five cases (Table 1).

South Australia

A grey-headed flying fox (*Pteropus poliocephalus*) found dead in Adelaide tested positive for ABLV in September 2012. There was no potentially infectious human or animal contact in this case. This is the first time that ABLV has been identified in South Australia. Until recently, grey-headed flying foxes were only occasional visitors to South Australia, but they have now established a camp in Adelaide. This change is possibly due to loss of habitat and reduced food resources in the eastern states, and the impact of climate change.[1]

New South Wales

A grey-headed flying fox (*Pteropus poliocephalus*) from the Northern Rivers region of New South Wales presented with possible neurological signs (unable to use its legs and feet). This bat was submitted due to potentially infectious human contact, and appropriate counselling and information were provided by an experienced public health official.

Queensland

A black flying fox (*Pteropus alecto)* and a little red flying fox (*Pteropus scapulatus*) from South East Queensland tested positive for ABLV. The black flying fox was reported to be unwell. This bat was submitted due to potentially infectious human contact, and appropriate counselling and information were provided by an experienced public health official. The little red flying fox showed neurological signs including paralysis. There was no potentially infectious human or animal contact in this case.

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
Total	42	1	145[a]	9	6	1	204[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 and one case in 2011 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.

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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] Surveys indicate that a significantly higher proportion of sick, injured and orphaned bats are infected with ABLV (up to 5-10%).[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.

Photo: James Cox

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 December 2012)

Species	No. tested	No. ABLV positive
Flying foxes & blossom bats		
Black flying fox (*Pteropus alecto)*	69	2
Grey-headed flying fox (*Pteropus poliocephalus)*	35	2
Little red flying fox (*Pteropus scapulatus)*	7	1
Spectacled flying fox (*Pteropus conspicillatus)*	2	0
Flying fox *(Pteropus sp.);* species not identified	9	0
Blossom bat (*Syconycteris australis)*	1	0
Insectivorous bats (microbats)		
Lesser long-eared bat (*Nyctophilus geoffroyi)*	6	0
White-striped free-tailed bat (*Tadarida australis)*	4	0
Beccari's freetail bat (*Mormopterus beccarii)*	4	0
Little forest bat (*Vespadelus vulturnus)*	4	0
Gould's wattled bat (*Chalinolobus gouldii)*	3	0
Forest bat (*Vespadelus sp.)*	3	0
Chocolate wattled bat *(Chalinolobus morio)*	2	0
South-eastern broad-nosed bat (*Scotorepens orion)*	2	0
East-coast free-tailed bat *(Mormopterus norfolkensis)*	1	0
Eastern freetail bat (*Mormopterus ridei)*	1	0
Little bent-wing bat (*Miniopterus australis)*	1	0
Nyctophilus sp.	1	0
Yellow-bellied sheathtail bat (*Saccolaimus flaviventris)*	1	0
Microbat; species not identified	17	0
TOTAL	**173**	**5**

In 2012, a total of 173 bats were tested for ABLV in Australia (Table 2). Of these, 5 bats tested positive for ABLV (2.9% 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.

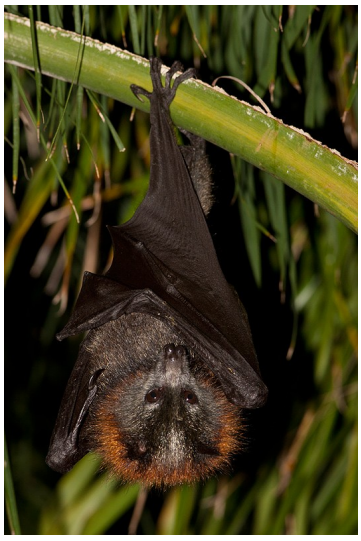

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Table 3: Percentage ABLV positive in bats submitted for testing (January to December 2012)

	No. tested	No. positive	% positive*
Flying foxes & blossom bats	123	5	4.1%
Microbats	50	0	0%
TOTAL	**173**	**5**	**2.9%**

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

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

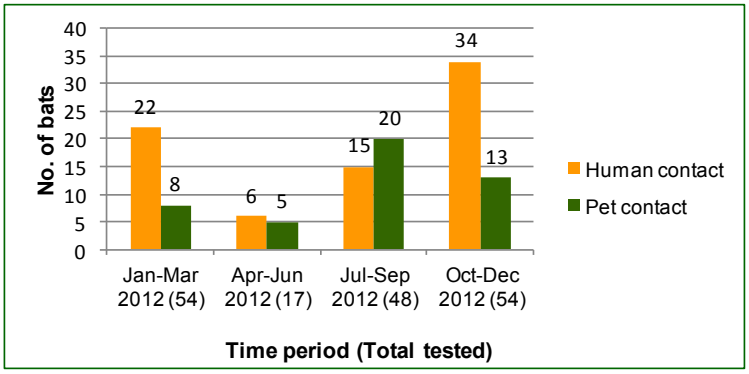

Figure 1 represents a subset of human contact cases. In the majority of cases where there is human contact, the bat is not available for testing, and not all cases are reported. Some of the cases reported in the graph as 'human contact' may also have had contact with a pet.

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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.
* Bats that are suspected to be infected with ABLV should be reported to the local Public Health Unit or veterinary authority for possible ABLV testing.
* ABLV is transmitted to humans through biting, and potentially also through contact with saliva. In the event of a bat bite or other significant contact, seek medical attention URGENTLY.
* Penetrating bite or scratch wounds should immediately be washed thoroughly with soap and water for 15 minutes[+] and a virucidal disinfectant 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 Aging 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

[1] http://www.environment.sa.gov.au/Plants_Animals/Living_with_wildlife/Grey-headed_flying_foxes

[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

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).

STATE	CONTACT	PHONE	EMAIL
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