

Supplemental Information “Multiple Mortality Events in Bats: A Global Review”, *Mammal Review* 2016, O’Shea, Cryan, Hayman, Plowright, Streicker.

We provide summaries of pertinent details regarding multiple mortality events of bats in a series of nine appendices. Appendix S10 lists all references cited in Appendices S1-S9. Events are given by region alphabetically, then chronologically within regions. The number of events entered into tallies are given in parentheses under the “Description” column. We attempted to be conservative in designating numbers of events. Unfortunately not all sources provide enough information to allow accurate judgments in each case. Generally we considered events extending over multiple years as one event per year, and events observed at more than one dispersed location as separate events. We considered events impacting more than one species of bat as separate events for each species, unless there was insufficient information on numbers per species. Events with insufficient information for each species were treated as single events. Scientific names follow Simmons (2005) in Wilson and Reeder’s (2005) *Mammal Species of the World*, 3rd edition (<http://www.vertebrates.si.edu/msw/mswcfapp/msw/index.cfm>), with the exceptions of *Myotis escalerae* (Ibáñez *et al.* 2006), *Perimyotis subflavus*, and *Parastrellus hesperus* (Hooper *et al.* 2006).

Appendix S5. Reports of multiple bat deaths due to accidents other than collisions with wind turbines.

Region and Species	Date	Description	Location	Source	Case
<i>Africa</i>					
<i>Eidolon helvum</i>	Nov 1962	12 bats killed/maimed when a branch of the roost tree snapped in high winds. (1 event)	Kampala, Uganda	Ogilvie & Ogilvie 1964	S5-1
<i>Australia</i>					
<i>Pteropus poliocephalus</i>	1988-1993	Electrocution on power lines (155 bats over 5 years). (5 events)	Sydney, New South Wales, Australia	Tidemann 1999	S5-2
<i>Pteropus poliocephalus</i>	Unspecified (late 1900s)	Electrocution on power lines (16 bats). (1 event)	Northern Australia	Tidemann & Nelson 2011	S5-3

Unspecified	Unspecified (2002-2011)	One airstrike involving more than 10 bats reported. (1 event)	Australia	Australian Transport Safety Board 2012	S5-4
<i>Pteropus</i> sp.	2009 or 2010	19 bats electrocuted on power lines. (1 event)	Brisbane, Queensland, Australia	Anonymous (2010b)	S5-5
Europe					
<i>Pipistrellus pipistrellus</i>	Aug-Sep 1973	Found 82 dead bats trapped in a structure of a hospital where they could not find a way out. (1 event)	Nordrhein-Westfalen, Germany	Roer 1981	S5-6
<i>Pipistrellus pipistrellus</i>	Aug 1977	Found 10 dead bats of 80 trapped in an apartment. (1 event)	Nordrhein-Westfalen, Germany	Roer 1981	S5-7
<i>Pipistrellus pipistrellus</i>	Oct 1979	Entrapment in exhaust pipe of hospital, found 475 decomposing bats and 735 skeletons. (1 event)	Nordrhein-Westfalen, Germany	Roer 1980, 1981	S5-8
<i>Pipistrellus pipistrellus</i>	Jun 1985	Roost destruction: 70 bats found dying after building with roost demolished. (1 event)	Langen, Germany	Disser & Nagel 1989	S5-9
<i>Rhinolophus hipposideros</i> , <i>Myotis daubentonii</i> , <i>Pipistrellus pipistrellus</i> , <i>Hypsugo savii</i> , <i>Plecotus auritus</i>	1989	Counted 72 dead bats of five species on 17-km section of roadway following the Mino River, searched weekly	Orense, Spain	Gonzalez-Prieto <i>et al.</i> 1993	S5-10

		(deaths primarily in warm season). (1 event)			
<i>Rhinolophus hipposideros, Myotis myotis, Myotis nattereri, Myotis mystacinus, Myotis brandtii, Myotis dasycneme, Myotis daubentonii, Eptesicus serotinus, Pipistrellus nathusii, Nyctalus noctula, Nyctalus leisleri, Plecotus auritus, Plecotus austriacus, Barbastella barbastellus</i>	1992-2004	Reported 167 dead bats of 14 species, primarily in a survey of an 8-km section of highway weekly in summer season, 1994-2000. (7 events)	Near Warsaw, Poland	Lesiński 2007	S5-11
<i>Tadarida teniotis</i>	Oct 1995	> 100 dead bats found entrapped in flower boxes in high rise building. (1 event)	Valencia, Spain	Monsalve-Dolz 2014	S5-12
<i>Tadarida teniotis</i>	Oct 1996	> 100 dead bats found entrapped in flower boxes in high rise building. (1 event)	Valencia, Spain	Monsalve-Dolz 2014	S5-13
<i>Pipistrellus kuhlii, P. pipistrellus, Plecotus austriacus</i>	Jul-Aug 1997	Found 30 dead bats in 4 surveys along a 7-km length of highway. (2 events)	Rennes-Lorient highway N24, Brittany, France	Choquene 2006	S5-14
<i>Myotis daubentonii, Pipistrellus kuhlii,</i>	Aug 1998	Found 12 dead bats on a survey of a	Highway N24 Mordelles, France	Choquene 2006	S5-15

<i>P. pipistrellus</i> <i>Plecotus auritus</i> ,		section of highway of unspecified length. (1 event)			
<i>Barbastella barbastellus</i> , <i>Eptesicus serotinus</i> , <i>Myotis daubentonii</i> , <i>Myotis mystacinus</i> , <i>Pipistrellus kuhlii</i> , <i>P. pipistrellus</i> <i>Plecotus auritus</i> , <i>Plecotus austriacus</i> <i>Rhinolophus ferrumequinum</i>	Jul-Aug 1998, 1999	Found 56 dead bats in 3 surveys in 1998 and 1 in 1999 along a 36-km length of highway (4 events)	Rennes-Lorient highway N24, Brittany, France	Choquene 2006	S5-16
<i>Myotis nattereri</i> , <i>Myotis mystacinus</i> , <i>Myotis myotis</i> , <i>Myotis daubentonii</i> , <i>Myotis emarginatus</i> , <i>Myotis bechsteinii</i> , <i>Pipistrellus kuhlii</i> , <i>P. pipistrellus</i> , <i>Plecotus auritus</i> , <i>Plecotus austriacus</i> , <i>Rhinolophus ferrumequinum</i> , <i>Barbastella barbastellus</i>	May-Oct each year, 1998-2002	Total of 104 bats of 12 species found dead along a 2-km length of highway near a hibernation site, surveyed weekly (17-41 dead bats found each summer) (4 events)	Near Bourges, Region Centre-Val de Loire, France	Capo et al. 2006	S5-17
<i>Tadarida teniotis</i>	Nov 2002	28 bats died after being stranded on a	Thessaloniki, Greece	Kalpakis et al 2005	S5-35

		building balcony. (1 event)			
<i>Nyctalus noctula</i>	Unspecified (between 2002 and 2009)	25 adults trapped in drain pipe in month of December. (1 event)	Germany	Mühldorfer et al. 2011	S5-36
<i>Nyctalus noctula</i>	Unspecified (between 2002 and 2009)	21 dead adults from destruction of a tree with a nursery colony. (1 event)	Germany	Mühldorfer et al. 2011	S5-37
<i>Miniopterus schreibersii</i> <i>Myotis daubentonii</i> <i>Myotis emarginatus</i> <i>Pipistrellus pipistrellus</i> <i>Rhinolophus euryale</i> <i>Rhinolophus ferrumequinum</i> <i>Rhinolophus hipposideros</i>	Feb-Sep 2003	Found 44 dead bats in surveys of a 40 km section of highway A20. (3 events)	Cahors, Lot, France	Néri 2006	S5-18
<i>Myotis brandtii</i> , <i>M. alcaethoe</i> , <i>M. emarginatus</i> , <i>M. nattereri</i> , <i>M. daubentonii</i> , <i>Eptesicus serotinus</i> , <i>Nyctalus noctula</i> , <i>N. leisleri</i> , <i>Pipistrellus pipistrellus</i> , <i>P. pygmaeus</i> ,	May-Oct 2007	119 dead bats of up to 12 species found in weekly surveys of 8.0 total km of two roads. (1 event)	Pohoelice to Perna, Czech Republic	Gaisler <i>et al</i> 2009	S5-19

<i>P. nathusii</i>					
<i>Myotis nattereri</i> , <i>Eptesicus serotinus</i> , <i>Pipistrellus nathusii</i> , <i>Nyctalus noctula</i> , <i>Nyctalus leisleri</i> , <i>Plecotus auritus</i> , <i>Barbastella barbastellus</i>	2008	Counted 61 dead bats of seven species on weekly counts of a 16.6-km section of roadway through a national park near Warsaw April to Oct. (1 event)	Kampinos National Park, Poland	Lesinski <i>et al</i> 2011	S5-20
<i>Rhinolophus ferrumequinum</i> , <i>Rhinolophus hipposideros</i> , <i>Myotis daubentonii</i> , <i>Myotis escalerai</i> , <i>Nyctalus leisleri</i> , <i>Eptesicus serotinus</i> , <i>Pipistrellus kuhlii</i> , <i>Pipistrellus pipistrellus</i> , <i>Pipistrellus pygmaeus</i> , <i>Miniopterus schreibersii</i> , <i>Barbastella barbastellus</i>	Mar-Oct 2009	Found 154 dead bats of 11 species in daily driving surveys of a 51-km transect of different road types. (1 event)	Southern Portugal	Medinas <i>et al.</i> 2013	S5-21
Islands					
<i>Pteropus seychellensis</i>	1984	Estimated 10 bats killed by electrocution on power lines. (1 event)	Mahe, Seychelles	Verschuren 1985	S5-22
North America					

<i>Myotis sodalis</i>	Prior to 1882	A solid wood door built to control access to an internal passage resulted in bats flying “against it with such force as to kill themselves in large numbers.” (1 event)	Wyandotte Cave, Indiana	Hovey 1882	S5-23
<i>Lasiurus borealis</i>	Prior to 1906	Entrapment in cave. Remains of 203 bats found. (1 event)	Donaldson Cave, Mitchell, Indiana, USA	Hahn 1907	S5-24
<i>Antrozous pallidus</i>	1924	‘The bodies of several dozen were found in a water tank ... where in drinking from the surface... had fallen in and drowned’ (1 event)	Slaughter Canyon, Carlsbad Cavern National Park, New Mexico	Bailey 1928	S5-25
<i>Lasiurus borealis</i>	1940	15 bats heavily mired in oil on a 500 foot section of newly oiled roadway. Hypothesized that bats mistook oil for water and attempted to drink. (1 event)	Piper City, Illinois, USA	Koestner 1942	S5-26

<i>Lasiurus borealis</i>	1954-1958	Entrapment in large caves. Remains of 1,630 bats found deep inside of 10 of 109 searched caves, a few alive but weak. Most in summer. Some tested for rabies, found negative. (10 events)	Caves in Missouri, USA	Myers 1960	S5-27
<i>Lasiurus cinereus</i>	1954-1958	Entrapment in large caves. Remains of 23 bats found far inside 4 of 109 searched caves, a few alive but weak. Most in summer. (1 event)	Caves in Missouri, USA	Myers 1960	S5-28
<i>Tadarida brasiliensis</i>	Spring-early summer 1959	Sampled fallen carcasses and estimated 13,000 immature young die in falls from ceiling of cave with ca. 1 million adult females. (1 event)	Davis Blowout Cave, Blanco County, Texas, USA	Herreid 1967	S5-29
<i>Myotis lucifugus</i>	1961	A large jar under a leak in an attic had a "mass of dead little brown bats" (estimated at 350 by Barbour and Davis, 1969) that had fallen	Salisbury, Vermont, U.S.A.	Hitchcock 1963	S5-30

		in and died entrapped. (1 event)			
<i>Myotis austroriparius</i>	Spring-early summer 1971, 1972	Counted 82 fallen immature carcasses in 1971 and 188 in 1972 in roost in chimney of house. (2 events)	Micanopy, Alachua County, Florida USA	Foster <i>et al.</i> 1978	S5-31
<i>Myotis grisescens</i>	30 Jun 1981	Counted 32 dead fallen young in stream below nursery roost. (1 event)	Cave in Jessamine County, Kentucky, USA	MacGregor & Westerman 1982	S5-32
<i>Myotis austroriparius</i>	Spring-early summer 1983	Counted 95 fallen immature carcasses below roost in attic. (1 event)	Williston, Levy County, Florida	Hermanson & Wilkins 1986	S5-33
<i>Myotis lucifugus</i> , <i>Myotis sodalis</i>	2001	Reported 27 <i>M.</i> <i>lucifugus</i> and 1 <i>M.</i> <i>sodalis</i> killed by motor vehicles during 36 days in summer 2001, primarily near a highway bridge used in a travel lane from colony sites. (1 event)	Blair County, Pennsylvania, U.S.A.	Russell <i>et al.</i> 2009	S5-34