

Appendix 7: Summary of Characteristic Information

Appendix 7a: Echolocation call Parameters from Literature

ACR taxon - the taxon names as used in the current African Chiroptera Report.

ind.: the number of individuals used to record echolocation from, if indicated the number recorded in different contexts is shown, and what sex and age (j. = juvenile, a. = adult, f = female, m = male) the individuals where.

calls: the number of calls on which the analysis of the different echolocation parameters was based.

Duration of the call and interpulse interval in milliseconds.

Lowest and highest frequency, frequency with the most energy and bandwidth in kHz. * - fundamental frequency not first harmonic. ** - frequency at the knee values from Anabat recordings.

Band: frequency bandwidth.

Where available the call parameter information given is the mean, in brackets the standard deviation, then the range.

Reference of the publication from which the information was taken.

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
CHIROPTERA	Molossidae	Kenya: Taita	4	3	20.7 (0.7) 17.9-22.6			11.6 (0.3) 11.3-11.8	14.9 (1.2) 13.5-15.8	12.5 (0.4) 12.3-12.6		Taylor et al. (2005) Originally identified as <i>Molossus</i>
<i>Rousettus aegyptiacus</i>	<i>Rousettus aegyptiacus</i>				0.6-1	15-20	12	70	20-40			von Hebert (1985)
<i>Rousettus aegyptiacus</i>	<i>Rousettus aegyptiacus</i>	UK: Tropical World Zoo	10	5	10							Holland et al. (2004a)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	Egypt: near Cairo	1	11	5			115-121				Pye (1972)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	The Gambia: Georgetown, near	2	20 a/f	10							Jones et al. (1993)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	The Gambia: Georgetown, near	2	4 a/m	10							Jones et al. (1993)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	The Gambia: Georgetown, near	2		14							Jones et al. (1993)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	The Gambia: Georgetown, near	2	15 j/f	10							Jones et al. (1993)
<i>Asellia tridens</i>	<i>Asellia tridens</i>	The Gambia: Georgetown, near	2	9 j/m	10							Jones et al. (1993)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Kenya: Shimoni cave	15	12	48				146-160			Pye (1972)

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<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Uganda: Entebbe	1	8	48				145-153			Pye (1972)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Kenya: Shimoni cave	1	4	48				147-155			Pye (1972)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Kenya: Masalani						155	155			O'Shea and Vaughan (1980)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	South Africa: Pafuri	7 + 12	5 & 20	7			105	138			Aldridge and Rautenbach (1987)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	The Gambia: Georgetown, near	2	2 f	10							Jones et al. (1993)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	The Gambia: Georgetown, near	2	4 m	10							Jones et al. (1993)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	South Africa: Jozini	7		14							Taylor (1999b)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Guinea: Simandou Range	1	3					106.2-164.1			Fahr and Ebigo (2003) Originally
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Kenya: TDC	4	1	17	6 (0.2) 6-7	7.9 (1) 10-Julb	136 (1.4) 133-139	157 (0.2) 157	156		Taylor et al. (2005)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Swaziland:	1	7	88				143.0 (1.43) 140.4-145.5			Monadjem et al. (2007a)

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<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Swaziland:	1	1 m	3				145.0 (0.76) 144.1-145.5			Monadjem et al. (2007a)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>	Swaziland:	1	6 f	85				142.9 (1.39) 140.4-145.5			Monadjem et al. (2007a)
<i>Hipposideros caffer</i>	<i>Hipposideros caffer</i>			10							71	Monadjem et al. (2010b) two
<i>Hipposideros commersoni</i>	<i>Hipposideros commersoni</i>	Kenya: Shimoni cave	1	7					66			Pye (1972) Bimodal distribution of
<i>Hipposideros commersoni</i>	<i>Hipposideros commersoni</i>	Kenya: Shimoni cave	1	12					56			Pye (1972) Bimodal distribution of
<i>Hipposideros commersoni</i>	<i>Hipposideros commersoni</i>	Kenya: Masalani	1					33	33			O'Shea and Vaughan (1980)
<i>Hipposideros commersoni</i>	<i>Hipposideros commersoni</i>	Zimbabwe: Sengwa	7	3		12		55	62	61		Fenton and Bell (1981)
<i>Hipposideros commersoni</i>	<i>Hipposideros commersoni</i>	South Africa: Paturi	7	2		12		55	62			Aldridge and Rautenbach (1987)
<i>Hipposideros fuliginosus</i>	<i>Hipposideros fuliginosus</i>	Guinea: Simandou Range	1	6								Fahr and Ebigo (2003)
<i>Hipposideros ruber</i>	<i>Hipposideros caffer</i>	Nigeria: Shagunu	1	3	30				130-133			Pye (1972) Re-identified by Jones et al. (1993) as <i>Hipposideros caffer</i>

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<i>Hipposideros ruber</i>	<i>Hipposideros ruber</i>	Zimbabwe: Sengwa	5	5		7		105	138	138		Fenton and Bell (1981)
<i>Hipposideros ruber</i>	<i>Hipposideros ruber</i>	The Gambia: three diff. loc.	2	20 m	10							Jones et al. (1993)
<i>Hipposideros ruber</i>	<i>Hipposideros ruber</i>	The Gambia: three diff. loc.	2	8 f	10							Jones et al. (1993)
<i>Hipposideros ruber</i>	<i>Hipposideros ruber</i>	Guinea: Simandou Range	1	1					146.7			Fahr and Ebigo (2003) Originally published in O'Shea and Vaughan (1980)
<i>Cardioderma cor</i>	<i>Cardioderma cor</i>	Kenya: Masalani	5					42	42			
<i>Cardioderma cor</i>	<i>Cardioderma cor</i>	Kenya: Rukanga	1	1	29	2 (0.2) 2.0-3.0	75 (43) 24-180	39.6 (1.5) 38-43	90.9 (3.1) 85.0-98.0	56.7 (11) 42-81		Taylor et al. (2005)
<i>Lavia frons</i>	<i>Lavia frons</i>	Kenya: Mara River	1		13	3.5 (0.7) 2-4	83 (40) 33-147	16.9 (0.3) 16-17	82.9 (3.8) 76-89	18.5 (1) 18-21		Taylor et al. (2005)
<i>Lavia frons</i>	<i>Lavia frons</i>			13								Monadjem et al. (2010b) peaks at 18, 18-21
<i>Rhinolophus alcyone</i>	<i>Rhinolophus alcyone</i>	Guinea: Simandou Range	1	1					67.4			Fahr and Ebigo (2003)
<i>Rhinolophus blasii</i>	<i>Rhinolophus blasii</i>	South Africa:	3	2								Jacobs et al. (2007a)

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<i>Rhinolophus blasii</i>	<i>Rhinolophus blasii</i>	Swaziland:	1	1	115				86.6 (0.23) 86.0-87.0			Monadjem et al. (2007a)
<i>Rhinolophus blasii</i>	<i>Rhinolophus blasii</i>			2								Monadjem et al. (2010b) two to third
<i>Rhinolophus capensis</i>	<i>Rhinolophus capensis</i>	South Africa:	3	28								Jacobs et al. (2007a)
<i>Rhinolophus capensis</i>	<i>Rhinolophus capensis</i>			10								Monadjem et al. (2010b)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	South Africa: Dundee	1		21							Taylor (1999b)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	Swaziland: Mlawula	1		10							Taylor (1999b)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	South Africa:	3	30								Jacobs et al. (2007a)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	Swaziland:		4 m	147				91.6 (0.61) 89.9-93.0			Monadjem et al. (2007a)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	Swaziland:	1 + 5	4 & 1	432				91.9 (0.65) 89.9-93.0			Monadjem et al. (2007a)
<i>Rhinolophus clivosus</i>	<i>Rhinolophus clivosus</i>	Swaziland:		1 f	285				92.5 (0.04) 92.5-93.0			Monadjem et al. (2007a)

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<i>Rhinolophus clivus</i>	<i>Rhinolophus clivus</i>			10								Monadjem et al. (2010b)
<i>Rhinolophus darlingi</i>	<i>Rhinolophus Darlingi</i>	South Africa:	3	10								Jacobs et al. (2007a)
<i>Rhinolophus darlingi</i>	<i>Rhinolophus Darlingi</i>	Swaziland:	1 + 4	2 & 1	142			85.8 (0.36) 84.7-86.5				Monadjem et al. (2007a)
<i>Rhinolophus darlingi</i>	<i>Rhinolophus darlingi</i>			10								Monadjem et al. (2010b)
<i>Rhinolophus deckenii</i>	<i>Rhinolophus deckenii</i>									72		Monadjem et al. (2010b)
<i>Rhinolophus denti</i>	<i>Rhinolophus Denti</i>	Zimbabwe: Sengwa	5	1				70	95			Fenton (1975)
<i>Rhinolophus denti</i>	<i>Rhinolophus Denti</i>	Zimbabwe: Sengwa	5	3	15			82				Fenton and Bell (1981)
<i>Rhinolophus denti</i>	<i>Rhinolophus Denti</i>	South Africa:	3	10								Jacobs et al. (2007a)
<i>Rhinolophus denti</i>	<i>Rhinolophus denti</i>			10								Monadjem et al. (2010b)
<i>Rhinolophus fumigatus</i>	<i>Rhinolophus fumigatus</i>	Zimbabwe: Sengwa	5	2				50	60			Fenton (1975)

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<i>Rhinolophus fumigatus</i>	<i>Rhinolophus fumigatus</i>	South Africa: Pafuri	7	6	15			50	55			Aldridge and Rautenbach (1987)
<i>Rhinolophus fumigatus</i>	<i>Rhinolophus fumigatus</i>	South Africa:	3	2								Jacobs et al. (2007a)
<i>Rhinolophus fumigatus</i>	<i>Rhinolophus fumigatus</i>			2								Monadjem et al. (2010b)
<i>Rhinolophus guineensis</i>	<i>Rhinolophus guineensis</i>	Guinea: Simandou Range	1	2					85.3-85.4			Fahr and Ebigo (2003)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	Zimbabwe: Sengwa	5	2				45	55			Fenton (1975) Originally identified as Fenton and Bell (1981) Originally identified as Taylor et al. (2005) Originally identified as Taylor et al. (2005)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	Zimbabwe: Sengwa	7	2	15							
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	Kenya: Bungule	4	1	46.9 (7.2) 24-55			42 (0.1) 41.9-42.2	42.4 (0) 42.2-42.4	42.2 (0.1) 42.2-42.4		
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	Kenya: Rukanga	4	1	57.7 (6.8) 40-71			42.4 (0.1) 41.9-42.4	43.2 (0.1) 42.9-42.3b	42.8 (0.1) 42.7-42.9		
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	Kenya: Mara River	4	1	45.2 (6.2) 33-53			40.6 (0.9) 39-42	42.3 (0.2) 42-43	42.1 (0.3) 41-42		
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus Hildebrandtii</i>	South Africa:	3	10								Jacobs et al. (2007a) Originally identified as

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<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>										35	Monadjem et al. (2010b)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>			10								Mozambique
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>											Monadjem et al. (2010b)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>			2		41					44	Sudwala
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>											Monadjem et al. (2010b)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>										40	Paturi
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>											Monadjem et al. (2010b)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>	Zimbabwe: Lutope Gorge									33	Schoeman
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>			1							46	Monadjem et al. (2010b)
<i>Rhinolophus hildebrandtii</i>	<i>Rhinolophus hildebrandtii</i>			17								Taylor et al.
<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>	Kenya: Masalani	1					55	55			Monadjem et al. (2010b)
<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>	South Africa: Paturi	7	5		15		105	110			Taylor et al.
<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>	Guinea: Simandou Range	1	1					103.3			O Shea and Vaughan (1980)
												Aldridge and Rautenbach (1987)
												Fahr and Ebigo (2003)

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<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>	Kenya: Bungule	4	1	8	43.1 (11) 21-53	39.6 (15) May-50b	81 (11.2) 73-100	110 (0) 110	109 (0.6) 108-109		Taylor et al. (2005)
<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>	South Africa:	3	2								Jacobs et al. (2007a)
<i>Rhinolophus landeri</i>	<i>Rhinolophus landeri</i>			2								Monadjem et al. (2010b)
<i>Rhinolophus simulator</i>	<i>Rhinolophus simulator</i>	Zimbabwe: Sengwa	5	1		20		64	78	78		Fenton and Bell (1981)
<i>Rhinolophus simulator</i>	<i>Rhinolophus simulator</i>	South Africa: Shongweni	1		10							Taylor (1999b)
<i>Rhinolophus simulator</i>	<i>Rhinolophus simulator</i>	South Africa:	3	10								Jacobs et al. (2007a)
<i>Rhinolophus simulator</i>	<i>Rhinolophus simulator</i>	Swaziland:	1 + 5	2 & 1	360				84.1 (0.36) 82.1-84.7			Monadjem et al. (2007a)
<i>Rhinolophus simulator</i>	<i>Rhinolophus simulator</i>			10								Monadjem et al. (2010b)
<i>Rhinolophus swinnyi</i>	<i>Rhinolophus swinnyi</i>	South Africa: Paturi	7	1		15		100	115			Aldridge and Rautenbach (1987)
<i>Rhinolophus swinnyi</i>	<i>Rhinolophus swinnyi</i>	South Africa:	3	10								Jacobs et al. (2007a)

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<i>Rhinolophus swinnyi</i>	<i>Rhinolophus swinnyi</i>			10								Monadjem et al. (2010b)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>	Zimbabwe: Sengwa	5	1	3			183	212	212		Fenton and Bell (1981)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>	South Africa: Jozini	1		13				104.2 (0.4)*			Taylor (1999b)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>	Swaziland:	1	1 m	90				103.7 (0.71) 101.6-105.3*			Monadjem et al. (2007a)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>	Swaziland:	1	1 f	34				102.9 (0.52) 102.2-104.2*			Monadjem et al. (2007a)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>	Swaziland:	1	2	124				103.4 (0.74) 101.6-105.3*			Monadjem et al. (2007a)
<i>Cloeotis percivali</i>	<i>Cloeotis percivali</i>			6							104	Monadjem et al. (2010b) two
<i>Coleura afra</i>	<i>Coleura afra</i>	Kenya: TDC	4	1	13	10.7 (1.2) 8.3-13.0	150 (65) 77-250	33.1 (1.9) 30.5-35.4	35.3 (1.7) 33.5-38.4	34.2 (1.7) 31.5-36.4		Taylor et al. (2005)
<i>Coleura afra</i>	<i>Coleura afra</i>	Kenya: Marungu Cave	4	1	11	7.7 (0.5) 7.0-8.0	180 (52) 98-216	30.7 (1.4) 29.6-33.6	32.2 (1.8) 30.7-35.8	31.2 (1.8) 30-34		Taylor et al. (2005)
<i>Coleura afra</i>	<i>Coleura afra</i>	Kenya: Bungule	4	1	25	3.8 (0.6) 2.9-5.4	67.0 (46) 14-221	31.1 (1.2) 29.5-33.6	35.3 (1.7) 33.5-38.4	34.2 (1.7) 31.5-36.4		Taylor et al. (2005)

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<i>Coleura afra</i>	<i>Coleura afra</i>			3								Monadjem et al. (2010b) second and third
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	Zimbabwe: Sengwa	5	2				30	50			Fenton (1975)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	Zimbabwe: Sengwa	7	1	15			12	55	25		Fenton and Bell (1981)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	South Africa: Pafuri	7	2	20			15	59			Aldridge and Rautenbach (1987)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	South Africa: Durban	7									Taylor (1999b)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	South Africa: Durban, near	7		18			9.9	15.6	12.8	5.7	Taylor (1999b)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	South Africa: Durban, near	7									Taylor (1999b)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	Swaziland: Mlawula	7									Taylor (1999b)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>	Swaziland: Mlawula	7									Taylor (1999b)
<i>Taphozous mauritanus</i>	<i>Taphozous mauritanus</i>			6								Monadjem et al. (2010b) second and third

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
<i>Nycteris grandis</i>	<i>Nycteris grandis</i>			7	32							Monadjem et al. (2010b) peaks 40-62 kHz
<i>Nycteris hispidus</i>	<i>Nycteris hispidus</i>	Kenya: Mara River	1	16	31.1 (19) 8.0-56.0	142 (57) 52-310	36.6 (0.5) 30.5-35.4	39.8 (1.2) 38.0-42.0	38.2 (0.4) 38-39			Taylor et al. (2005)
<i>Nycteris hispidus</i>	<i>Nycteris hispidus</i>			2								Monadjem et al. (2010b) 40-60 kHz
<i>Nycteris macrotis</i>	<i>Nycteris macrotis</i>			2								Monadjem et al. (2010b) additional peaks 40-60 kHz
<i>Nycteris thebaica</i>	<i>Nycteris thebaica</i>	Zimbabwe: Sengwa	5	6			70	95				Fenton (1975)
<i>Nycteris thebaica</i>	<i>Nycteris thebaica</i>	Zimbabwe: Sengwa	5	3	2		61	97	94			Fenton and Bell (1981)
<i>Nycteris thebaica</i>	<i>Nycteris thebaica</i>	South Africa: Pafuri	7	4	2		61	97				Aldridge and Rautenbach (1987)
<i>Nycteris thebaica</i>	<i>Nycteris thebaica</i>	Swaziland: Mlawula	7	9								Taylor (1999b)
<i>Nycteris thebaica</i>	<i>Nycteris thebaica</i>			10								Monadjem et al. (2010b) add peaks 40-60 kHz
<i>Nycteris woodi</i>	<i>Nycteris woodi</i>	Zimbabwe: Sengwa	5	5	2		35	55	43			Fenton and Bell (1981)

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<i>Nycteris woodi</i>	<i>Nycteris woodi</i>			5		2				43	20	Monadjem et al. (2010b)
<i>Chaerephon</i>	<i>Chaerephon</i>	South Africa:	6 + 7		60							Fenton et al. (2004)
<i>Chaerephon ansorgei</i>	<i>Chaerephon ansorgei</i>	Zimbabwe: Sengwa	7	5		15		16	28	17.8		Fenton and Bell (1981) Originally identified as <i>Monadjem</i> et al. (2010b) Tow
<i>Chaerephon ansorgei</i>	<i>Chaerephon ansorgei</i>			5		15				17.8		<i>Monadjem</i> et al. (2010b) Tow
<i>Chaerephon bivittatus</i>	<i>Chaerephon bivittatus</i>			1	16							<i>Monadjem</i> et al. (2010b) second and Fenton and Bell (1981) Originally identified as
<i>Chaerephon chapini</i>	<i>Chaerephon chapini</i>	Zimbabwe: Sengwa	7	5		10		19	27	20.5		<i>Monadjem</i> et al. (2010b)
<i>Chaerephon chapini</i>	<i>Chaerephon chapini</i>			5		10				20	8	<i>Monadjem</i> et al. (2010b)
<i>Chaerephon nigeriae nigeriae</i>	<i>Chaerephon nigeriae nigeriae</i>	Zimbabwe: Sengwa	5	3				25	80			Fenton (1975) Originally identified as
<i>Chaerephon nigeriae nigeriae</i>	<i>Chaerephon nigeriae nigeriae</i>	Zimbabwe: Sengwa	7	3		10		16	26	17		Fenton and Bell (1981) Originally identified as
<i>Chaerephon nigeriae</i>	<i>Chaerephon nigeriae</i>			3		10				17	10	<i>Monadjem</i> et al. (2010b)

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
<i>Chaerephon nigeriae nigeriae</i>	<i>Chaerephon nigeriae</i>	Zimbabwe: Sengwa	5	3				25	80			Fenton (1975) Originally identified as Fenton and Bell (1981) Originally identified as
<i>Chaerephon nigeriae nigeriae</i>	<i>Chaerephon nigeriae</i>	Zimbabwe: Sengwa	7	3	10			16	26	17		
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa: Durban, near	7		11							Taylor (1999b)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa: Durban	5		7			22.8 (1.4)				Taylor (1999b)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	Swaziland: Mlawula	7		5							Taylor (1999b)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa: Newstead	7		5							Taylor (1999b)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa: Durban, near			20					25.6 (1.5)**		Aspetsberger et al. (2003)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa: Durban			60					23.9 (1.6)**		Aspetsberger et al. (2003)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	Tanzania: Amani Nature Reserve	1 + 7		36	12.1 (3.3) 8-19	385 (146) 196-754	19.1 (3.7) 14-22	22.7 (3.3) 17-27	21.2 (3.2) 16-24**		Aspetsberger et al. (2003)
<i>Chaerephon pumilus</i>	<i>Chaerephon pumilus</i>	South Africa:	6 + 7		60							Fenton et al. (2004)

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<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban North	7		3							Taylor (1999b)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa:	6 + 7		60							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	South Africa: Durban	6	1	10							Fenton et al. (2004)
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>	Kenya: Bungule	4	1	2	9 (-) 8-10		10.5 (-) 10-11	16.5 (-) 16-17	12 (-) 12		Taylor et al. (2005)

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
<i>Otomops martiensseni</i>	<i>Otomops martiensseni</i>			250								Monadjem et al. (2010b)
<i>Sauromys petrophilus</i>	<i>Sauromys petrophilus</i>			10								Monadjem et al. (2010b) second can
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>	Zimbabwe: Sengwa	7	5	15		15	26	18			Fenton and Bell (1981)
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>	South Africa: Durban	13	2								Taylor (1999b)
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>	South Africa: Biggarsberg	7	3								Taylor (1999b)
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>	South Africa: Durban	10	21								Taylor (1999b)
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>	South Africa:	6 + 7	10								Fenton et al. (2004)
<i>Tadarida aegyptiaca</i>	<i>Tadarida aegyptiaca</i>			10								Monadjem et al. (2010b)
<i>Tadarida fulminans</i>	<i>Tadarida fulminans</i>	Zimbabwe: Sengwa	7	1	20		14	27	17			Fenton and Bell (1981)
<i>Tadarida fulminans</i>	<i>Tadarida fulminans</i>	South Africa: Paturi	7	1	20		14	27				Aldridge and Rautenbach (1987)

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<i>Tadarida fulminans</i>	<i>Tadarida fulminans</i>			1		15				17	13	Monadjem et al. (2010b)
<i>Tadarida ventralis</i>	<i>Tadarida ventralis</i>	Kenya: TDC	4	11	9 (3.2) 4.6-15.4	104 (34) 30-145	18 (2.7) 14.3-22.4	22 (2.1) 18.7-25.8	19.3 (2.3) 16-22.8			Taylor et al. (2005)
<i>Tadarida ventralis</i>	<i>Tadarida ventralis</i>			1	11							Monadjem et al. (2010b) second
<i>Cistugo lesueuri</i>	<i>Cistugo lesueuri</i>			5								Monadjem et al. (2010b)
<i>Cistugo seabrae</i>	<i>Cistugo seabrae</i>			2								Monadjem et al. (2010b)
<i>Miniopterus fraterculus</i>	<i>Miniopterus fraterculus</i>	Kenya: Masalani	5					45	90			O'Shea and Vaughan (1980)
<i>Miniopterus fraterculus</i>	<i>Miniopterus fraterculus</i>			11								Monadjem et al. (2010b) second
<i>Miniopterus inflatus inflatus</i>	<i>Miniopterus inflatus inflatus</i>									104-45		Monadjem et al. (2010b)
<i>Miniopterus inflatus inflatus</i>	<i>Miniopterus inflatus inflatus</i>									104-45		Monadjem et al. (2010b)
<i>Miniopterus natalensis</i>	<i>Miniopterus schreibersii</i>	Zimbabwe: Sengwa	5	3				50	80			Fenton (1975)

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<i>Myotis tricolor</i>	<i>Myotis tricolor</i>			10								Monadjem et al. (2010b)
<i>Myotis welwitschii</i>	<i>Myotis welwitschii</i>	Zimbabwe: Sengwa	5	1				30	75			Fenton (1975)
<i>Myotis welwitschii</i>	<i>Myotis welwitschii</i>			1		2.4				34	19.4	Monadjem et al. (2010b)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	South Africa: Pafuri	7 + 12	6 & 9		5		35	58			Aldridge and Rautenbach (1987)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	South Africa: Durban	5									Taylor (1999b)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	South Africa: Durban North	7									Taylor (1999b)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	South Africa: Biggarsberg	8									Taylor (1999b)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	South Africa: Biggarsberg	9									Taylor (1999b)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	Kenya:	4	1		6.6 (1.7) 4.5-10.4	108 (35) 73-203	30.5 (1.2) 28.5-33.1	37.3 (4.1) 32.9-49.0	32.3 (1.5) 29.5-35.3		Taylor et al. (2005)
<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>	Kenya:	4	1		6.1 (1) 4.6-8.3	97.1 (11) 83-115	30.9 (1) 29.9-33.1	34.4 (4.1) 32.9-36.8	32.4 (1.5) 30.7-35.3		Taylor et al. (2005)

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<i>Scotophilus dinganii</i>	<i>Scotophilus dinganii</i>			10								Monadjem et al. (2010b)
<i>Scotophilus leucogaster</i>	<i>Scotophilus cf. leucogaster</i>	Zambia: Kafue NP, Lufupa camp	1 + 4	3	6.34(0.91) 5.30-7.00	125.75(26.79) 106.90-144.70	39.99(1.75) 38.77-42.00	50.49(1.59) 48.67-51.6	42.37(1.88) 40.54-44.3			Kearney et al. (2010) call parameters
<i>Scotophilus nigrita</i>	<i>Scotophilus nigrita</i>	Zimbabwe: Sengwa	5	1			30	60				Fenton (1975)
<i>Scotophilus nigrita</i>	<i>Scotophilus nigrita</i>	Kenya: Masalani	5				34	72				O'Shea and Vaughan (1980)
<i>Scotophilus nigrita</i>	<i>Scotophilus nigrita</i>	Zimbabwe: Sengwa	7	2	15		28	55		30		Fenton and Bell (1981)
<i>Scotophilus viridis</i>	<i>Scotophilus viridis</i>	Zimbabwe: Sengwa	7	5	10		34	59		40		Fenton and Bell (1981)
<i>Scotophilus viridis</i>	<i>Scotophilus borbonicus</i>	South Africa: Pafuri	7 + 12	7 & 7	5		40	70				Aldridge and Rautenbach (1987)
<i>Scotophilus viridis</i>	<i>Scotophilus viridis</i>			5	10					40	25	Monadjem et al. (2010b)
<i>Eptesicus hottentotus</i>	<i>Eptesicus hottentotus</i>			10								Monadjem et al. (2010b)
<i>Glauconycteris variegata</i>	<i>Glauconycteris variegata</i>			1	2.3					41.1	21.1	Monadjem et al. (2010b) second

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<i>Neoromicia capensis</i>	<i>Eptesicus capensis</i>	South Africa: Vrolijkheid	7		11							Taylor (1999b)
<i>Neoromicia capensis</i>	<i>Neoromicia capensis</i>	Kenya: Mara River	4		6	3.8 (0.8) 3-5	111 (51) 76-214	42.2(0.4) 42-43	56 (6.3) 50-66	43.2 (0.4) 43-44		Taylor et al. (2005) Originally identified as <i>Monaclem et al. (2010b)</i> second
<i>Neoromicia capensis</i>	<i>Neoromicia capensis</i>			10								
<i>Neoromicia nana</i>	<i>Pipistrellus nanus</i>	Zimbabwe: Sengwa	5	4				70	100			Fenton (1975)
<i>Neoromicia nana</i>	<i>Pipistrellus nanus</i>	Kenya: Masalani	5					65	115			O'Shea and Vaughan (1980)
<i>Neoromicia nana</i>	<i>Pipistrellus nanus</i>	Zimbabwe: Sengwa	7	3				62	90	70		Fenton and Bell (1981)
<i>Neoromicia nana</i>	<i>Pipistrellus nanus</i>	South Africa: Pafuri	7 + 12	5 & 20		5		62	90			Aldridge and Rautenbach (1987)
<i>Neoromicia nana</i>	<i>Neoromicia nanus</i>	South Africa: Jozini	7		4							Taylor (1999b)
<i>Neoromicia nana</i>	<i>Neoromicia nanus</i>	Kenya: Mara	4	1	9	9.2 (0.7) 8.2-10.4	185 (47) 90-250	43.7 (0.3) 43.1-43.9	44.2 (0.2) 43.9-44.6	44.1 (0.2) 43.7-44.4		Taylor et al. (2005)
<i>Neoromicia nana</i>	<i>Neoromicia nanus</i>	Kenya: Bungule	4		9	3.1 (0.8) 2-4		69.9 (0.6) 69-71	80.7 (3.4) 78-87	70.4 (0.7) 70-72		Taylor et al. (2005)

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<i>Neoromicia nana</i>	<i>Neoromicia nana</i>			10								Monadjem et al. (2010b)
<i>Neoromicia rendalli</i>	<i>Neoromicia rueppellii</i>	Zambia: Kafue NP, Lufupa camp	1 + 4	5		7.72(1.34) 6.00-9.33	131.73(76.26) 77.80-185.66	40.07(3.43) 36.30-45.12	60.04(7.31) 47.7-67.33	42.99(3.61) 39.30-47.48		Kearney et al. (2010) call parameters
<i>Neoromicia somalica</i>	<i>Eptesicus capensis</i>	Kenya: Masalani	5					35	70			O'Shea and Vaughan (1980)
* <i>Neoromicia</i> sp. aff. * <i>melckorum</i> *	<i>Eptesicus melckorum</i>	South Africa: Kersefontein	7	8								Taylor (1999b) Originally identified as
<i>Neoromicia tenuipinnis</i>	<i>Neoromicia tenuipinnis</i>					1.5				37-62		Monadjem et al. (2010b)
<i>Neoromicia zuluensis</i>	<i>Neoromicia zuluensis</i>			2								Monadjem et al. (2010b)
<i>Nycticeinops schlieffenii</i>	<i>Nycticeius schlieffenii</i>	Zimbabwe: Sengwa	5	6				40	75			Fenton (1975)
<i>Nycticeinops schlieffenii</i>	<i>Nycticeinops schlieffenii</i>	Kenya: Masalani	5					30	70			O'Shea and Vaughan (1980)
<i>Nycticeinops schlieffenii</i>	<i>Nycticeinops schlieffenii</i>	Zimbabwe: Sengwa	7	3	5			33	78	42		Fenton and Bell (1981)
<i>Nycticeinops schlieffenii</i>	<i>Nycticeinops schlieffenii</i>	South Africa: Paturi	7 + 12	8 & 20	5			33	78			Aldridge and Rautenbach (1987)

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
<i>Nycticeinops schlieffeni</i>	<i>Nycticeinops schlieffeni</i>	Swaziland: Mlawula	7		3							Taylor (1999b)
<i>Nycticeinops schlieffeni</i>	<i>Nycticeinops schlieffeni</i>	Kenya: Mara River	4	1	9	4.2 (0.5) 3.6-5.2		35.2 (1.9) 31.9-37.5	42.3 (5.4) 36.4-54.4	38.4 (1.8) 34.6-41.5		Taylor et al. (2005)
<i>Nycticeinops schlieffeni</i>	<i>Nycticeinops schlieffeni</i>	Zambia: Kafue NP, Lufupa camp	1 + 4	12		7.33(1.25) 4.55-9.00	88.51(8.71) 80.00-98.00	37.62(1.33) 34.92-39.50	53.28(5.30) 43.69-60.86	40.00(1.52) 37.58-42.85		Kearney et al. (2010) call parameters Monadjem et al. (2010b) second and third
<i>Nycticeinops schlieffeni</i>	<i>Nycticeinops schlieffeni</i>			2								
<i>Pipistrellus hesperidus</i>	<i>Pipistrellus kuhlii</i>	Zimbabwe: Sengwa	5	4				45	85			Fenton (1975)
<i>Pipistrellus hesperidus</i>	<i>Pipistrellus hesperidus</i>	South Africa: St Lucia	7		6							Taylor (1999b)
<i>Pipistrellus hesperidus</i>	<i>Pipistrellus hesperidus</i>			10								Monadjem et al. (2010b) second and third
<i>Pipistrellus rueppellii</i>	<i>Pipistrellus rueppellii</i>	Zimbabwe: Sengwa	7	8		8		40	70	45		Fenton and Bell (1981)
<i>Pipistrellus rueppellii</i>	<i>Pipistrellus rueppellii</i>	South Africa: Paturi	7 + 12	5 & 0		4		40	70			Aldridge and Rautenbach (1987)
<i>Pipistrellus rueppellii</i>	<i>Pipistrellus rueppellii</i>	Kenya: Mara River	4		22	7 (1) 6-9	82.6 (27) 63-130	33.6 (0.6) 33-35	61 (4.4) 54-69	37.3 (0.8) 36-39		Taylor et al. (2005)

ACR Taxon	Identification	Locality	Context	# ind.	# calls	Duration (msec)	Int. interval (msec)	Lowest freq. (kHz)	Highest freq. (kHz)	Freq. Most energy (kHz)	Band (kHz)	Reference
<i>Pipistrellus rueppellii</i>	<i>Pipistrellus rueppellii</i>			1	22							Monadjem et al. (2010b) second
<i>Pipistrellus rusticus</i>	<i>Pipistrellus rusticus</i>	South Africa: Messina	5	15								Taylor (1999b)
<i>Pipistrellus rusticus</i>	<i>Pipistrellus rusticus</i>			10								Monadjem et al. (2010b) second and Taylor et al. (2005) Originally identified as
<i>Scotoecus albigula</i>	<i>Scotoecus albigula</i>	Kenya: Bungule	4	1	8	4.5 (0.2) 4.1-5.0	78.9 (29) 52-142	37.7 (1.2) 35.6-39.5	45.5 (6.5) 39-57	39.4 (1.7) 36.6-41.9		Monadjem et al. (2010b)
<i>Scotoecus albigula</i>	<i>Scotoecus hindei/albigula</i>			2								Monadjem et al. (2010b)
<i>Scotoecus albofuscus</i>	<i>Scotoecus albofuscus</i>			1	3.3					39.3	24	Monadjem et al. (2010b) second and O'Shea and Vaughan (1980)
<i>Scotoecus hindei</i>	<i>Scotoecus Hindei</i>	Kenya: Masalani	5					32	64			Taylor et al. (2005) Originally identified as
<i>Scotoecus hindei</i>	<i>Scotoecus Hindei</i>	Kenya:	4	1	10	4 (0.7) 3-5	71.3 (8) 55-85	38.6 (0.5) 38-39	65.2 (7.3) 54-78	39.9 (0.7) 39-41		Taylor et al. (2005) Originally identified as

Context Code	Description
1	hand held
2	hand held 20 cm from microphone
3	hand held 1.5 m from the microphone
4	on release
5	room flown
6	at emergence from roost
7	free flying
8	free flying in a closed habitat
9	free flying in an open habitat
10	tethered
11	in a corridor (25 x 2.59 x 1.45 m)
12	in a flight cage (4.0 x 0.88 x 0.88 m)
13	crawling
14	landing
15	together with other individuals in a holding cage

Appendix 7b: Methods used in Echolocation Literature

Reference	Sound detector type	Analysis hardware / software	Sound transfer method	Analysis parameters	Notes
Aspetsberger et al. (2003)	Anabat II	ANALOOK (version 4.8b)	Sony cassette recorder TCM-17 (frequency response 0.09-8 kHz)	Recorded a calibration tone of 40 kHz with each train of bat calls to standardize for variation in tape speed. Only search phase calls, i.e. calls with 100 ms separating them, that were clearly defined. Call parameters were measured from a sonogram after	ANABAT uses a frequency division combined with zero crossing analysis (ZC/AM), which captures information about the harmonic with the most energy, information on other harmonics is lost, as is all information about signal strength.
Fahr and Ebigbo (2003)	Pettersson D 240 (10x & 20x time expansion mode)	Avisoft-SASLab Pro 4.2	Sony Walkman Professional WM-D6C	Measured CF frequency (maximum amplitude, second harmonic) with spectrograms (Hanning window, FFT length 512)	
Fenton (1975)	Holgate ultrasonic sensor (tunable from 10-180 KHz)				
Fenton and Bell (1981)	Broadband microphone (Non Linear Systems Miniascope, Model MS-15), zero crossing period meter & portable oscilloscope	Kay Sonograph model 7029A & Princeton Applied Research model 4513	Lockheed (Racal) Store 4D tape recorder operating at 76 cm/s or 152 cm/s	Only search phase calls analysed. Oscilloscope settings usually 2 ms or 5 ms per division, but for 10 ms better for molossids or rhinolophids. Calls slowed down appropriately for analysis. Fast Fourier transform (FFT), real time spectrum analyzer (2048 lines, alias filter in, flat weighting). FFT provides machine averaged spectra with no statistical output. Sampling at 250 kHz, 16 bit, recording 60s intervals separated by 10s to reset the system. Interval between calls was recorded from the frequency change of time plot - threshold 16. Duration was measured from the time-amplitude plot. Frequency information was recorded from the power spectrum. Highest and lowest frequencies were recorded as the kHz at - 55 dB levels, and frequency with the most energy was recorded from FFT 512. Hanning	Analysis of recorded calls of known individuals before identified free flying bats from period meter display of calls. Low end frequency modulated calls more reliable as less subject to atmospheric attenuation than higher frequencies.
Fenton et al. (2004)	Pettersson D980	BatSoundPro	Ines DAQ i508 high speed card to a Dell Latitude PC		Orientation of the detector to the bat maximised to account for distance limitations in detecting calls.

Reference	Sound detector type	Analysis hardware / software	Sound transfer method	Analysis parameters	Notes
Taylor et al. (2005)	Pettersson D980	BatSoundPro	Acer Pentium 2 notebook computer	First 10-20 calls in a release sequence ignored if looked atypical to rest of sequence. Sampling at 22 050 Hz for calls <100kHz, at 44 100 Hz for calls >100kHz. Measured duration and inter-call interval from combined time-amplitude and time-frequency displays.	

Appendix 7c: Karyotype information from Literature

Identification	Locality	# Ind	Sex	2N	FN	BA	M	ST	A	X	Y	Reference	Notes
<i>Scotophilus dinganii</i>	:			36	50		7	1	9	M		Eick et al. (2007)	One homologue of chromosome 24 with a heterochromatic short arm in one specimen but counted here as acrocentric
<i>Scotophilus</i>	:			36	52		7	2	8	M		Eick et al. (2007)	
<i>Hipposideros jonesi</i>	Senegal: Daudi Cave	1	M	32	60		24	6		M	S	Koubínová et al. (2010b)	
<i>Hipposideros gigas</i>	Senegal: Dar Salam	2	F	52			10		40	(M/ S M)	?	Koubínová et al. (2010b)	
<i>Hipposideros cyclops</i>	Senegal: Badi	1	F	36			28		6	(M/ S M)	?	Koubínová et al. (2010b)	
<i>Rhinolophus fumigatus</i>	Senegal: Dindéfelo	1	M	58	60		4		52	ST	D	Koubínová et al. (2010b)	
<i>Hipposideros caffer</i>	Gabon:	1	M	32		16						Porter et al. (2010)	
<i>Glauconycteris poensis</i>	Gabon:	1		22			10	1				Porter et al. (2010)	
<i>Hipposideros caffer</i>	Gabon:	1	M	32								Porter et al. (2010)	
<i>Nycteris grandis</i>	Gabon:	1	M	42		34			6	L	S	Porter et al. (2010)	

Identification	Locality	# Ind	Sex	2N	FN	BA	M	ST	A	X	Y	Reference	Notes	ACR Taxon
<i>Glaucocyteris beatrix</i>	Gabon:	1		22								Porter et al. (2010)		<i>Scotophilus dinganii</i>
<i>Glaucocyteris poensis</i>	Gabon:	1		22								Porter et al. (2010)		<i>Scotophilus</i>
<i>Glaucocyteris beatrix</i>	Gabon:	1		22			10	1				Porter et al. (2010)		<i>Hipposideros jonesi</i>
<i>Scotophilus dinganii</i>	:			36	50		8		9	M		Ruedas et al. (1990)		<i>Hipposideros gigas</i>
<i>Scotophilus dinganii</i>	:			36	52		9		8	A		Schlitter et al. (1980)	Eick et al. (2007) - would result in 8M, 9A assuming metacentric X	<i>Hipposideros cyclops</i>
<i>Scotophilus viridis</i>	:			36	54		9		7	A		Schlitter et al. (1980)	Eick et al. (2007) - would result in 8M, 1ST, 8A assuming metacentric X	<i>Rhinolophus fumigatus</i>
<i>Scotophilus leucogaster</i>	:			36	50		9		8	M		Volleth et al. (2006)	Eick et al. (2007) did not count the heterochromatic arm on NOR-bearing	<i>Hipposideros caffer</i>
<i>Scotophilus nux</i>	:			36	50		8		9	M		Volleth et al. (2006)		<i>Glaucocyteris poensis</i>
														<i>Hipposideros caffer</i>
														<i>Nycteris grandis</i>

ACR Taxon*Glauconycteris
beatrice**Glauconycteris
poensis**Glauconycteris
beatrice**Scotophilus
dinganii**Scotophilus
dinganii**Scotophilus viridis**Scotophilus
leucogaster**Scotophilus nux*