Table S1: Empirical measurements of sound pressure levels of animal wings

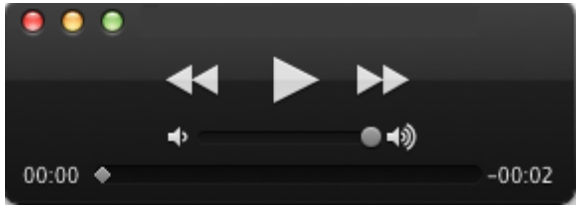
Species	WBF (Hz)	Mass	Amplitude (dB SPL)	Distance (m)	Nearfield-farfield transition n = 1) (λ/2π) (m)	Predicted nearfield SPL in Z (dB)	Orientation	condition	reference
Mosquito (*Aedes aegypti*)	721, 514	1 or 5 mg	60-75 dB SPVL (Fig. 6A)	0.01	0.075, 0.10	52-65 dB SPL[1]	X, Y, Z	Tethered	(Arthur et al., 2014)
Caribbean Fruit Fly (*Anastrepha suspensa*)	157	78 mg	74	0.0127	0.34	85	Z	tethered	(Webb et al., 1976)
Honeybee (*Apis mellifera*)	250	100 mg	73	0.015	0.22	84 dB	Not stated	waggle dance (on substrate)	(Michelsen et al., 1986; 1987)
Costa's Hummingbird	37	3 g	70.5	0.21	1.46	68.5	X, Y,Z	Free flight	This study

Barn Owl (*Tyto alba*)	4	0.3 kg	93.5 ± 4.9	0.6 ± 0.25 m	13.5	90.2	Z	Forward flight (2.5 m s^{-1})	(LePiane and Clark, 2020)
Barn Owl (*Tyto alba*)	3.3	Not given	64-85	0.5	16.2		Z	Takeoff	(Boonman et al. 2018)
Pigeon (*Columba livia*)	9.4	232g	67.3[2]	1	5.7	79.1	Not stated	Free flight	(Boonman et al., 2020)
Common Myna (*Acridotheres tristis*)	12.1	112g	59.5[2]	1	4.4	72.8	Not stated	Free flight	(Boonman et al., 2020)
White-spectacled Bulbul (*Pycnonotus xanthopygos*)	12.3	41g	53.8[2]	1	4.4	64.1	Not stated	Free flight	(Boonman et al., 2020)
House Sparrow (*Passer domesticus*)	22.6	28.5g	56.0[2]	1	2.4	60.9	Not stated	Free flight	(Boonman et al., 2020)
Mouse-tailed bat (*Rhinopoma*	10.8	28.4	45.6[2]	1	5.0	60.9	Not stated	Free flight	(Boonman et al., 2020)

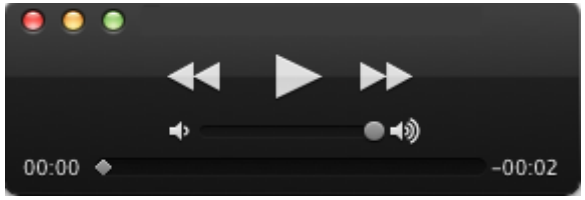
***microphyllum*)**									
Big Brown Bat (*Eptesicus fuscus*)	14.8	18.6	38.8[2]	1	3.7	57.2	Not stated	Free flight	(Boonman et al., 2020)
Rousettus bat (*Rousettus aegyptiacus*)	8.3	168.5	45.6[2]	1	6.5	76.4	Not stated	Free flight	(Boonman et al., 2020)

[1] assuming impedance Z_0 = 413 rayl

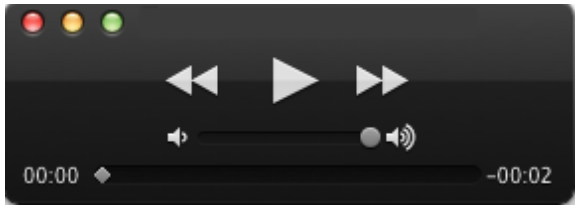
[2] Values are for amplitude scaled to a reference distance of 1 m, assuming nearfield scaling proportional to r^{-2}. Boonman et al. (2020)'s presented values assumed farfield scaling proportion to r^{-1}.



Audio 1. Wing hum of a hovering female Costa's Hummingbird, recorded in the X direction at r = 0.15 m.



Audio 2. Wing hum of a hovering female Costa's Hummingbird hovering at a feeder, recorded in the Y direction at r = 0.15 m.



Audio 3. Wing hum of a hovering female Costa's Hummingbird hovering at a feeder, recorded in the Z direction at r = 0.21 m.