



Supplement of

Insights into the habitat associations, phylogeny, and diet of *Pipistrellus maderensis* in Porto Santo, northeastern Macaronesia

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Figure S1 Photo of one of the captured *Pipistrellus maderensis*.

Table S1. Percentage coverage of each considered land use in Porto Santo Island and number of sampling sites per land use category.

Land-use	% of land use	No. sampling sites	% of sites per land use
Built-up area	17	9	17
Agriculture	7	8	15
Forest	5	1	2
Grassland	48	28	54
Bare Soil	23	6	12

Table S2. Number of bat passes per site, percentage of land cover (Forest, Grassland, Non vegetated) within the 250 m buffer surrounding the sampling site and distance to the nearest water point (D_water).

Site	Latitude	Longitude	No.bat passes	Forest	Grassland	Non-Vegetated	D_water (m)
1	33,0723	-16,3078	0	0	100	0	650,89
2	33,07022	-16,298	0	0	9,05	90,95	1334,61
3	33,06124	-16,3698	0	0	41,02	0	697,91
4	33,06124	-16,3519	16	0	0	0	653,53
5	33,064	-16,3443	20	0	0	0	466,50
6	33,06124	-16,3339	0	0	0	0	463,41
7	33,06191	-16,3025	0	0	10,55	89,45	1890,71
8	33,04988	-16,3763	0	0	100	0	557,98
9	33,05226	-16,3609	2	0	6,76	0	84,19
10	33,04103	-16,3888	0	0	99,51	0	1410,07
11	33,03748	-16,3838	131	0	100	0	991,89
12	33,04874	-16,3673	12	0	93,42	0	520,48
13	33,04329	-16,3609	4	0	35,76	0	474,12
14	33,03431	-16,3878	2	0	100	0	1476,01
15	33,03431	-16,3788	6	0	78,10	21,90	823,01
16	33,03431	-16,3698	53	0	100	0	763,37
17	33,02533	-16,3788	0	0	51,94	48,06	1733,81
18	33,09548	-16,3239	0	38,28	61,47	0,25	1339,61
19	33,09715	-16,316	4	0	84,49	15,51	904,04
20	33,09556	-16,3114	0	0	83,97	16,03	595,67
21	33,0952	-16,2983	0	0	0	100	1213,00
22	33,08817	-16,3429	63	0	6,41	11,63	992,09
23	33,08817	-16,3339	10	0,01	99,99	0	1602,94
24	33,09045	-16,3271	2	28,18	71,81	0	1435,87
25	33,09067	-16,3112	1888	0	100	0	58,45
26	33,08673	-16,3068	0	0	100	0	23,87
27	33,09391	-16,3025	18	0	16,19	83,81	883,46
28	33,07785	-16,3667	0	0	47,68	35,17	1287,02

29	33,08093	-16,361	0	0	0	77,45	1166,18
30	33,08066	-16,3528	3	0	0	23,70	395,89
31	33,08301	-16,3415	1180	0,12	99,88	0	707,48
32	33,0792	-16,3339	118	100	0	0	949,15
33	33,07985	-16,3286	46	7,67	92,33	0	801,86
34	33,08038	-16,3083	329	0	100	0	38,50
35	33,07022	-16,3698	0	0	92,95	7,05	633,41
36	33,07041	-16,3581	0	0	70,18	0	775,94
37	33,07107	-16,3536	12	0	25,19	0	1152,45
38	33,07008	-16,3404	328	0	0,85	0	80,87
39	33,07282	-16,3337	0	1,76	88,90	0	575,21
40	33,07079	-16,3145	5	0	100	0	968,98
41	33,06405	-16,3161	0	0	1,29	56,72	1390,47
42	33,07259	-16,3269	2006	0	94,80	5,20	22,93
43	33,07253	-16,3276	33	0	93,37	2,26	7,318
44	33,04267	-16,3744	5	0	100	0	264,28
45	33,06638	-16,365	1474	0	100	0	48,81
46	33,06733	-16,3403	27	0	1,65	0	12,39

Table S3. Information regarding the genetic samples of *Pipistrellus maderensis* from Porto Santo used in the phylogenetic analysis of this study.

Specimen Code	Locality	Geographic coordinates	GenBank Accession Code
PMAD1	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260006
PMAD2	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260003
PMAD3	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260005
PMAD4	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260004
PMAD5	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260001
PMAD6	Pico Castelo	33° 4' 51.4704", -16° 20' 1.932"	OQ260002

Table S4. Forearm length, weight, age, sex, and reproductive status of the Madeiran pipistrelles *Pipistrellus maderensis* captured during this study. Abbreviations: Female (F), Male (M), LAC (lactating), NR (Non-reproductive).

Forearm length (mm)	Weight (g)	Age	Sex	Reproductive status
32,3	3,78	Juvenile	F	NR

33,2	3,74	Adult	F	NR
33,7	4,59	Adult	F	LAC
32,25	3,65	Juvenile	F	NR
31,85	3,24	Juvenile	F	NR
31,9	4,12	Adult	M	NR

Table S5. Summary results of the most parsimonious generalized linear mixed models (Akaike differences < 2 from the best model) investigating the relationship between environmental variables on the activity of *Pipistrellus maderensis* in Porto Santo, archipelago of Madeira, Portugal. For each model, the model rank, the number of estimated parameters (K), sample-size adjusted Akaike's information criterion (AIC_c), Akaike differences (Δ_i), Akaike weights (w_i), cumulative Akaike weight (Cum_w), log-likelihood ($\log(L)$), marginal R^2 (mR^2) and conditional R^2 (cR^2) are presented. Variable abbreviations: W = distance to the closest water source; NV = non-vegetated area; F = forest; and G = grassland.

Model structure	Model rank	K	AIC_c	Δ_i	w_i	Cum_w	$\log(L)$
W + NV	1	4	374.8	0	0.112	0.112	-182.936
W	2	3	374.9	0.03	0.110	0.222	-184.154
W+F	3	4	375.8	0.90	0.071	0.293	-183.387
NV	4	3	375.8	0.98	0.069	0.362	-184.626
W + F + NV	5	5	376.5	1.68	0.048	0.410	-182.515
W + G	6	4	376.8	1.97	0.042	0.452	-183.920

Table S6: Results of model averaging generalized linear mixed models ($\Delta_{AIC} < 2$) analysing the effects of the landscape-use and distance to the closest water source on bat activity (number of bat passes).

Predictor	Estimate	Std. Error	Z value	$Pr(> z)$	Conf 2.5%	Conf 97.5%	p-value
Intercept	4.9399	0.4069	11.795	$<2e-16$	4.1190	5.7607	<0.01
Distance to water	-0.5396	0.2426	2.168	0.0301	-1.0273	-0.0519	<0.05
No-vegetated	-0.5404	0.2426	1.422	0.1550	-1.2851	0.2044	>0.05
Forest	0.2148	0.1643	1.270	0.2039	-0.1166	0.5463	>0.05
Grassland	0.1297	0.1915	0.658	0.5108	-0.2568	0.5163	>0.05

Table S7: Moran's *I* test for the residuals generalized linear mixed models ($\Delta AIC < 2$) analysed the effects of the landscape-use and distance to the closest water source on bat activity (number of bat passes). Significant ($P < 0.05$) are highlighted in bold. Abbreviations: distance to the closest water source (W), non-vegetated area (NV), forest (F) and grassland (G).

Model structure	Observed	Expected	SD	p-value
W + NV	-0.08	-0.02	0.03	< 0.05
W	-0.09	-0.02	0.03	< 0.05
W+F	-0.09	-0.02	0.03	< 0.05
NV	-0.06	-0.02	0.03	0.17
W + F + NV	-0.09	-0.02	0.03	< 0.05
W + G	-0.10	-0.02	0.03	< 0.05