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HABITAT USE AND HABITAT OVERLAP OF RIPARIAN  
BIRDS IN THREE ELEVATIONAL ZONES

by

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Table 1 of the microfiche publication contains the mean ( $\pm$  S.E.) scores of five principal components for 20 bird species and a random sample. The principal components analysis was used to examine the position of each bird species and the random habitat centroid in  $n$ -dimensional habitat space. Table 2 contains the means ( $\pm$  S.E.) of 19 original habitat variables for 20 bird species and a random sample. Habitat was sampled at breeding territories of each bird species and at 40 random stations. Refer to Table 1 of the journal article for definitions of habitat variables and Appendix 1 of the article for common and scientific names of bird species.

Table 1. Mean scores  $\pm$  standard errors of five principal components (PC) for 20 species.<sup>a</sup>

Group	n	PC1	PC2	PC3	PC4	PC5
Random	400	-0.15 $\pm$ 0.05	-0.13 $\pm$ 0.05	-0.11 $\pm$ 0.05	-0.06 $\pm$ 0.04	0.01 $\pm$ 0.04
MODO	11	1.04 $\pm$ 0.18	-0.55 $\pm$ 0.30	-0.08 $\pm$ 0.28	-0.01 $\pm$ 0.29	-0.14 $\pm$ 0.30
BTHU	16	0.09 $\pm$ 0.18	0.01 $\pm$ 0.18	0.32 $\pm$ 0.18	0.05 $\pm$ 0.29	0.07 $\pm$ 0.16
WWPE	15	1.14 $\pm$ 0.12	-0.58 $\pm$ 0.20	-0.12 $\pm$ 0.24	-0.25 $\pm$ 0.22	-0.23 $\pm$ 0.24
WIFL	11	1.12 $\pm$ 0.34	0.09 $\pm$ 0.20	-0.21 $\pm$ 0.29	0.34 $\pm$ 0.20	0.02 $\pm$ 0.24
DUFL	7	-0.50 $\pm$ 0.10	0.36 $\pm$ 0.30	0.53 $\pm$ 0.34	0.79 $\pm$ 0.32	0.47 $\pm$ 0.09
TRSW	8	0.80 $\pm$ 0.29	-1.23 $\pm$ 0.45	-0.20 $\pm$ 0.34	0.37 $\pm$ 0.19	-0.80 $\pm$ 0.44
HOWR	30	1.16 $\pm$ 0.15	-0.25 $\pm$ 0.14	-0.14 $\pm$ 0.17	0.07 $\pm$ 0.18	-0.16 $\pm$ 0.17
VEER	21	0.31 $\pm$ 0.21	0.10 $\pm$ 0.15	0.26 $\pm$ 0.20	0.25 $\pm$ 0.20	-0.06 $\pm$ 0.18
AMRO	41	0.66 $\pm$ 0.13	0.02 $\pm$ 0.13	0.13 $\pm$ 0.16	0.29 $\pm$ 0.13	0.08 $\pm$ 0.13
GRCA	9	0.29 $\pm$ 0.32	0.03 $\pm$ 0.30	-0.25 $\pm$ 0.29	-0.05 $\pm$ 0.26	0.38 $\pm$ 0.13
WAVI	16	1.07 $\pm$ 0.25	0.05 $\pm$ 0.16	-0.02 $\pm$ 0.25	0.17 $\pm$ 0.22	0.11 $\pm$ 0.19
YEWA	60	0.29 $\pm$ 0.12	0.17 $\pm$ 0.11	0.20 $\pm$ 0.11	0.28 $\pm$ 0.11	0.07 $\pm$ 0.09
MGWA	10	-0.39 $\pm$ 0.10	0.44 $\pm$ 0.15	0.67 $\pm$ 0.24	0.17 $\pm$ 0.26	0.43 $\pm$ 0.11
COYE	12	-0.40 $\pm$ 0.12	0.54 $\pm$ 0.16	0.38 $\pm$ 0.20	-0.12 $\pm$ 0.24	0.52 $\pm$ 0.16
WIWA	28	-0.69 $\pm$ 0.03	0.54 $\pm$ 0.11	-0.04 $\pm$ 0.15	-0.56 $\pm$ 0.06	-0.12 $\pm$ 0.13
SOSP	40	-0.17 $\pm$ 0.11	0.33 $\pm$ 0.15	0.21 $\pm$ 0.15	0.48 $\pm$ 0.13	-0.16 $\pm$ 0.16
LISP	60	-0.65 $\pm$ 0.03	0.31 $\pm$ 0.08	0.06 $\pm$ 0.10	-0.31 $\pm$ 0.10	-0.06 $\pm$ 0.09
WCSP	24	-0.71 $\pm$ 0.03	0.37 $\pm$ 0.10	0.01 $\pm$ 0.18	-0.60 $\pm$ 0.11	-0.07 $\pm$ 0.13
BRBL	17	-0.30 $\pm$ 0.18	0.20 $\pm$ 0.18	0.36 $\pm$ 0.21	0.19 $\pm$ 0.22	0.48 $\pm$ 0.09
BHCO	8	0.38 $\pm$ 0.28	-0.27 $\pm$ 0.27	0.29 $\pm$ 0.46	0.37 $\pm$ 0.32	-0.24 $\pm$ 0.39

<sup>a</sup>Refer to Appendix 1 for common and scientific names of bird species

Table 2. Means  $\pm$  standard errors of original variables for 20 species.<sup>a</sup>

Variable	RANDOM	MODO	BTHU	WWPE	WIFL	DUFL	TRSW
CANHT (m)	4.0 $\pm$ 0.2	8.3 $\pm$ 0.9	4.6 $\pm$ 0.8	7.9 $\pm$ 0.6	7.9 $\pm$ 1.4	2.9 $\pm$ 1.0	7.4 $\pm$ 1.2
TDEN (100 m <sup>2</sup> )	10.8 $\pm$ 0.3	39.0 $\pm$ 23.2	52.8 $\pm$ 13.1	250.9 $\pm$ 20.2	16.9 $\pm$ 2.2	0.0 $\pm$ 0.0	42.0 $\pm$ 15.2
CANCOV (%)	22.9 $\pm$ 1.7	51.3 $\pm$ 11.4	21.3 $\pm$ 7.0	41.9 $\pm$ 8.8	62.7 $\pm$ 11.3	25.0 $\pm$ 13.7	53.3 $\pm$ 12.2
SHBA (m <sup>2</sup> )	0.3 $\pm$ 0.0	0.1 $\pm$ 0.1	0.3 $\pm$ 0.0	0.1 $\pm$ 0.1	0.3 $\pm$ 0.2	0.5 $\pm$ 0.2	0.3 $\pm$ 0.1
SHCD (cm)	32.3 $\pm$ 4.2	132.1 $\pm$ 30.6	52.6 $\pm$ 15.6	25.5 $\pm$ 19.8	127.9 $\pm$ 21.7	176.4 $\pm$ 36.2	155.3 $\pm$ 39.5
SHHT (m)	1.8 $\pm$ 0.1	1.8 $\pm$ 0.2	2.0 $\pm$ 0.1	2.2 $\pm$ 0.6	1.8 $\pm$ 0.2	2.9 $\pm$ 1.0	2.0 $\pm$ 0.3
SHDIS (m)	4.9 $\pm$ 0.3	6.8 $\pm$ 3.5	3.3 $\pm$ 0.5	6.5 $\pm$ 1.8	2.4 $\pm$ 0.6	2.4 $\pm$ 0.8	13.0 $\pm$ 5.2
VFD1 (#hits)	2.6 $\pm$ 1.0	1.9 $\pm$ 0.3	1.9 $\pm$ 0.3	1.4 $\pm$ 0.2	1.8 $\pm$ 0.3	2.9 $\pm$ 0.6	1.3 $\pm$ 0.3
VFD2 (#hits)	1.2 $\pm$ 0.1	0.5 $\pm$ 0.2	0.8 $\pm$ 0.3	0.3 $\pm$ 0.1	0.9 $\pm$ 0.3	0.8 $\pm$ 0.3	0.1 $\pm$ 0.1
VFD3 (#hits)	0.5 $\pm$ 0.1	0.4 $\pm$ 0.3	0.9 $\pm$ 0.3	0.1 $\pm$ 0.1	0.4 $\pm$ 0.1	1.3 $\pm$ 0.5	0.2 $\pm$ 0.1
VFD4 (#hits)	0.5 $\pm$ 0.1	1.4 $\pm$ 0.5	0.6 $\pm$ 0.3	0.7 $\pm$ 0.3	1.8 $\pm$ 0.6	0.7 $\pm$ 0.4	0.6 $\pm$ 0.3
VFD5 (#hits)	0.1 $\pm$ 0.0	0.2 $\pm$ 0.2	0.1 $\pm$ 0.1	0.3 $\pm$ 0.1	0.7 $\pm$ 0.3	0.0 $\pm$ 0.0	0.1 $\pm$ 0.1
COVER (%)	34.4 $\pm$ 2.1	10.2 $\pm$ 2.8	36.7 $\pm$ 7.8	8.3 $\pm$ 2.9	26.1 $\pm$ 9.6	21.3 $\pm$ 9.8	10.9 $\pm$ 9.3
WILL (%)	67.6 $\pm$ 1.9	27.3 $\pm$ 12.9	62.5 $\pm$ 8.2	20.0 $\pm$ 7.4	18.2 $\pm$ 9.6	89.3 $\pm$ 5.1	34.4 $\pm$ 14.9
EVH (m)	0.5 $\pm$ 0.0	0.5 $\pm$ 0.2	0.6 $\pm$ 0.1	0.2 $\pm$ 0.0	0.4 $\pm$ 0.2	1.4 $\pm$ 0.3	0.1 $\pm$ 0.0
FRUIT (%)	24.2 $\pm$ 1.7	50.0 $\pm$ 12.2	28.1 $\pm$ 7.2	56.7 $\pm$ 7.9	65.9 $\pm$ 11.8	3.6 $\pm$ 3.6	65.6 $\pm$ 14.9
BARE (%)	14.3 $\pm$ 1.3	41.0 $\pm$ 9.9	11.0 $\pm$ 6.0	47.5 $\pm$ 8.9	18.2 $\pm$ 8.0	0.0 $\pm$ 0.0	59.4 $\pm$ 16.3
WATER (%)	3.4 $\pm$ 0.7	0.0 $\pm$ 0.0	0.8 $\pm$ 0.8	0.0 $\pm$ 0.0	0.0 $\pm$ 0.0	3.6 $\pm$ 3.6	0.0 $\pm$ 0.0

Table 2. (Continued)

Variable	HOWR	VEER	AMRO	GRCA	WAVI	YEWA	MGWA
CANHT (m)	9.4 ± 0.9	6.1 ± 1.2	7.9 ± 0.6	5.9 ± 1.5	9.1 ± 1.4	5.8 ± 0.6	2.6 ± 0.4
TDEN (100 m <sup>2</sup> )	94.8 ± 18.6	135.5 ± 22.0	29.9 ± 3.8	14.9 ± 3.4	23.0 ± 4.7	16.3 ± 1.4	7.9 ± 0.5
CANCOV (%)	53.1 ± 7.0	38.9 ± 7.7	44.7 ± 5.7	29.3 ± 13.4	63.4 ± 9.5	6.0 ± 4.4	12.6 ± 5.0
SHBA (m <sup>2</sup> )	0.1 ± 0.0	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.1 ± 0.1	0.3 ± 0.1	0.8 ± 0.2
SHCD (cm)	122.4 ± 13.8	147.9 ± 16.7	139.3 ± 14.4	101.8 ± 14.3	42.2 ± 24.0	3.8 ± 10.1	191.6 ± 23.0
SHHT (m)	2.1 ± 0.3	2.2 ± 0.2	2.1 ± 0.2	1.6 ± 0.2	1.9 ± 0.2	2.0 ± 0.1	2.4 ± 0.4
SHDIS (m)	4.4 ± 0.9	2.8 ± 0.5	3.9 ± 0.8	3.1 ± 1.3	2.7 ± 0.4	3.0 ± 0.5	2.2 ± 0.3
VFD1 (#hits)	1.5 ± 0.2	1.8 ± 0.3	2.4 ± 0.2	2.3 ± 0.4	2.3 ± 0.6	2.5 ± 0.3	4.2 ± 0.6
VFD2 (#hits)	0.4 ± 0.1	1.2 ± 0.4	0.8 ± 0.2	1.0 ± 0.4	0.6 ± 0.2	1.2 ± 0.2	1.6 ± 0.5
VFD3 (#hits)	0.3 ± 0.1	0.4 ± 0.2	0.5 ± 0.1	0.3 ± 0.2	0.4 ± 0.2	0.6 ± 0.1	0.6 ± 0.2
VFD4 (#hits)	1.0 ± 0.2	0.5 ± 0.2	1.1 ± 0.2	0.3 ± 0.2	1.1 ± 0.3	0.7 ± 0.1	0.2 ± 0.1
VFD5 (#hits)	0.6 ± 0.2	0.1 ± 0.1	0.3 ± 0.1	0.1 ± 0.1	0.5 ± 0.2	0.1 ± 0.1	0.0 ± 0.0
COVER (%)	18.6 ± 3.7	19.5 ± 3.9	22.9 ± 3.5	17.9 ± 7.0	17.9 ± 4.4	1.4 ± 3.9	25.1 ± 8.8
WILL (%)	17.8 ± 4.0	52.8 ± 7.4	46.5 ± 6.4	50.0 ± 13.8	31.8 ± 8.7	6.0 ± 5.0	75.0 ± 9.9
EVH (m)	0.3 ± 0.1	0.9 ± 0.2	0.8 ± 0.1	0.8 ± 0.2	0.6 ± 0.2	1.0 ± 0.1	1.4 ± 0.2
FRUIT (%)	59.2 ± 6.5	26.6 ± 6.6	42.7 ± 7.2	41.7 ± 11.0	46.9 ± 10.4	5.0 ± 5.1	5.0 ± 5.0
BARE (%)	36.7 ± 5.8	22.0 ± 7.1	21.9 ± 4.4	9.7 ± 5.4	22.6 ± 6.9	8.3 ± 3.4	2.4 ± 1.6
GRASS (%)	43.9 ± 5.8	53.1 ± 7.6	54.4 ± 4.7	69.7 ± 8.4	59.6 ± 8.3	9.1 ± 4.0	66.3 ± 9.0
WATER (%)	0.8 ± 0.8	5.4 ± 2.5	0.9 ± 0.5	2.8 ± 2.8	0.0 ± 0.0	2.9 ± 1.1	6.2 ± 3.4

Table 2. (Continued)

Variable	COYE	WIWA	SOSP	LISP	WCSP	BRBL	BHCC
CANHT (m)	2.6 ± 0.4	1.6 ± 0.2	4.0 ± 0.5	1.7 ± 0.1	1.4 ± 0.1	3.8 ± 1.1	5.9 ± 1.1
TDEN (100 m <sup>2</sup> )	7.7 ± 0.6	0.0 ± 0.0	9.7 ± 0.7	0.0 ± 0.0	0.0 ± 0.0	14.0 ± 3.5	0.0 ± 0.0
CANCcov (%)	9.4 ± 4.4	0.0 ± 0.0	27.6 ± 4.8	9.6 ± 3.1	1.0 ± 1.0	18.5 ± 5.9	34.6 ± 11.6
SHBA (m <sup>2</sup> )	0.6 ± 0.2	0.5 ± 0.1	0.4 ± 0.1	0.3 ± 0.0	0.5 ± 0.1	0.4 ± 0.1	0.4 ± 0.2
SHCD (cm)	46.6 ± 20.1	123.2 ± 11.4	149.4 ± 16.4	140.8 ± 8.5	144.8 ± 16.0	168.2 ± 22.4	169.2 ± 38.7
SHHT (m)	2.2 ± 0.3	1.6 ± 0.2	2.1 ± 0.2	1.6 ± 0.1	1.4 ± 0.1	2.0 ± 0.2	2.8 ± 1.0
SHDIS (m)	1.8 ± 0.3	2.0 ± 0.3	3.0 ± 0.7	2.6 ± 0.3	3.0 ± 0.4	2.2 ± 0.6	3.9 ± 1.3
VFD1 (#hits)	2.5 ± 0.5	3.3 ± 0.4	2.4 ± 0.3	3.3 ± 0.3	3.2 ± 0.4	3.1 ± 0.4	2.0 ± 0.6
VFD2 (#hits)	1.4 ± 0.3	1.8 ± 0.2	1.4 ± 0.3	1.3 ± 0.2	1.7 ± 0.3	1.1 ± 0.3	0.5 ± 0.3
VFD3 (#hits)	0.7 ± 0.3	0.3 ± 0.1	0.8 ± 0.2	0.4 ± 0.1	0.2 ± 0.1	0.7 ± 0.2	0.5 ± 0.3
VFD4 (#hits)	0.2 ± 0.2	0.0 ± 0.0	0.6 ± 0.2	0.2 ± 0.1	0.0 ± 0.0	0.3 ± 0.2	0.9 ± 0.3
VFD5 (#hits)	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
COVER (%)	34.3 ± 7.9	58.2 ± 6.4	40.5 ± 5.0	43.5 ± 4.0	55.8 ± 6.8	17.4 ± 3.5	11.0 ± 6.0
WILL (%)	91.7 ± 4.7	98.2 ± 1.8	70.0 ± 5.2	92.1 ± 2.4	95.8 ± 4.2	79.9 ± 7.6	50.0 ± 14.9
EVH (m)	1.3 ± 0.3	0.9 ± 0.1	1.1 ± 0.1	1.0 ± 0.1	0.9 ± 0.1	0.9 ± 0.2	0.8 ± 0.3
FRUIT (%)	2.1 ± 2.1	1.8 ± 1.8	20.6 ± 4.4	3.3 ± 1.1	4.2 ± 4.2	12.2 ± 6.2	40.6 ± 15.6
BARE (%)	1.1 ± 1.1	2.1 ± 0.9	11.2 ± 3.6	6.2 ± 1.6	0.5 ± 0.5	1.5 ± 1.5	31.4 ± 13.4
GRASS (%)	56.3 ± 8.7	37.0 ± 6.2	41.4 ± 5.1	45.3 ± 4.1	39.0 ± 7.4	75.2 ± 4.9	45.1 ± 10.8
WATER (%)	8.3 ± 5.4	2.6 ± 1.5	6.9 ± 3.0	5.0 ± 1.5	4.7 ± 2.4	5.9 ± 2.9	12.5 ± 5.3

<sup>a</sup>Refer to Table 1 of the article for definitions of habitat variables and Appendix 1 for species names.