

## Supplementary material

Boris Droz \*, Robin Arnoux, Emmanuel Rey, Thierry Bohnenstengel & Jacques Laesser 2015: Characterizing the habitat requirements of the Common Redstart (*Phoenicurus phoenicurus*) in moderately urbanized areas. — *Ornis Fennica* 92: 112–122.

Droz, B., Faculté des Géoscience et de l'Environnement, Université de Lausanne, Géopolis, 1015 Lausanne, Switzerland

Arnoux, R., Nord 111, 2300 La Chaux-de-Fonds, Switzerland

Rey, E., ioGIS, Pérolles 14, 1700 Fribourg, Switzerland

Bohnenstengel, T., Centre Suisse de Cartographie de la Faune (Swiss Biological Records Center), Passage Maximilien-de-Meuron 6, 2000 Neuchâtel, Switzerland

Laesser, J., Swiss Ornithological Institute, 6204 Sempach, Switzerland

\*To whom correspondence should be addressed

*Seven Total Pages*

*Four Tables, Two Figures*

## Tables

Table S1. Mini-review of habitat landscape composition found in west-central Europe. Proportion of landscape habitat based on common bird monitoring schemes (CBMS) and regional atlas (RA). n. number of observation taking in account.

Region	Years	Census	n	% Urban	% Farmland	% Woodland	% Others	Reference
Spain	2005	CBMS	54	20	32	36	12	Escandell <i>et al.</i> 2005
Switzerland	1999–2012	CBMS	2133	29	29	29	13	Hans Schmid pers. comm.
France	2001–2013	CBMS	7111	31	40	27	2	Frédéric Jiguet pers. comm.
Denmark	1986–2009	CBMS	–	17	26	52	5	Larsen <i>et al.</i> 2011
Geneva (CH)	1998–2001	RA	539	53	42	5	–	Lugrin <i>et al.</i> 2003
Branderburg (D)	1981–1999	RA	79	59	38	3	–	ABBO 2001
Bayern (D)	1996–1999	RA	812	47	33	7	13	Bezzel <i>et al.</i> 2005
Hessen (D)	1993–2000	RA	1071	25	44	31	–	Stübing <i>et al.</i> 2010

- Arbeitsgemeinschaft Berlin-Brandenburgischer Ornithologen (ABBO) (ed.) 2001: Die Vogelwelt von Brandenburg und Berlin. — Natur & Text, Rangsdorf. (In German)
- Bezzel, E., Geiersberger, I., Lossow, G.V. & Pfeifer, R. (ed.) 2005: Brutvögel in Bayern. Verbreitung 1996 bis 1999. — Eugen Ulmer, Stuttgart. (In German)
- Escandell, V., Benítez, L., Velázquez, M. & del Barrio, J.L.G. 2005: Monitoring common breeding birds in Spain: The SACRE programme 1996–2005. — SEO/BirdLifer, Madrid.
- Larsen, J.L., Heldbjerg, H. & Eskildsen, A. 2011: Improving national habitat specific biodiversity indicators using relative habitat use for common birds. — Ecological Indicators 11: 1459–1466.
- Lugrin, B., Barbalat, A. & Albrecht, P. (ed.) 2003: Atlas des oiseaux nicheurs du canton de Genève. — Nicolas Junod, Genève. (In French)
- Stübing, S., Korn, M., Kreuzingen, J. & Werner, M. (ed.) 2010: Vögel in Hessen. — Eigenverlag, Echzell. (In German)
- Stübing, S. & Bauschmann, G. 2013: Artenhilfskonzept Gartenrotschwanz (*Phoenicurus phoenicurus*) in Hessen. — Gutachten im Auftrag der Staatlichen Vogelschutzwarte für Hessen, Rheinland-Pfalz und Saarland, Bad Nauheim. (In German)

Table S2. Result for the non-parametric means comparison analysis (Kruskal–Wallis rank sum test).

Test	Between 2004–2012		Between GS1–GS2	
	$\chi^2$	P	$\chi^2$	P
Bare ground	4.18	0.84	1.12	0.29
Short-cut lawns	2.13	0.98	0.01	0.93
Wooded short- cut lawns	4.89	0.77	2.26	0.13
Wood	6.09	0.64	0.04	0.83
Dense vegetation	1.07	0.99	2.37	0.12
Asphalted surfaces	5.44	0.71	0.63	0.43
Private house	4.38	0.82	0.03	0.80
Tenement	4.45	0.81	0.01	0.91

Table S3. Compositional analysis rank for each variable and year corresponding to the GS1 analysis. Averages and standard deviations (SD) are reported at the end of the table.

Year	Wooded s.-c. lawn	Short- cut lawn	Private house	Bare ground	Wood	Tenement	Asphalted surfaces	Dense vegetation
2004	7	5	6	4	1	3	0	2
2005	7	5	6	3	2	4	1	0
2006	7	6	5	4	3	2	0	1
2007	6	5	7	4	3	2	0	1
2008	7	6	3	2	5	4	1	0
2009	7	3	6	5	4	2	0	1
2010	7	6	5	4	3	2	1	0
2011	7	6	5	4	3	2	1	0
2012	7	6	5	4	2	3	1	0
Average	7.0	5.0	5.0	4.0	3.0	3.0	1.0	0.0
SD	0.3	1.0	1.1	0.8	1.2	0.9	0.5	0.7

Table S4: Proportion (%) of remain (available minus the territory coverage) land cover into GS1 for each year. Averages and standard deviations (SD) are reported at the end of the table.

Year	Bare	Short-	Wooded	Wood	Dense	Asphalted	Private	Tenement
	Ground	cut lawns	s.-c. lawns		vegetation	surfaces	house	
2004	75.4	71.2	67.3	85.5	83.1	89.5	66.2	83.3
2005	71.4	67.4	65.3	81.7	88.5	87.3	64.0	79.6
2006	62.5	59.7	58.5	73.1	86.8	85.5	57.2	72.8
2007	65.5	57.5	58.9	68.4	80.7	84.9	54.4	73.3
2008	65.1	57.8	56.8	61.9	75.8	83.9	55.6	64.6
2009	53.0	51.3	45.7	60.6	71.2	81.37	47.4	66.0
2010	51.3	48.0	46.5	60.6	63.0	81.2	47.8	60.0
2011	45.7	38.1	37.4	59.9	76.7	74.4	34.2	51.6
2012	44.0	41.2	39.8	48.1	64.7	78.4	36.4	57.0
Average	59	55	53	66	77	83	51	68
SD	11	11	11	12	9	5	11	11

## Figures

Fig. S1 : Land cover types, following the Table 1, distribution over the geographic scale

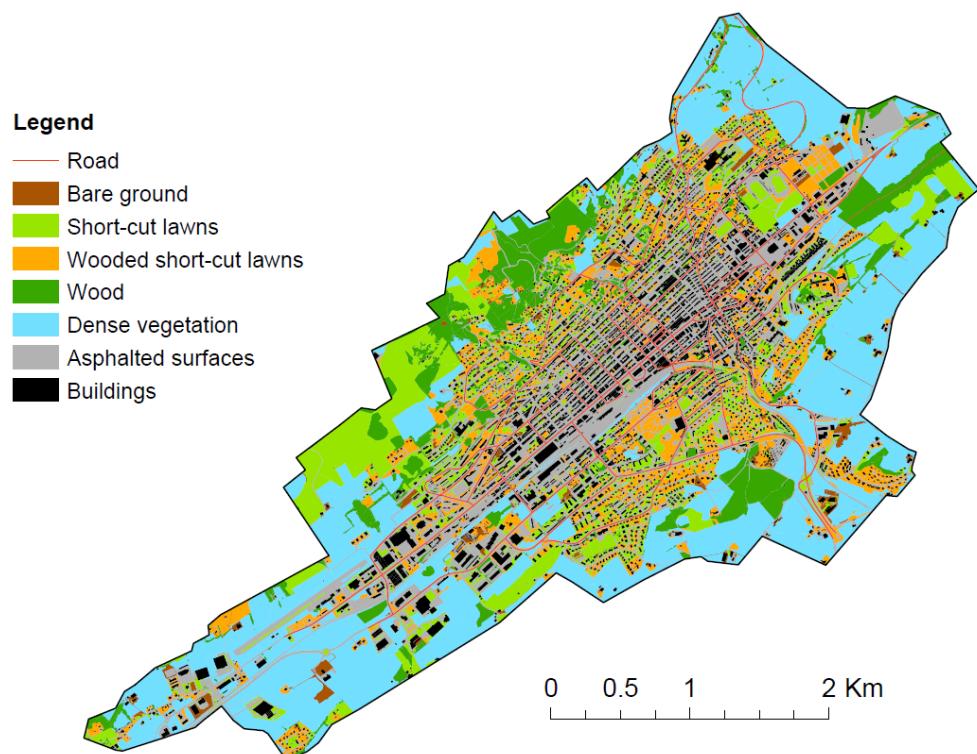


Fig. S2: Characteristic of all territories in GS1 during the census period 2004-12. A) Proportions of habitat within the territories. Grey diamond: indicate the available proportion of each habitat in the respective area. B) Distribution of the territories size for the same data set C) Quantile - quantile plot corresponding for the distribution B).

