



Supplement of

Landscape context outweighs field-scale features in structuring bird communities in West African smallholder rice agroecosystems

Paula Lopes et al.

Correspondence to: Paula Lopes (fc40987@alunos.ciencias.ulisboa.pt)

The copyright of individual parts of the supplement might differ from the article licence.

Supplement

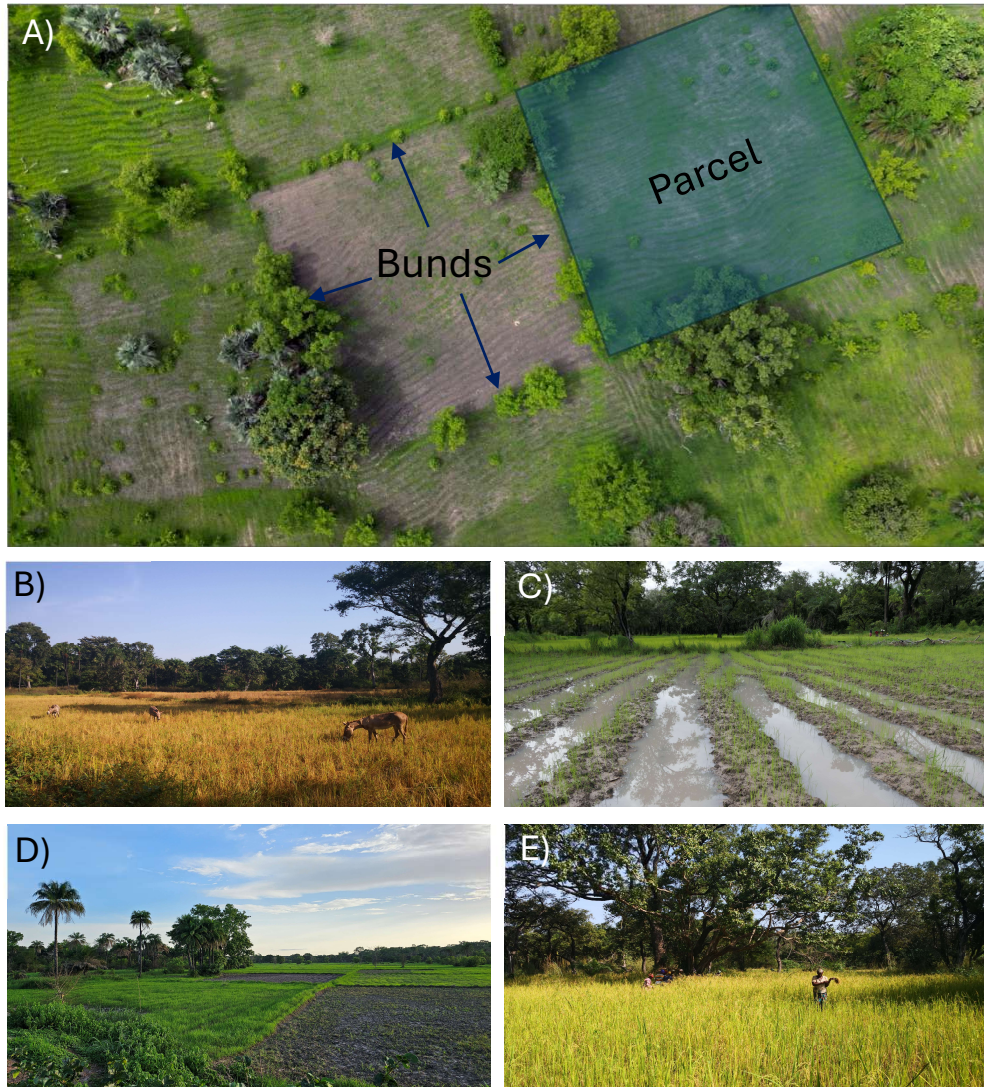


Figure S1 – Rice fields in the study area. (A) Drone aerial photograph showing the parcel and bund layout. (B) Harvested phase in Bereco. (C) Vegetative phase in Djalicunda. (D) Sowing phase, with parcels clearly distinguished, in Bironqui. (E) Mature phase in Mambonco

Table S1 – Land cover classification used for mapping the area around the studied rice fields, adapted and simplified from the IUCN Habitat Classification Scheme to the study area.

Class	Description
Mudflat	Flat intertidal zone, covered by mud.
Open	Area with tree and shrub cover below 40%, including agricultural lands (located close to or distant from settlements) and recent burned areas.
Wooded	Area with tree and shrub cover between 40% and 60%, including cashew orchards and some secondary woodlands.
Forested	Area with more than 60% tree and shrub cover, including cashew orchards and patches of native and secondary forests.
Built-up	Settlements of any size and tarmac roads.

Table S2 – List of bird species recorded in rice fields. Orders and families follow IOC taxonomy (v15.1). Diet groups are based on AVONET database. AI = Abundance Index (1: Accidental; 2–5: Rare; 6–50: Common; > 50: Very common).

Scientific name	Common name	AI	Diet
ORDER ANSERIFORMES			
Family Anatidae			
<i>Dendrocygna viduata</i>	White-faced Whistling Duck	C	Herbivore aquatic
<i>Plectropterus gambensis</i>	Spur-winged Goose	C	Omnivore
GALLIFORMES			
Odontophoridae			
<i>Ptilopachus petrosus</i>	Stone Partridge	A	Omnivore
Phasianidae			
<i>Pternistis ahantensis</i>	Ahanta Spurfowl	R	Herbivore terrestrial
<i>Pternistis bicalcaratus</i>	Double-spurred Spurfowl	VC	Omnivore
APODIFORMES			
Apodidae			
<i>Telacanthura ussheri</i>	Mottled Spinetail	A	Invertivore
<i>Cypsiurus parvus</i>	African Palm Swift	C	Invertivore
<i>Apus affinis</i>	Little Swift	R	Invertivore
<i>Apus caffer</i>	White-rumped Swift	R	Invertivore
MUSOPHAGIFORMES			
Musophagidae			
<i>Crinifer piscator</i>	Western Plantain-eater	VC	Frugivore
<i>Tauraco violaceus</i>	Violet Turaco	VC	Frugivore
<i>Tauraco persa</i>	Guinea Turaco	C	Frugivore

OTIDIFORMES**Otididae**

<i>Lissotis melanogaster</i>	Black-bellied Bustard	A	Invertivore
------------------------------	-----------------------	---	-------------

CUCULIFORMES**Cuculidae**

<i>Centropus senegalensis</i>	Senegal Coucal	VC	Vertivore
-------------------------------	----------------	----	-----------

<i>Centropus grillii</i>	Black Coucal	R	Invertivore
--------------------------	--------------	---	-------------

<i>Clamator glandarius</i>	Great Spotted Cuckoo	A	Invertivore
----------------------------	----------------------	---	-------------

<i>Clamator levaillantii</i>	Levaillant's Cuckoo	C	Invertivore
------------------------------	---------------------	---	-------------

<i>Chrysococcyx caprius</i>	Diederick Cuckoo	R	Invertivore
-----------------------------	------------------	---	-------------

<i>Chrysococcyx klaas</i>	Klaas's Cuckoo	C	Invertivore
---------------------------	----------------	---	-------------

<i>Cuculus solitarius</i>	Red-chested Cuckoo	R	Invertivore
---------------------------	--------------------	---	-------------

<i>Cuculus gularis</i>	African Cuckoo	C	Invertivore
------------------------	----------------	---	-------------

COLUMBIFORMES**Columbidae**

<i>Columba guinea</i>	Speckled Pigeon	C	Granivore
-----------------------	-----------------	---	-----------

<i>Streptopelia decipiens</i>	Mourning Collared Dove	A	Granivore
-------------------------------	------------------------	---	-----------

<i>Streptopelia semitorquata</i>	Red-eyed Dove	VC	Granivore
----------------------------------	---------------	----	-----------

<i>Streptopelia vinacea</i>	Vinaceous Dove	VC	Granivore
-----------------------------	----------------	----	-----------

<i>Spilopelia senegalensis</i>	Laughing Dove	C	Granivore
--------------------------------	---------------	---	-----------

<i>Turtur abyssinicus</i>	Black-billed Wood Dove	C	Granivore
---------------------------	------------------------	---	-----------

<i>Turtur afer</i>	Blue-spotted Wood Dove	R	Granivore
--------------------	------------------------	---	-----------

<i>Treron calvus</i>	African Green Pigeon	C	Granivore
----------------------	----------------------	---	-----------

CHARADRIIFORMES**Charadriidae**

<i>Vanellus spinosus</i>	Spur-winged Lapwing	C	Omnivore
--------------------------	---------------------	---	----------

<i>Vanellus senegallus</i>	African Wattled Lapwing	VC	Aquatic predator
----------------------------	-------------------------	----	------------------

Rostratulidae

<i>Rostratula benghalensis</i>	Greater Painted-Snipe	R	Aquatic predator
--------------------------------	-----------------------	---	------------------

Jacanidae

<i>Actophilornis africanus</i>	African Jacana	A	Aquatic predator
--------------------------------	----------------	---	------------------

Scolopacidae

<i>Tringa ochropus</i>	Green Sandpiper	R	Aquatic predator
------------------------	-----------------	---	------------------

<i>Tringa glareola</i>	Wood Sandpiper	A	Aquatic predator
------------------------	----------------	---	------------------

<i>Tringa totanus</i>	Common Redshank	R	Aquatic predator
-----------------------	-----------------	---	------------------

SULIFORMES**Phalacrocoracidae**

<i>Microcarbo africanus</i>	Reed Cormorant	C	Aquatic predator
-----------------------------	----------------	---	------------------

PELECANIFORMES**Threskiornithidae**

<i>Bostrychia hagedash</i>	Hadada Ibis	A	Invertivore
----------------------------	-------------	---	-------------

Ardeidae

<i>Botaurus sturmii</i>	Dwarf Bittern	C	Aquatic predator
-------------------------	---------------	---	------------------

<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	A	Aquatic predator
------------------------------	---------------------------	---	------------------

<i>Egretta garzetta</i>	Little Egret	A	Aquatic predator
-------------------------	--------------	---	------------------

<i>Butorides striata</i>	Striated Heron	C	Aquatic predator
--------------------------	----------------	---	------------------

<i>Ardeola ralloides</i>	Squacco Heron	C	Aquatic predator
<i>Ardea alba</i>	Great Egret	C	Aquatic predator
<i>Ardea brachyrhyncha</i>	Yellow-billed Egret	C	Aquatic predator
<i>Ardea ibis</i>	Western Cattle Egret	C	Omnivore
<i>Ardea melanocephala</i>	Black-headed Heron	VC	Omnivore
Scopidae			
<i>Scopus umbretta</i>	Hamerkop	VC	Omnivore
ACCIPITRIFORMES			
Accipitridae			
<i>Elanus caeruleus</i>	Black-winged Kite	A	Vertivore
<i>Polyboroides typus</i>	African Harrier-Hawk	C	Vertivore
<i>Gypohierax angolensis</i>	Palm-nut Vulture	C	Frugivore
<i>Necrosyrtes monachus</i>	Hooded Vulture	C	Scavenger
<i>Lophaetus occipitalis</i>	Long-crested Eagle	C	Vertivore
<i>Hieraaetus wahlbergi</i>	Wahlberg's Eagle	C	Vertivore
<i>Micronisus gabar</i>	Gabar Goshawk	R	Vertivore
<i>Kaupifalco monogrammicus</i>	Lizard Buzzard	VC	Invertivore
<i>Tachyspiza badia</i>	Shikra	R	Vertivore
<i>Astur melanoleucus</i>	Black Sparrowhawk	A	Vertivore
<i>Milvus aegyptius</i>	Yellow-billed Kite	R	Omnivore
BUCEROTIFORMES			
Phoeniculidae			
<i>Phoeniculus purpureus</i>	Green Wood Hoopoe	VC	Invertivore
Bucerotidae			
<i>Tockus kempfi</i>	Western Red-billed Hornbill	VC	Invertivore
<i>Lophoceros fasciatus</i>	Congo Pied Hornbill	VC	Omnivore
<i>Lophoceros nasutus</i>	African Grey Hornbill	C	Invertivore
<i>Bycanistes fistulator</i>	Piping Hornbill	R	Frugivore
CORACIIFORMES			
Coraciidae			
<i>Coracias abyssinicus</i>	Abyssinian Roller	VC	Invertivore
<i>Coracias cyanogaster</i>	Blue-bellied Roller	VC	Invertivore
<i>Eurystomus glaucurus</i>	Broad-billed Roller	C	Invertivore
Alcedinidae			
<i>Halcyon leucocephala</i>	Grey-headed Kingfisher	A	Invertivore
<i>Halcyon malimbica</i>	Blue-breasted Kingfisher	C	Invertivore
<i>Halcyon senegalensis</i>	Woodland Kingfisher	C	Invertivore
<i>Ispidina picta</i>	African Pygmy Kingfisher	C	Invertivore
Meropidae			
<i>Merops apiaster</i>	European Bee-eater	R	Invertivore
PICIFORMES			
Lybiidae			
<i>Pogoniulus chrysoconus</i>	Yellow-fronted Tinkerbird	A	Frugivore
<i>Pogonornis dubius</i>	Bearded Barbet	C	Frugivore
Indicatoridae			
<i>Indicator minor</i>	Lesser Honeyguide	A	Invertivore

<i>Indicator indicator</i>	Greater Honeyguide	C	Invertivore
Picidae			
<i>Campethera punctuligera</i>	Fine-spotted Woodpecker	C	Invertivore
<i>Dendropicos fuscescens</i>	Cardinal Woodpecker	A	Invertivore
<i>Dendropicos goertae</i>	African Grey Woodpecker	R	Invertivore
FALCONIFORMES			
Falconidae			
<i>Falco tinnunculus</i>	Common Kestrel	A	Vertivore
<i>Falco ardosiaceus</i>	Grey Kestrel	C	Vertivore
<i>Falco chicquera</i>	Red-necked Falcon	R	Vertivore
<i>Falco cuvierii</i>	African Hobby	A	Omnivore
PSITTACIFORMES			
Psittacidae			
<i>Poicephalus senegalus</i>	Senegal Parrot	VC	Omnivore
Psittaculidae			
<i>Psittacula krameri</i>	Rose-ringed Parakeet	VC	Omnivore
PASSERIFORMES			
Platysteiridae			
<i>Platysteira cyanea</i>	Brown-throated Wattle-eye	C	Invertivore
Malaconotidae			
<i>Malaconotus blanchoti</i>	Grey-headed Bushshrike	C	Invertivore
<i>Chlorophoneus sulfureopectus</i>	Sulphur-breasted Bushshrike	C	Invertivore
<i>Dryoscopus gambensis</i>	Northern Puffback	R	Invertivore
<i>Laniarius turatii</i>	Turati's Boubou	R	Invertivore
<i>Laniarius barbarus</i>	Yellow-crowned Gonolek	C	Invertivore
Vangidae			
<i>Prionops plumatus</i>	White-crested Helmetshrike	R	Invertivore
Oriolidae			
<i>Oriolus auratus</i>	African Golden Oriole	VC	Omnivore
Dicruridae			
<i>Dicrurus adsimilis</i>	Fork-tailed Drongo	VC	Invertivore
Monarchidae			
<i>Terpsiphone rufiventer</i>	Red-bellied Paradise Flycatcher	C	Invertivore
<i>Terpsiphone viridis</i>	African Paradise Flycatcher	R	Invertivore
Laniidae			
<i>Lanius corvinus</i>	Yellow-billed Shrike	VC	Invertivore
Corvidae			
<i>Ptilostomus afer</i>	Piapiac	VC	Omnivore
<i>Corvus albus</i>	Pied Crow	A	Omnivore
Pycnonotidae			
<i>Atimastillas flavicollis</i>	Yellow-gorgeted Greenbul	VC	Frugivore
<i>Pycnonotus barbatus</i>	Common Bulbul	VC	Frugivore
Hirundinidae			
<i>Psalidoprocne obscura</i>	Fanti Saw-wing	A	Invertivore
<i>Riparia riparia</i>	Sand Martin	R	Invertivore
<i>Hirundo lucida</i>	Red-chested Swallow	C	Invertivore

<i>Hirundo smithii</i>	Wire-tailed Swallow	C	Invertivore
<i>Cecropis semirufa</i>	Red-breasted Swallow	R	Invertivore
Macrosphenidae			
<i>Melocichla mentalis</i>	Moustached Grass Warbler	VC	Invertivore
<i>Sylvietta brachyura</i>	Northern Crombec	R	Invertivore
Phylloscopidae			
<i>Phylloscopus trochilus</i>	Willow Warbler	R	Invertivore
Acrocephalidae			
<i>Hippolais polyglotta</i>	Melodious Warbler	R	Invertivore
Cisticolidae			
<i>Cisticola cantans</i>	Singing Cisticola	VC	Invertivore
<i>Cisticola lateralis</i>	Whistling Cisticola	C	Invertivore
<i>Cisticola juncidis</i>	Zitting Cisticola	C	Invertivore
<i>Prinia subflava</i>	Tawny-flanked Prinia	VC	Invertivore
<i>Prinia erythroptera</i>	Red-winged Prinia	C	Invertivore
<i>Cameroptera brachyura</i>	Green-backed Cameroptera	C	Invertivore
<i>Eremomela pusilla</i>	Senegal Eremomela	C	Invertivore
Sylviidae			
<i>Sylvia atricapilla</i>	Eurasian Blackcap	R	Omnivore
Leiothrichidae			
<i>Turdoides plebejus</i>	Brown Babbler	C	Invertivore
<i>Turdoides reinwardtii</i>	Blackcap Babbler	C	Omnivore
Hylotiidae			
<i>Hyliota flavigaster</i>	Yellow-bellied Hyliota	A	Invertivore
Sturnidae			
<i>Lamprotornis chalcurus</i>	Bronze-tailed Starling	R	Omnivore
<i>Lamprotornis purpureus</i>	Purple Starling	VC	Omnivore
<i>Lamprotornis caudatus</i>	Long-tailed Glossy Starling	VC	Frugivore
<i>Cinnyricinclus leucogaster</i>	Violet-backed Starling		Frugivore
Turdidae			
<i>Turdus pelios</i>	African Thrush	C	Omnivore
Muscicapidae			
<i>Melaenornis edolioides</i>	Northern Black Flycatcher	C	Invertivore
<i>Cossypha albicapillus</i>	White-crowned Robin-Chat	R	Invertivore
<i>Cossypha niveicapilla</i>	Snowy-crowned Robin-Chat	A	Invertivore
Nectariniidae			
<i>Cinnyris pulchellus</i>	Beautiful Sunbird	C	Nectarivore
<i>Cinnyris coccinogastrus</i>	Splendid Sunbird	C	Omnivore
<i>Cinnyris venustus</i>	Variable Sunbird	A	Nectarivore
<i>Cinnyris cupreus</i>	Copper Sunbird	C	Nectarivore
Passeridae			
<i>Passer griseus</i>	Northern Grey-headed Sparrow	A	Granivore
Ploceidae			
<i>Ploceus brachypterus</i>	Olive-naped Weaver	C	Invertivore
<i>Ploceus cucullatus</i>	Village Weaver	VC	Granivore
<i>Ploceus melanocephalus</i>	Black-headed Weaver	VC	Granivore

<i>Quelea erythroga</i>	Red-headed Quelea	R	Granivore
<i>Quelea quelea</i>	Red-billed Quelea	C	Granivore
<i>Euplectes hordeaceus</i>	Black-winged Red Bishop	C	Granivore
<i>Euplectes franciscanus</i>	Northern Red Bishop	VC	Granivore
<i>Euplectes macroura</i>	Yellow-mantled Widowbird	VC	Granivore
Estrildidae			
<i>Spermestes cucullata</i>	Bronze Mannikin	C	Granivore
<i>Glaucostriola caerulescens</i>	Lavender Waxbill	A	Granivore
<i>Estrilda melpoda</i>	Orange-cheeked Waxbill	VC	Granivore
<i>Uraeginthus bengalus</i>	Red-cheeked Cordon-bleu	VC	Granivore
<i>Pytilia phoenicoptera</i>	Red-winged Pytilia	A	Granivore
<i>Lagonosticta senegala</i>	Red-billed Firefinch	C	Granivore
Viduidae			
<i>Vidua chalybeata</i>	Village Indigobird	R	Granivore
<i>Vidua macroura</i>	Pin-tailed Whydah	VC	Granivore

Table S3 – Univariate Linear Mixed Models (LMMs) fitted to bird species richness with field features (field width, parcel area or tree cover) as fixed effects and month of the year as a random effect. Log transformation of species richness was applied for the models of frugivores, invertivores and omnivores. *Std. error* = standard error; *Std. dev.* = standard deviation. Significant p-values for explanatory variables are shown in bold.

Model	Fixed effects				Random effects			
		Estimate	Std. error	t-value	p-value		Variance	Std. dev.
All species								
<i>Parcel area</i>	Intercept	18.558	1.141	16.269	1.65E-05	Month	7.430	2.726
	Parcel area	9.27E-03	0.228	4.06E-02	0.968	Residual	11.471	3.387
<i>Tree cover</i>	Intercept	18.577	1.165	15.948	1.81E-05	Month	7.775	2.788
	Tree cover	0.524	0.225	2.331	2.07E-02	Residual	11.181	3.344
<i>Field width</i>	Intercept	18.526	1.095	16.914	1.39E-05	Month	6.829	2.613
	Width	0.522	0.230	2.275	2.39E-02	Residual	11.225	3.350
Frugivores								
<i>Parcel area</i>	Intercept	0.991	3.78E-02	26.226	6.19E-70	Month	0.000	0.000
	Parcel area	3.23E-02	3.78E-02	0.855	0.394	Residual	0.320	0.566
<i>Tree cover</i>	Intercept	1.000	4.74E-02	21.108	1.27E-04	Month	4.91E-03	7.01E-02
	Tree cover	0.152	3.64E-02	4.163	4.51E-05	Residual	0.295	0.544
<i>Field width</i>	Intercept	0.991	3.61E-02	27.441	2.81E-73	Month	0.000	0.000
	Width	0.169	3.61E-02	4.675	5.11E-06	Residual	0.292	0.541
Granivores								
<i>Parcel area</i>	Intercept	4.967	0.445	11.162	1.20E-04	Month	1.089	1.044
	Parcel area	-1.92E-02	0.117	-0.163	0.871	Residual	3.033	1.742
<i>Tree cover</i>	Intercept	4.970	0.449	11.069	1.24E-04	Month	1.111	1.054
	Tree cover	0.127	0.117	1.085	0.279	Residual	3.016	1.737
<i>Field width</i>	Intercept	4.949	0.424	11.673	9.98E-05	Month	0.982	0.991
	Width	0.275	0.118	2.333	2.06E-02	Residual	2.966	1.722

Invertivores								
<i>Parcel area</i>	Intercept	1.219	9.60E-02	12.699	8.09E-05	Month	4.66E-02	0.216
	Parcel area	-4.54E-02	3.50E-02	-1.297	0.196	Residual	0.270	0.520
<i>Tree cover</i>	Intercept	1.223	0.100	12.198	8.68E-05	Month	5.24E-02	0.229
	Tree cover	0.157	3.34E-02	4.706	4.50E-06	Residual	0.247	0.497
<i>Field width</i>	Intercept	1.214	8.96E-02	13.537	6.96E-05	Month	3.95E-02	0.199
	Width	4.29E-02	3.56E-02	1.205	0.229	Residual	0.271	0.521
Omnivores								
<i>Field width</i>	Intercept	0.965	6.22E-02	15.504	3.04E-05	Month	1.48E-02	0.122
	Width	0.131	3.56E-02	3.680	2.93E-04	Residual	0.274	0.523
<i>Parcel area</i>	Intercept	0.972	7.15E-02	13.586	4.23E-05	Month	2.17E-02	0.147
	Parcel area	3.08E-02	3.61E-02	0.852	0.395	Residual	0.288	0.537
<i>Tree cover</i>	Intercept	0.975	7.46E-02	13.056	5.02E-05	Month	2.44E-02	0.156
	Tree cover	4.13E-02	3.60E-02	1.148	0.252	Residual	0.287	0.535

Table S4 – Univariate Linear Mixed Models (LMMs) fitted to bird species richness with landscape metrics (fragmentation, edge complexity and Simpson’s diversity index) as fixed effects and month of the year as a random effect. Log transformation of species richness was applied for the models of frugivores, invertivores and omnivores. *Std. error* = standard error; *Std. dev.* = standard deviation. Significant p-values for explanatory variables are shown in bold.

Model	Fixed effects				Random effects			
		Estimate	Std. error	t-value	p-value		Variance	Std. dev.
BUFFER 200 M								
All species								
Fragmentation	Intercept	18.570	1.139	16.304	1.62E-05	Month	7.418	2.724
	Fragmentation	-0.542	0.224	-2.422	1.63E-02	Residual	11.170	3.342
<i>Edge complexity</i>	Intercept	18.550	1.134	16.356	1.60E-05	Month	7.342	2.710
	Edge complex.	-0.184	0.228	-0.807	0.420	Residual	11.440	3.382
<i>Diversity</i>	Intercept	18.566	1.148	16.175	1.69E-05	Month	7.529	2.744
	Diversity	0.195	0.227	0.858	0.392	Residual	11.429	3.381
Frugivores								
Fragmentation	Intercept	0.991	3.78E-02	26.207	6.95E-70	Month	0.000	0.000
	Fragmentation	2.46E-02	3.78E-02	0.649	0.517	Residual	0.320	0.566
<i>Edge complexity</i>	Intercept	0.991	3.51E-02	28.228	2.13E-75	Month	0.000	0.000
	Edge complex.	-0.211	3.51E-02	-6.003	7.83E-09	Residual	0.276	0.526
<i>Diversity</i>	Intercept	0.991	3.79E-02	26.183	8.15E-70	Month	0.000	0.000
	Diversity	-1.94E-03	3.79E-02	-5.12E-02	0.959	Residual	0.321	0.567
Granivores								
Fragmentation	Intercept	4.962	0.444	11.171	1.17E-04	Month	1.086	1.042
	Fragmentation	0.183	0.116	1.580	0.116	Residual	3.000	1.732
<i>Edge complexity</i>	Intercept	4.957	0.438	11.327	1.11E-04	Month	1.052	1.025
	Edge complex.	-0.204	0.116	-1.753	8.11E-02	Residual	2.994	1.730

<i>Diversity</i>	Intercept	4.960	0.438	11.325	1.11E-04	Month	1.053	1.026
	Diversity	-0.178	0.116	-1.530	0.127	Residual	3.004	1.733
Invertivores								
<i>Fragmentation</i>	Intercept	1.216	9.30E-02	13.071	6.94E-05	Month	4.33E-02	0.208
	Fragmentation	6.02E-02	3.47E-02	1.734	8.43E-02	Residual	0.269	0.519
<i>Edge complexity</i>	Intercept	1.212	8.94E-02	13.565	6.45E-05	Month	3.95E-02	0.199
	Edge complex.	-9.80E-02	3.45E-02	-2.840	4.94E-03	Residual	0.263	0.513
<i>Diversity</i>	Intercept	1.216	9.31E-02	13.066	7.18E-05	Month	4.33E-02	0.208
	Diversity	-1.85E-03	3.50E-02	-5.28E-02	0.958	Residual	0.273	0.522
Omnivores								
<i>Fragmentation</i>	Intercept	0.976	7.24E-02	13.494	4.27E-05	Month	2.32E-02	0.152
	Fragmentation	-0.166	3.41E-02	-4.875	2.10E-06	Residual	0.260	0.510
<i>Edge complexity</i>	Intercept	0.973	7.31E-02	13.311	4.61E-05	Month	2.30E-02	0.152
	Edge complex.	2.48E-03	3.61E-02	6.87E-02	0.945	Residual	0.289	0.537
<i>Diversity</i>	Intercept	0.976	7.55E-02	12.923	5.29E-05	Month	2.55E-02	0.160
	Diversity	8.97E-02	3.55E-02	2.529	1.21E-02	Residual	0.280	0.529
BUFFER 400 M								
All species								
<i>Fragmentation</i>	Intercept	18.544	1.121	16.538	1.52E-05	Month	7.176	2.679
	Fragmentation	-0.478	0.225	-2.123	3.49E-02	Residual	11.247	3.354
<i>Edge complexity</i>	Intercept	18.482	1.035	17.857	1.04E-05	Month	6.133	2.477
	Edge complex.	1.598	0.202	7.914	1.26E-13	Residual	8.936	2.989
<i>Diversity</i>	Intercept	18.554	1.142	16.250	1.64E-05	Month	7.451	2.730
	Diversity	-0.384	0.225	-1.704	8.97E-02	Residual	11.319	3.364
Frugivores								
<i>Fragmentation</i>	Intercept	0.991	3.79E-02	26.183	8.14E-70	Month	0.000	0.000
	Fragmentation	-2.95E-03	3.79E-02	-7.78E-02	0.938	Residual	0.321	0.567
<i>Edge complexity</i>	Intercept	0.991	3.50E-02	28.325	1.17E-75	Month	0.000	0.000
	Edge complex.	0.215	3.50E-02	6.150	3.57E-09	Residual	0.274	0.524
<i>Diversity</i>	Intercept	0.991	3.78E-02	26.205	7.06E-70	Month	0.000	0.000
	Diversity	2.34E-02	3.78E-02	0.618	0.537	Residual	0.321	0.566
Granivores								
<i>Fragmentation</i>	Intercept	4.962	0.439	11.295	1.13E-04	Month	1.060	1.029
	Fragmentation	-0.128	0.117	-1.100	0.273	Residual	3.019	1.737
<i>Edge complexity</i>	Intercept	4.945	0.418	11.831	9.19E-05	Month	0.955	0.977
	Edge complex.	0.424	0.114	3.711	2.63E-04	Residual	2.861	1.691
<i>Diversity</i>	Intercept	4.962	0.443	11.199	1.15E-04	Month	1.082	1.040
	Diversity	-0.301	0.115	-2.627	9.22E-03	Residual	2.941	1.715
Invertivores								
<i>Fragmentation</i>	Intercept	1.217	9.33E-02	13.044	7.24E-05	Month	4.35E-02	0.209
	Fragmentation	2.43E-03	3.50E-02	6.93E-02	0.945	Residual	0.273	0.522
<i>Edge complexity</i>	Intercept	1.208	8.17E-02	14.788	4.71E-05	Month	3.22E-02	0.180
	Edge complex.	0.170	3.34E-02	5.094	7.58E-07	Residual	0.245	0.495
<i>Diversity</i>	Intercept	1.216	9.29E-02	13.088	6.77E-05	Month	4.32E-02	0.208
	Diversity	-7.62E-02	3.46E-02	-2.206	2.84E-02	Residual	0.267	0.516

Omnivores

<i>Fragmentation</i>	Intercept	0.971	7.09E-02	13.695	4.14E-05	Month	2.13E-02	0.146
	Fragmentation	-5.03E-02	3.59E-02	-1.402	0.162	Residual	0.286	0.535
<i>Edge complexity</i>	Intercept	0.966	6.32E-02	15.293	2.65E-05	Month	1.57E-02	0.125
	Edge complex.	0.157	3.47E-02	4.533	9.54E-06	Residual	0.265	0.515
<i>Diversity</i>	Intercept	0.974	7.26E-02	13.427	4.48E-05	Month	2.30E-02	0.152
	Diversity	0.118	3.50E-02	3.355	9.36E-04	Residual	0.274	0.524

BUFFER 800 M**All species**

<i>Fragmentation</i>	Intercept	18.546	1.121	16.546	1.51E-05	Month	7.174	2.678
	Fragmentation	-0.591	0.224	-2.642	8.84E-03	Residual	11.123	3.335
<i>Edge complexity</i>	Intercept	18.505	1.083	17.094	1.29E-05	Month	6.700	2.588
	Edge complex.	1.181	0.214	5.518	9.70E-08	Residual	10.082	3.175
<i>Diversity</i>	Intercept	18.511	1.084	17.078	1.28E-05	Month	6.743	2.597
	Diversity	-1.461	0.205	-7.131	1.46E-11	Residual	9.312	3.052

Frugivores

<i>Fragmentation</i>	Intercept	0.991	3.79E-02	26.183	8.15E-70	Month	0.000	0.000
	Fragmentation	-3.40E-04	3.79E-02	-8.98E-03	0.993	Residual	0.321	0.567
<i>Edge complexity</i>	Intercept	0.991	3.13E-02	31.682	2.54E-84	Month	0.000	0.000
	Edge complex.	0.318	3.13E-02	10.151	3.91E-20	Residual	0.219	0.468
<i>Diversity</i>	Intercept	0.991	3.57E-02	27.744	4.26E-74	Month	0.000	0.000
	Diversity	-0.187	3.57E-02	-5.221	4.08E-07	Residual	0.286	0.535

Granivores

<i>Fragmentation</i>	Intercept	4.964	0.441	11.250	1.15E-04	Month	1.070	1.034
	Fragmentation	-9.10E-02	0.117	-0.780	0.436	Residual	3.027	1.740
<i>Edge complexity</i>	Intercept	4.937	0.418	11.823	9.01E-05	Month	0.961	0.980
	Edge complex.	0.642	0.109	5.881	1.52E-08	Residual	2.624	1.620
<i>Diversity</i>	Intercept	4.948	0.423	11.696	9.45E-05	Month	0.985	0.993
	Diversity	-0.564	0.111	-5.104	7.24E-07	Residual	2.715	1.648

Invertivores

<i>Fragmentation</i>	Intercept	1.217	9.34E-02	13.028	7.22E-05	Month	4.36E-02	0.209
	Fragmentation	6.97E-03	3.50E-02	0.199	0.842	Residual	0.273	0.522
<i>Edge complexity</i>	Intercept	1.206	8.03E-02	15.008	4.20E-05	Month	3.24E-02	0.180
	Edge complex.	0.273	3.00E-02	9.116	5.26E-17	Residual	0.198	0.445
<i>Diversity</i>	Intercept	1.210	8.47E-02	14.295	4.67E-05	Month	3.58E-02	0.189
	Diversity	-0.219	3.18E-02	-6.890	5.93E-11	Residual	0.225	0.474

Omnivores

<i>Fragmentation</i>	Intercept	0.971	7.04E-02	13.793	4.02E-05	Month	2.09E-02	0.145
	Fragmentation	-7.31E-02	3.57E-02	-2.050	4.16E-02	Residual	0.284	0.533
<i>Edge complexity</i>	Intercept	0.970	6.90E-02	14.042	3.85E-05	Month	1.98E-02	0.141
	Edge complex.	7.88E-02	3.58E-02	2.202	2.87E-02	Residual	0.283	0.532
<i>Diversity</i>	Intercept	0.971	7.04E-02	13.788	3.93E-05	Month	2.09E-02	0.145
	Diversity	-6.99E-02	3.57E-02	-1.957	5.16E-02	Residual	0.284	0.533

BUFFER 1 600 M**All species**

<i>Fragmentation</i>	Intercept	18.571	1.148	16.172	1.68E-05	Month	7.573	2.752
	Fragmentation	-1.039	0.215	-4.827	2.61E-06	Residual	10.356	3.218
<i>Edge complexity</i>	Intercept	18.586	1.157	16.065	1.76E-05	Month	7.680	2.771
	Edge complex.	0.864	0.219	3.939	1.10E-04	Residual	10.699	3.271
<i>Diversity</i>	Intercept	18.544	1.120	16.552	1.51E-05	Month	7.173	2.678
	Diversity	-0.730	0.222	-3.293	1.16E-03	Residual	10.934	3.307

Frugivores

<i>Fragmentation</i>	Intercept	0.991	3.76E-02	26.373	2.42E-70	Month	3.19E-18	1.79E-09
	Fragmentation	-6.76E-02	3.76E-02	-1.798	7.35E-02	Residual	0.316	0.563
<i>Edge complexity</i>	Intercept	0.992	3.85E-02	25.792	1.52E-03	Month	5.48E-04	2.34E-02
	Edge complex.	0.115	3.70E-02	3.117	2.07E-03	Residual	0.307	0.554
<i>Diversity</i>	Intercept	0.991	3.37E-02	29.398	1.72E-78	Month	0.000	0.000
	Diversity	-0.257	3.37E-02	-7.607	7.88E-13	Residual	0.255	0.505

Granivores

<i>Fragmentation</i>	Intercept	4.968	0.446	11.150	1.19E-04	Month	1.094	1.046
	Fragmentation	-0.231	0.115	-2.000	4.67E-02	Residual	2.979	1.726
<i>Edge complexity</i>	Intercept	4.968	0.445	11.154	1.19E-04	Month	1.092	1.045
	Edge complex.	6.93E-02	0.117	0.594	0.553	Residual	3.029	1.740
<i>Diversity</i>	Intercept	4.958	0.434	11.414	1.07E-04	Month	1.039	1.019
	Diversity	-0.414	0.113	-3.657	3.20E-04	Residual	2.861	1.691

Invertivores

<i>Fragmentation</i>	Intercept	1.218	9.40E-02	12.952	7.18E-05	Month	4.47E-02	0.211
	Fragmentation	-0.108	3.41E-02	-3.170	1.74E-03	Residual	0.260	0.510
<i>Edge complexity</i>	Intercept	1.219	9.55E-02	12.766	7.94E-05	Month	4.62E-02	0.215
	Edge complex.	8.55E-02	3.45E-02	2.478	1.40E-02	Residual	0.265	0.515
<i>Diversity</i>	Intercept	1.213	8.78E-02	13.812	5.69E-05	Month	3.90E-02	0.198
	Diversity	-0.213	3.19E-02	-6.672	2.06E-10	Residual	0.227	0.476

Omnivores

<i>Fragmentation</i>	Intercept	0.974	7.32E-02	13.307	4.54E-05	Month	2.33E-02	0.153
	Fragmentation	-7.41E-02	3.56E-02	-2.082	3.85E-02	Residual	0.283	0.532
<i>Edge complexity</i>	Intercept	0.978	7.49E-02	13.056	5.35E-05	Month	2.54E-02	0.159
	Edge complex.	0.158	3.43E-02	4.595	7.33E-06	Residual	0.263	0.513
<i>Diversity</i>	Intercept	0.971	6.97E-02	13.929	3.85E-05	Month	2.05E-02	0.143
	Diversity	-0.109	3.52E-02	-3.102	2.18E-03	Residual	0.277	0.526

BUFFER 3 200 M**All species**

<i>Fragmentation</i>	Intercept	18.524	1.112	16.660	1.45E-05	Month	7.079	2.661
	Fragmentation	1.065	0.216	4.939	1.56E-06	Residual	10.323	3.213
<i>Edge complexity</i>	Intercept	18.565	1.148	16.177	1.69E-05	Month	7.528	2.744
	Edge complex.	0.197	0.227	0.867	0.387	Residual	11.429	3.381
<i>Diversity</i>	Intercept	18.543	1.117	16.597	1.49E-05	Month	7.136	2.671
	Diversity	-0.831	0.220	-3.776	2.06E-04	Residual	10.774	3.282

Frugivores

<i>Fragmentation</i>	Intercept	0.991	3.36E-02	29.480	1.05E-78	Month	0.000	0.000
	Fragmentation	0.259	3.36E-02	7.710	4.19E-13	Residual	0.253	0.503

<i>Edge complexity</i>	Intercept	0.997	4.32E-02	23.087	3.49E-04	Month	2.72E-03	5.22E-02
	Edge complex.	0.139	3.66E-02	3.807	1.83E-04	Residual	0.300	0.548
<i>Diversity</i>	Intercept	0.991	3.27E-02	30.358	5.64E-81	Month	0.000	0.000
	Diversity	-0.286	3.27E-02	-8.744	5.66E-16	Residual	0.239	0.489
Granivores								
<i>Fragmentation</i>	Intercept	4.953	0.432	11.453	1.04E-04	Month	1.029	1.014
	Fragmentation	0.411	0.114	3.622	3.64E-04	Residual	2.865	1.692
<i>Edge complexity</i>	Intercept	4.974	0.453	10.991	1.28E-04	Month	1.132	1.064
	Edge complex.	0.249	0.116	2.156	3.22E-02	Residual	2.968	1.723
<i>Diversity</i>	Intercept	4.959	0.436	11.382	1.09E-04	Month	1.045	1.022
	Diversity	-0.383	0.114	-3.360	9.20E-04	Residual	2.886	1.699
Invertivores								
<i>Fragmentation</i>	Intercept	1.211	8.65E-02	13.996	4.77E-05	Month	3.78E-02	0.194
	Fragmentation	0.227	3.15E-02	7.215	8.89E-12	Residual	0.221	0.470
<i>Edge complexity</i>	Intercept	1.223	9.89E-02	12.367	8.62E-05	Month	5.07E-02	0.225
	Edge complex.	0.156	3.33E-02	4.677	5.11E-06	Residual	0.247	0.497
<i>Diversity</i>	Intercept	1.213	8.78E-02	13.818	5.82E-05	Month	3.90E-02	0.197
	Diversity	-0.212	3.19E-02	-6.641	2.47E-10	Residual	0.227	0.477
Omnivores								
<i>Fragmentation</i>	Intercept	0.972	7.17E-02	13.557	4.16E-05	Month	2.19E-02	0.148
	Fragmentation	5.25E-02	3.58E-02	1.466	0.144	Residual	0.286	0.535
<i>Edge complexity</i>	Intercept	0.975	7.44E-02	13.105	4.95E-05	Month	2.43E-02	0.156
	Edge complex.	5.51E-02	3.58E-02	1.540	0.125	Residual	0.285	0.534
<i>Diversity</i>	Intercept	0.970	6.85E-02	14.175	3.66E-05	Month	1.97E-02	0.140
	Diversity	-0.139	3.48E-02	-4.003	8.59E-05	Residual	0.270	0.519

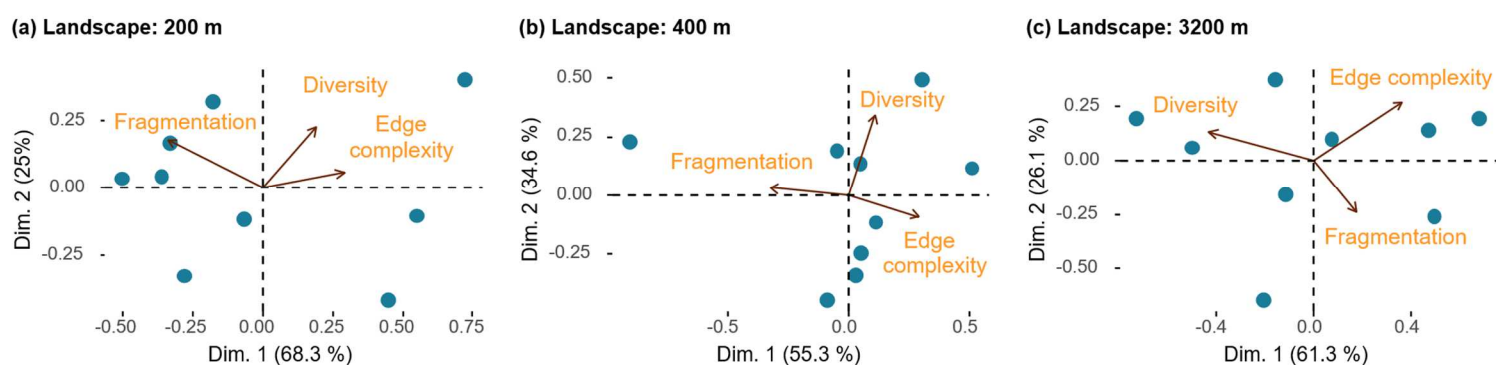


Figure S2 – Principal Component Analysis (PCA) of landscape structure variables measured at 200 m, 400 m and 3 200 m from the crop. The percentage of variance explained by the first two principal components (Dim. 1 and Dim. 2) is indicated in parentheses. Arrows indicate the direction of each variable, with their contribution reflected in the arrow length. Blue dots represent the sampled sites.

Table S5 – Linear Mixed Models (LMMs) fitted to bird species richness with landscape structure as predicted variable and month of the year as random effects. Models were fitted separately for buffers of 200, 400, 800, 1 600 and 3 200 m. Log transformation of species richness was applied for the models of frugivores, invertivores and omnivores. *Std. error.* = standard error; *Std. dev.* = standard deviation; AICc = Akaike Information Criterion corrected for small sample size. Significant p-values for the explanatory variable and the lowest AICc for all species and each trait (best buffer) are shown in bold.

Model	Fixed effects				Random effects			AICc
	Estimate	Std. error	t-value	p-value	Variance	Std. dev.		
BUFFER 200 M								
All species								
Intercept	18.588	1.148	16.194	1.66E-05	Month	7.527	2.743	1211.633
Landscape structure	9.04E-03	8.64E-03	1.046	0.297	Residual	11.411	3.378	
Frugivores								
Intercept	0.983	3.73E-02	26.320	3.37E-70	Month	0.000	0.000	395.568
Landscape structure	-3.99E-03	1.42E-03	-2.812	5.36E-03	Residual	0.310	0.557	
Granivores								
Intercept	4.937	0.438	11.260	1.12E-04	Month	1.055	1.027	910.611
Landscape structure	-8.97E-03	4.42E-03	-2.031	4.35E-02	Residual	2.979	1.726	
Invertivores								
Intercept	1.208	9.10E-02	13.268	6.62E-05	Month	4.11E-02	0.203	372.068
Landscape structure	-2.72E-03	1.32E-03	-2.054	4.12E-02	Residual	0.268	0.517	
Omnivores								
Intercept	0.987	7.59E-02	13.004	4.84E-05	Month	2.58E-02	0.161	376.839
Landscape structure	4.16E-03	1.34E-03	3.094	2.23E-03	Residual	0.276	0.525	
BUFFER 400 M								
All species								
Intercept	18.497	1.119	16.534	1.51E-05	Month	7.139	2.672	1206.544
Landscape structure	2.98E-02	1.27E-02	2.335	2.05E-02	Residual	11.200	3.347	
Frugivores								
Intercept	0.982	3.75E-02	26.208	6.94E-70	Month	0.000	0.000	395.996
Landscape structure	5.45E-03	2.12E-03	2.578	1.06E-02	Residual	0.312	0.558	
Granivores								
Intercept	4.965	0.444	11.187	1.17E-04	Month	1.082	1.040	913.899
Landscape structure	2.73E-04	6.63E-03	4.11E-02	0.967	Residual	3.034	1.742	
Invertivores								
Intercept	1.215	9.29E-02	13.086	7.03E-05	Month	4.29E-02	0.207	375.379
Landscape structure	5.33E-04	1.99E-03	0.268	0.789	Residual	0.273	0.522	
Omnivores								
Intercept	0.954	6.63E-02	14.401	3.33E-05	Month	1.81E-02	0.134	365.421
Landscape structure	8.95E-03	1.96E-03	4.574	8.02E-06	Residual	0.264	0.514	

BUFFER 800 M**All species**

Intercept	18.179	1.067	17.032	1.26E-05	Month	6.512	2.552	1167.508
Landscape structure	-5.83E-02	8.24E-03	-7.074	2.04E-11	Residual	9.347	3.057	

Frugivores

Intercept	0.945	3.59E-02	26.298	3.90E-70	Month	0.000	0.000	369.559
Landscape structure	-8.47E-03	1.40E-03	-6.031	6.74E-09	Residual	0.276	0.525	

Granivores

Intercept	4.817	0.419	11.493	9.81E-05	Month	0.961	0.980	889.462
Landscape structure	-2.29E-02	4.43E-03	-5.158	5.60E-07	Residual	2.710	1.646	

Invertivores

Intercept	1.161	8.29E-02	14.015	5.04E-05	Month	3.35E-02	0.183	335.630
Landscape structure	-8.56E-03	1.28E-03	-6.668	2.11E-10	Residual	0.228	0.477	

Omnivores

Intercept	0.949	6.88E-02	13.787	3.39E-05	Month	1.92E-02	0.139	379.241
Landscape structure	-3.76E-03	1.42E-03	-2.641	8.87E-03	Residual	0.281	0.530	

BUFFER 1 600 M**All species**

Intercept	18.592	1.126	16.508	1.53E-05	Month	7.282	2.698	1183.088
Landscape structure	-4.90E-02	8.71E-03	-5.619	5.87E-08	Residual	10.020	3.165	

Frugivores

Intercept	0.998	3.37E-02	29.617	4.62E-79	Month	1.40E-16	1.18E-08	351.502
Landscape structure	-1.06E-02	1.39E-03	-7.629	6.91E-13	Residual	0.254	0.504	

Granivores

Intercept	4.977	0.441	11.279	1.13E-04	Month	1.075	1.037	901.899
Landscape structure	-1.68E-02	4.66E-03	-3.609	3.82E-04	Residual	2.863	1.692	

Invertivores

Intercept	1.224	9.19E-02	13.320	6.46E-05	Month	4.36E-02	0.209	329.967
Landscape structure	-9.26E-03	1.29E-03	-7.167	1.18E-11	Residual	0.221	0.470	

Omnivores

Intercept	0.977	7.01E-02	13.947	3.92E-05	Month	2.13E-02	0.146	364.257
Landscape structure	-6.73E-03	1.41E-03	-4.783	3.18E-06	Residual	0.262	0.511	

BUFFER 3 200 M**All species**

Intercept	18.636	1.145	16.270	1.62E-05	Month	7.499	2.738	1207.608
Landscape structure	1.76E-02	7.57E-03	2.330	2.07E-02	Residual	11.189	3.345	

Frugivores

Intercept	1.026	4.03E-02	25.460	3.73E-04	Month	2.05E-03	4.53E-02	365.829
Landscape structure	7.55E-03	1.17E-03	6.432	7.99E-10	Residual	0.269	0.519	

Granivores

Intercept	5.016	0.448	11.193	1.15E-04	Month	1.109	1.053	906.308
Landscape structure	1.15E-02	3.86E-03	2.969	3.33E-03	Residual	2.915	1.707	

Invertivores

Intercept	1.247	9.55E-02	13.065	6.60E-05	Month	4.71E-02	0.217	341.256
Landscape structure	6.74E-03	1.09E-03	6.189	2.99E-09	Residual	0.232	0.481	

Omnivores

Intercept	0.988	7.32E-02	13.488	4.09E-05	Month	2.33E-02	0.153	378.672
Landscape structure	3.35E-03	1.19E-03	2.809	5.42E-03	Residual	0.278	0.528	

Table S6 – Eigenvalues, explained variance, and variable loadings for the first 3 principal components (Dim. 1–Dim. 3) from PCAs of field-scale descriptors and landscape descriptors measured within 200–3 200 m buffers.

	Eigenvalues and explained variance				Loadings		
	Dim. 1	Dim. 2	Dim. 3		Dim. 1	Dim. 2	Dim. 3
FIELD							
Eigenvalue	0.18	0.07	0.04	<i>Field width</i>	0.32	0.02	0.13
% of variance	62.54	23.53	13.93	<i>Plot area</i>	0.09	0.24	-0.06
Cumulative % of variance	62.54	86.07	100.00	<i>Tree cover</i>	-0.27	0.10	0.13
BUFFER 200 M							
Eigenvalue	0.18	0.07	0.02	<i>Edge complexity</i>	0.25	0.05	0.10
% of variance	68.34	24.97	6.69	<i>Fragmentation</i>	-0.30	0.16	0.05
Cumulative % of variance	68.34	93.31	100.00	<i>Diversity</i>	0.17	0.20	-0.07
BUFFER 400 M							
Eigenvalue	0.13	0.08	0.02	<i>Edge complexity</i>	0.24	-0.08	0.11
% of variance	55.30	34.64	10.06	<i>Fragmentation</i>	-0.27	0.02	0.11
Cumulative % of variance	55.30	89.94	100.00	<i>Diversity</i>	0.09	0.28	0.02
BUFFER 800 M							
Eigenvalue	0.20	0.07	0.02	<i>Edge complexity</i>	-0.27	0.13	0.08
% of variance	70.51	23.80	5.69	<i>Fragmentation</i>	0.17	0.23	-0.04
Cumulative % of variance	70.51	94.31	100.00	<i>Diversity</i>	0.32	-0.01	0.09
BUFFER 1 600 M							
Eigenvalue	0.18	0.10	0.01	<i>Edge complexity</i>	-0.29	0.09	0.08
% of variance	60.36	34.62	5.02	<i>Fragmentation</i>	0.27	-0.07	0.09
Cumulative % of variance	60.36	94.98	100.00	<i>Diversity</i>	0.14	0.30	0.00
BUFFER 3 200 M							
Eigenvalue	0.20	0.08	0.04	<i>Edge complexity</i>	0.27	0.21	0.07
% of variance	61.27	26.10	12.63	<i>Fragmentation</i>	0.13	-0.18	0.15
Cumulative % of variance	61.27	87.37	100.00	<i>Diversity</i>	-0.33	0.10	0.12

Table S7 – Linear Mixed Models (LMMs) fitted to bird species richness with field openness as predicted variable and month of the year as random effects. Log transformation of species richness was applied for the models of frugivores, invertivores and omnivores. *Std. error.* = standard error; *Std. dev.* = standard deviation. Significant p-value for the explanatory variable is shown in bold.

Model	Fixed effects				Random effects		
	Estimate	Std. error	t-value	p-value		Variance	Std. dev.
All species							
Intercept	18.495	1.136	16.287	1.42E-05	Month	7.281	2.698
Field openness	5.96E-03	1.09E-02	0.548	0.584	Residual	11.461	3.385
Frugivores							
Intercept	0.965	4.10E-02	23.524	3.24E-62	Month	0.000	0.000
Field openness	2.86E-03	1.76E-03	1.621	0.106	Residual	0.317	0.563
Granivores							
Intercept	4.907	0.438	11.191	9.76E-05	Month	1.034	1.017
Field openness	5.53E-03	5.58E-03	0.991	0.323	Residual	3.024	1.739
Invertivores							
Intercept	1.242	9.93E-02	12.509	5.81E-05	Month	4.87E-02	0.221
Field openness	-2.34E-03	1.66E-03	-1.404	0.162	Residual	0.270	0.519
Omnivores							
Intercept	0.935	6.90E-02	13.552	2.16E-05	Month	1.79E-02	0.134
Field openness	3.60E-03	1.70E-03	2.117	3.54E-02	Residual	0.284	0.533

Table S8 – Linear Mixed Models (LMMs) fitted to bird species richness with field openness and landscape structure as predicted variables and month of the year as random effects. Log transformation of species richness was applied for the models of frugivores, invertivores and omnivores. *Std. error.* = standard error; *Std. dev.* = standard deviation; Land. struct. = Landscape structure; R²m = marginal R²; R²c = conditional R². Significant p-values for explanatory variables are shown in bold.

	Fixed effects				Random effects			R ² m	R ² c
	Estimate	Std. error	t-value	p-value		Variance	Std. dev.		
All species									
Intercept	18.045	1.049	17.200	1.03E-05	Month	6.209	2.492	0.125	0.474
Field openness	1.20E-02	9.85E-03	1.218	0.224	Residual	9.336	3.056		
Land. struct. (800m)	-5.92E-02	8.26E-03	-7.159	1.25E-11					
Frugivores									
Intercept	0.948	3.59E-02	26.426	2.41E-70	Month	0.000	0.000	0.248	0.248
Field openness	5.53E-03	1.57E-03	3.517	5.30E-04	Residual	0.242	0.492		
Land. struct. (1600m)	-1.16E-02	1.38E-03	-8.372	6.48E-15					
Granivores									
Intercept	4.729	0.410	11.537	7.78E-05	Month	0.895	0.946	9.15E-02	0.318
Field openness	7.93E-03	5.29E-03	1.499	0.135	Residual	2.698	1.643		
Land. struct. (800m)	-2.35E-02	4.44E-03	-5.282	3.11E-07					

Invertivores

Intercept	1.225	9.35E-02	13.103	5.05E-05	Month	4.37E-02	0.209		
Field openness	-6.94E-05	1.54E-03	-4.50E-02	0.964	Residual	0.222	0.471	0.161	0.300
Land. struct. (1 600m)	-9.25E-03	1.33E-03	-6.979	3.60E-11					

Omnivores

Intercept	0.919	6.21E-02	14.795	1.63E-05	Month	1.38E-02	0.117		
Field openness	5.52E-03	1.63E-03	3.375	8.71E-04	Residual	0.252	0.502	0.133	0.178
Land. struct. (1 600m)	-7.75E-03	1.41E-03	-5.491	1.11E-07					
