

Supplementary material – Table 1. List of detected bird species in urban green areas from Mexico City during four seasons of sampling. The 'X' represents the event of detection in each season, and '-' represents no detection."

Species	First season	Second season	Third season	Fourth season
<i>Accipiter cooperii</i>	X	X	X	X
<i>Accipiter striatus</i>	X	X	-	X
<i>Amazilia beryllina</i>	X	X	X	X
<i>Amazona oratrix</i>	-	X	-	-
<i>Aphelocoma ultramarina</i>	X	-	X	-
<i>Atlapetes pileatus</i>	X	-	-	-
<i>Bombycilla cedrorum</i>	X	X	-	-
<i>Buteo jamaicensis</i>	-	-	-	X
<i>Butorides virescens</i>	-	-	X	-
<i>Cardellina pusilla</i>	X	X	X	X
<i>Cardinalis cardinalis</i>	X	-	-	-
<i>Catharus guttatus</i>	-	-	-	X
<i>Catharus ustulatus</i>	-	-	-	X
<i>Catherpes mexicanus</i>	X	X	-	-
<i>Charadrius vociferus</i>	-	-	-	X
<i>Columba livia</i>	X	X	X	X
<i>Columbina inca</i>	X	X	X	X
<i>Contopus cooperi</i>	-	X	-	-
<i>Contopus pertinax</i>	X	X	X	X
<i>Contopus sordidulus</i>	-	-	X	X
<i>Cyanocorax yncas</i>	-	-	X	X
<i>Cynanthus latirostris</i>	X	X	X	X
<i>Diglossa baritula</i>	X	X	X	X
<i>Dryobates villosus</i>	-	X	X	-
<i>Empidonax hammondi</i>	X	X	X	X
<i>Eugenes fulgens</i>	-	X	-	-
<i>Euphonia elegantissima</i>	-	-	X	-
<i>Falco sparverius</i>	X	-	-	X
<i>Geothlypis nelsoni</i>	X	X	X	X
<i>Geothlypis tolmiei</i>	-	-	X	X
<i>Geothlypis trichas</i>	X	X	X	-
<i>Haemorhous mexicanus</i>	X	X	X	X
<i>Himantopus mexicanus</i>	-	X	-	-
<i>Hirundo rustica</i>	X	X	X	X
<i>Hylocharis leucotis</i>	X	X	X	-
<i>Icterus abeillei</i>	X	X	X	X
<i>Icterus bullockii</i>	X	X	X	X
<i>Icterus cucullatus</i>	-	-	-	X

<i>Icterus parisorum</i>	-	-	X	-
<i>Icterus spurius</i>	X	-	X	X
<i>Junco phaeonotus</i>	X	X	X	-
<i>Lampornis clemenciae</i>	X	X	X	X
<i>Lanius ludovicianus</i>	X	X	X	X
<i>Leiothlypis ruficapilla</i>	X	X	X	X
<i>Leiothlypis virginiae</i>	-	-	X	-
<i>Melanerpes formicivorus</i>	X	-	-	-
<i>Melanotis caerulescens</i>	X	X	X	X
<i>Melospiza lincolni</i>	-	-	-	X
<i>Melospiza melodia</i>	X	X	X	X
<i>Melospiza fusca</i>	X	X	X	X
<i>Mimus polyglottos</i>	-	-	X	-
<i>Mniotilta varia</i>	X	X	X	X
<i>Molothrus aeneus</i>	X	X	X	X
<i>Molothrus ater</i>	X	-	-	-
<i>Myadestes occidentalis</i>	-	X	-	-
<i>Myioborus miniatus</i>	X	X	X	X
<i>Myiopsitta monachus</i>	X	X	X	X
<i>Myioborus pictus</i>	-	X	-	X
<i>Oreothlypis celata</i>	X	X	X	X
<i>Oreothlypis superciliosa</i>	-	-	X	-
<i>Parabuteo unicinctus</i>	X	X	X	X
<i>Passer domesticus</i>	X	X	X	X
<i>Passerculus sandwichensis</i>	-	-	-	X
<i>Passerina caerulea</i>	-	X	-	X
<i>Passerina ciris</i>	-	-	-	X
<i>Passerina cyanea</i>	-	-	X	X
<i>Petrochelidon pyrrhonota</i>	X	-	X	X
<i>Peucedramus taeniatus</i>	X	-	-	-
<i>Pheucticus ludovicianus</i>	-	-	X	-
<i>Pheucticus melanocephalus</i>	X	X	X	X
<i>Picoides scalaris</i>	X	X	X	X
<i>Piranga ludoviciana</i>	X	X	X	X
<i>Piranga rubra</i>	X	X	X	X
<i>Polioptila caerulea</i>	X	X	-	X
<i>Pooecetes gramineus</i>	-	-	X	-
<i>Psaltirparus minimus</i>	X	X	X	X
<i>Ptilonotus cinereus</i>	X	X	X	X
<i>Pyrocephalus rubinus</i>	X	X	X	X
<i>Quiscalus mexicanus</i>	X	X	X	X
<i>Regulus calendula</i>	-	-	X	X

<i>Sayornis nigricans</i>	X	-	-	X	
<i>Seiurus aurocapilla</i>	X	X	X	X	
<i>Setophaga coronata</i>	X	X	X	X	
<i>Setophaga nigrescens</i>	-	-	-	X	
<i>Setophaga occidentalis</i>	X	-	-	X	
<i>Setophaga petechia</i>	X	X	X	X	
<i>Setophaga ruticilla</i>	-	X	X	X	
<i>Setophaga townsendi</i>	X	X	X	X	
<i>Sphyrapicus varius</i>	-	-	-	X	
<i>Spinus psaltria</i>	X	X	X	X	
<i>Spizella passerina</i>	X	-	X	X	
<i>Streptopelia decaocto</i>	X	X	X	X	
<i>Sturnus vulgaris</i>	-	X	X	-	
<i>Tachycineta bicolor</i>	X	-	-	-	
<i>Tachycineta thalassina</i>	-	-	X	-	
<i>Thryomanes bewickii</i>	X	X	X	X	
<i>Toxostoma curvirostre</i>	X	X	X	X	
<i>Troglodytes aedon</i>	-	-	X	X	
<i>Turdus migratorius</i>	X	X	X	X	
<i>Turdus rufopalliatus</i>	X	X	X	X	
<i>Tyrannus vociferans</i>	X	X	X	X	
<i>Vireo cassinii</i>	-	-	-	X	
<i>Vireo gilvus</i>	X	X	X	X	
<i>Vireo huttoni</i>	-	-	X	X	
<i>Vireo solitarius</i>	-	X	X	X	
<i>Xenospiza baileyi</i>	-	-	X	-	
<i>Zenaida asiatica</i>	X	X	X	X	
<i>Zenaida macroura</i>	X	X	X	X	
Total species		69	67	77	79

Supplementary material – Table 2. Multi-species occupancy models, considering different environmental variables, developed for explaining the detectability and occupancy patterns of birds in green urban areas from Mexico City during four seasons. For each model, we report the variables employed to explain detectability (p) and occupancy (ψ) of birds, Watanabe-Akaike Information Criteria (WAIC), the difference of each model with the one with better fit (Δ), and the relative support for each model (or weight). Values in bold show the models with better support.

Detectability (p)	Occupancy (ψ)	WAIC	Δ	weight
First season				
Hour	Constant	15279.88	0	0.952
Temperature	Constant	15295.7	6.44	0.038
Humidity	Constant	15284.33	9.37	0.009
Cloudiness	Constant	15296.25	13.83	0.001
Canopy Coverage	Constant	15299.61	21.69	0.000
Constant	Constant	15318.41	30.86	0.000
Second season				
Temperature	Constant	17073.43	0	0.992
Hour	Constant	17082.95	9.52	0.008
Humidity	Constant	17101.68	28.25	0.000
Canopy coverage	Constant	17117.64	44.21	0.000
Cloudiness	Constant	17125.03	51.60	0.000
Constant	Constant	17128.24	54.81	0.000
Third season				
Hour	Constant	17595.18	0	1.000
Temperature	Constant	17627.10	31.92	0.000
Humidity	Constant	17629.28	34.10	0.000
Canopy coverage	Constant	17717.82	122.64	0.000
Cloudiness	Constant	17728.78	133.60	0.000
Constant	Constant	17729.97	134.79	0.000
Fourth season				
Hour	Constant	18684.81	0	1.000
Temperature	Constant	18724.13	39.32	0.000
Humidity	Constant	18725.3	40.49	0.000
Cloudiness	Constant	18768.88	84.07	0.000
Constant	Constant	18772.54	87.73	0.000
Canopy coverage	Constant	18826.67	141.86	0.000