Table S1. Summary of sampling sites

Site	CANOPY(%)	FAR	ARR(%)	Area(ha)	House age	FID(mean±SD)
AZXL	42.55	2.04	11.03	3.70	1994	6.9±2.7
BFW	47.52	3.68	19.89	4.51	2009	7.5±3.0
CSY	29.97	3.56	21.62	5.83	2001	6.4±3.1
CHW	52.24	2.32	22.54	5.87	2008	7.6±2.9
DHSD	36.87	3.22	61.13	5.57	2008	8.0±3.1
FGL	18.04	2.32	29.94	3.41	1996	8.0±3.3
FHY	10.12	5.17	23.68	0.89	1999	7.4±0.3
FJJY	14.24	1.32	28.84	3.75	2005	5.3±1.9
FLLZ	31.99	3.15	16.31	6.46	2001	7.2±2.9
FYHY	31.01	2.95	44.45	5.57	2003	6.5±2.5
GDHY	38.95	3.77	46.52	4.49	2001	6.6±1.9
HDSJ	28.34	2.71	92.51	6.56	2000	7.1±3.5
HYXY	22.67	3.84	64.77	7.52	2010	6.4±2.7
JJJY	27.62	1.23	7.72	7.31	2008	6.9±2.7
JXY	21.90	3.29	77.26	9.41	2007	6.7±2.5
LRLD	30.42	1.90	40.76	5.88	2005	8.8±3.1
LYJY	13.64	1.93	63.76	6.67	2004	6.4±0.8
MAXQ	25.64	2.86	41.03	4.03	2002	6.9±3.1
MJDF	20.93	4.52	79.31	9.45	2008	6.2±2.8
MLDXY	11.43	1.55	20.18	2.62	1996	7.3±2.4
NLJY	29.87	1.78	42.38	2.25	1988	8.5±4.7
NKY	25.34	3.11	12.22	5.72	1992	5.9±2.5
RDHXL	17.05	1.68	21.22	3.94	1980	7.5±2.8
SDLF	14.09	3.44	50.13	2.09	2005	6.7±2.6
SHL	20.42	2.09	18.17	3.63	1992	7.2±1.7
SLH	29.78	2.58	17.42	2.99	2004	6.8±3.0
SQXQ	11.92	2.69	13.08	0.78	1993	6.4±0.4
TTJY	30.15	3.55	27.14	3.20	2003	6.6±2.8
XFBL	55.17	0.89	7.76	3.82	1985	6.1±1.8
XLJY	34.78	1.56	58.24	6.29	2004	6.5±2.2
XYJY	28.41	4.00	70.81	5.36	2006	5.8±2.4
XYL	51.10	0.89	19.20	4.60	1975	7.5±2.9
YBY	36.80	1.29	10.38	6.99	1996	7.7±2.5
YSY	20.47	3.24	47.93	3.64	2004	5.7±2.3
YYSS	30.98	4.52	44.78	13.31	2007	6.8±2.6
YYZR	27.70	3.93	79.00	5.87	2008	7.6±3.3
ZJCA	29.14	3.02	53.59	12.69	2008	6.4±3.1
ZJJJ	30.54	4.42	78.90	4.67	2002	7.8±2.2
ZKYBJ	12.57	2.05	47.75	5.79	1988	7.2±2.7
ZQM	27.73	2.00	35.23	6.27	2008	7.4±2.7

Note: CANOPY= tree canopy coverage, FAR=floor area ratio, ARR=adjacent road ratio

Table S2. Summary of the birds' FIDs collected in residential areas

Species	Common name	Number	Status	level	Diet	foraging site	FID
Acridotheres cristatellus	Crested Myna	4	R	ERS	omnivore	ground forager	9.5
Anthus hodgsoni	Olive-backed Pipit	1	P	ERS	omnivore	ground forager	10.2
Chloris sinica	Grey-capped Greenfinch	4	R	ERS	granivore	ground forager	10.8
Corvus corone	Carrion Crow	1	R	ERS	omnivore	ground forager	10.2
Corvus macrorhynchos	Large-billed Crow	16	R	RS	omnivore	ground forager	8.2
Cyanopica cyanus	Azure-winged Magpie	302	R	MCS	omnivore	canopy gleaner	7.0
Dendrocopos canicapillus	Grey-capped Pygmy Woodpecker	11	R	RS	insectivore	canopy gleaner	7.9
Dendrocopos major	Great Spotted Woodpecker	18	R	RS	insectivore	canopy gleaner	8.3
Eophona migratoria	Chinese Grosbeak	1	R	ERS	granivore	canopy gleaner	8.4
Fringilla montifringilla	Brambling	10	W	RS	granivore	canopy gleaner	8.5
Lanius cristatus	Brown Shrike	5	S	ERS	carnivore	hawking flycatcher	11.2
Muscicapa sibirica	Dark-sided Flycatcher	1	p	ERS	insectivore	hawking flycatcher	9.2
Pardaliparus venustulus	Yellow-bellied Tit	1	P	ERS	insectivore	canopy gleaner	7.6
Parus major	Great Tit	3	R	ERS	insectivore	canopy gleaner	8.1
Phoenicurus auroreus	Daurian Redstart	4	P	ERS	omnivore	canopy gleaner	9.8
Phylloscopus claudiae	Claudia's Leaf Warbler	1	P	ERS	insectivore	canopy gleaner	8.1
Phylloscopus fuscatus	Dusky Warbler	1	P	ERS	insectivore	canopy gleaner	8.0
Phylloscopus inornatus	Yellow-browed Warbler	1	P	ERS	insectivore	canopy gleaner	8.0
Phylloscopus proregulus	Pallas's Leaf Warbler	1	P	ERS	insectivore	canopy gleaner	8.2
Phylloscopus schwarzi	Radde's Warbler	2	P	ERS	insectivore	ground forager	9.1
Pica pica	Common Magpie	266	R	MCS	omnivore	ground forager	6.9
Poecile palustris	Marsh Tit	3	R	ERS	insectivore	canopy gleaner	9.1
Pycnonotus sinensis	Light-vented Bulbul	272	R	MCS	omnivore	canopy gleaner	7.1
Saxicola torquata	Siberian Stonechat	1	P	ERS	omnivore	ground forager	10.2
Spodiopsar cineraceus	White-cheeked Starling	17	P	RS	omnivore	ground forager	8.1
Spodiopsar sericeus	Red-billed Starling	2	R	ERS	omnivore	canopy gleaner	8.4
Streptopelia chinensis	Spotted Dove	339	R	MCS	granivore	ground forager	6.5
Turdus eunomus	Dusky Thrush	1	W	ERS	omnivore	ground forager	9.9
Turdus merula	Common Blackbird	62	R	CS	omnivore	ground forager	8.3
Turdus naumanni	Naumann's Thrush	1	W	ERS	omnivore	ground forager	8.4

Upupa epops	Common Hoopoe	8	R	ERS	insectivore	ground forager	6.9

Note: FIDs of different species were estimated with GLMM. R=Resident, P=Passenger, S=Summer breeders, W=Winter visitors, MCS=the most common species (n≥200), CS=common species(50≤n<200), RS=rare species(10≤n<50), ERS= Extreme rare species(n<10).

Table S3. Summary of the final best models within a ΔAICc < 2 for the FIDs of total species, resident species and migratory species.

		total species FIDs				resident species FIDs				migratory species FIDs				
Model Parameters	No.	1	2	3	4	1	2	3	4	1	2	3	4	5
	AICc	6505.93	6506.73	6507.14	6507.81	6264.70	6264.94	6265.36	6266.28	247.09	247.74	248.45	248.51	248.96
	ΔAICc	0.00	0.80	1.21	1.88	0.00	0.24	0.66	1.58	0.00	0.64	1.35	1.41	1.87
Species	Frequency													
Individual initial condition	IB													
	Height													
	VL													
Environment characteristic	FAR													
	ARR													
	Canopy													

Note: We indicated the variables with different colors when parameters were selected in the models. Green represents species frequency, blue represents individual initial condition (IB=initial behaviour, VL= visibility level), orange represents Environment characteristic (FAR=floor area ratio, ARR=adjacent road ratio).

Table S4. Summary of the final best models within a ΔAICc < 2 for the FIDs of total species, the most common species and other species FIDs.

		total species FIDs				the most common species FIDs（n≥200）						the other species FIDs（n＜200）					
Model Parameters	No.	1	2	3	4	1	2	3	4	5	6	1	2	3	4	5	6
	AICc	6505.93	6506.73	6507.14	6507.81	5596.68	5597.37	5597.54	5597.58	5598.17	5598.67	247.09	247.74	248.45	248.51	248.96	911.96
	ΔAICc	0.00	0.80	1.21	1.88	0.00	0.68	0.86	0.90	1.48	1.99	0.00	0.64	1.35	1.41	1.87	1.64
Species	Frequency																
Individual initial condition	IB																
	Height																
	VL																
Environment	FAR																
	ARR																

charac-teristic	Canopy				

Note: We indicated the variables with different colors when parameters were selected in the models. Green represents species frequency, blue represents individual initial condition (IB=initial behaviour, VL= visibility level), orange represents Environment characteristic (FAR=floor area ratio, ARR= adjacent road ratio). The most common species included Spotted Dove, Azure-winged Magpie, Light-vented Bulbul and Common.

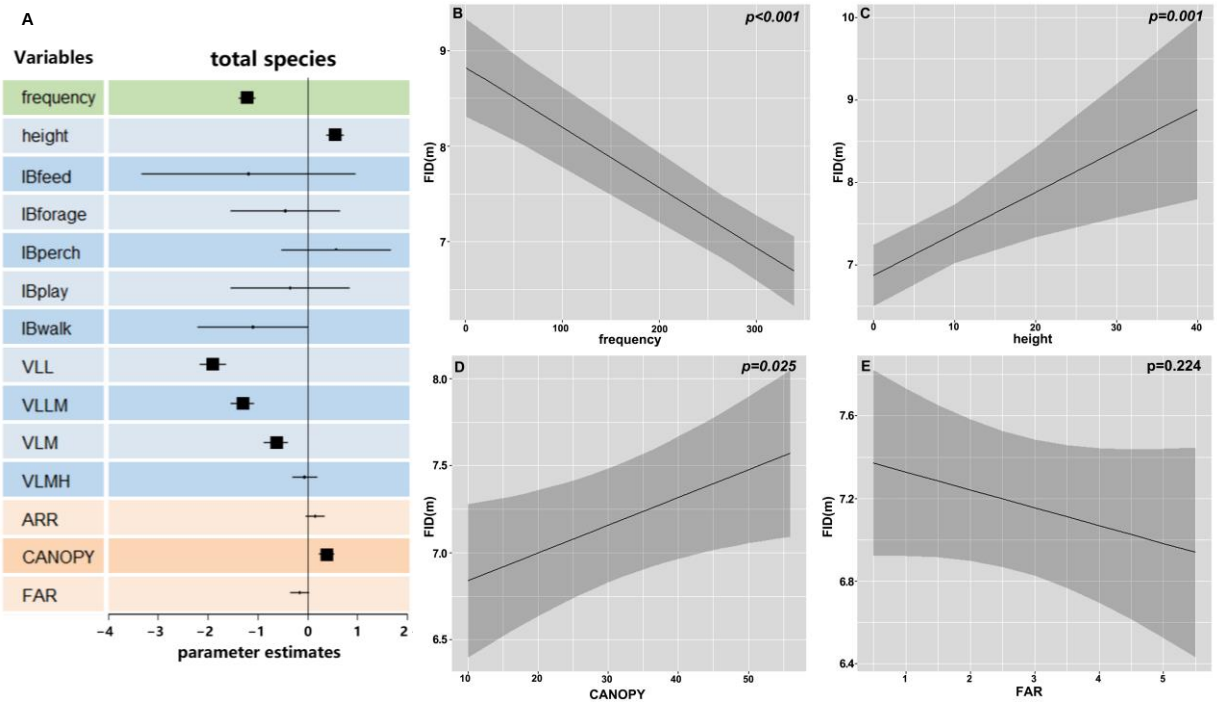


Figure S1. Relationships between variables and FID for the total species. (A) effect sizes of variables are predicted based on the best models' conditional coefficient, (B) frequency, (C)height, (D)CANOPY, (E)FAR. The shape of mean values varies according to the p-value: P< 0.05 '■' and P>0.05 '•'. The bigger black squares represent variables that have a significant effect on the averaged model. Green represents frequency variables, blue represents individual initial condition variables, and orange represents environment characteristic variables. Black lines indicates estimates with 95% confidence intervals (grey area). The P values (P<0.05) in italics indicates significant effect.