

# **Abiotic and Biotic Factors from the Past as Predictors of Alien Bird Richness and Temporal Beta-Diversity**

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**Supplementary Material**

Table S1. The 16 functional traits data set used in this study. Sources of information for each trait are: the Encyclopedia Of Life [1] (<http://www.eol.org>), the Animal Diversity Web [2] (<http://www.animaldiversity.org>) and the field guide to North American birds (Sibley 2014)[3].

Traits	Type of variable	Classes
primary habitat	categorical	arid, coastal, developed (buildings and other human constructions), forest, generalist, open (all open terrestrial habitats), open waters, riparian and wetlands, rock, semi open, shrub, urban
nest location	categorical	ground, rock, shrub, tree
nest type	categorical	open, cavity, closed, nest parasite
foraging strategy	categorical	aerial, aquatic, bark, ground, hawk, hoverer, rock, shrub, tree
main diet	categorical	fruit, nectar, omnivore, seed, vegetation, vertfishscav (vertebrates, fishes and scavenges)
log-transformed body mass (grams)	quantitative	-
body length (mm)	quantitative	-
latitudinal migration	categorical	migrant, non-migrant
territoriality	categorical	non-territorial, territorial, occasionally colonial, colonial
developmental mode	categorical	altricial, semi-altricial, precocial
wingspan (mm)	quantitative	-
number of broods per year	quantitative	-
mean clutch size	quantitative	-
mating system	categorical	monogamous, polygamous
breeding system	categorical	cooperative, female only, male only, occasionally cooperative, parasitic
maximum lifespan	quantitative	-

[1]Encyclopedia of Life. Available from <http://eol.org>. Accessed 15 July 2018.

[2]Myers, P., R. Espinosa, C. S. Parr, T. Jones, G. S. Hammond, and T. A. Dewey. 2019.

The Animal Diversity Web (online). Available from <https://animaldiversity.org>. Accessed 15 July 2018

[3]Sibley D. A. 2014. The Sibley guide to birds, 2nd edn. Knopf, New York.

Table S2. t-test model results showing the correlations of the abiotic and biotic predictors' values between the 1980s and the 2000s.

Predictor	R	p-value
<b>Tmax</b>	0.99	<0.0001
<b>PPT</b>	0.99	<0.0001
<b>PopDen</b>	0.99	<0.0001
<b>LandDiv</b>	0.49	<0.0001
<b>Developed</b>	0.97	<0.0001
<b>Agricultural</b>	0.86	<0.0001
<b>Native SR</b>	0.42	<0.0001
<b>Native FDis</b>	0.46	<0.0001
<b>Native MPD</b>	0.4	<0.0001