

Supplementary material

Appendix 1

Table A1. Summary of the best-performing parameter settings used to calibrate models of *Peruvian plantcutter* and host plants, we described Regularization Multiplier (rm), Akaike Information criterion (AICc), number of parameters (NP) in each model, Features (L = linear; Q=quadratic; H=hinge; P=product; T=threshold).

Species	Features	rm	AICc	NP	Omission Rate	Mean AUC
<i>Capparis ovalifolia</i>	LQHPT	3.5	395.5	3	0.05	0.88
<i>Capparis crotonoides</i>	LQ	2.0	834.7	4	0.08	0.85
<i>Capparis scabrida</i>	LQH	1.0	830.5	10	0.01	0.91
<i>Grabowskia boerhaaviifolia</i>	LQH	2.0	300.4	7	0.04	0.94
<i>Prosopis pallida</i>	LQH	1.5	1048.1	11	0.10	0.87
<i>Ph. raimondii</i> Climate only	LQ	1.5	855.5	7	0.06	0.88
<i>Ph. raimondii</i> Plants only	LQH	2	774.3	5	0.16	0.92
<i>Ph. raimondii</i> both	LQ	2.5	739.5	8	0.19	0.93

Table A2. Summary of occurrence data, Global Biodiversity Information Facility (GBIF), Latin American Seasonally Dry Tropical Forest Floristic Network (DryFlor), Field Observation Data. (FOD).

Species	Reference	Number of points	Years of coverage	Resolution
<i>P. pallida</i>	GBIF	112	1970–2012	10 km
<i>P. pallida</i>	DryFlor	163	–	5 km
<i>P. pallida</i>	FOD	70	2002–2017	10 m
<i>G. boerhaaviifolia</i>	GBIF	20	1970–2012	10 km
<i>G. boerhaaviifolia</i>	DryFlor	31	–	5 km
<i>G. boerhaaviifolia</i>	FOD	2	2010–2017	10 m
<i>C. ovalifolia</i>	GBIF	8	1985–2012	10 km
<i>C. ovalifolia</i>	DryFlor	70	–	5 km
<i>C. ovalifolia</i>	FOD	–	–	10 m
<i>C. scabrida</i>	GBIF	16	1985–1997	10 km
<i>C. scabrida</i>	DryFlor	171	–	5 km
<i>C. scabrida</i>	FOD	–	–	10 m
<i>C. crotonoides</i>	GBIF	53	1870–2002	10 km
<i>C. crotonoides</i>	DryFlor	23	–	5 km
<i>C. crotonoides</i>	FOD	2	2002–2005	10 m