

## Supplementary Materials

**Appendix S1.** Statistics for the predictor variables used in logistic regression models for the hatching fate of kakī eggs laid from 2013–2019. Predictors from models with  $\Delta AIC < 2$  (Akaike's Information Criterion) are listed, including approximate embryo age upon collection (Embryo.age), pair's seasonal clutch number (Clutch.no), the number of eggs in clutch (Clutch.size), age of dam (Dam.age), age of the sire (Sire.age), weight of egg upon collection (Egg.weight), the location the egg was found (Location.found), the year the egg was laid (Egg.year). Presented are the effective degrees of freedom (Effective df), degrees of freedom (df), Chi squared statistic ( $Chi^2$ ) and the p-value.

Predictor	Categorical or continuous	Effective df	df	Test statistic ( $Chi^2$ )	p-value
Embryo.age	Continuous	2.32		69.18	< 0.0001
Clutch.no	Continuous	1.00		1.70	0.19
Clutch.size	Continuous	1.89		9.46	0.01
Dam.age	Continuous	2.92		12.68	0.01
Sire.age	Continuous	2.33		3.09	0.24
Egg.weight	Continuous	1.00		11.56	0.0006
Location.found	Categorical		9.00		
Egg.year	Categorical		8.00		

**Appendix S2.** Statistics for the predictor variables used in logistic regression models for the survival fate of individual kakī released from 2017–2020. Predictors from models with  $\Delta AIC < 2$  (Akaike's Information Criterion) are listed, including individual's age at release (Release.age), use of available supplementary feeding (Fed), inbreeding coefficient (Inbreeding), whether the individual was injured (Injury), had encephalitis (Encephalitis), had pododermatitis (Bumblefoot), what year the individual was released (Release.year), and the location the bird was released at (Release.location). Presented are the effective degrees of freedom (Effective df), degrees of freedom (df), Chi squared statistic ( $Chi^2$ ) and the p-value.

Predictor	Categorical or continuous	Effective df	df	Test statistic ( $Chi^2$ )	p-value
Release.age	Continuous	2.40		10.7	0.01
Fed	Continuous	2.48		14.98	0.01
Inbreeding	Continuous	1.00		5.47	0.02
Injury	Categorical		1.00		
Encephalitis	Categorical		1.00		
Bumblefoot	Categorical		1.00		
Release.year	Categorical		3.00		
Release.location	Categorical		1.00		