

1 **Electronic Supplementary Material**

2 **Gardening on oceanic islands: the non-native Great Kiskadee *Pitangus sulphuratus* as a**  
3 **potential seed disperser of the alien invasive *Murraya paniculata* in Bermuda**

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11 **Figure ESM1.** Fresh pellet of Great Kiskadee containing *Murraya paniculata* seeds and  
12 indigestible material (collected in February 2022). The pellet is overlaid to a grid with 1x1 cm  
13 squares.

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## 16 **ESM2: Pilot germination experiment run in 2022**

17 In 2022, the experiment started on March 11th when seeds were sowed, and concluded  
18 on June 5th. To set up the germination experiment (indoor) we randomly selected 1 seed of  
19 Jessamine from each pellet for a total number of 20 replicates (treatment seeds). At the same  
20 time, we randomly selected 12 whole fruits to plant (Control seeds), collected from a natural tree.  
21 Additionally, 6 unidentified seeds found in regurgitates were planted to identify the species, along  
22 with one seed of a Chinese Fan Palm (*Livistona chinensis*) also found in a regurgitate. Control  
23 and treatment seeds were then sown in a plastic tray using gardening soil (a mix of soil already  
24 available in the laboratory) and exposed to the natural light/dark regime (at 38.7° N latitude,  
25 Lisbon). Previous germination studies showed that different photoperiod regimes do not affect  
26 germination rate of *Murraya paniculata* (White et al., 2006). Watering was conducted as needed  
27 to maintain the soil moist, normally with 3-6 ml administered to each seed slot. Seeds were  
28 classified as germinated once a shoot emerged from the soil and germinability calculated as final  
29 percent germination (Traveset, Riera and Mas 2001). After germination, the small plants were  
30 identified to confirm the species. The results of the experiment showed that the germination rate  
31 of seeds collected from pellets was 80% (16 of 20 seeds) while that of the whole fruits planted  
32 was 0% (0 of 12). Four of the six unknown seeds germinated and were subsequently identified  
33 as being Fiddlewood (*Citharexylum spinosum*) and the Chinese Fan Palm seed did not germinate.

## 34 **REFERENCES**

35 Traveset, A Riera N, Mas R. E. (2001) Passage through bird guts causes interspecific differences  
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37 8463.2001.00561.x](https://doi.org/10.1046/j.0269-8463.2001.00561.x)

38 White, E. M.; Vivian-Smith, G.; Gosper, C.R. (2006) In: 15th Australian Weeds Conference,  
39 Papers and Proceedings, Adelaide, South Australia, 24-28 September 2006: Managing weeds in  
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48 **ESM3: Model outputs, and diagnostic plots and test**

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50 Summary table of generalized linear model fitted with a binomial response variable testing the  
51 effect of two additive categorical variables (origin [2 levels] and flesh [3 levels]) on the  
52 germinability of Orange Jessamine seeds. Output created using the summary.glm() R function.

Call:

```
glm(formula = germinate ~ origin + flesh, family =  
"binomial",  
data = res_d_m)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )
(Intercept)	0.6931	0.5477	1.266	0.2057
origin2	-1.6083	0.7806	-2.060	0.0394 *
fleshdeflesh	0.1110	0.8441	0.132	0.8954
fleshflesh	-0.8021	0.8374	-0.958	0.3381

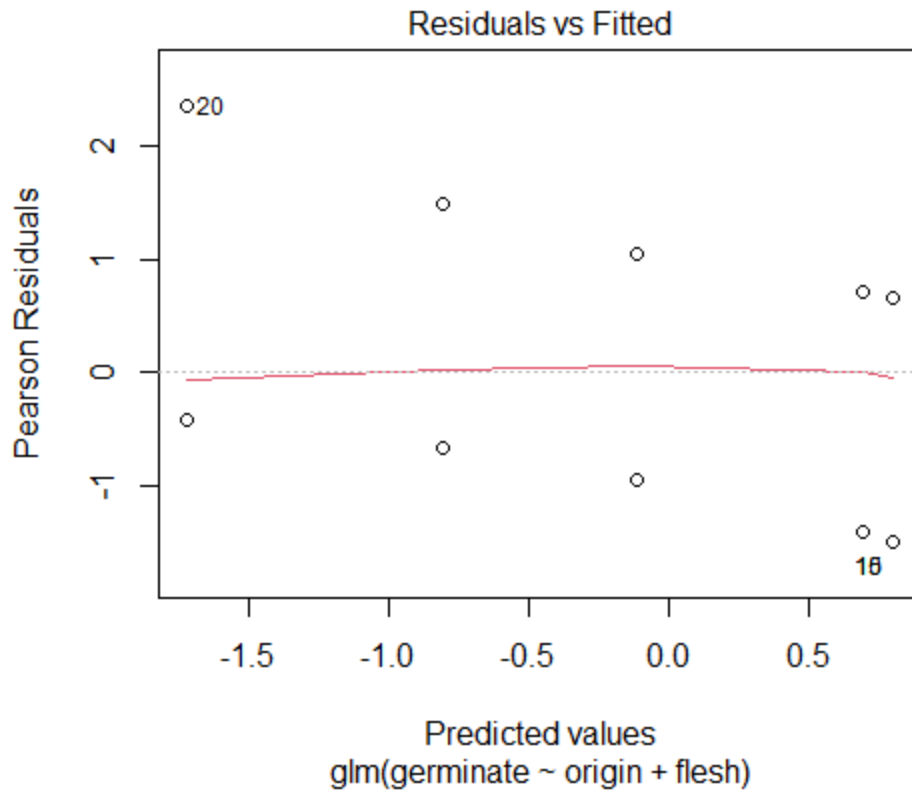
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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 67.908 on 48 degrees of freedom  
Residual deviance: 59.249 on 45 degrees of freedom  
AIC: 67.249

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55 Pearson residuals versus predicted values for fitted generalized linear model with a binomial  
56 response.

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59 We tested for overdispersion of the model residuals using a simulation-based test provided in  
60 the *DHARMA* R package:

61 *DHARMA nonparametric dispersion test via sd of residuals fitted vs. simulated*

62 *data: simulationOutput*

63 *dispersion = 1.0334, p-value = 0.712*

64 *alternative hypothesis: two.sided*

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