

Supplementary Material

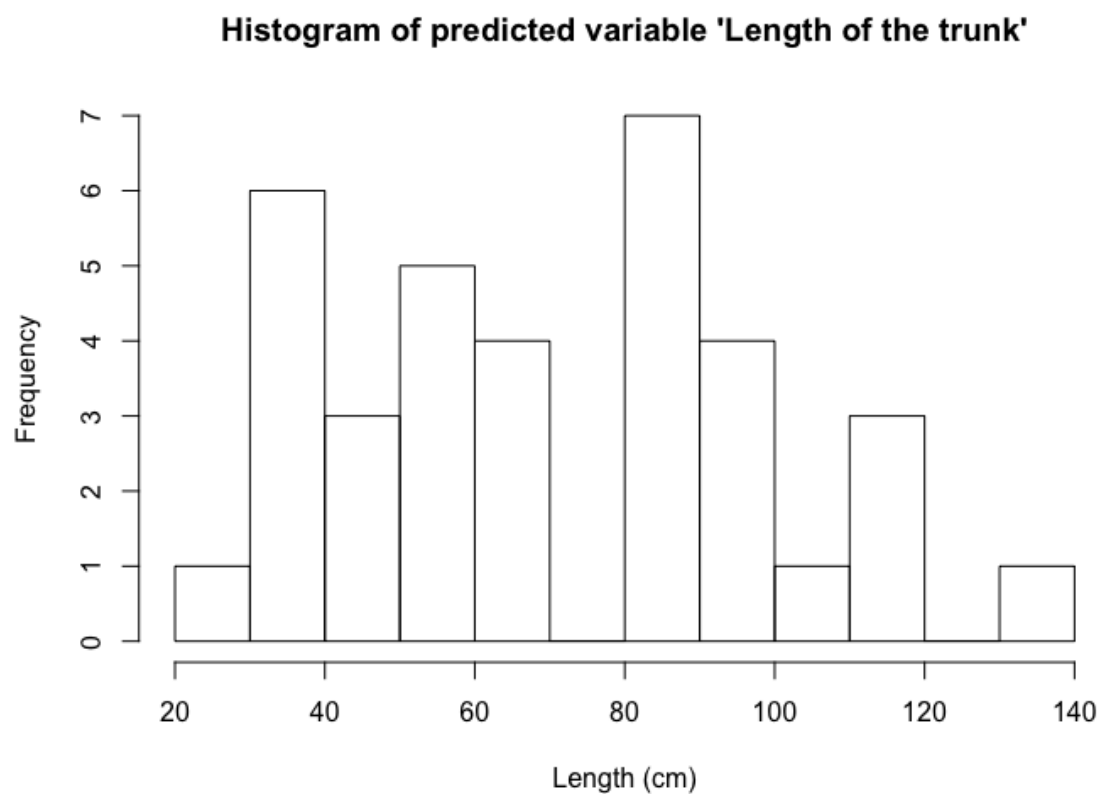
Appendix S1. R code used for INLA analysis. See article webpage on NZES website for code file.

Appendix S2. Field database observations.

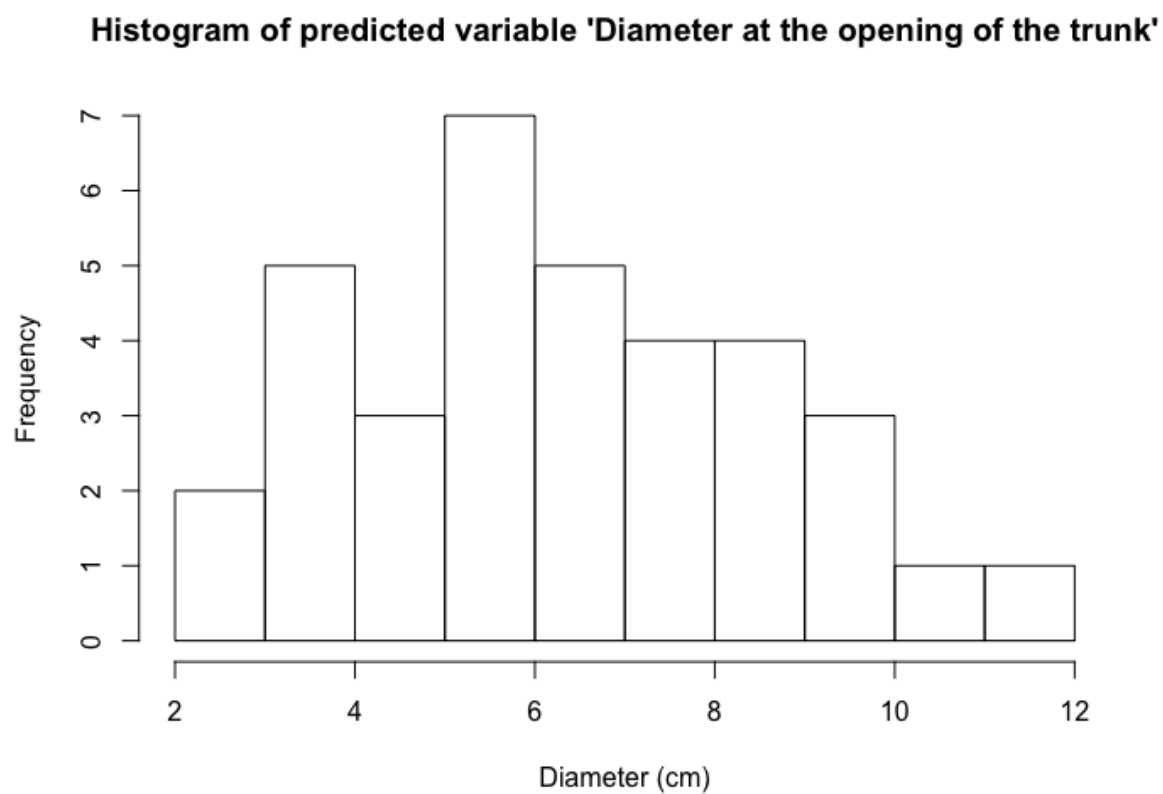
Ponga ID	Breeding season 1			Breeding season 2			Breeding season 3		
	Oct–2015	Nov–2015	Feb–2016	Oct–2016	Dec–2016	Jan–2017	May–2017	Oct–2017	Feb–2018
1	Two frogs in amplexus	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
2	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
3	Two frogs in amplexus	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
4	---	One frog attending eggs	One frog with froglets on its back	One frog	Empty	One frog with froglets on its back	Empty	Empty	Empty
5	---	One frog attending eggs	Empty	Two frogs in amplexus	Empty	Empty	Empty	Empty	Empty
6	---	One frog attending eggs	Two frogs with froglets on their back	Two frogs in amplexus	One frog attending eggs	One frog with froglets on its back	One frog	One frog	Empty
7	---	One frog attending eggs	One frog with froglets on its back	Two frogs in amplexus	One frog attending eggs	One frog attending eggs	Empty	Two frogs in amplexus	Empty
8	---	One frog attending eggs	One frog with froglets on its back	One frog	Two frogs attending eggs	Empty	One frog	Empty	One frog
9	---	One frog attending eggs	One frog	Destroyed and empty	Destroyed and empty	Destroyed and empty	Destroyed and empty	Destroyed and empty	Destroyed and empty
10	---	One frog	One frog	One frog	Empty	Empty	One frog	Empty	Two frogs
11	---	One frog attending eggs	Two frogs	Empty	One frog attending eggs	Empty	Empty	Two frogs in amplexus	Two frogs attending eggs
12	---	Empty	Empty	Empty	Empty	Empty	Empty	Two frogs in amplexus	Empty
13	---	---	Empty	Empty	Empty	Empty	Empty	Empty	Empty
14	---	---	---	Empty	Empty	Empty	Empty	Empty	Empty
15	---	---	---	Two frogs in amplexus	One frog attending eggs	One frog attending eggs	Empty	One frog	Empty
16	---	---	---	Two frogs in amplexus	One frog attending eggs	One frog attending eggs	Empty	Destroyed and empty	Destroyed and empty

Appendix S2. Field database observations continued.

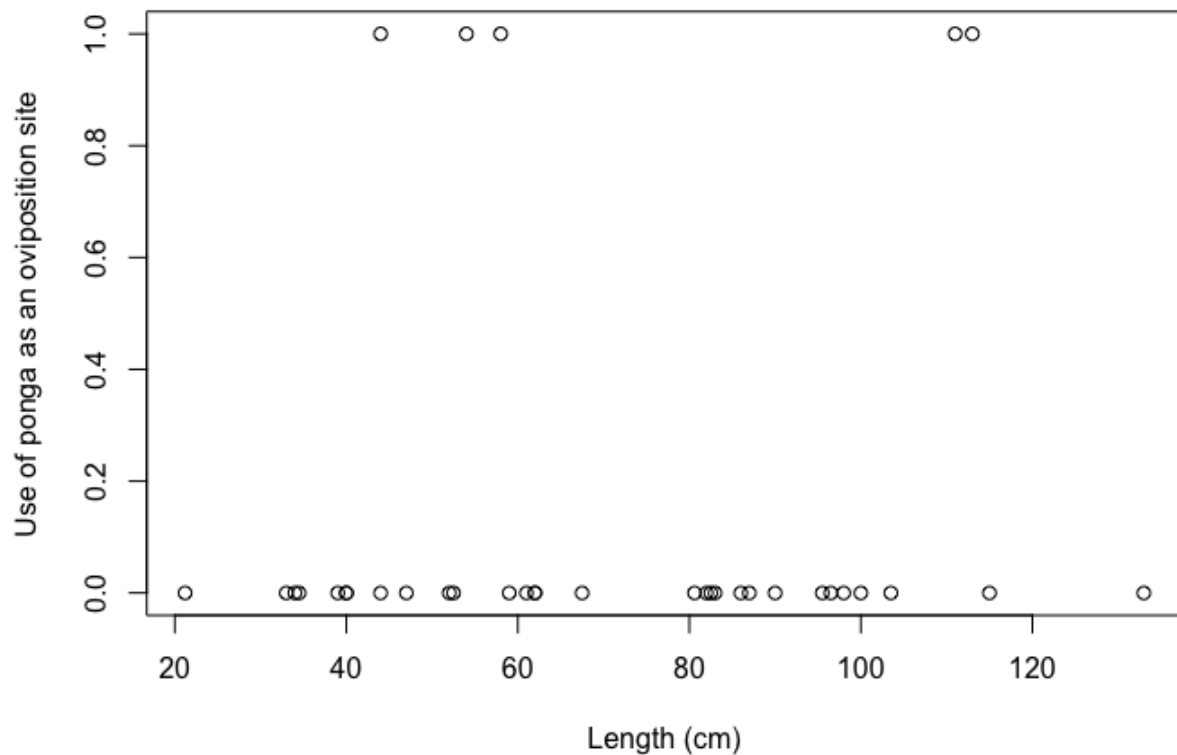
Ponga ID	Breeding season 1			Oct-2016	Breeding season 2		Jan-2017	Breeding season 3		
	Oct-2015	Nov-2015	Feb-2016		Dec-2016	May-2017		Oct-2017	Feb-2018	
17	---	---	---	---	One frog attending eggs	Empty	Empty	Two frogs in amplexus	Empty	
18	---	---	---	---	One frog attending eggs	Empty	Empty	Empty	One frog attending eggs	
19	---	---	---	---	---	---	---	Two frogs in amplexus	Empty	
20	---	---	---	---	---	---	---	One frog	Empty	
21	---	---	---	---	---	---	---	Two frogs in amplexus	One frog	
22	---	---	---	---	---	---	---	Two frogs in amplexus	One frog attending eggs	
23	---	---	---	---	---	---	---	One frog attending eggs	Empty	
24	---	---	---	---	---	---	---	Three frogs attending eggs	One frog with froglets on its back	
25	---	---	---	---	---	---	---	One frog attending eggs	Two frogs	
26	---	---	---	---	---	---	---	---	One frog with froglets on its back	
27	---	---	---	---	---	---	---	---	One frog with froglets on its back	



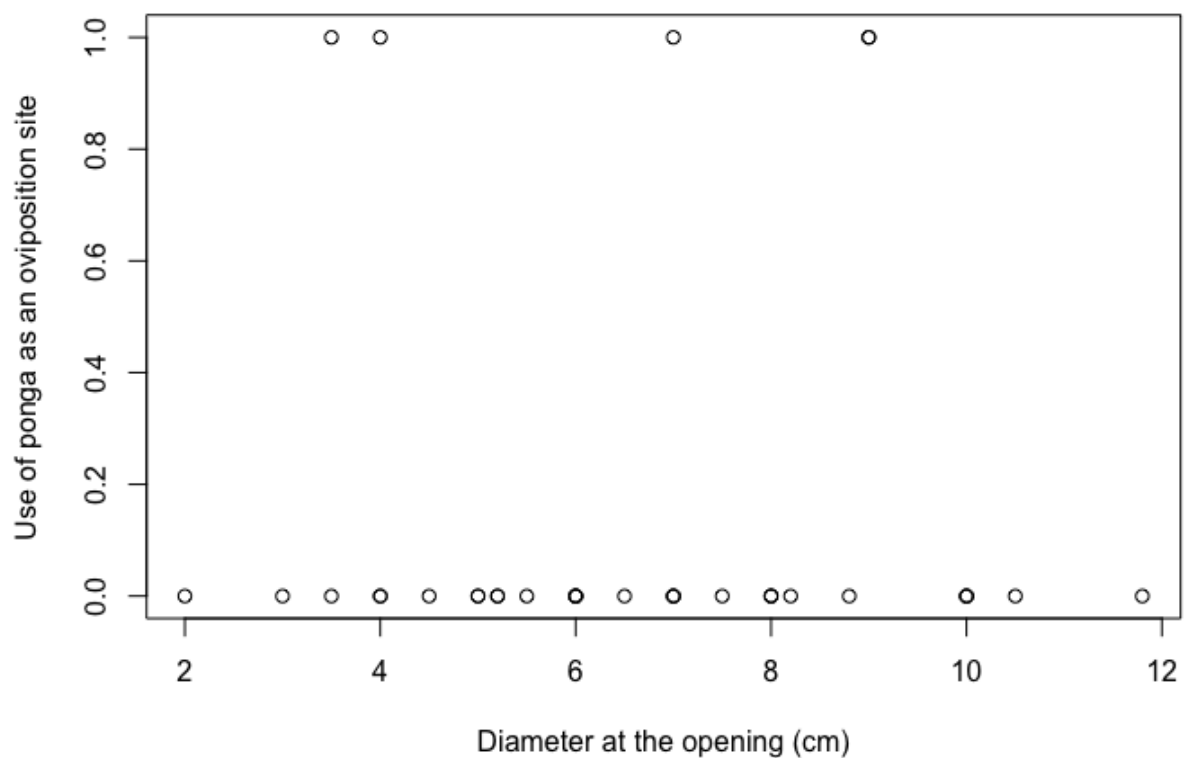
Appendix S3. Histogram of predictive variable length of ponga.



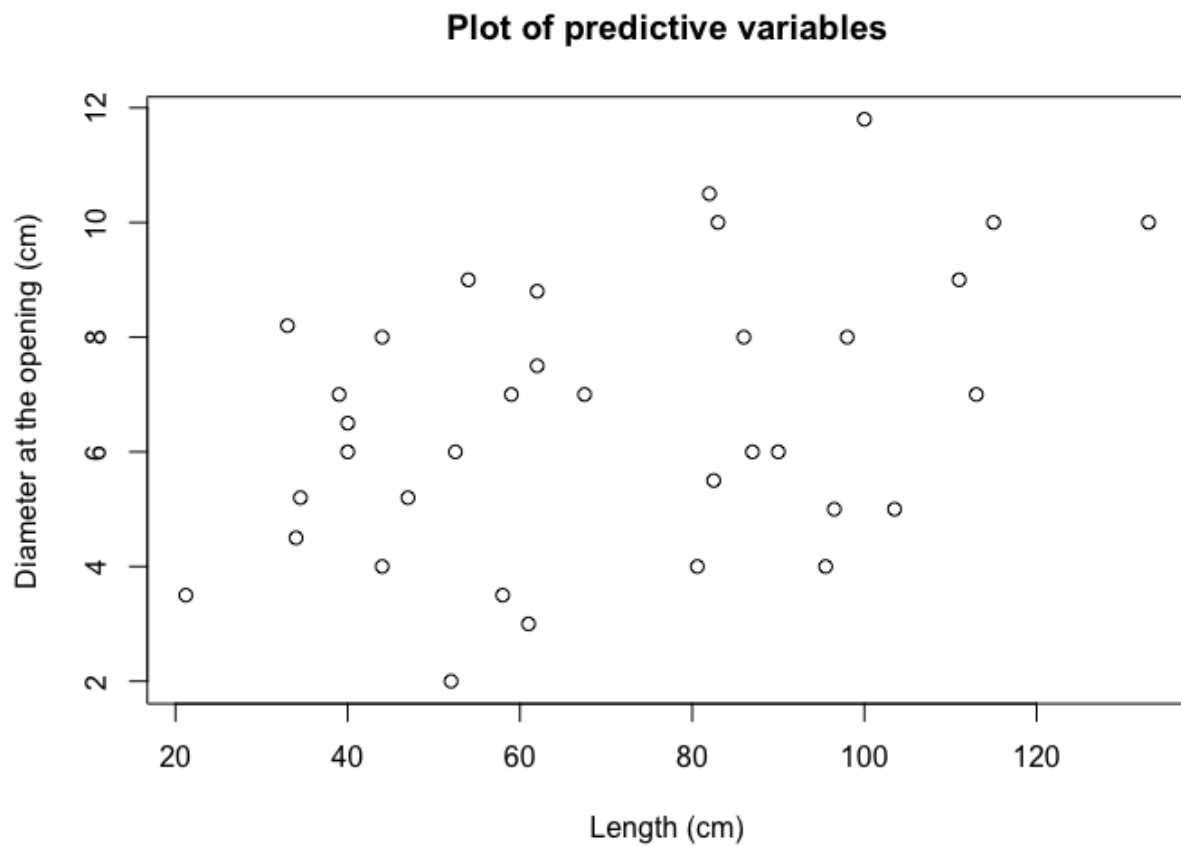
Appendix S4. Histogram of predictive variable diameter at the opening of ponga.

Plot of the predictive variable length against the binomial variable

Appendix S5: Length of ponga as a predictor of oviposition site.

Plot of the predictive variable diameter against the binomial variable

Appendix S6: Diameter at the opening of ponga as a predictor of oviposition site.



Appendix S7: Relationship between predictor variables.