Appendix. Model selection to analyze the relationship between transformed prey fecundity and explicative variables: prey density (Py), predator density (Pd), the ratio between predators and prey (Py/Pd) and colony (c). The deviance (DEV), the number of parameters (np), the AICc, the ΔAICc (difference between the AICc of each model and the AICc of the best model) and the AICc Weight of each model were also shown. The AIC Weight was calculated as: exp (-0.5 * ΔAICc) * [sum for all models of exp (-0.5 * ΔAICc)] $^{-1}$ (Williams et al. 2001). All the models (except the null model) also included the year as a random effect. Numbers in brackets are the model numbers used in the text. The selected model is shown in bold.

Model	Biological hypothesis	DEV	np	AICc	ΔAICc	AICc Weight
Null		73.50				
(1) **log(Py) + log(Pd) + Py/Pd**	**Fecundity varied non-linearly with prey density, predator density and the prey/predator ratio**	**37.95**	**6**	**49.95**	**0**	**0.54**
(2) log(Py)+log(Pd)+Py/Pd + c	Fecundity varied non-linearly with prey density, predator density and the prey/predator ratio with an additive effect of colony	33.06	9	51.06	1.11	0.31
(3) log(Py) + log(Pd)	Fecundity varied non-linearly with prey and predator densities	42.48	5	52.48	2.52	0.15
(4) log(Py) + Py/Pd	Fecundity varied non-linearly with prey density and prey/predator ratio	60.97	5	70.97	21.02	0.00
(5) Py + Pd + Py/Pd + c	Fecundity varied linearly with prey density, predator density and the prey/predator ratio with an additive effect of colony	54.84	9	72.84	22.89	0.00
(6) Py + Pd + Py/Pd	Fecundity varied linearly with prey and predator densities and the prey/predator ratio	61.06	6	73.06	23.11	0.00
(7) Pd + Py/Pd	Fecundity varied linearly with predator density and prey/predator ratio	63.68	5	73.68	23.72	0.00
(8) Py^2 + log(Pd) + Py/Pd	Quadratic fit of prey density, logarithmic fit of predator density and the prey/predator ratio	63.88	5	73.88	23.93	0.00
(9) Py^2 + log(Pd) + Py/Pd + c	Quadratic fit of prey density, logarithmic fit of predator density and the prey/predator ratio with an additive effect of colony	56.71	9	74.71	24.75	0.00
(10) log(Pd) + Py/Pd	Fecundity varied non-linearly with predator density and the prey/predator ratio	65.85	5	75.85	25.90	0.00
(11) Py + Py/Pd	Fecundity varied linearly with prey density and the prey/predator ratio	65.89	5	75.89	25.93	0.00
(12) Py + Pd	Fecundity varied linearly with prey density and predator density	72.50	5	82.50	32.55	0.00
(13) Py^2 + Pd^2	Quadratic fit of prey and predator densities with prey fecundity	74.97	5	84.97	35.01	0.00
(14) Pd^2	Quadratic fit of predator density with prey fecundity	77.88	4	85.88	35.92	0.00
(15) Pd	Fecundity varied linearly only with predator density	78.67	4	86.67	36.72	0.00
(16) log(Pd)	Logarithmic fit of predator density with fecundity	80.31	4	88.31	38.35	0.00
(17) $Py * c$	Fecundity varied linearly with prey density differently for each colony	76.56	6	88.56	38.60	0.00
(18) Py	Fecundity varied linearly only with prey density	82.81	4	90.81	40.85	0.00
(19) Py^2	Quadratic fit of prey density with prey fecundity	84.98	4	92.98	43.03	0.00