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Wildlife Research

Supplementary Material

A new device to reduce mammal predation on reptiles in pitfall traps

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Supplementary Table S1: Observations of reptiles and mammals caught in the same pitfall trap (2018-2021)

Table S1-1: *Observations and outcomes when small reptile and mammal species were caught in the same pitfall trap (2018-2021). Some animals were not identified to the species level and some information was not recorded by the various scribes (indicated as unknown in the table). Pitfall location is recorded as being inside or outside the fenced nature reserve.*

Survey year	Encounter outcome	Pitfall location	Reptile species	Mammal species	False-floor	Reptile position	Mammal position	Additional comments
2018	Reptile survival	Inside	*Lucasium damaeum*	*Notomys alexis*	Absent			2 x *N. alexis* in the same pit as the *L. damaeum*
2018	Reptile mortality	Inside	*Lucasium damaeum*	*Notomys alexis*	Absent			None
2018	Reptile mortality	Inside	*Rhynchoedura ornata*	*Pseudomys australis*	Absent			None
2018	Reptile mortality	Inside	*Lucasium damaeum*	*Mus musculus*	Absent			None
2019	Reptile mortality	Inside	*Ctenotus schomburgkii*	*Pseudomys australis*	Absent			None
2019	Reptile mortality	Inside	*Tympanocryptis intima*	*Sminthopsis*	Present	Above	Unknown	None
2020	Reptile survival	Inside	*Lucasium damaeum*	*Notomys alexis*	Absent			None
2020	Reptile survival	Inside	*Lerista labialis*	*Sminthopsis*	Present	Below	Above	None
2020	Reptile survival	Outside	*Nephrurus levis*	*Notomys alexis*	Present	Above	Above	None
2020	Reptile survival	Inside	*Rhynchoedura eyrensis*	*Sminthopsis*	Present	Above	Unknown	None
2021	Reptile survival	Inside	*Ctenotus schomburgkii*	*Notomys alexis*	Present	Below	Below	2 x *C. schomburgkii* in the same pit as 1 x *N. alexis*
2021	Reptile survival	Inside	*Ctenotus schomburgkii*	Unknown rodents	Absent			Was observed to be fighting with rodents present in the same trap
2021	Reptile survival	Inside	*Rhynchoedura eyrensis*	*Mus musculus*	Present	Above	Below	None

Survey year	Encounter outcome	Pitfall location	Reptile species	Mammal species	False-floor	Reptile position	Mammal position	Additional comments
2021	Reptile mortality	Inside	*Ctenotus schomburgkii*	*Notomys alexis*	Absent			None
2021	Reptile survival	Inside	*Tympanocryptis intima*	*Sminthopsis*	Present	Above	Above	None
2021	Reptile survival	Inside	*Rhynchoedura eyrensis*	*Notomys alexis*	Present	Below	Unknown	None
2021	Reptile survival with injury	Inside	*Ctenophorus pictus*	*Notomys alexis*	Present	Above	Unknown	*C. pictus* was hiding in toilet roll and tail was eaten by *N. alexis*
2021	Reptile survival	Outside	*Diplodactylus tessellatus*	*Pseudomys australis*	Present	Below	Below	None
2021	Reptile survival	Inside	*Menetia greyii*	*Mus musculus*	Absent			None
2021	Reptile survival	Inside	*Ctenophorus nuchalis*	*Pseudomys australis*	Absent			None
2021	Reptile survival	Inside	*Ctenotus regius*	*Leggadina forresti*	Absent			None
2021	Reptile survival	Inside	*Diplodactylus conspicillatus*	*Sminthopsis*	Present	Below	Below	None
2021	Reptile survival with injury	Inside	*Eremiascincus richardsonii*	Unknown	Present	Below	Unknown	Tail was chewed while in the trap
2021	Reptile mortality	Inside	*Ctenotus leonhardii*	*Pseudomys australis*	Absent			None
2021	Reptile mortality	Inside	*Rhynchoedura eyrensis*	Unknown	Absent			Found dead with tail eaten
2021	Reptile mortality	Inside	*Ctenotus schomburgkii*	*Notomys alexis*	Absent			None
2021	Reptile mortality	Inside	*Lucasium damaeum*	Unknown	Present	Below	Unknown	Badly chewed/eaten
2021	Reptile mortality	Inside	*Lucasium damaeum*	Unknown	Absent			Badly chewed/eaten

Supplementary Table S2: Usage of false-floor compartments by reptiles and mammals

Table S2-1: *Summary of key reptile and mammal species captured in pitfall traps with false-floors and the proportion of individuals able to access the compartment underneath the false-floors. Snake, goanna and amphibian captures are excluded from the table.*

Vertebrate group	*n*	*Proportion above false-floor*	*Proportion below false-floor*
Small reptiles (total)	**711**	**0.342**	**0.658**
Typhlopidae (Blind snakes)	**8**	**0.125**	**0.875**
Anilios bituberculatus	2	0.5	0.5
Anilios endoterus	4	0	1
Ramphotyphlops bituberculatus	2	0	1
Agamidae (Dragons)	165	0.861	0.139
Ctenophorus fordi	56	0.893	0.107
Ctenophorus nuchalis	39	0.744	0.256
Ctenophorus pictus	30	0.933	0.067
Tympanocryptis intima	38	0.868	0.132
Tympanocryptis tetraporophora	2	1.000	0.000
Gekkonidae (Geckoes)	178	0.185	0.815
Diplodactylus conspicillatus	7	0.286	0.714
Diplodactylus tessellatus	8	0.125	0.875
Gehyra purparescens	3	0.000	1.000
Gehyra versicolor	2	0.500	0.500
Heteronotia binoei	7	0.000	1.000
Lucasium damaeum	65	0.123	0.877
Lucasium stenodactylum	20	0.200	0.800
Nephrurus levis	6	0.833	0.167
Rhynchoedura eyrensis	55	0.200	0.800
Rhynchoedura ornata	3	0.000	1.000
Underwoodisaurus milii	2	0.500	0.500
Scincidae (Skinks)	360	0.186	0.814
Ctenotus leae	5	0.400	0.600
Ctenotus leonhardii	34	0.382	0.618
Ctenotus regius	60	0.300	0.700
Ctenotus schomburgkii	57	0.123	0.877

Vertebrate group	***n***	***Proportion above false-floor***	***Proportion below false-floor***
Ctenotus strauchii	20	0.450	0.550
Ctenotus taeniatus	8	0.125	0.875
Eremiascincus richardsonii	19	0.421	0.579
Lerista labialis	142	0.028	0.972
Menetia greyii	14	0.286	0.714
Unidentified *Skink*	1	1.00	0.00
Small mammals (total)	383	0.739	0.248
Leggadina forresti	11	0.364	0.636
Mus musculus	30	0.167	0.667
Notomys alexis	235	0.919	0.081
Pseudomys australis	50	0.700	0.300
Pseudomys bolami	6	0.333	0.667
Pseudomys desertor	1	0.000	1.000
Pseudomys hermannsburgensis	5	1.000	0.000
Sminthopsis crassicaudata	18	0.444	0.556
Sminthopsis macroura	26	0.308	0.692
Unidentified *Pseudomys*	1	0.000	1.000