

APPENDIX 4

SMALL MAMMAL SURVEY RESULTS FOR AREA 50, NORTHWEST FIELD

PERIOD COVERED: April 1998

This report summarizes the second trapping period for small mammals conducted at Area 50, Northwest Field, Anderson Air Force Base, Guam. Area 50 is an isolated 24-ha plot of native limestone forest, and is surrounded by a 2-m-tall chain link fence and old runway tarmac. The area has been proposed for the recovery of several native species including Guam rail (*Gallirallus owstoni*), Mariana crow (*Corvus kubaryi*), Micronesian kingfisher (*Halcyon cinnamomina*), and the fire tree (*Serianthes nelsonii*). Plans include the eradication of deer (*Cervus mariannus*), feral pigs (*Sus scrofa*), and brown tree snakes (*Boiga irregularis*).

The purpose of this study is to collect baseline data on small mammals in the area, including species presence and relative abundance, and to document changes in these parameters coinciding with the removal of brown tree snakes. There is the potential that the small mammal population could significantly increase following snake removal from the area (E.W. Campbell, pers. comm.). This increase could have a potential negative effect on any birds released into the area, as one rat species in particular (*Rattus rattus*) is a potential predator of both eggs and chicks (Atkinson 1985). Plans include repeating the survey every 4-6 months to document changes in occurrence and abundance of small mammals coinciding with removal of brown tree snakes.

METHODS AND RESULTS

Surveys were conducted between 7-10 April 1998. Trapping methodology followed that described in Beauprez (1998). A total of 11 *R. rattus* were captured during 479 trap nights, as compared to no captures in 1997 (Table 1; Beauprez 1998). Eight of the 11 captures were made in rats traps set on the ground.

ACKNOWLEDGEMENTS

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LITERATURE CITED

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- Campbell, E.W. III. 1996. The effect of brown tree snake (*Boiga irregularis*) predation on the island of Guam's extant lizard assemblages. Ph.D. dissertation, Ohio State Univ., Columbus, Ohio.

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Table 1. Results of snap trapping surveys to assess occurrence and abundance of small mammals in Area 50, Northwest Field, Guam, 7-10 April 1998. † = Transect length (m); TT = Trap Type; TN = Trap Nights; £ = Number of rats caught. Trap Success: ϕ = uncorrected/100 trap nights; ψ = corrected/100 trap nights.

APRIL DATES	†	TT	TN*	£	ϕ	ψ
7	1400	RT	52	2	3.85	3.70
		RG	24	2	8.33	5.00
		MG	19	0	0	0
8	700	RT	51	0	0	0
		RG	42	3	7.14	6.12
		MG	31	0	0	0
9	1400	RT	51	1	1.96	1.87
		RG	42	2	4.76	4.08
		MG	34	0	0	0
10	1400	RT	52	0	0	0
		RG	43	1	2.33	2.02
		MG	38	0	0	0
TOTALS			479	11	2.30	1.91

Key to Trap Types: RT = Rat Tree; RG = Rat Ground; and MG = Mouse Ground.

*Corrected for closed traps.