University of Guam Coconut Rhinoceros Beetle Biological Control Project
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Bioassay Report: V23B_large_bioassay

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Contents

1 Summary

Table 1: Bioassay summary.

	bioassay_name	date_start_bioassay	date_end_bioassay	bioassay_treatment	N
0	V23B_large_bioassay-1	2019-07-07	2019-08-08	control	27
1	V23B_large_bioassay-1	2019-07-07	2019-08-08	virus	26

Sixty adult beetles maintained for more than 2 weeks to observe possible contamination from green muscardine fungus infection were employed in a test to determine the susceptibility of adult beetle to infection by virus V23B isolate (Solomon Islands). After this period, food was removed and the beetles were left without food for 3 days. Insects were divided into small and large by weight, sexed, and then randomly placed into one of two treatment groups. A virus-40% sucrose preparation of 20 microlitres was administered per os to each of 30 beetles along with another 30 beetles per os administered with 20 microlitres sterile water-40% sucrose preparation as controls. Adults were then placed individually in a labeled clean glass mason jar (bleached-treated) with a piece of banana added for food. Beetles were incubated at 30C and 80% RH in a Percival incubator. All beetles will be monitored daily to observe any possible signs of infection.

2 Mortality

Table 2: Mortality summary.

	bioassay_treatment	ntotal	ndead	mortality	adjusted_mortality	significance
0	control	27	2	0.074074	0.000000	1.000000
1	virus	26	12	0.461538	0.418462	0.001756
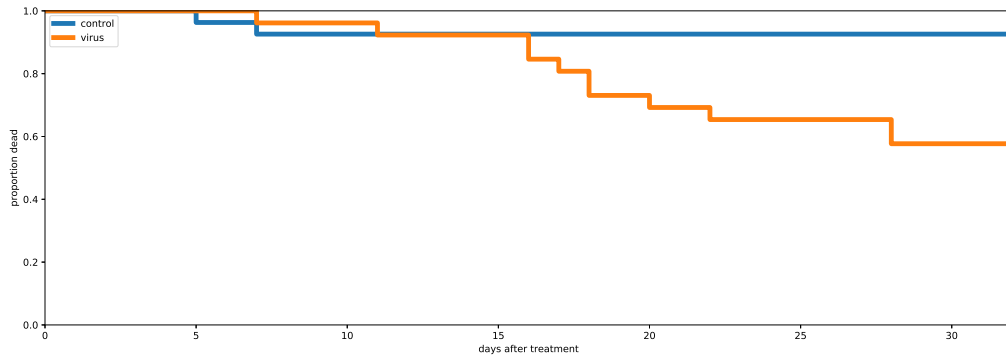
Table 3: Pairwise differences among mortality curves.

		test_statistic	p
control	virus	9.25025	0.002355

3 Change in Mass
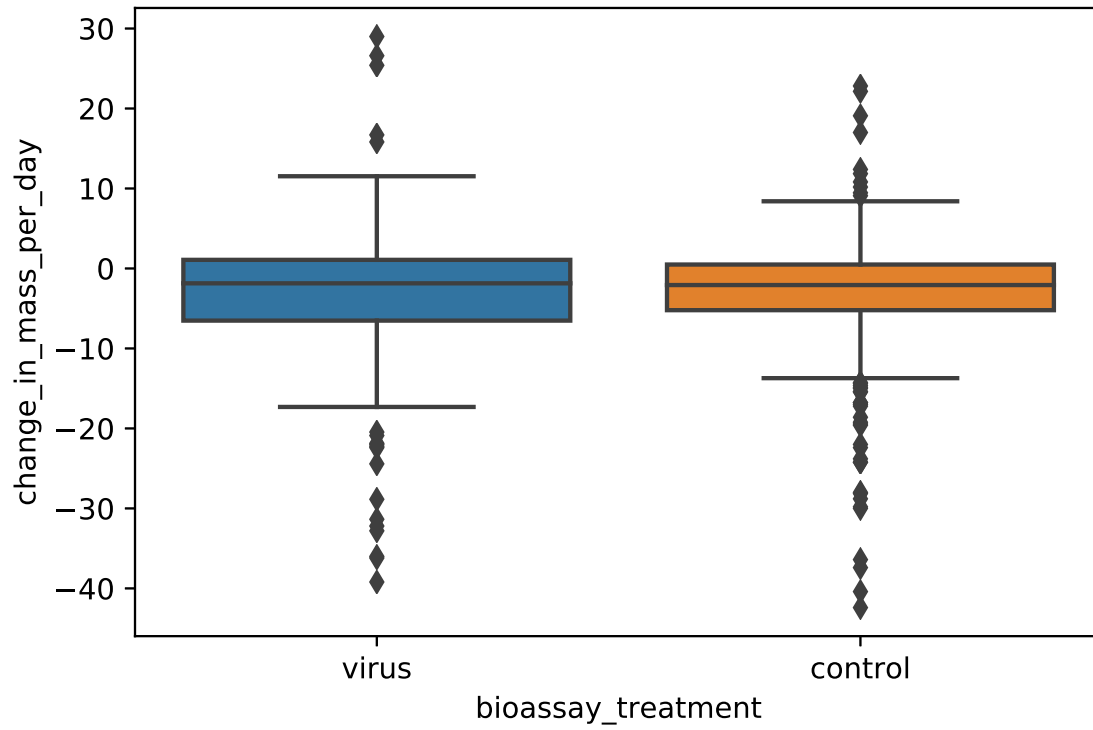
Table 4: Results of pairwise significance tests for differences in change in mass.

	control	virus
control	-1.000000	0.766286
virus	0.766286	-1.000000