

# THE OVIPOSITION PREFERENCES OF BEAN BEETLES



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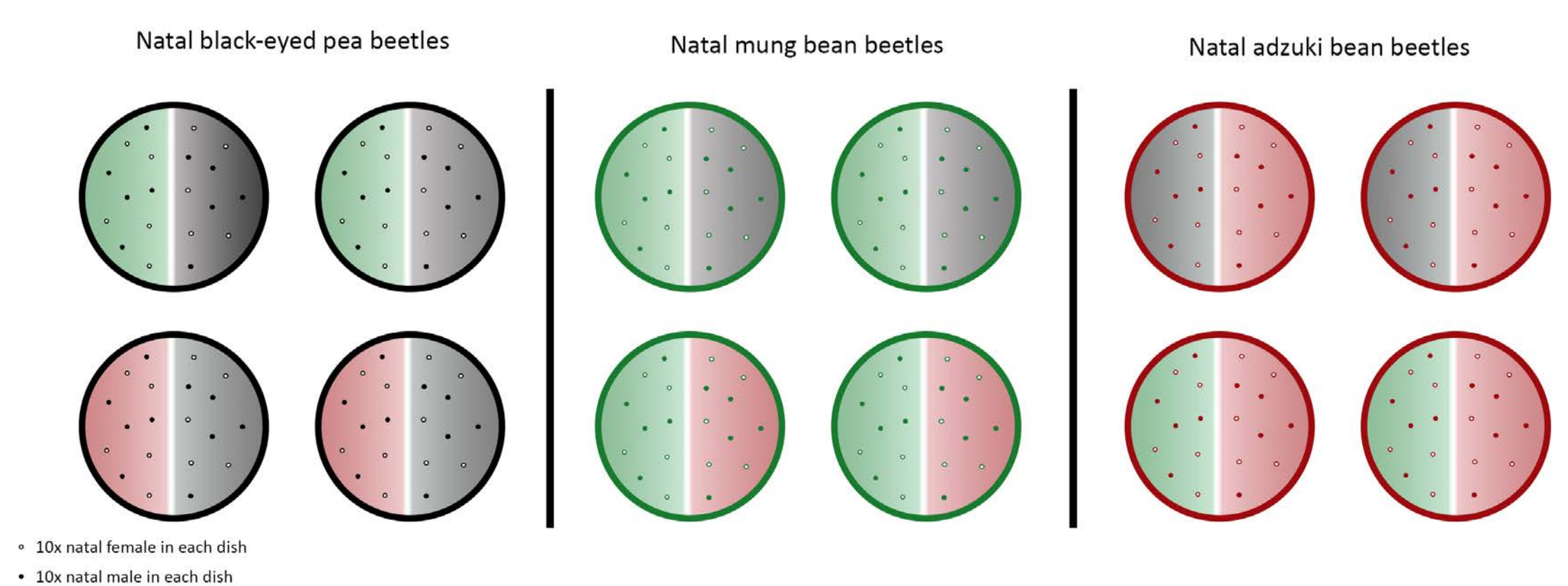
## Introduction

Bean beetles, *Callosobruchus maculatus* are a pest insect that originate from Africa and Asia. The larvae feed and develop on legumes, whilst the adults do not require sustenance. The adult individuals spend their entire lifecycle with the sole purpose of mating and laying eggs on the beans. Our objective was to answer two questions:

- Do bean beetles have a preference for a bean type (mung beans, adzuki beans or black-eyed peas) ?
- Do bean beetles prefer to lay their eggs on their natal bean type ?

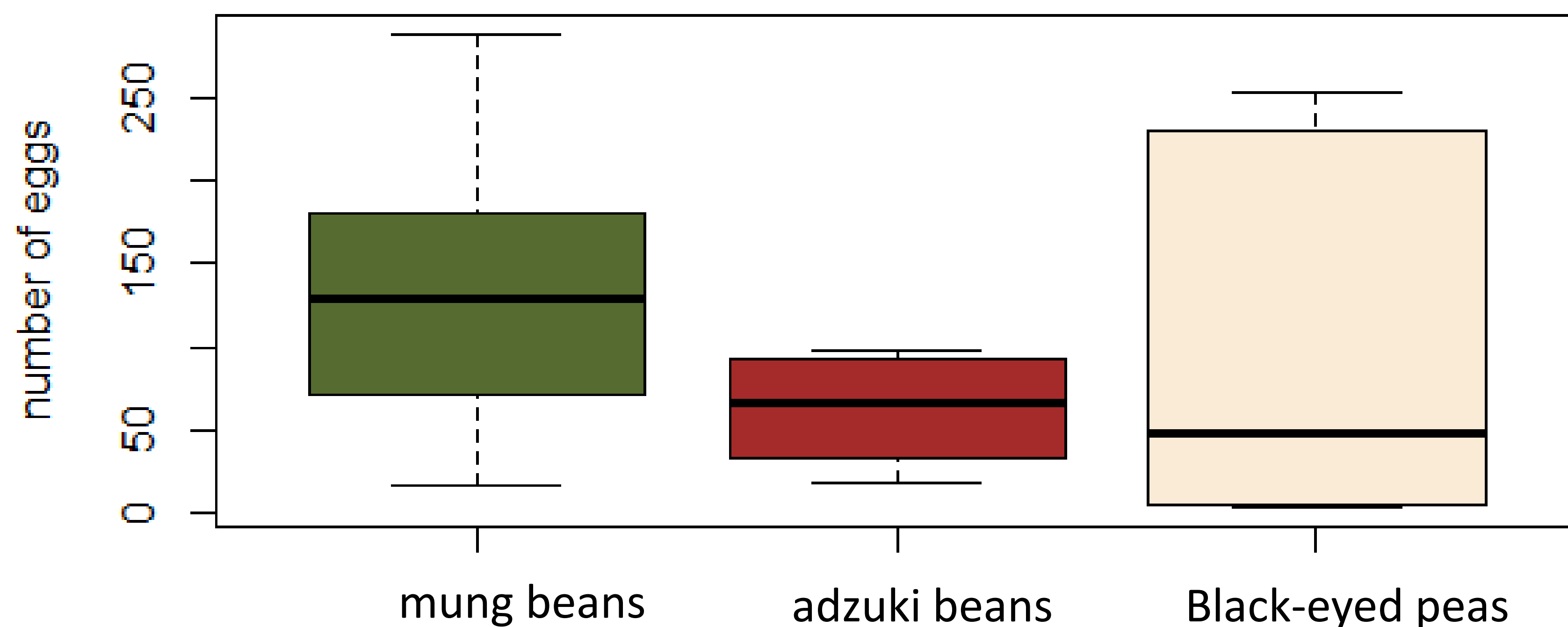
## Method

12 petri dishes were divided into 3 groups for each natal bean type. Within each group, dishes contained mixed half natal beans and half, the others. 10 respective natal male and female beetles were placed in each. After 72h beetles were removed, bean separated & eggs counted. At 3 weeks, adults were counted.



## Results

### Preference based on bean types

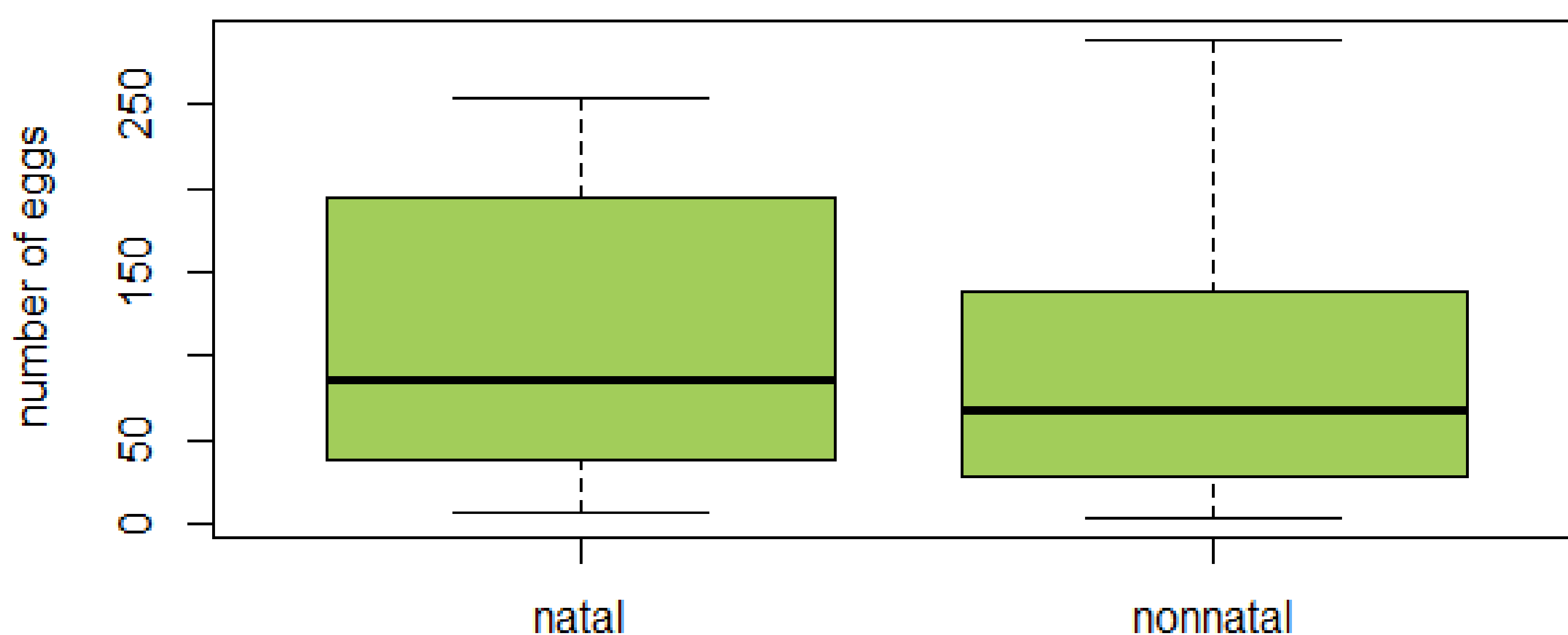


The results show that the beetles show no significant preference for bean types.

Anova ( $F = 0.7502$  and  $p\text{-value} = 0.4916$ )

**Figure1.** Mean, variance and standard error of the number of eggs laid on each type of bean

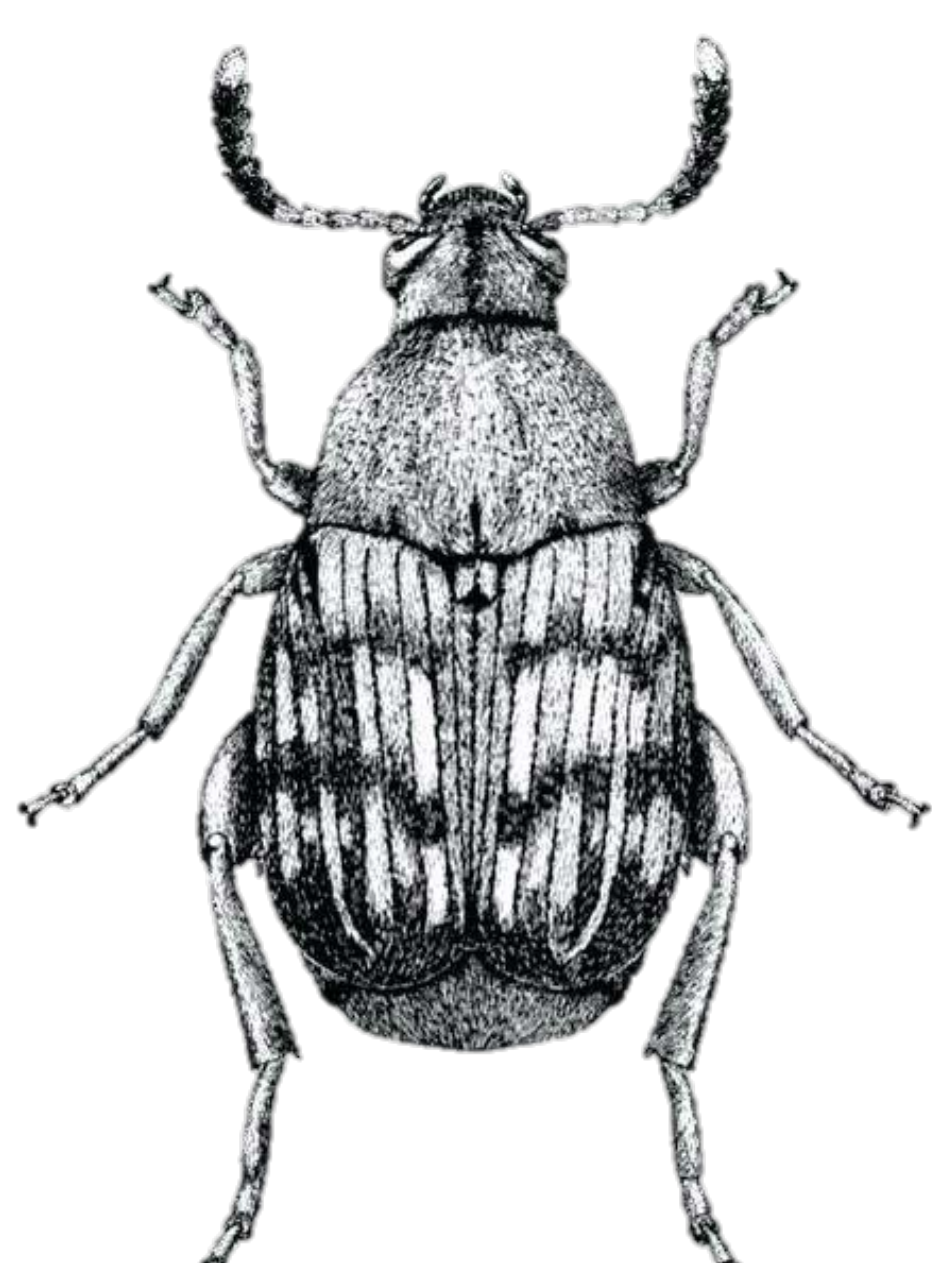
### Preference based on natality



The natality does not affect the bean beetles' choice in bean type.

T-test ( $df = 13.99$  and  $p\text{-value} = 0.7173$ )

**Figure2.** Mean, variance and standard error of the number of eggs laid based on natality



## Conclusion

Based on our results, *Callosobruchus maculatus* seems to have **no preference for laying eggs on any particular bean type**. Fig.1 indicates that the adzuki bean is less preferred. This might be due to the absence of adzuki natal beetles. Additionally, the beetles included in this study were at different stages of their life cycle, which may have affected the number of eggs produced. No significant differences have been detected - for further studies more replicates should be included.