



Are Bigger Beans Better For Bean Beetles?

Does the bean size effect the number of laid eggs?

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Introduction

Bean Beetles, *Callosobruchus maculatus*, lay eggs on beans. The beans function as nutrition for the offspring,⁽¹⁾ therefore we logically expected them to lay more eggs on bigger beans and fewer on the smaller ones, based on the amount of available food.

But... Are bigger beans really better for bean beetles?

Method

Big, small, and a mixed-size(choice) white beans were divided into nine Petri dishes, three Petri dishes for each treatment of bean size. One pair of beetles - female, and male - were placed into every Petri dish. When the females had laid their eggs the number of eggs per bean was counted for each Petri dish.

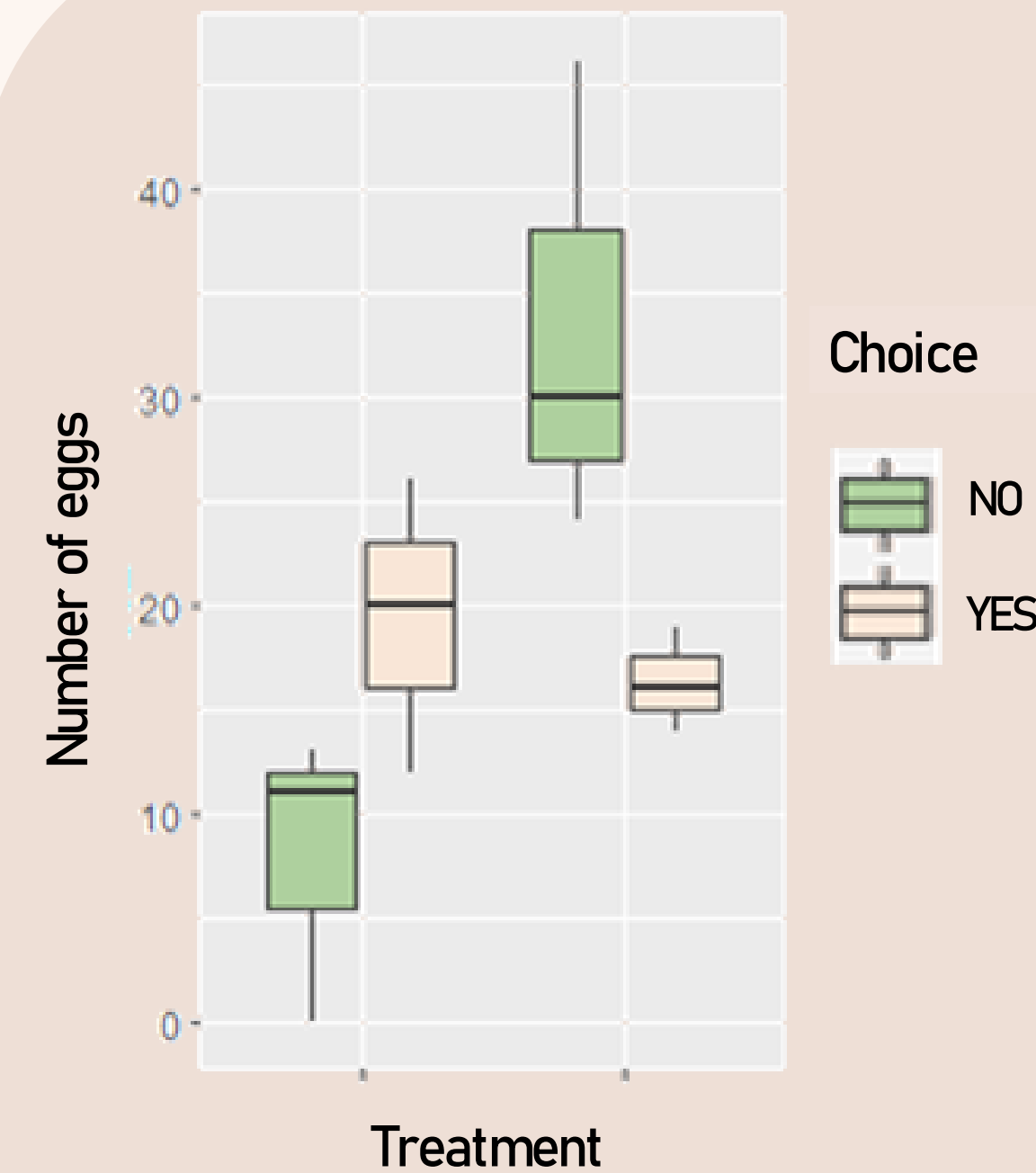
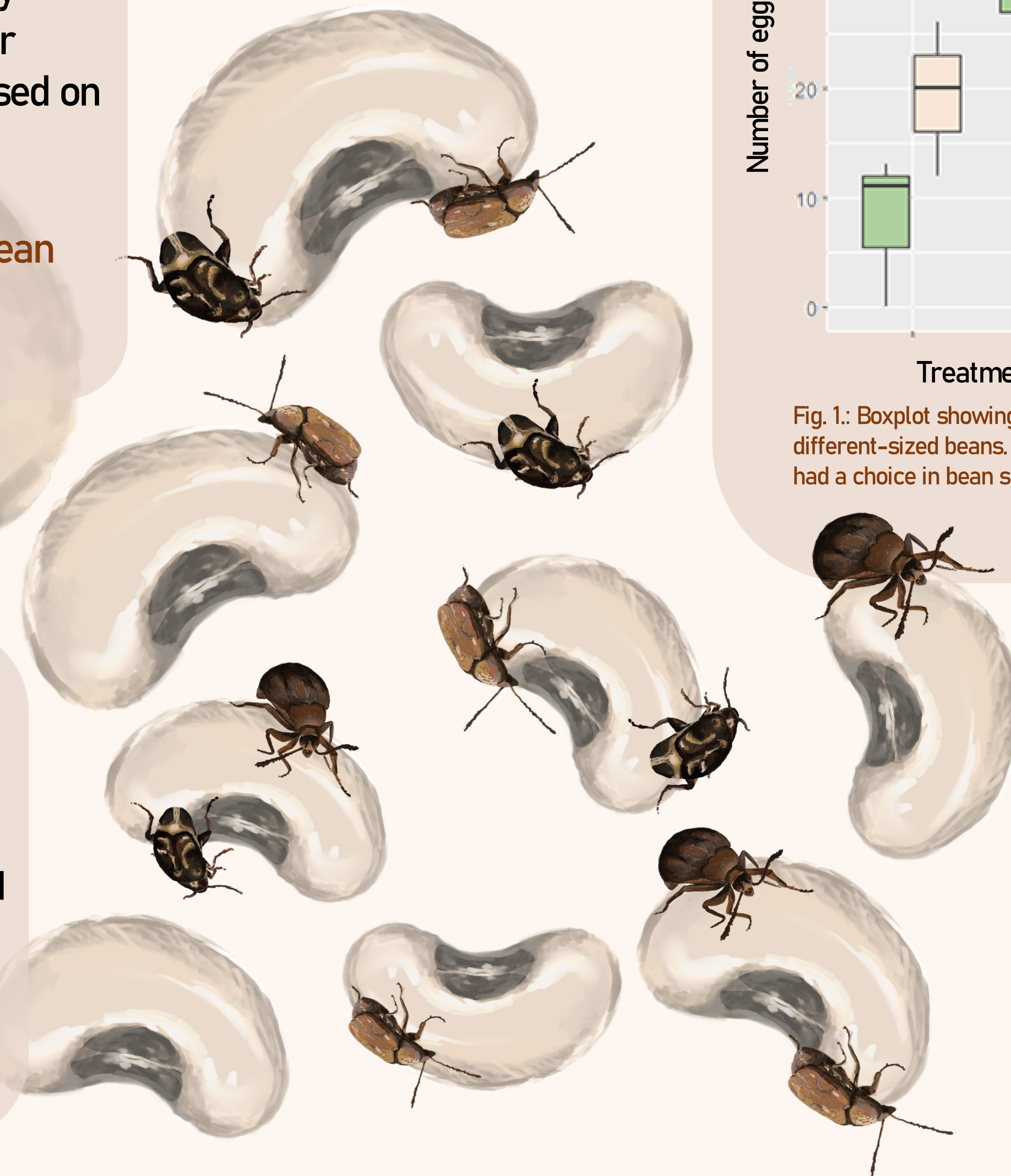


Fig. 1.: Boxplot showing the number of eggs on the different-sized beans. The colors represent if the beetle had a choice in bean size or not.

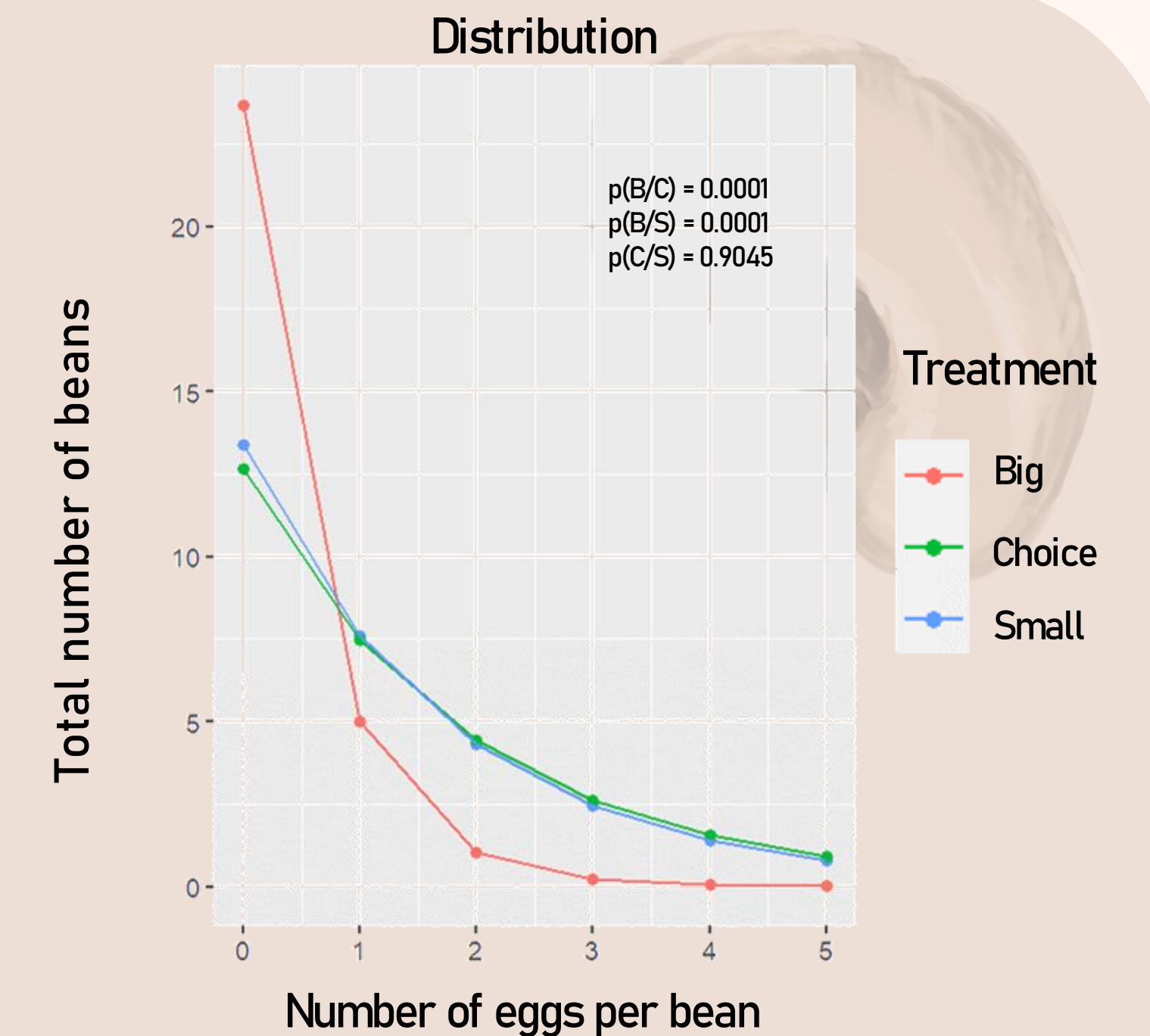


Fig. 2.: Scatter plot, that shows the distribution of eggs on each bean. This is divided into big beans, small beans and a choice between big and small beans. One of the samples for treatment B is an outlier, hence the large difference. However, p values showed a clear difference between Big and Choice/Small.

Conclusion

Our results show that our big bean samples have on average less than half the eggs of both the small bean sample, and where they got a choice. Although there are less eggs on the big beans, the results show that when given a choice; beetles increased their overall egg laying on big beans. Our results is therefore inconclusive.