

Response to the comment of Anonymous Referee #1

We appreciate the time and effort from Referee #1 to provide comments and great suggestions on our paper. We address each comment below, where the reviewer's comments are shown in italics. The line numbers refer to the original document.

Comments

This study investigates the effect of bark beetle attack on Norway spruce biogenic volatile organic compounds. While I think it is a interesting study subject, I found the manuscript difficult to evaluate because I could follow the experimental design: what was the n for all the different treatments, plots, sites, ect.? when was sampling performed i.e dates and time? I think it would be very helpful to make an experimental design figure.

Thank you for your comment and helpful suggestion. We would like to avoid confusion and will include an experimental design figure/table, rather than having it spread out in the text.

My other major comment is about the statistics. I saw that there was a statistics paragraph in the methods, but I would like to have more details about how the statistics were perform. Also, no statistic were included in the result or figures.

We agree that it can be clarified. All measurements were included in the statistics, from all sites and plots. Clarifications have been made accordingly: Using a Kruskal-Wallis test (MATLAB R2021a, The MathWorks, Inc., MA, US) with a level of significance set to $p < 0.05$ we compared the following scenarios: 1) emission rates between the healthy tree plots, plot 1, 2 and 3 in HTM, 2) the difference in emission rates from healthy trees and infested trees, from all plots and sites, 3) the difference in emission rates from the two infested trees in the sub-study and 4) the difference between Q10 and F0 for healthy and infested trees.

We decided to only perform a Kruskal-Wallis test because of our small sample set. Our data was also not normally distributed which further limited our choice in statistics to perform. We decided that in order to test our hypothesis, we simply needed to know if there was a significant difference between the groups or not which we could find out using the Kruskal-Wallis test for our different scenarios.

Statistics are included throughout the Results section where the results of the statistical test are presented as the p value that was given. The figures only include statistics in the form of some of them being boxplots, which includes minimum, lower quartile, median, upper quartile and maximum as well as outliers.

Finally, in the first sentence of the last paragraph of the introduction it is stated "The defense mechanism of Norway spruce is poorly understood." I don't think this is a fair assessment of the field. We know quite a bit about the induction of terpenes, phenolics, and traumatic resin ducts (e.g Krokene, 2015 Conifer Defense and Resistance to Bark Beetles in Bark Beetles: Biology and Ecology of Native and Invasive Species ; Celedon and Bohlmann, 2019 Oleoresin defenses in conifers: chemical diversity, terpene synthases and limitations of oleoresin defense under climate change, New Phytologist). Although, I agree that we still have a lot to learn.

As this was also commented on from Referee #2, we agree and understand the poor choice on our wording. We changed the sentence to "There is still a lot to learn about the defense mechanism of Norway spruce, only a few studies have analyzed the induced BVOC emission....". And would like to thank you for contributing with references on the matter.