

Comments to the paper entitled “**Heather pollen is not necessarily a healthy diet for bumble bees**” submitted to PCI Ecology, second round of review.

28.07.2023

(Line numbers refer to the document in track change mode)

Recommender minor comments:

Thanks for implementing the required changes. The paper now is very clear and provides reproducible evidence of how heather pollen affects bumble bees. I have a couple of very minor requests before final acceptance.

Author's response:

We warmly thank the recommender for the approval of the first round of review changes and for the time devoted to this manuscript. We have modified the manuscript according to your last comments and we hope it will meet your expectations.

Recommender minor comment 1:

First, I missed in the text if *Bombus terrestris* naturally forages on heather (and in which proportions if known). This is very relevant for interpreting the results, and can be briefly stated in the introduction, or maybe in discussion. Also, the Cox models ignore random effects, right? Just state this, and justify why this is ok in methods.

Author's response:

Thank you for highlighting these gaps in information. We have briefly mentioned the importance of heather in the diet of bumble bees in the introduction (Lines 84 and 534-535), as well as justifying the choice of *Bombus terrestris* as a species that naturally forage on heather pollen in the materials and methods (Lines 126-127, 489-491 and 593-594).

Concerning Cox models, using the function *coxme* from the *coxme* R-package v.2.2.18.1 (Therneau, T. M. (2022). Mixed Effects Cox Models [R package *coxme* version 2.2-18.1].), we can perform Mixed Effects Cox Models and consider random effects. To make this clearer for the reader we highlighted the consideration of random effects for this variable (Lines 233-234).

Recommender minor comment 2:

Second, there are a few grammatical issues. e.g. line 144: "parasiteS ... fed WITH ... WERE parasite free"; line 356 needs a space in *emergenceresulting*.

Author's response:

Many thanks for pointing out these errors. They have been corrected in the manuscript. Several other grammatical errors were identified and corrected (e.g., Lines 100, 147, 238, 363).