Dear Editor,

We are submitting for your consideration a manuscript entitled “A temperature-driven model of phenological mismatch provides insights into the potential impacts of climate change on consumer-resource interactions” to be published in *Journal of Animal Ecology*.

Our work proposes a theoretical model that determines the duration of the resting period of organisms according to temperature, and its effects on synchrony or mismatch between phenological stages of two interacting species. The main focus of this study is the potential effects of climate change on resource-consumer phenological synchrony or mismatch. This approach is quite general as it is applicable to different resource-consumer systems for which species phenology is driven by temperatures.

The manuscript first introduces the theoretical framework that leads to general conclusions. Then, the framework is tested on a case study: the spruce budworm and its host tree in eastern Canada.

Our model proposes mechanistic methods to determine the end of the resting period, and how this event may shift in time in a context of climate change. A growing body of literature has shown that many species exhibit a shift in phenology, which may affect species interactions. The novelty of our approach is to provide a mechanistic understanding of the effects of a change in temperature regime on species phenology and species interactions.

We believe that our approach will be of great interest to a wide range of researchers in ecology, and among them those that focus on resource-consumer interactions, species phenology, and effects of climate change.

Therefore, we hope that you will find our manuscript of interest to *Journal of Animal Ecology*.

Looking forward to hearing from you,

Sincerely yours,

Portalier S.M.J., Candau J.N., Lutscher F.