

## Report on the outcomes of a Short-Term Scientific Mission<sup>1</sup>

Action number: CA18201

Grantee name: Sanne Maria Evers

### **Details of the STSM**

Title: The effect of climate and plant cover on the population dynamics of *Dracocephalum austriacum*

Start and end date: 01/04/2022 to 31/07/2022

### **Description of the work carried out during the STSM**

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

(max. 500 words)

I assisted in the population census of *D. austriacum* in May and at the end of June (originally planned in July). During the STSM I have also modelled *D. austriacum* vital rates (survival probability, growth and fecundity), and investigated the effect climate drivers (e.g., temperature) and other covariates, such as plant cover, on the vital rates. I have also created several population models in the form of Integral Population Models (IPMs). These IPMs gave us a better understanding of the historical performance of the different populations and also allowed us to investigate the population level effect of the different vital rate and covariates as well. Finally, I used these models to forecast *D. austriacum* populations to the year 2100 under different future climate scenarios.

### **Description of the STSM main achievements and planned follow-up activities**

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

(max. 500 words)

---

<sup>1</sup> This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

This STSM has given us a better understanding of the current status of the *D. austriacum* populations and has given us the tools needed to forecast their fates. I have also gained valuable practical experience, both during the fieldwork and during talks with my hosts and their colleagues.

I am currently still working on an analysis to investigate what management actions can be taken to maintain the populations. We are planning on continuing our collaboration with the goal of finishing writing a manuscript describing our findings and publishing this manuscript in a peer-reviewed journal.