

## Keir Morse - 2018 DeDecker Botanical Grant Progress Report

The genus *Malacothamnus* (the bush-mallows) is a taxonomically controversial group with 16 taxa currently included in the CNPS Rare Plant Ranking system. For my PhD dissertation, I am using morphometric analyses, DNA Sequencing, comparative phenology, and extensive field evaluations to resolve the taxonomy of the genus and evaluate the conservation status of each taxon.

During the 2018 season, I made significant progress in my research, surveying much of the state. I mapped over 1,600 points of *Malacothamnus* on Calflora, collected over 100 voucher specimens of 21+ possible taxa for morphometric and DNA analyses, and made 19 seed collections of 15 possible taxa to deposit in the Rancho Santa Ana Botanic Garden seed bank. My first batch of DNA has been sequenced and the data from this will be used to help clarify where I need to focus my efforts for the coming season.



*Malacothamnus orbiculatus* in flower

In the Bristlecone Chapter area, I found seven populations of *Malacothamnus orbiculatus* from the Chimney Peak area in the south to the Big Pine area in the north. Only one population was found east of Highway 395 on Hunter Mountain. Any observations of additional populations east of Highway 395 or north of Big Pine would be most welcome.



Abundant *Malacothamnus orbiculatus* growing along Lone Pine Creek after the 2016 Lone Pine Fire.