

## ABSTRACT

Floral traits have been a key field of research in pollination ecology. The vast extent of traits studied have shown to be of influence in attracting (or deterring) visitors. Because flowers are complex organs with complicated relationships among many traits, studies of trait combinations (so-called pollination syndromes) have often been applied to help understand and predict interactions between flowers and their visitors. However, the role of individual traits should not be overlooked, especially because their roles can differ among pollinator functional groups or vary under particular conditions.

In this dissertation I give insights on the plant-pollinator interactions, the role of selected pollination related traits in shaping these interactions, and how such traits influence the mating systems and pollen limitation. We studied these interactions on Mount Cameroon (Cameroon) and in the Iron Mountains (Železné Hory; Czechia) Protected Landscape Area, where we conducted intensive observational studies, exclusion, and hand-pollination experiments.

Our results highlighted the importance of individual traits in shaping plant-pollinator interactions and plant mating systems. Nevertheless, the role and predictive ability of floral traits differed spatiotemporally and among pollinator functional groups. Interestingly, we found a higher importance of floral traits in shaping interactions towards harsher environments. Additionally, we showed that even though the pollination syndrome hypothesis is valid for bird-visited plants, we found that birds themselves selected flowers primarily based on nectar availability.

Based on my dissertation results, I conclude that prior to questioning the validity of the pollination syndrome hypothesis, we should improve our trait-based understanding of these complex plant-pollinator interactions, including spatiotemporal and taxon-specific variations.