Title: The Evolutionary Ecology of Pollination Systems in Papilionoid vs Non-Papilionoid Legumes

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Abstract:

Angiosperm flowers have long been assumed to represent adaptations to their pollinators. Establishing this link empirically has remained an ongoing challenge in evolutionary biology, however. In this talk I will present two studies comparing the pollination strategies of generalist, “non-papilionoid” legumes vs. specialist, “papilionoid” legumes, focusing specifically on the Amorpheae tribe in which several non-papilionoid lineages evolved. Non-papilionoid Amorpheae species consistently attracted a higher number and diversity of pollinators than papilionoid legumes, as expected. Interestingly, however, non-papilionoid Amorpheae species did not suffer from higher rates of nectar robbing or unfaithful pollinators, as expected. Instead, I argue that the tradeoff in the evolution of the non-papilionoid floral form is likely realized through disadvantages in male fitness, as well as heterospecific pollen receipt. Through this research, I hope to gain a better understanding of the evolution of floral forms in Amorpheae legumes, as well as in generalist vs. specialist pollination systems at large.