POLLINATION ECOLOGY OF *DESMODIUM SETIGERUM* (FABACEAE) IN UGANDA; DO BIG BEES DO IT BETTER?

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Flowers have evolved a whole load of ways to attract and select the best pollinators. They use colour, scent, floral shape and a multitude of other mechanisms to make sure their chances of reproduction are maximised. *Desmodium setigerum*, a member of pea family that grows in eastern Africa, has evolved two such features that make it of interest to pollination ecologists. Firstly, it changes colour from lilac to blue when it has been visited by a pollinator. This signals to other pollinators that that flower has already been visited, so as not to waste their time visiting the flower again. Secondly, *D. setigerum* has an "explosive pollen release" mechanism. This means that, in order for a pollinator to come into contact with reproductive parts, the pollinator must elicit an explosive response by probing for nectar.

We set out to investigate a number of aspects of the pollination ecology of this interesting plant species in relation to these features. We tested whether this species benefits from insect pollination and yes, it does – more seeds are produced when flowers are visited by insects compared to when they aren't. Flowers of this species only last a day, and we found that at the end of a day nearly all available flowers have been visited. We also examined what insects visit this species and which can cause explosive pollen release. We found that this species is visited mainly by bees (we counted 15 species), and that one particular bee species deposits more pollen than any other. This bee is likely an important pollinator of this plant. Overall, we also found that in general the **smaller** a bee the more pollen it deposited on the plant stigma – so for this interesting species, big bees don't necessarily do it better!

This fieldwork for this study work was carried out during a number of Tropical Biology Association field courses in Kibale Forest, Uganda http://www.tropical-biology.org/

Caption: Flowers of D. setigerum that have been visited and "tripped"; where they explosively open releasing pollen and allowing the visitor access to the reproductive parts. Photo: Dara Stanley