

Abstract

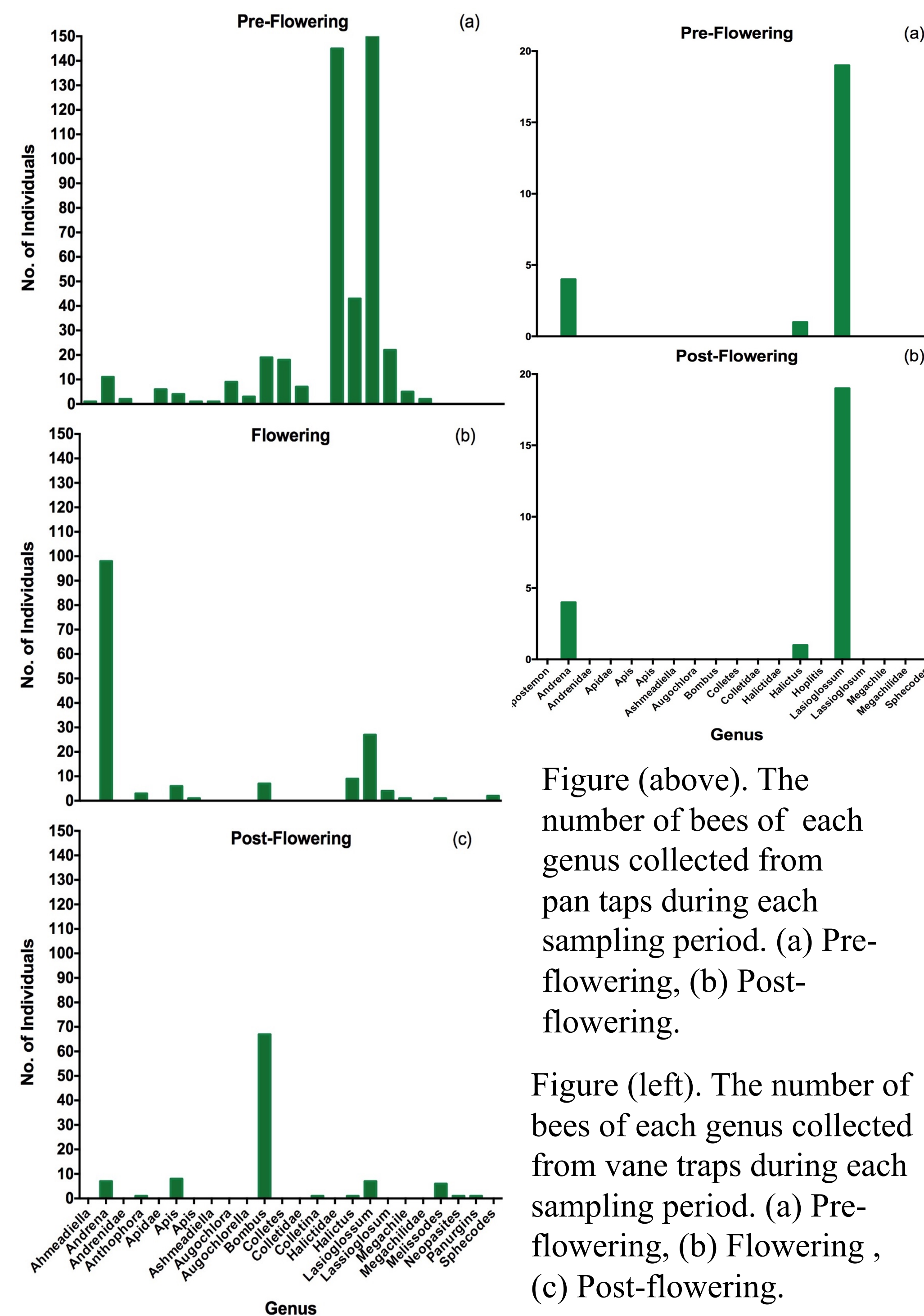
Pollination in fava bean (*Vicia fava* L.) is poorly studied. While some literature suggests that honey bees (*Apis mellifera*) and long tongued bumble bees (*Bombus* spp.) are the prominent pollinators in fava fields, others have shown them to be less effective. To date, no studies on fava bean pollination have been done in North America. As a first step to determine and manage pollination in Canadian fava bean crops, we are conducting a survey of the bee community in Saskatchewan fava bean fields.

Materials and Methods

- Six fava fields were selected
- All selected sites were within 20 km of the University of Saskatchewan and managed under near-commercial practice
- Each site had two transects, one with vane traps, the other with pan traps (blue, yellow, white)
- The transects were placed 1 metre parallel to one another
- Each transect had 12 traps, spaced at 1 metre intervals along the transect (from 0 metres to 12 metres)
- Pan traps were left for 6 hours, and vane traps for 24 hours during each sample period
- There were a total of three sampling periods: Pre-flowering (May-June), Flowering (July), Post-flowering (August)



Results



We found small native bees to be the most common across both pan and vane trap samples. The most abundant family was Halictidae, with *Halictus* and *Lasioglossum* being the most abundant genera. The abundance of bees collected from vane traps favoured *Bombus*. Data collected suggests that small native solitary bees could be more important than managed bees in the pollination of fava bean crops.

Preliminary Conclusions

Preliminary results indicate that significant bee diversity exists within Saskatchewan fava bean fields. This diversity encompasses species predicted to be pollinators of fava bean, such as bumble bees and honey bees, as well as multiple species of native bees. Moreover, there were few managed bee species in samples; although, this may be due to the fact that none of the fields were in close proximity to managed hives, and this may explain why few were sampled.



We found that the combination of sampling methods is more effective at capturing diversity than either method alone. Raising pan traps to canopy height also resulted in more effective sampling than leaving pans on the ground. Many of the samples remain to be identified. If preliminary trends hold, it would greatly justify further studies on management of native bees in fava bean fields.

Acknowledgements

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