Advances in Testing Multi-Species Pastures for Productivity and Environmental Benefits: Influence on Pollinators

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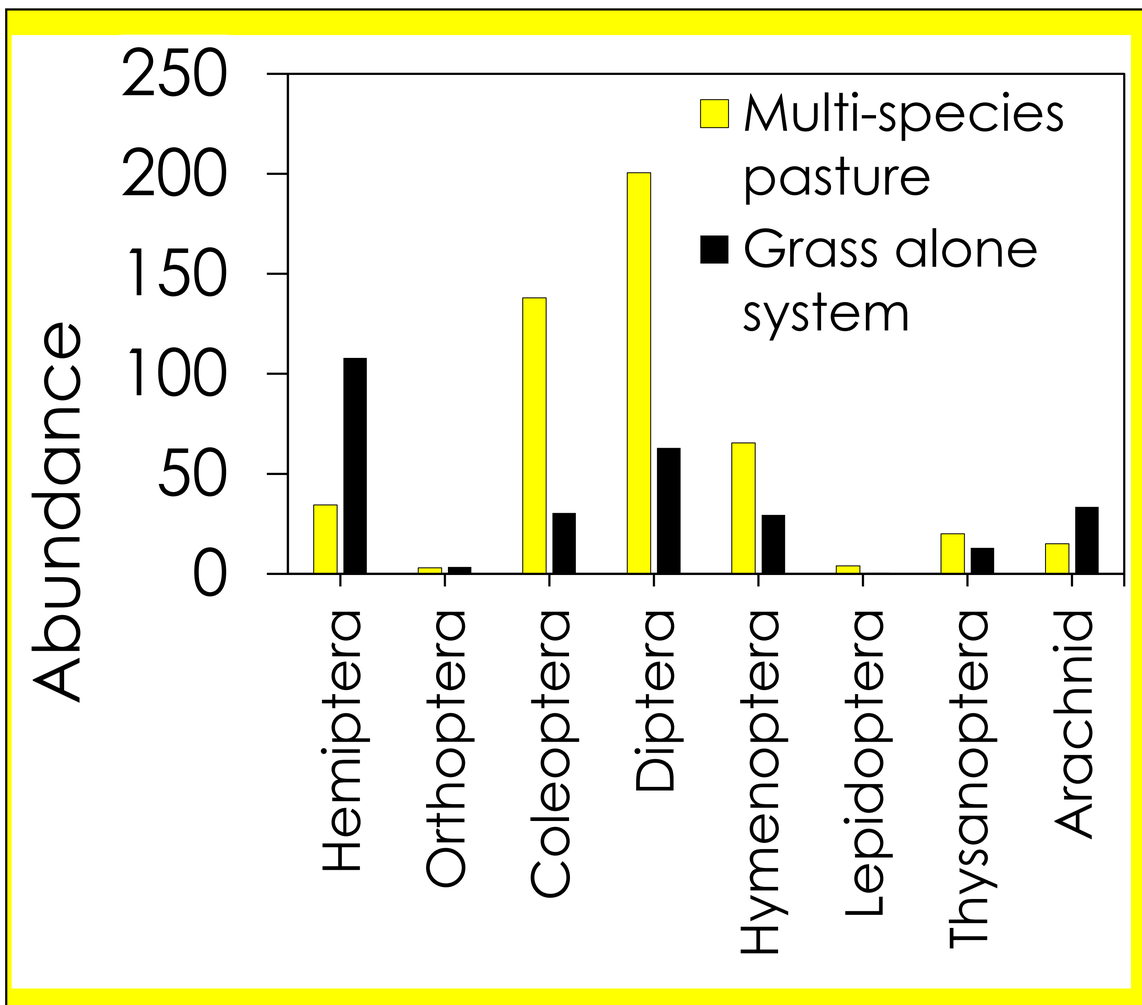
In the American tropics, the vast majority of pastures are dominated by a single species (mostly grasses).

Pastures with higher species diversity can be more efficient and might be more stable and resistant to disaster than those with fewer species. They also provide ecosystem services.

We implemented a field pilot study to test multi-species pastures (November, 2019)at the Regional Hub for the Alliance Bioversity-CIAT in Cali, Colombia.

- We established multi-species pastures consisting of one to three plant functional groups (grasses, legumes and forage herbs; up to six species) to compare them to a grass monoculture or a grass-legume (one of each) system and to establish differences in:

- Abundance (arthropods)within each taxon (Order) was measured as total numbers of individuals.
- Abundance was estimated using timed transect walks.



Multi-species pastures might rapidly provide an environment friendly to pollinators and thereby mitigate their worldwide reductions as shown elsewhere.

Preliminary results show that even within the limited period since the pilot study began, there has been a **two-fold increase** in abundance of pollinators (e.g., Hymenoptera and Lepidoptera) in multi-species pastures compared to a grass alone (Figure above) and grass-legume system(not shown).

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