Species Composition of Native and Introduced Plants Across Land-use Types in Central Nigeria

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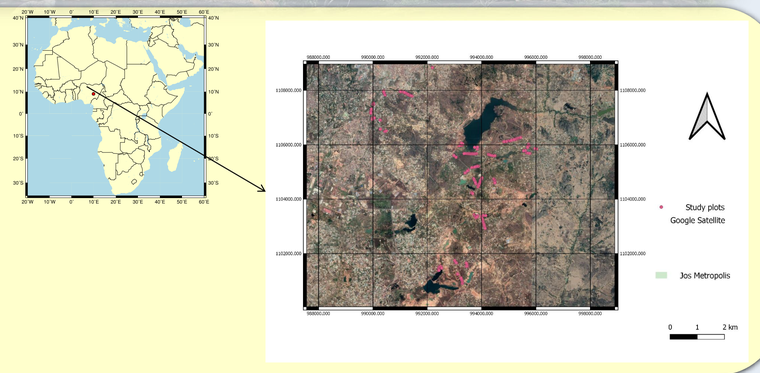
Background & Study area

- Globally, human mediated translocation of species beyond their native ranges has substantially increased during the last centuries.
- However, we know little about the introduction of introduced plant species and their composition in Nigeria, West Africa.
- Here, we tested for differences in species composition of native and introduced plant across land-use types in Jos, Central Nigeria.



Aim of this study: To determine the species composition of native and introduced plants across land-use types in Jos, central Nigeria.

Methods

- Sampling was conducted from October – December 2019. We set fifteen ~500 m sample transect along the three land-use types (farmland, roadside, and riparian) where anthropogenic activity is prominent.
- At each transect, we set 10 10-m^2 plot. Plots were 50 m apart along the transect and a total of 150 plots were established across the land-use types.
- Individuals of plant species in the plots were counted and identified following nomenclatures by (Hutchison & Datziel, 1954), (Arbonnier, 2004), (Akobundu & Agyarkwa, 1998).
- Specimens of unknown species were collected and compared with specimens belonging to the collection of A. P. Leventis Ornithological Research Institute (APLORI) herbarium for posterior identification.
- The recorded plants were grouped into distribution status (natives and introduced) and growth habit (herbaceous annuals, herbaceous perennials. and woody perennials).

Results

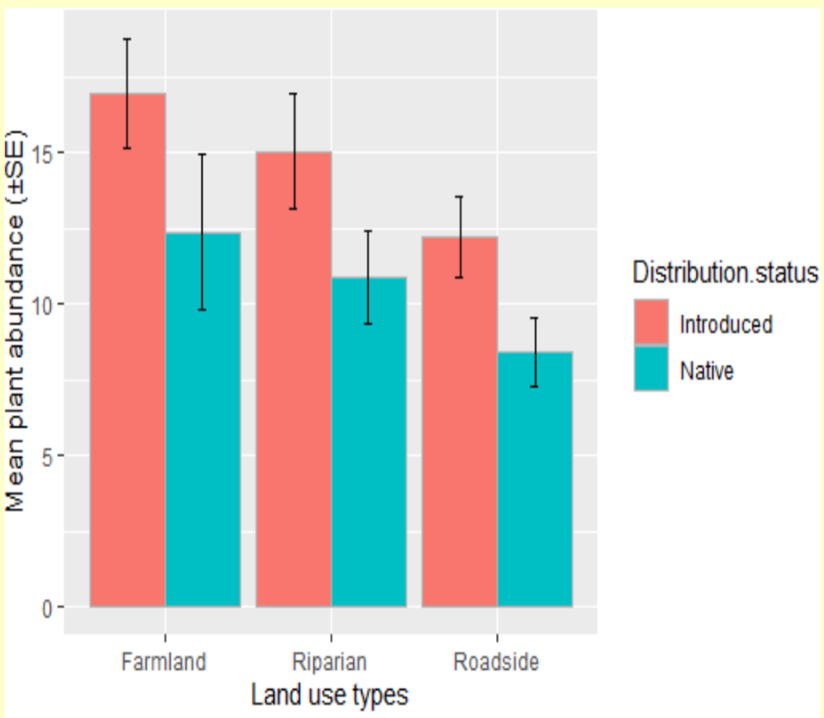


Figure 1: Mean plant abundance (± SE) across land-use types. Introduced species are significantly higher than natives.

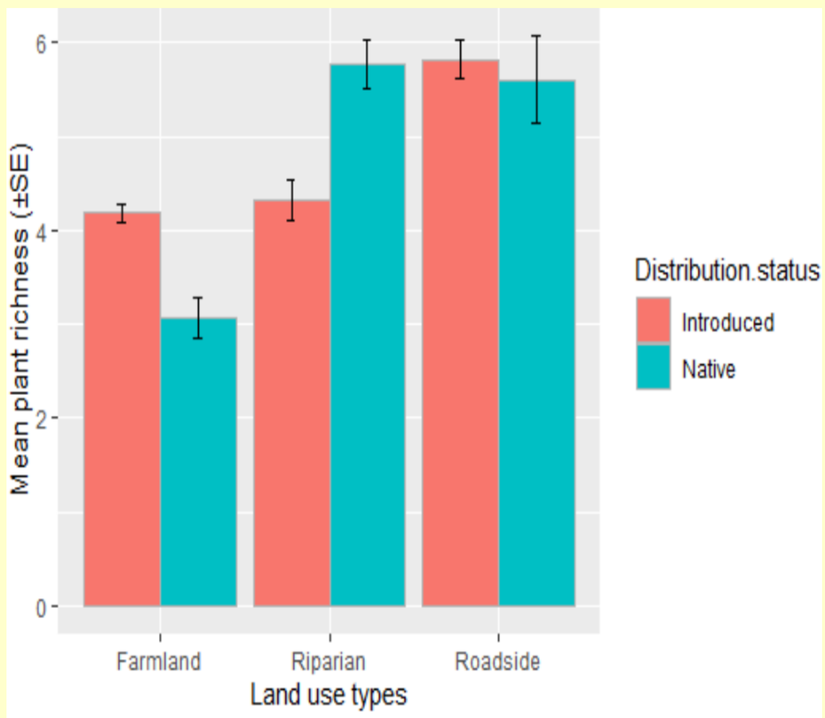


Figure 2: Mean plant richness (± SE) across land-use types. Natives significantly show more richness than introduced plant species in riparian land-use types.

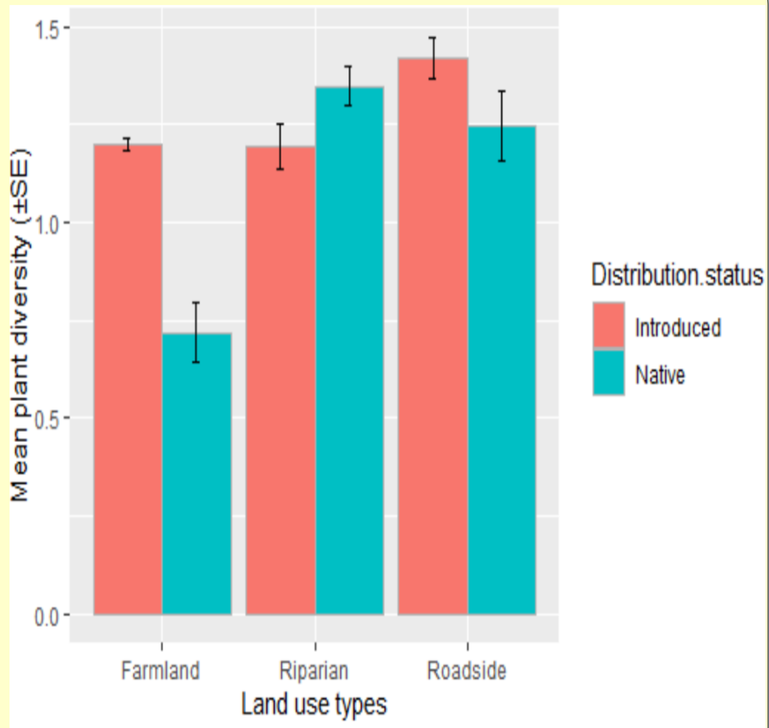


Figure 3: Mean plant diversity (H) (± SE) across land-use types. Natives significantly show higher diversity than introduced species in riparian land-use types.

Conclusions

- Farmland harbour higher introduced plants than natives.
- Riparian has abundant introduced plant than natives. However, riparian shows higher native plant richness and diversity than introduced plants.
- Riparian shows high conservation importance and priority due it diversity and richness of native species.
- Roadside provide a haven for introduced plants. However, native plants richness is similar introduced plants.
- This finding will direct conservation management plans on native species and provide baseline information for the studies on introduced species invasion in Nigeria.

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Introduced plant species … Central Nigeria … Native plant Conservation