

The floristic composition of some botanical gardens in the Fayoum Depression, Egypt.

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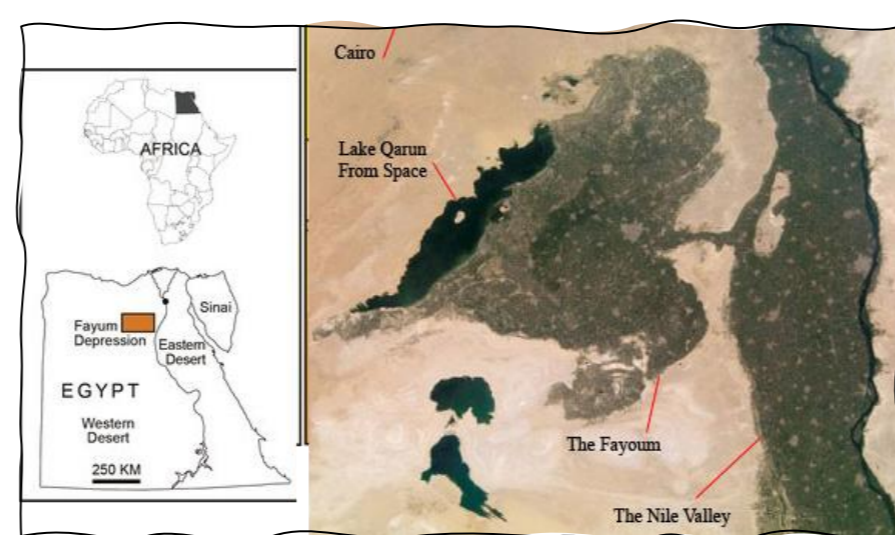
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INTRODUCTION & AIM

- Fayoum Depression (FD) is considered one of the world's oldest agricultural cities and recorded as the most fertile land in Egypt.
- The topography of (FD) is comparable to that of Egypt, with Qarun Lake situated on Fayoum's northern coastline, resembling Egypt's northern border with the Mediterranean Sea, and the Bahr Yusuf Canal being referred to as FD's backbone, akin to Egypt's Nile River.
- Floristic composition in gardens and parks is crucial for biodiversity as it directly impacts the variety of plant species available, which in turn supports a range of wildlife, including animals, insects, and microorganisms.
- Studies highlight that gardens and parks serve as vital green spaces that contribute to overall urban biodiversity.

➤ Apparently, there are no publications available on gardens flora at FD. Therefore, this study aims to provide a detailed and valuable survey of the floristic composition in four common gardens at FD.



METHOD

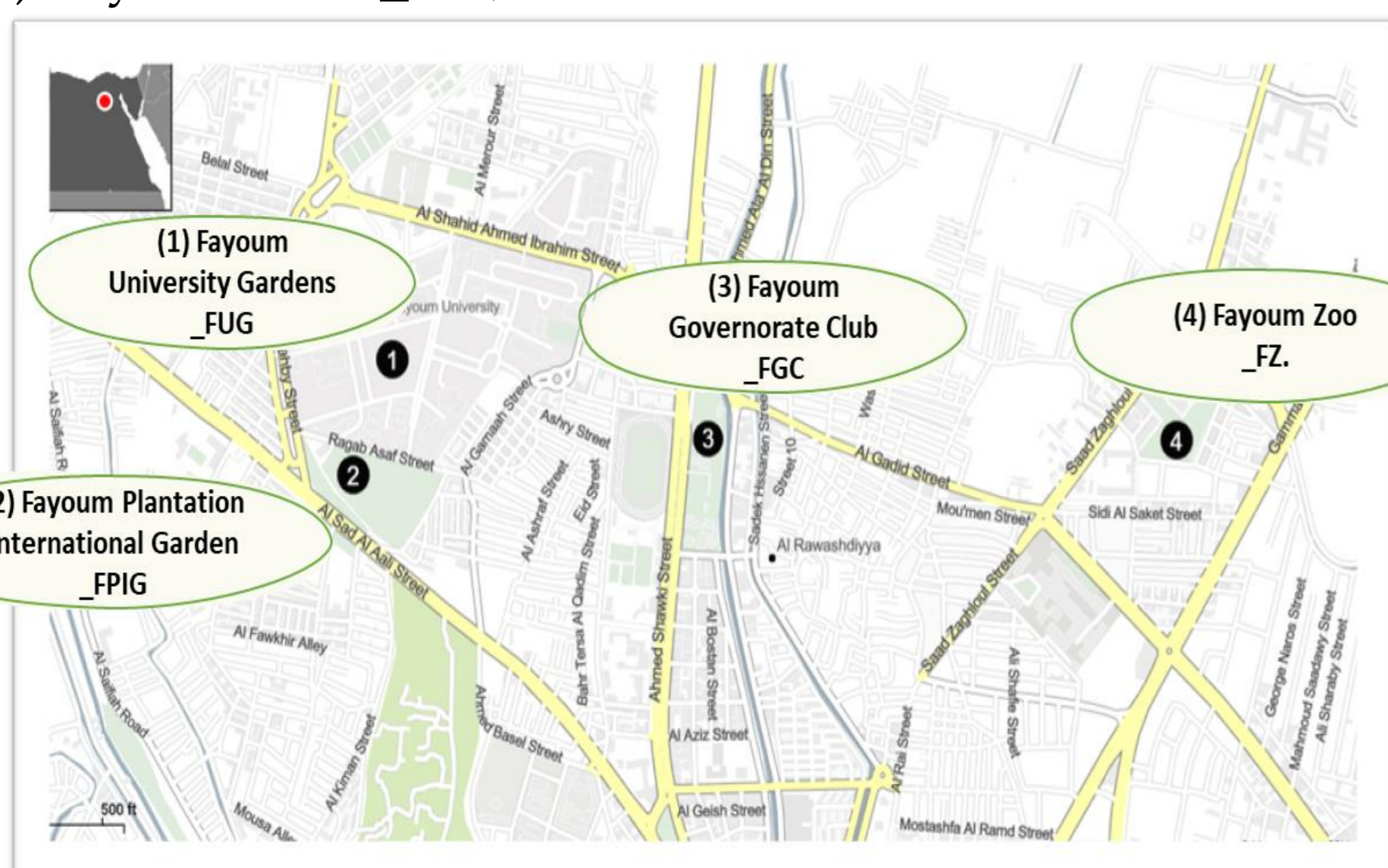
This article Checklist discussed the cultivated, tree and weed flora composition of the plants growing in four common gardens at FD.

(1) Fayoum University Gardens _FUG;
29°19'15.0"N 30°50'07.6"E.

(2) Fayoum Plantation International Garden _FPIG;
29°19'03.8"N 30°50'02.8"E .

(3) Fayoum Governorate Club _FGC;
29°19'06.7"N 30°50'29.0"E .

(4) Fayoum Zoo _FZ.; 29°19'13.8"N 30°51'11.9"E.



Recommendations

1. we recommend increasing attention to these parks and allocating sufficient space for them.
2. Strict laws should be enacted for the trade of ornamental plants.

RESULTS & DISCUSSION

□ this study provides a comprehensive analysis of the vascular plant diversity within the famous gardens at FD.

➤ The findings reveal a rich flora comprising 216 species from 151 genera and 58 families. Dicotyledonous plants dominate the assembly, followed by monocotyledons and gymnosperms, Fig.1.

➤ Perennial species outnumber annuals, and phanerophytes and hemicryptophytes are the most widespread life forms, Fig.2.

➤ The chorological analysis highlights the predominance of Mono-regional taxa, particularly those associated with the Saharo-Arabian region. ,Fig.3.

➤ The differentiation indices revealed distinct patterns among the gardens.

✓ Clearly, FUG garden exhibited the overall diversity, FGC demonstrated unique richness of single-taxa species.,Fig.4a

✓ Correlation analysis identified strong positive relationships between several taxonomic metrics, suggesting that increased diversity at the family and genus levels is associated with a higher number of taxa. Fig.4b

➤ The distribution patterns of taxa among the gardens further emphasize the uniqueness of each site.

✓ FGC had the highest number of single-taxa species, while FUG exhibited a relatively high proportion of shared species with other gardens. Fig.5

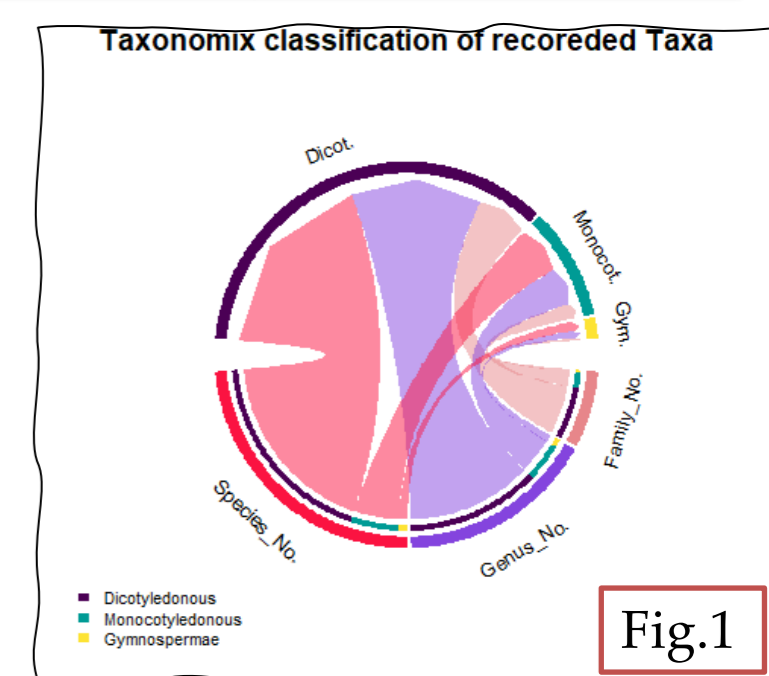


Fig.1

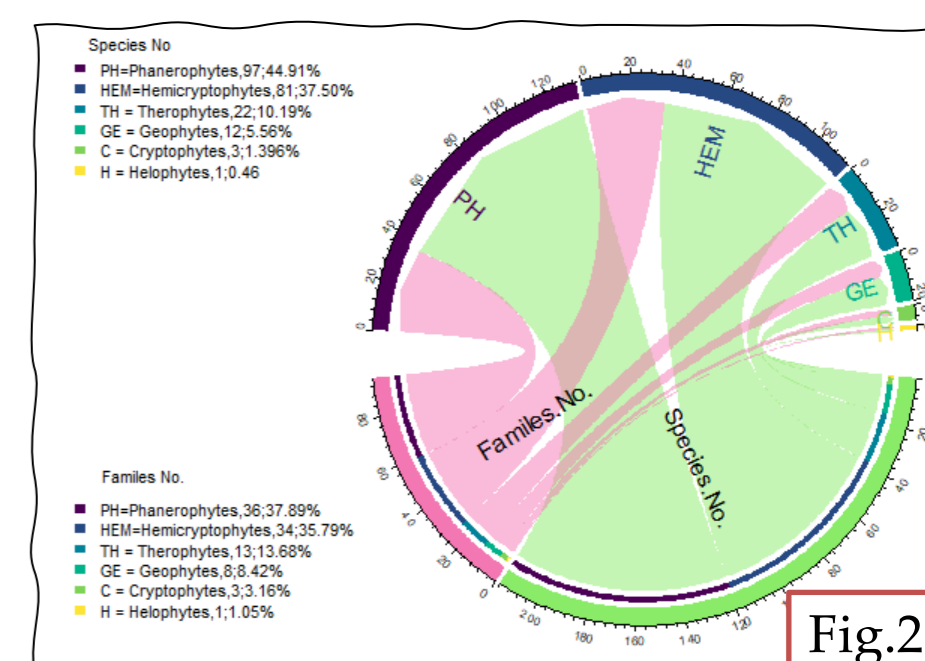


Fig.2

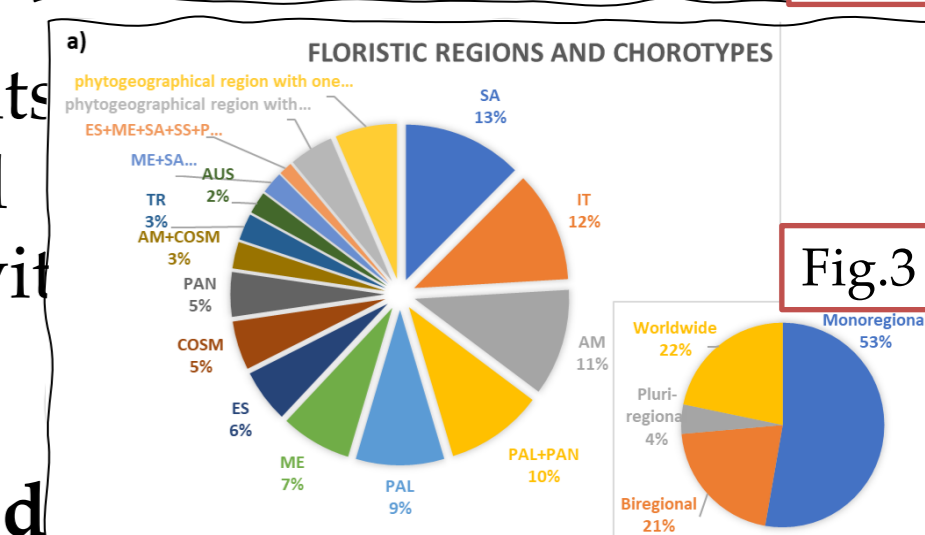


Fig.3

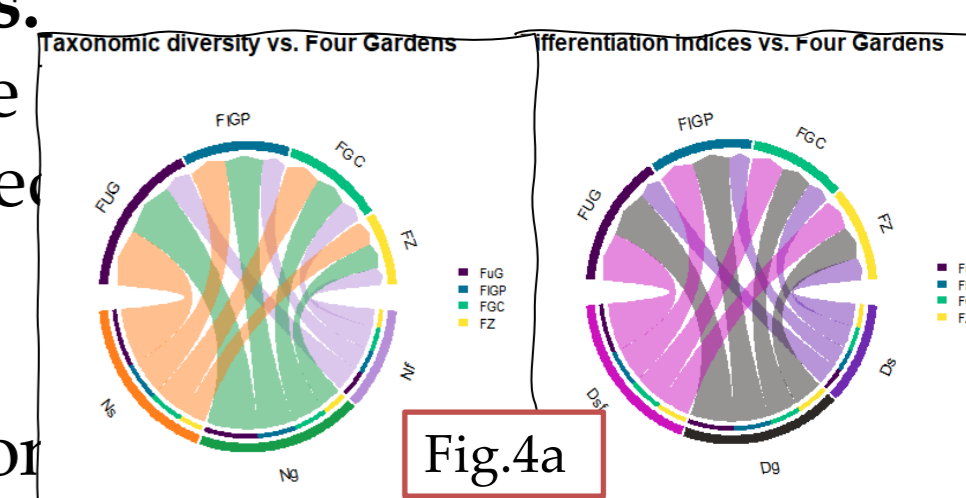


Fig.4a

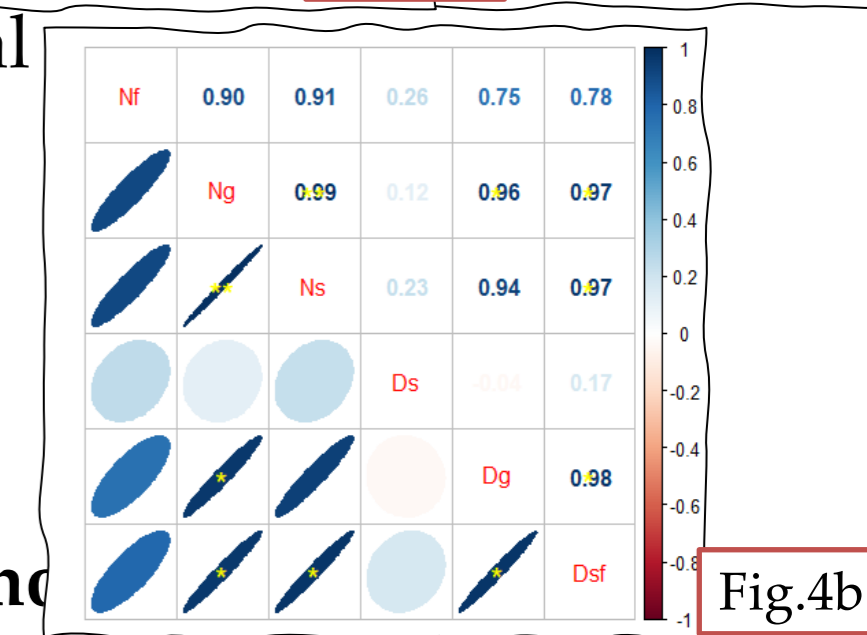


Fig.4b

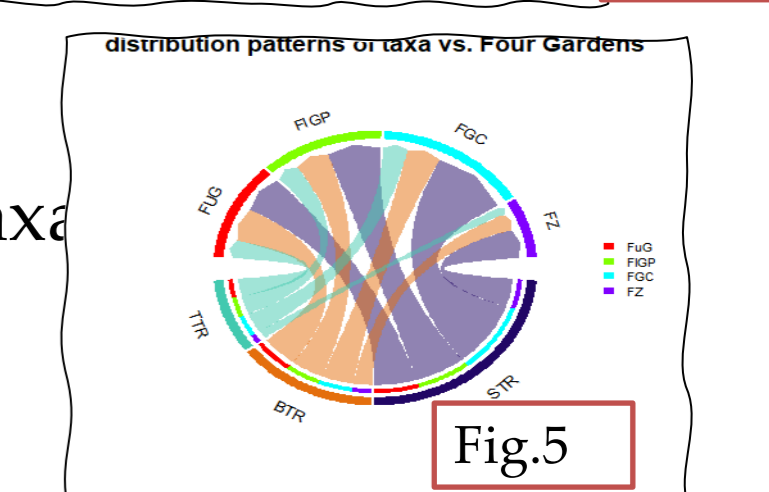


Fig.5

CONCLUSION

- ❖ Overall, this study provides valuable insights into the floristic diversity and differentiation of cultivated trees and weeds in the Fayoum region.
- ❖ The findings contribute to a better understanding of the ecological characteristics of these gardens and inform future conservation and management efforts.