

VARIABILITY IN FLORAL DISPLAY SIZE AMONG PHILIPPINE HOYA (ASCLEPIADOIDEAE, APOCYNACEAE) ACCESSIONS

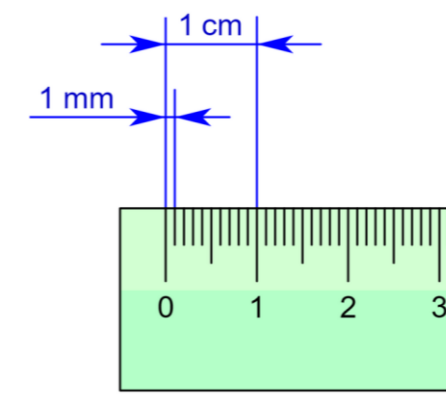
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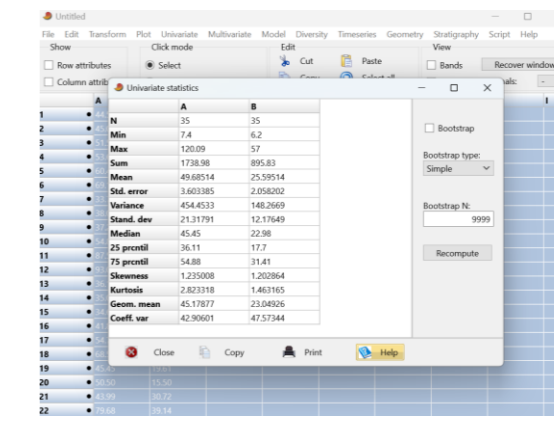
INTRODUCTION

With 198 species recognized, the Philippines is a hotspot for *Hoya* diversity, making significant additions to the more than 500 accepted species worldwide (Pelser, 2024; Royal Botanic Gardens Kew, 2024). Exploring this diversity is essential to understanding how floral display size correlates with individual floral characteristics and influences pollination and reproductive success in the wild. The variations in floral morphology not only provide insights into ecological interactions but also offer valuable information for horticultural breeding, helping identify species with the potential to serve as strong parent plants based on genetic diversity reflected in their morphological traits. Furthermore, in the absence of comprehensive molecular data, revisiting these morphological characters may reveal the need for reclassification, particularly by lumping species with minimal differences, which can refine taxonomy and support conservation strategies. This study aims to explore the floral display size variations across 30 *Hoya* accessions from the Philippines, contributing to both taxonomy and horticultural breeding efforts.

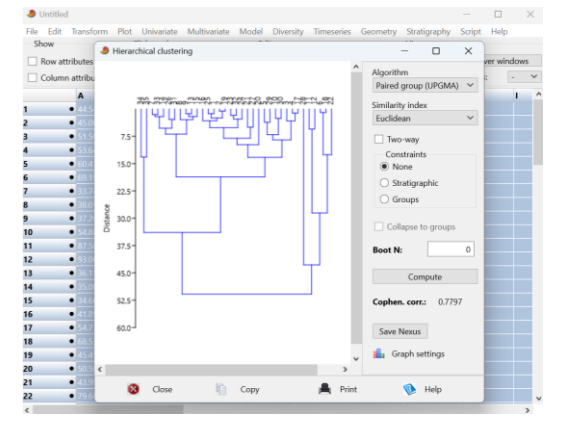
METHOD



Morphometrics
Measurement of the length and the width of the inflorescence (floral display) using a metric ruler.

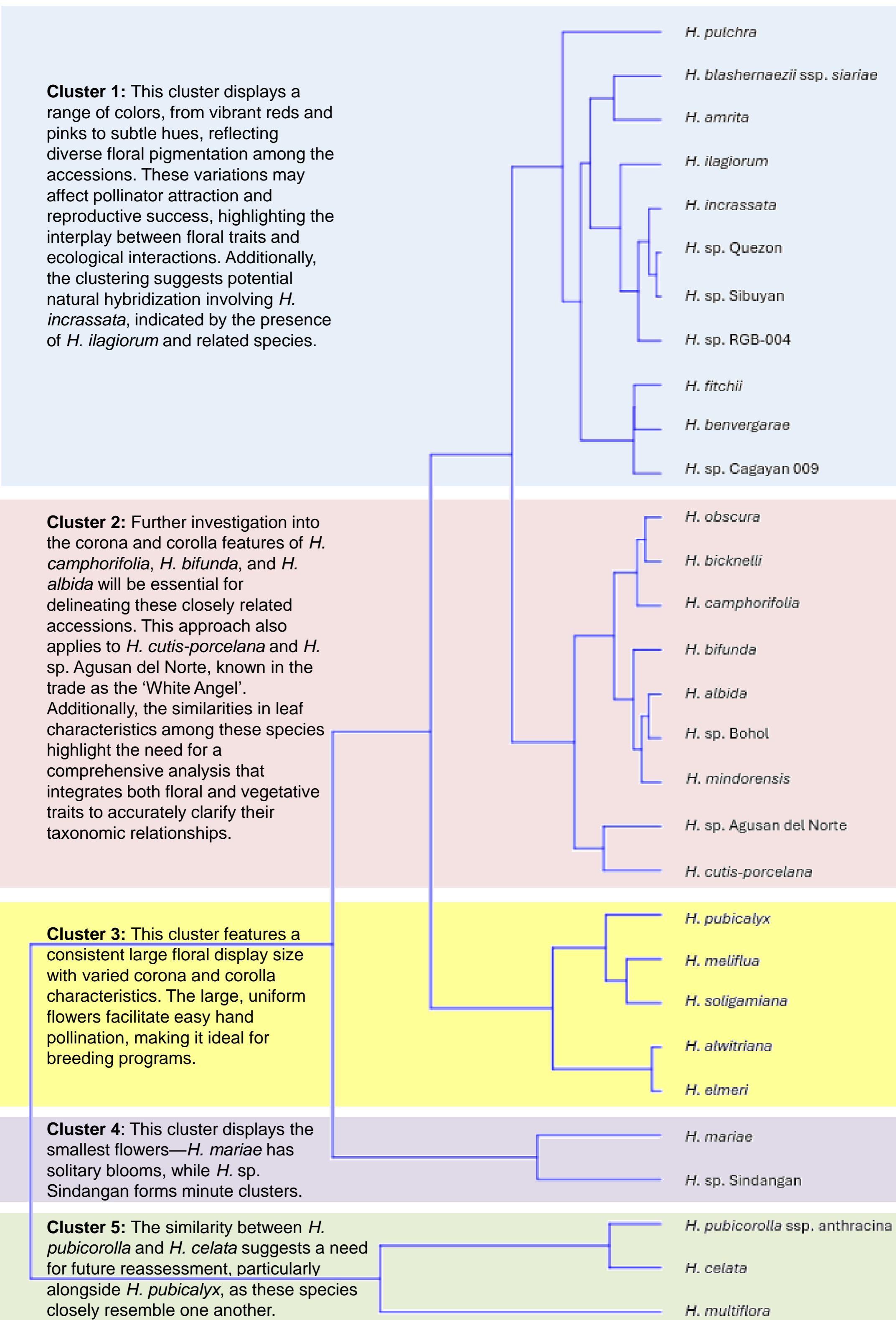


Statistical Analysis
One-Way Analysis of Variance (ANOVA) using PAleontological STatistics software version 4.03



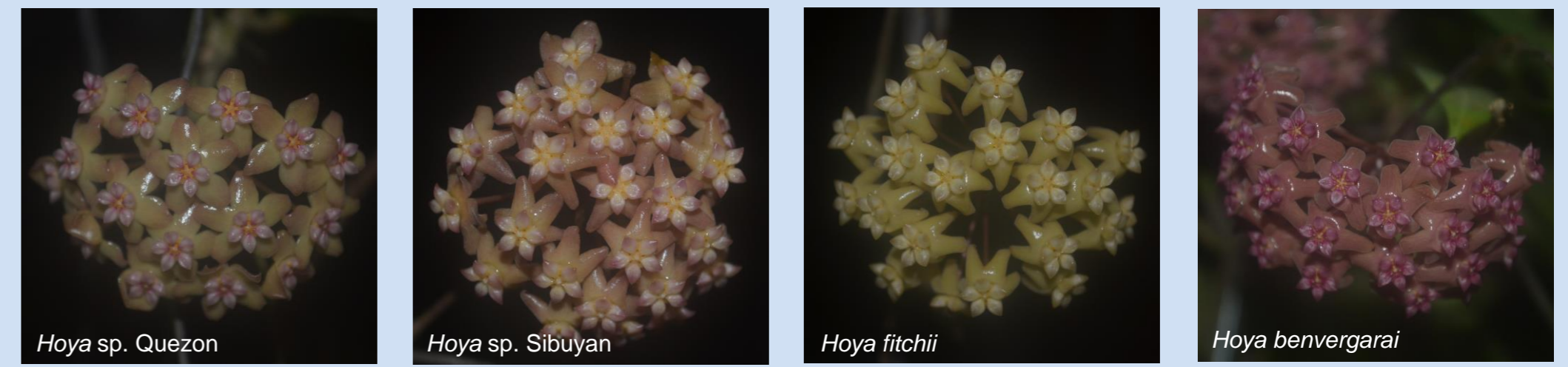
Cluster Analysis
Unweighted Pair Group Method with Arithmetic Mean (UPGMA) Using Euclidean distances

RESULTS AND DISCUSSION



Significant differences were found in the quantitative parameters ($p < 0.05$). The distance coefficients ranged from 0.46 to 122.43, where the highest distance coefficient was noted between *Hoya* sp. Sindangan and *H. multiflora* Sablan, highlighting their significant disparity in floral display sizes. The photos that follow highlight the variety of hoya floral displays, which are categorized according to the clusters they formed in the phenogram on the left.

CLUSTER 1



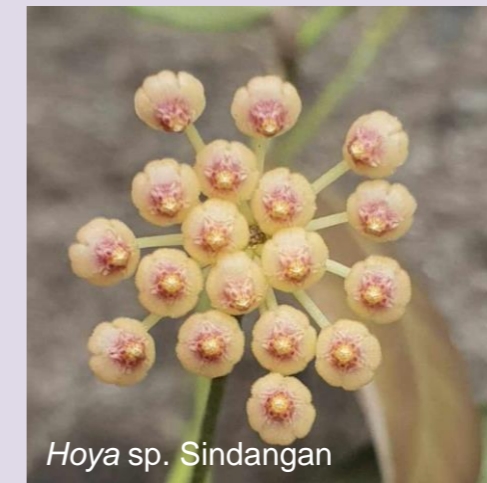
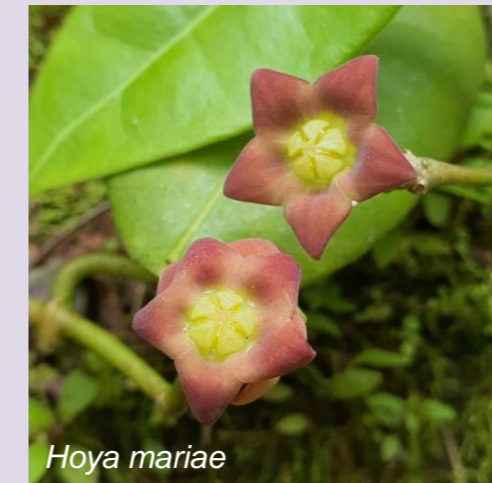
CLUSTER 2



CLUSTER 3



CLUSTER 4



CLUSTER 5



CONCLUSION

This study reveals significant variations in floral display size among 30 *Hoya* accessions in the Philippines, emphasizing the links between floral morphology, pollinator attraction, and ecological interactions. The phenetic analyses identified distinct groupings and genetic similarities, suggesting potential hybridization and speciation. These findings enhance our understanding of *Hoya* diversity and highlight the need to revisit taxonomic classifications. By incorporating these insights into conservation measures, the hoya diversity in the Philippines may be preserved, supporting sustainable management and horticultural breeding initiatives.

ACKNOWLEDGMENTS

Sincere appreciation is given to Maria Theresa Hartley and the Rare Garden Blooms (RGB) group for their tremendous effort with this research. The accessions examined are part of their collection, operating under a Wildlife Farm Permit from the Department of Environment and Natural Resources (DENR) in the Cordillera Autonomous Region (CAR). Their dedication to the preservation of *Hoya* has improved knowledge of this genus..

Figure 1. Phenogram showing the clustering of the hoya accessions based on their floral display sizes.