

# The Calabash connection: *Crescentia cujete* and the preservation of honeybees

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**H**oneybees are crucial pollinators responsible for maintaining the biodiversity of ecosystems and supporting agricultural productivity. However, honeybee populations worldwide have been experiencing significant declines due to various factors, including habitat loss, intensive agriculture & indiscriminate usage of harmful pesticides and reduced forage availability (Ratnieks and Carreck, 2010). To address these challenges, it is essential to explore and utilise plant species that can provide suitable habitats and abundant food resources for honeybees. One such species with great potential is *Crescentia cujete*, commonly known as the Calabash tree or gourd tree. In this article, we will delve into the unique characteristics and contributions of *Crescentia cujete* to honeybee conservation efforts.

## Floral resources and forage availability

*C. cujete* offers an abundance of floral resources with cauliflory flower bearing type *i.e.*, plants bearing flowers and fruits directly on their trunk or main branches, instead of at the branch tips are highly attractive to honeybees (Fig. 1a). Its unique flowers, with distinct shape and fragrance provide a rich source of nectar (Fig. 1b). The nectar composition of *C. cujete* is known to be nutritious, offering essential carbohydrates and other beneficial compounds for honeybee health and vitality. By incorporating *C. cujete* into honeybee-friendly landscapes, we can enhance forage availability, ensuring a diverse and ample food supply for honeybees throughout the year. (Sharma, 2011)

## Nesting Suitability and Shelter

In addition to providing floral resources, *C. cujete* offers suitable nesting sites and shelter for honeybees. The trees structural characteristics such as its sturdy branches and dense foliage (Fig. 1c) create ideal conditions for honeybee colonies to establish hives and protect their brood. The presence of *C. cujete* in honeybee habitats can enhance nesting opportunities and contribute to the overall well-being and survival of honeybee populations.

## Cultural and community involvement

*C. cujete* holds cultural and historical significance in many regions where it is native. It has been used by indigenous communities for various purposes, including crafts, utensils, and traditional medicine. Engaging local communities in honeybee conservation by promoting the cultivation and preservation of *C. cujete* not only provide habitat support for honeybees but also foster a sense of pride, cultural identity, and environmental stewardship. By integrating traditional knowledge and practices, we can establish a collaborative approach for honeybee conservation, benefiting both the ecosystem and local communities.

## Implementation strategies

For effective utilization of *C. cujete* for honeybee conservation, strategic implementation is necessary. Planting and maintaining *C. cujete* in suitable habitats, such as gardens, parks, and natural reserves can create honeybee-friendly environments for their natural multiplication. Collaboration between beekeepers, conservation organisations, and local communities is essential for maximising the impact of *C. cujete* in honeybee conservation efforts. By raising awareness, providing education, and engaging in habitat restoration initiatives we can create a network of *C. cujete* habitats, which support thriving honeybee populations.

## Conclusion

*C. cujete*, with its abundant floral resources, nesting suitability, and cultural significance offers great promise for honeybee conservation. By incorporating *C. cujete* into conservation strategies, we can enhance honeybee habitats, ensure adequate forage availability, and engage local communities in the preservation of this valuable resource. However, further research and monitoring are needed to assess the long-term effectiveness of *C. cujete* in honeybee conservation and to develop sustainable management practises. With collective efforts and a focus on

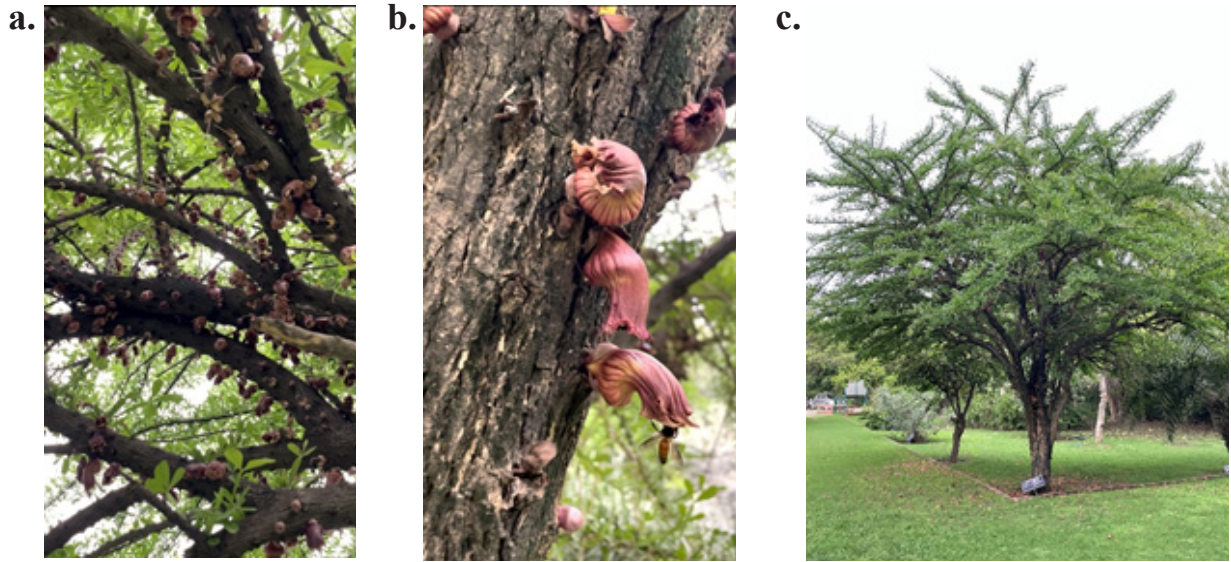


Fig. 1: *Crescentia cujete* (Calabash tree or gourd tree) a. Cauliflory bearing type of flower; b. Individual flowers; c. Tree

preserving biodiversity and ecological balance, *C. cujete* can contribute significantly to the conservation and well-being of honeybees, ensuring their vital role in our ecosystems for generations to come.

To view a video showcasing pollination in a calabash tree, please follow this link:

<https://youtube.com/shorts/w0INjvf00SI?feature=share>

[https://youtube.com/shorts/U2qpzpqM\\_SI?feature=share](https://youtube.com/shorts/U2qpzpqM_SI?feature=share)

## References

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