



Female Cape parrot feeding on yellowwood fruit. Credit: National Geographic.

How to Manage Cape Parrots and Bees for the Good of Both

THE LORO PARQUE FUNDACIÓN HELPS THE THREATENED CAPE PARROT TO AVOID ANOTHER THREAT: HONEY BEES

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The Cape Parrot is a geographically isolated population of *Poicephalus robustus* in South Africa which is under serious threat, mainly due to habitat destruction. A major limiting factor for the reproduction of Cape Parrots is the availability of nest cavities. Cape Parrots prefer to nest in dead yellowwood trees (*Podocarpus latifolius*), and there are few of these trees remaining. To alleviate this problem Wynand Espach, general manager of the Amorentia Estate in Limpopo Province started an artificial nest-box programme in 2013, but these boxes also present difficulties. A new threat to parrot nest cavities is the honey bee, which competes for the artificial nests and completely excludes the Cape Parrots.

Therefore in 2015 the Loro Parque Fundación, The Parrot Fund, Susan Hilliard, Explore Trees and others supported a project in partnership with Amorentia Estate to implement a method, already tested by expert Caroline Efstathion of the University of Florida, of integrated pest management for bees called the push-pull method. Twenty artificial nest boxes for Cape Parrots, ten each of wood and PVC, were installed throughout the Amorentia property by highly trained tree climbers, suitably protected against the bees. Nest boxes were placed facing east, away from wind and rain, in the upper third of tall trees, 30 to 60 m high. To push the bees away from the nest-boxes, the inside surfaces of the boxes were sprayed with a safe permethrin repellent. At the same time, to pull the bees away from nests, close to each nest-box there were two bee trap boxes installed at a lower level, each with an attractant pheromone to act as a lure.



Cape Parrot nest box made of PVC. Credit: Amorentia Estate

The principal objective of this initiative is to reduce significantly the infestation by bees of Cape Parrot nest boxes, to allow successful nesting of this threatened parrot, and to determine if availability of artificial nest boxes increases nesting attempts of Cape Parrots in the area and leads to increased recruitment of young parrots to the local population. Monitoring of all parrot and bee boxes was carried out on a weekly basis after their installation, and by mid-October the success rate of the push-pull method was 100%. No bees had moved into any of the parrot boxes, and 22 bee trap boxes had been colonised by bees. The trap boxes that were removed were placed for a couple of days in the fruit and nut orchards on the Estate near the 80 bee hives that were constructed. The bees were then moved out of each trap box into a hive, ready for the attention of local beekeepers. The old trap boxes were then available for reuse.

By the same period of the year there were no confirmed sightings of Cape Parrots using the nest boxes. Nevertheless, there had been a lot of parrot activity around the nest boxes, with some parrots observed within a meter of some of the boxes. On the one hand it might simply be a question of time before parrots start to use the nest boxes. On the other hand, the situation offers an excellent opportunity for more scientists to study the behaviour of the Cape Parrots in a lot more detail to identify their needs for nest sites, feeding preferences, etc.

A big challenge is to access the bee trap boxes. Even though the boxes were placed to be as accessible as possible for project managers to reach and remove them with bees inside, it is arduous for a non-expert to climb to such a height in a bee protection suit. More extensive training is the way to make climbing safe for any newcomer. Furthermore, the first phase of the installations was done in a working farm environment, and future phases will occur in more natural areas without the same passage of humans, to avoid interference with the climbing ropes.



Top: A training session in climbing techniques.

Right: Installing a wooden nest box for Cape Parrots.

Bottom: A glimpse of a Cape Parrot flying overhead.

Credit: Amorentia Estate

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One very successful element of the project has been its positive impact on the local community. The project is using the establishment of a cottage beekeeping industry as a tool for conservation. Beekeeping is a sustainable and underutilized sector of farming which can benefit the local community economically and improve food production. For example, bees are necessary pollinators and vitally important to the extensive macadamia nut and avocado farms in the area of the Amorentia Estate. Thus, local beekeepers received training on how to manage apiaries to maintain strong, healthy colonies, prevent swarming, and to maximize honey production.

All the honey and wax from the bees has been sent to the local Thlalefa Combined School for processing. A manager has been employed by the school and has received training in bottling honey as well as how to utilize the wax to make candles and ornaments. The children assist in their free time in the afternoons and over weekends. Proceeds from these products go towards building a hostel for the children at the school, as well as for food and personal development for the children while they are at the school. At the same time, the children learn about the plight of the parrots, and might even successfully assist in monitoring nesting attempts of Cape Parrots in the future.



Above Left: Bees transferred to a hive from the "pull" box.
Above: Candles of bees wax made in the local school.
Credit: Amorentia Estate

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