

## Effects of Artificial Nectar Feeders on Bird Distribution and Erica Visitation Rate in the Cape Fynbos

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**Abstract :** Artificial nectar feeders are used to attract nectarivorous birds to gardens and are increasing in popularity. The costs and benefits of these feeders remain controversial, however. Nectar feeders may have positive effects by attracting nectarivorous birds towards suburbia, facilitating their urban adaptation, and supplementing bird diets when floral resources are scarce. However, this may come at the cost of luring them away from the plants they pollinate in neighboring indigenous vegetation. This study investigated the effect of nectar feeders on an African pollinator-plant mutualism. Given that birds are important pollinators to many fynbos plant species, this study was conducted in gardens and natural vegetation along the urban edge of the Cape Peninsula. Feeding experiments were carried out to compare relative bird abundance and local distribution patterns for nectarivorous birds (i.e., sunbirds and sugarbirds) between feeder and control treatments. Resultant changes in their visitation rates to Erica flowers in the natural vegetation were tested by inspection of their anther ring status. Nectar feeders attracted higher densities of nectarivores to gardens relative to natural vegetation and decreased their densities in the neighboring fynbos, even when floral abundance in the neighboring vegetation was high. The consequent changes to their distribution patterns and foraging behavior decreased their visitation to at least Erica plukenetii flowers (but not to Erica abietina). This study provides evidence that nectar feeders may have positive effects for birds themselves by reducing their urban sensitivity but also highlights the unintended negative effects feeders may have on the surrounding fynbos ecosystem. Given that nectar feeders appear to compete with the flowers of Erica plukenetii, and perhaps those of other Erica species, artificial feeding may inadvertently threaten bird-plant pollination networks.

**Keywords :** avian nectarivores, bird feeders, bird pollination, indirect effects in human-wildlife interactions, sugar water feeders, supplementary feeding

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