RICHARD DU TOIT

sunbird SERVICE PROVIDERS

The current environmental crisis has thrown into sharp focus the multitude of ways in which humans depend on other species. Global declines in bee populations raise the spectre of vegetables and fruits disappearing from supermarket shelves. In North America, bats, which provide ecosystem services worth at least US$3.7-billion per annum to North American agriculture by feeding on insects that are significant crop pests, are now threatened by a fungal disease that humans inadvertently introduced to that continent. Birds, too, provide a host of ecosystem services, including pollination, seed dispersal and nutrient recycling.

above *Collared Sunbirds visit 57 plant genera, more than any other African sunbird, and provide an essential pollinating service when doing so.*

A recent paper in the journal *Ornithological Applications* (until recently, *The Condor*) has revealed that the pollination services provided by African sunbirds are much more important to humans than previously recognised. The paper's authors, affiliated with the University of Utah and Tanzania's Usambara Field Studies Centre, cross-referenced a global database of useful tropical plants (which at the time of writing contains nearly 12 000 plants known to be used by humans) with a list of plant genera and species visited by at least one of 76 African sunbird species.

African sunbirds have been recorded visiting a total of 468 plant species in 329 genera to feed on nectar. If, as the authors reasonably assumed, the sunbirds are also acting as pollinators for these plants, it means that nearly half of the plants pollinated by African sunbirds are useful to humans. The plants, most of which are non-cultivated, are useful on account of medicinal properties (39 per cent of sunbird-pollinated plant species), edibility (28 per cent) or for 'building materials or other purposes' (36 per cent). The 'other purpose' subcategory includes uses as diverse as canoes, insect repellent, jewellery, mulch, oil, tobacco substitute and unguents.

The number of plant genera visited by individual sunbird species varies widely. At the top of the list is the Collared Sunbird, known to visit 57 plant genera of which 82 per cent are useful to humans, closely followed by Scarlet-chested (56 genera, 88 per cent useful). Eastern Double-collared Sunbird is hot on their heels with 49 genera of which 73 per cent are useful, just pipping Variable (48 genera, 85 per cent) and Malachite and Southern Double-collared (47 genera each, 70 and 79 per cent useful, respectively). Overall, sunbirds that occur in forest and woodland habitats pollinate more than two-thirds of the plants useful to humans.

This timely audit of the pollination services provided by sunbirds underscores the crucial role they play in the functioning of African ecosystems and their importance for people living on this continent. The study reminds us, yet again, that the conservation of birds and the habitats on which they depend is not a luxury but a necessity for human survival. In a world where natural ecosystems are being devastated by a multitude of human activities and the rapid advance of global heating, the reality is that humans, sunbirds and every other species on the planet are all in this together.

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Reference

Newmark WD et al. 2020. 'African sunbirds predominantly pollinate plants useful to humans.' *Ornithological Applications* 122: 1–9.