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UCT researcher's book shines light on mysterious African bats

Insects and a few bird species usually get the credit for pollination, but fruit bats are known to pollinate more than 500 species of flowering plants worldwide. Fruit bats also help disseminate forest tree seeds and aid in habitat regeneration and restoration. In fact, as predators, pollinators and seed dispersers, bats worldwide play an important role in conservation science and biodiversity.

Insights like these pop out of *Bats of Southern and Central Africa: A biogeographic and taxonomic synthesis* – co-authored by Dr Fenton “Woody” Cotterill of the University of Cape Town, and recently published by the Wits University Press. Many of the species covered in the book are among the most poorly known and rarely encountered vertebrates, not only in Africa but globally.

Packed with information, the full-colour book includes topics such as evolution, ecology and echolocation, and accounts for the 116 known bat species in southern and central Africa. These include the *Family Pteropodidae* or Fruit Bats. A larger member of this family – *Rousettus aegyptiacus* – weighs about 120g, has a doglike muzzle and a short tail, and is relatively common around fruiting trees in Cape Town.

Others include the *Family Megadermatidae*, or False Vampire Bats, represented in Africa by only two species: *Lavia frons*, found in the extreme northern parts of Africa, and *Cardioderma cor*, restricted to east Africa.

Unlike most vertebrates, which rely use their eyes to hunt, most bats find food and avoid obstacles at night by using echolocation, an alternative sensory mechanism. Bats emit sound pulses and analyse the returning echoes to detect, characterise and localise objects that reflect the impinging pulse as an echo.

Cotterill is the Eranda Research Fellow at the Africa Earth Observatory Network and a researcher at UCT's Department of Geological Sciences and Department of Molecular and Cell Biology. He co-authored the book with Associate Professor Ara Monadjem of the University of Swaziland, Associate Professor Peter Taylor of the University of Venda, and Corrie Schoeman of the University of KwaZulu-Natal.

"This is a UCT product," says Dr Cotterill. "Over five years of my work on the book has been from here, and its publication concludes a research effort I began in the late 1980s."

This collaborative research product, by some of the foremost scientists in the study of African bats, positions this book as an indispensable reference for the researcher studying any aspect of the taxonomy, biogeography, ecology and behaviour of these fascinating animals anywhere in Africa.

Cotterill adds that "an important contribution of this synthesis of knowledge is to single out areas of key research interest, especially to flag those populations whose biology, status and taxonomy remains unresolved and understudied. Each species account compiles descriptions, measurements and diagnostic characters, as well as information on distribution, habitat, roosting habits, foraging ecology, and reproduction."

The information presented in the book can help inform reliable decisions by conservation biologists in the arena of biodiversity conservation, pertinently protected area management and monitoring, and population viability analyses.

The book's taxonomic and distribution data, derived from museum collections worldwide, underscores the scientific strength of the book. Many thousands of museum specimens were individually checked by at least one of the authors during their research over the past 20 years.

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