Birds prove key to SW biodiversity

Kim Kirkman

New findings by University of WA researchers could help to explain why the South West is a globally distinct biodiversity hotspot.

UWA Professor Steve Hopper said WA had about 8000 species of native plants between Shark Bay and Israelite Bay, with varieties which elsewhere in the world grew only in mountainous regions thriving on a flat landmass.

“Around 15 per cent are pollinated by birds and mammals, as opposed to insects, wind or water,” he said.

“By comparison Europe has no species pollinated by birds and mammals at all.

UWA’s Siegy Krauss and colleagues at Kings Park recently analysed the seeds of a banksia pollinated by honeyeaters.

Dr Krauss and the researchers found the paternity of the seeds proved the birds had flown hundreds of metres from banksia to banksia rather than always visiting the closest tree.

The discovery confirmed Professor Hopper’s pioneering discoveries of similar pollinator movements on eucalypts and was rewarded with $1 million Australian Research Council funding to test the conservation and evolutionary consequences in south-west Australia.

The discovery contests the 1966 theory of optimal foraging that organisms seek food closest to them, inadvertently pollinating as they go. It also offers a reason why small isolated pockets of highly diverse flora in the South West showed few signs of inbreeding, with big numbers of pollinators such as honey-eaters, lorikeets, silver-eyes, honey possums and pygmy possums enabling far-reaching pollen dispersal.

Professor Hopper said the honeyeaters’ movement from banksia to banksia, rather than simply flying on to the nearest tree, could be motivated by evasion of aggressors as the bird characteristically chased other creatures away from its food source.

“Most native plants don’t move their seeds across the landscape,” he said. “Something special is going on here.”

Professor Hopper said the South West was a biological jewels of the planet and West Australians could learn from Noongar traditional owners about responsibility.

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