

Is south-west Africa a mausoleum for birds?



WARWICK TARBOTON

The Rockrunner Achaetops pycnopygius is one of the southern African 'oddballs' whose relationships should be revealed by the new research programme.

We live in exciting times. With the end of the Human Genome project, molecular biologists have set their sights on all other life. And so the Tree of Life project is born – an ambitious programme designed to discover the evolutionary relationships among all organisms. Far-fetched as it may sound, within the next 10 years or so there should be a family tree that chronicles the evolution of all major branches of life on earth.

Birds are major targets in this endeavour. Already the use of robust inference techniques (systematics) coupled with new forms of data (principally, but not exclusively, molecular) have caused us to radically rethink the way we believe birds evolved. This evolutionary revolution began with Charles Sibley and Jon Ahlquist's

monumental work based on DNA-DNA hybridisation, and continues to be refined.

In early 2002, papers by Keith Barker (American Museum of Natural History, New York) and Per Ericson (Swedish Museum of Natural History, Stockholm) appeared in the Proceedings of the Royal Society of London. Both showed that Sibley was right to highlight the ancient nature of the Australo-Papuan avifauna, and confirmed that the New Zealand wrens *Acanthisitta* were the most ancient living passerines (songbirds). Until recently, there had been little consensus about the origins of the rather odd passerines found in Australia and New Guinea; most believed they were recent offshoots from the radiation of Old World passerines.

The main difference from Sibley's work was that the

Australo-Papuan radiation was not distinct from the radiation of most Old World passerines. Rather, all passerines evolved from this group, giving convincing support for the idea that passerines evolved in Gondwanaland, the vast southern continent which later broke up to form Africa, South America, India, Australia and Antarctica. Further support for this comes from the fossil record, with no early passerines being found in Laurasia, the super-continent that later formed North America, Europe and Asia.

So what does this have to do with the FitzPatrick or the title of this article? The renaissance in bird systematics globally is being supported within the FitzPatrick by a generous bequest from Dr Phillip Clancey, the doyen of southern African avian taxonomists. We are using the

Clancey Fund to address a suite of systematic questions, including many of the hoary old favourites like what are rockjumpers, sugarbirds, Grassbird, Victorin's Warbler, Herero Chat, Rockrunner, White-tailed Shrike, etc.

We already know the answer for some of these birds. During August, at the International Ornithological Congress in China, it was reported that rockjumpers sit on the lowest (i.e. most ancient) 'perch' of the tree for Old World passerines. They share this distinction with another uniquely African group, the picathartes or rockfowl of West Africa. They are thus the sole remnants of an ancient evolutionary lineage with no apparent close relatives, making them South Africa's first endemic bird family. Plans are now afoot to see where all the other southern African 'oddballs' fall. Evidence from plants and insects increasingly suggests that south-western Africa is a mausoleum for relict species, and we may well find that the same holds for birds.

We are also leading the way by adopting the new, evolutionary sequence in the revision of *Roberts'*. Birders may bemoan the turmoil that a new classification causes to the well-worn sequence in which birds are listed in books, but having a robust family tree for birds will be an immense boon for researchers interested in comparative biology. It may also give you new respect for some of our more enigmatic birds. □

Visit the FitzPatrick website: <http://www.fitzpatrick.uct.ac.za>

Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7701, Cape Town, South Africa.
Tel. (021) 650 3290; fax (021) 650 3295; e-mail birds@botzoo.uct.ac.za