

STUDIES OF THE FOREST

Story by Margrit Beemster

Pics by Matthew Smithwick, *Border Mail* and David Watson



When Associate Professor David Watson was a teenager trying to decide which career path to follow—photography or biology—the latter won the toss.

It was a decision the 34 year old ecologist, who lectures in ornithology and conservation biology at Charles Sturt University and is based at its Albury/Wodonga campus at Thurgoona, has never regretted. Choosing science has given him the opportunity to explore some of the most remote and rugged country in the world...and take amazing photographs in the process.

While David is best known in Australia for his work on mistletoe and birds, much of his research work earlier in his career was in the forests of Central and South America. There he spent a total of more than two years 'out in the field' including three months in southern Guyana for a World Bank funded exploratory expedition to the massive Iwokrama Forest on the edge of Amazonia. As a result, David, a principal researcher with CSUs Institute for Land, Water and Society, has an impressive selection of photographic images that "capture the dark, wet, and mysterious world of the rainforest through the eyes of a scientist." Twenty of these photographs are on display at the Albury Library Museum until February 24 for David's first public exhibition "*Estudios del bosque: studies of the forest.*" On Monday evening, February 11, David will give a free presentation at the museum where the public are welcome to share his experiences of the unique and fragile biodiversity of Latin America's rainforests.

"With photography and science, one informs the other"

"The photographs are not about me but about showing how unique and special this area is, letting Nature speak for itself as it were," says David whose photographs have appeared in the Lonely Planet travel guides and numerous other publications. "I think with photography and science, one informs the other. A lot of the skills and qualities you need to be a good scientist are similar to what you need to be artistic or creative. With photography you need an eye for detail and what you do has to be repeatable. As a researcher my job is to find out new things and communicate them. The way scientists traditionally do that is very narrow, through journal articles and the like, but images, or art, transcends all that and struck me as a nice machinery to complement what I do."

David, who was born and raised in Melbourne, comes from a family where nature and education were always a big part. His mother, who is Belgian, has a Masters degree in French literature, and his father, (who discovered that the whip-crack call of eastern whipbirds is actually a duet) a Masters in biology from Princeton. David, who completed his Bachelor of Science degree with double majors in Botany and Zoology at Monash University, conducted his Honours project on the birds living in the fragmented buloke woodlands in the Wimmera in Western Victoria. Mid 1995 he went to the U.S. to commence his PhD at The University of Kansas where he looked at the long-term effects of habitat fragmentation in Central America, mostly in its high-elevation forests.

"These forests, which were fragmented 12,000 years ago by regional climate change, are very similar in pattern to the woodlands around Albury which, over the last 100 years or so, also have become fragmented," says David who studied the humid pine/oak forests that 40 to 20,000 years ago spread from Texas to Columbia. "However, after the last ice-age, climate in that area became warmer and drier so these forests, which need frosts and a cool climate to survive, retreated up the mountains. Now they exist as a series of what are called 'sky islands' or mountain-top fragments."

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While some of the analyses David conducted were at the scale of all of Central America, most of the detailed work was done in Mexico’s southern-most (and poorest) state, Oaxaca. This took him into “wild and woolly country with no roads and electricity.” “I visited villages where many of the people, particularly the children, hadn’t seen white people before,” says David who discovered the biological diversity of the forest closely matched the cultural diversity of its indigenous people—the Amerindians who are the modern-day descendants of the Aztecs and other ancient civilisations. “The distribution patterns I found in birds were echoed in the people, in their language, dress, and food. In Oaxaca alone, there are 11 completely different language groups.” As David was often by himself out in the field and on two or three occasions in areas where biological surveys had never been done, he says he felt “an obligation” to photograph what he found and saw (which included discovering new species of lizard, salamander and toad). “Sometimes I might have walked for a whole week to get into an area and I felt what I was witnessing was ‘too good’ for my eyes only, it needed to be shared not only with my scientific colleagues but with everyone,” says David. “However taking good photographs in the humid, wet and dark conditions of the forests with low light is very challenging technically.”



“You can’t help but be moved by the history of the area.”

While these days David lives very happily on a small property at Burrumbuttock with his American-born wife Maggie (also an ecologist, who he met at a bird conference in St Louis, Missouri in 1998) and his two sons, Douglas, 8, and Jack, 6, he recognises his affinity with mountains and forests, and admits to a “real soft spot” for Central America. “You can’t help but be moved by the history of the area,” says David. “One of the valleys I worked in was where corn and chillies came from and has had continuous agriculture for 8000 years.” David has retained his research links with Central America. In 2006 he spent five months at the Smithsonian Tropical Research Institute on Barro Colorado Island, a 1500 ha island in the middle of the Panama Canal created when the Chagres River was dammed in 1914. “It’s a mecca for biologists with the best studied tropical forests in the world,” says David who joined the staff of CSU in 2000.

He is still very interested in the effects of habitat fragmentation on plants and animals and is the lead researcher for a major 20 year study looking at mistletoe and its effects on biodiversity in Australia and elsewhere in the world. Other research projects take him to Australia’s desert country where he is investigating drivers of diversity in a bid to understand just how plants and animals are able to survive and breed in such a harsh and unpredictable landscape. David is the course co-ordinator for CSU’s two ornithology courses, the only degree-based course in the world that specialises in birds. Currently he is supervising six PhD students including one based in Chicago working on an unusual group of cuckoos, couas, which are endemic to Madagascar.

“Training the researchers of the future”

“That’s training the researchers of the future,” says David leader of the Institute’s Ecology and Biodiversity group. He also led the team of researchers that recently won the University’s vice-chancellor’s award for research excellence. On the board of the national organisation Birds Australia, for his second term, David ensures he finds time to be involved in his local community. He is on the management committee of the Wirraminna Environmental Education Centre (just over the road from the Watsons’ 100 year old pise house); an active member of the West Hume Landcare Group (the Watsons have planted some 5000 trees and shrubs on their place, and noted 140 species of birds and seven frog species); and he writes a column “Woodland Wanderings” for the *Burrumbuttock Bulletin*. Added to that David is a skilled museum specimen preparator—a form of scientific taxidermy (complements of his time at the University of Kansas which is also home to the Natural History Museum) and has prepared more than a 1000 birds. “It is an inherently satisfying process...and is the raw material for scientists for generations to come,” says David who has specimens in 11 museums world-wide. “If you have done a good job, it should be around for 100s of years.”

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