# News from the Australasian Section of the Society for Conservation Biology

TISH SILBERBAUER[1], ANDY MACK[1] and KAREN FIRESTONE[1]

THE Pacific nations are isolated, not only in a biogeographical sense, but also in terms of interaction with the broader conservation community. To help address this sense of isolation, increase communication within the Australasian section of the Society for Conservation Biology, and to bring recognition to those working in conservation in this area, the Australasian Section has initiated a "Bula (hello) Column" from the South Pacific. In this issue, Craig Morley, from the University of the South Pacific, gives us an overview of current programmes and some of the challenges faced by conservation scientists in the Pacific.

Vinaka vakalevu (thanks!)
Karen Firestone
Secretary/Treasurer
SCB-Australasia

**Conservation in Fiji**

Fiji is a country full of research opportunities and yet little conservation and ecological research has been done. Most research work has focused on the marine environment while the terrestrial environment has often been ignored. However, we are redressing this imbalance and some of the more recent projects being undertaken on the land include: surveying Crested Iguana *Brachylophus vitiensis* habitat, especially on remote dry-forest islands (Wildlife Conservation Society, University of the South Pacific and the National Trust of Fiji); field surveys of significant bird sites (Birdlife International); the Pacific-Asia Biodiversity Transect Network which is a programme for investigating Fiji's biodiversity (USP and most of the NGO's); wildlife trade monitoring network (TRAFFIC International); field surveys of freshwater ecosystems (Wetlands International and USP); the forest and environmental education programme (WCS); and, the establishment of a captive breeding programme for the endangered Fijian Ground Frog *Platymantis vitianus*.

In the last three years several international conservation organizations (e.g., Wildlife Conservation Society, Wetlands International and Birdlife International) have arrived and brought with them a wealth of new ideas, values and conservation projects. Their arrival contributes to established conservation programmes. However, there is still a need for good researchers.

Where we really need help is in taxonomy. We are still finding new species, especially invertebrates. Unfortunately, many of the original animal collections are held overseas making it difficult for those of us in Fiji. Other areas for concern are in freshwater ecology, the destruction and fragmentation of tropical rainforest, dry-forest and cloud forests and, the threatened status of some important endemic vertebrates, such as the Red-throated Lorikeet *Charmosyna amabilis*, Pink-billed Parrotfinch *Erythrura kleinschmidti*, Long-legged Warbler *Trichocichla rufa*, Crested Iguana, Fiji Ground Frog, and lizards like *Emoia nigra*.

Currently, the government is promoting high economic growth targets with little consideration of environmental impacts. We have already seen some of our Pacific neighbours devastated by logging. Most Fijian land is owned by communal landowners and it is with them that many of our hopes remain. Indeed, there are moves to save over 20 000 ha of tropical lowland rainforest in the Sovi Basin. Should this effort succeed it will be one of the largest reserves in the tropical South Pacific. If successful, it will demonstrate that island community conservation is possible.

Fiji is a land of opportunity and much conservation work remains to be done. Meeting these needs will depend on training new biologists and obtaining the necessary support, both financial and logistical. In my next report, I shall focus on what we are doing to create a conservation ethic and how we are educating people about conservation in the tropical South Pacific.

Craig G. Morley, Ph.D.
Lecturer in Conservation Biology
Department of Biology
The University of the South Pacific
P.O. Box 1168
Suva, Fiji Islands

**Prize for the Best Conservation Talk by a student at the International Congress of Entomology, Brisbane 2004**

The International Congress of Entomology is held once every four years. This year it was held in Brisbane, Australia. The Australasian Branch of the Society for Conservation Biology awarded a prize for the best spoken paper by a student with a conservation theme. We hope that it will help to illuminate the importance of invertebrate conservation. The prize was awarded to Marie Yee, a PhD student from the CRC for Sustainable Production Forestry at the University of Tasmania. The prize was a subscription to SCB and to one of the journals associated with SCB (including *Pacific Conservation Biology*).

**Why large logs support saproxylic beetles of conservation importance**

M. Yee, S. J. Grove, A. M. M. Richardson, C. L. Mohammed.

Ms Marie Yee, CRC-Sustainable Production Forestry, University of Tasmania, Private Bag 12, Hobart, Tasmania 7001, Australia. Email: Marie.Yee@ffp.csiro.au

It is not clear why large diameter logs generally host saproxylic (dead

wood dependent) beetle assemblages different to that of small diameter logs. In Tasmanian wet eucalypt forest, 42 *Eucalyptus obliqua* logs of two size classes (>100 cm and 30–60 cm diameter) were destructively sampled to assess the beetle fauna and association with the successional phases of decomposing wood (rot types). Ninety beetle species were collected and of these, at least 19 also occurred in their larval form. The two log size-classes differed in beetle assemblages. These differences could be explained by the observation that certain species and rot types were associated. Species showing a preference for brown rot, which is rot type more common in the large logs, were rare or absent in small logs. This rot type seems to be a relatively stable microhabitat and accordingly, the four most strongly associated species (in the genera *Cossonus, Dryophthorus, Prostomis* and *Pycnomerus*) seem to have low dispersal ability. Although relatively common in this habitat, each of them belongs to a genus whose European counterparts have undergone drastic range reductions. Our research highlights the importance of maintaining sufficient large diameter logs in the landscape over the long term.

**Australian postgraduate students present top papers at SCB 2004**

Under the theme "Conservation in an Urbanizing World" some 1 500 conservation biologists and ecologists gathered at Columbia University, New York from 30 July to 2 August to discuss humanity's growing impact on our planet. A number of papers by Australian postgraduate students were presented at the meeting and Samantha Fox and Leoni Valentine from James Cook University, and Tara Martin from The Ecology Centre, University of Queensland were among 16 short-listed for the SCB student prize.

As an Australian post-graduate student attending my first overseas conference, I wondered how my work would be received by an international audience. Winning the SCB prize for the best student talk for my paper "Do Experts Know Anything About Birds and Grazing?" was an acknowledgement that the calibre of work by Australian post-graduate students is among the best in the world, and that Australian scientists are leaders in the fields of theoretical ecology, conservation planning, conservation biology, ecological modelling and statistical analysis of complex systems.

The paper presented at the meeting, which is currently in press with Ecological Applications, had two purposes, first to examine the impact of grazing on birds in the absence of tree cover change, and second to investigate the role of expert opinion to increase statistical power for an ecological question.

One of our greatest challenges as researchers is predicting impacts of land use on biota and predicting the impact of livestock grazing on Australian birds is no exception. Insufficient data and poor survey design often yield results that are not statistically significant or difficult to interpret because researchers cannot disentangle the effects of grazing from other disturbances.

Ecologists with extensive experience observing birds in grazed landscapes can inform an analysis when time and monetary constraints limit the amount of data that can be collected. Using responses from 20 well-recognized ecologists we captured this expert knowledge and incorporated it into a statistical model using Bayesian methods. Although relatively new to ecology, Bayesian methods allow probability statements to be made about specific models or scenarios and allow the integration of different types of information, including scientific judgement, while formally accommodating and incorporating the uncertainty in the information provided.

Data on bird density were collected across three levels of grazing (no/low, moderate and high) typical of subtropical Australia. These data were used in conjunction with expert data to produce estimates of species persistence under grazing. The addition of expert data through priors in our model strengthened results under at least one grazing level for all but one bird species examined. When experts were in agreement credible intervals were tightened substantially, whereas when experts were in disagreement results were similar to those evaluated in the absence of expert information. In fields where there is extensive expert knowledge, yet little published data, the use of expert information as priors for ecological models is a cost effective way of making more confident predictions about the effect of management on biodiversity.

Martin, T. G., Kuhnert, P. M., Mengersen, K. and Possingham, H. P. (2004). The power of expert opinion in ecological models using Bayesian methods: Impact of grazing on birds. *Ecological Applications*, in press.

For more information please contact Tara Martin,

Email <Tara.Martin@csiro.au>
Phone 61 7 3214 2219
Address CSIRO Sustainable Ecosystems, QBP 306 Carmody Road, St Lucia, 4067 Qld Australia.

**The 6th Annual New Guinea Biological Conference**

The 6th Annual New Guinea Biological Conference was hosted by the Papua State University in Manokwari, Indonesian Papua from 6–9th October, 2004. The Australasian Branch of SCB donated AUD$500 for student travel and prizes, and a subscription to SCB and the journal as the prize for the best student presentation with a conservation theme. All four student prizes went to students from the University of Papua New Guinea (UPNG). Chris Dahl won the top prize for his presentation: "The Montane Frog Fauna of Mt Michael, Eastern Highlands Province, Papua New Guinea". Chris is working with support from Conservation International and the Wildlife Conservations Society (WCS).

Three students were placed equal second: Enock Kaledimimo from UPNG and WCS for his presentation "Density, diversity and reproductive status of small mammals in the Crater Mountain Wildlife Management Area of Papua New Guinea", Michael Kigl from UPNG and WCS for his presentation "Riverine waste disposal: Porgera mine sediment impact on

the Porgera-Lagaip-Strickland river systems", and Stewart Wossa from UPNG for his presentation "Comparative analysis of the chemistry of aromatic plants of Papua New Guinea".

Chair of the organizing committee, Dr. Ir. Fenny Ismoyo, expressed gratitude to SCB and hoped that the relationship that has been developed between the New Guinea Biocon and SCB over the past two years would continue into the future.

SCB member, Ross Sinclair WCS-PNG, attended the meeting and commented on the trend of an increasing number and quality of presentations that have a conservation theme at successive BioCons. He noted that the SCB prizes for students are now well known and well received and feels that for a small investment SCB is raising the profile of conservation biology as a science among biologists in New Guinea.

[1]Society for Conservation Biology.