THE SUNBIRD

In Memorium

James David Macdonald

3 October 1908 - 17 September 2002

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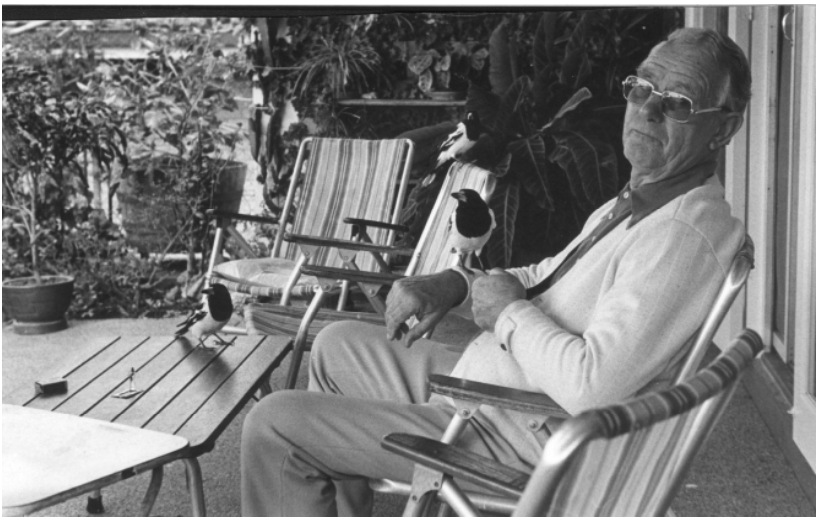
This edition of The Sunbird is a memorial to J D Macdonald, the inaugural president of the Queensland Ornithological Society Inc. now known as Birds Queensland. It's authors describe and comment on his life and works and dedicate to his memory an original article on the Capricorn White-eye. The Editor



James D. Macdonald with Butcherbirds at his Kenmore home

QUEENSLAND ORNITHOLOGICAL SOCIETY

NEWSLETTER

Volume 1 No. 1 November 1969

PRESIDENTIAL MESSAGE

The Queensland Ornithological Society came into being on the 15th October 1969, when a company of thirty-three interested people met in the Biological Sciences Building of the Queensland University. A good number of others expressed regret at not being able to attend and promised their support.

Those who formed it had long felt the need for such an organisation. There is no doubt that there is a place for independent State societies, indeed one has existed very successfully for a long time, not in opposition to the R.A.O.U. but supplementing it by devoting attention mainly to the study and interests of birds within the State area; and what State has a greater potential of untapped interest than Queensland!

On this understanding the founders of the Q.O.S. agreed that its aims should be, "to promote the scientific study and conservation of birds, by all means possible, with particular reference to Queensland".

There may be certain people who hesitate to join the Society because they feel they do not measure up to what is implied by the terms "scientific" and "ornithology". But they need have no misgivings; anyone who can make an accurate observation on any aspect of bird life and who takes the trouble to record it is contributing as much to knowledge as those who accurately observe and record the shape of a bone or artery or submit analyses of blood samples. The Council wants such people to be members of the Society and to co-operate in achieving its aims.

I am sure the emergence of this Society will be regarded as an important event in the annals of Australian ornithology. It is a singular honour to be elected to serve as its first President and I wish the Society every success.

J.D. Macdonald
President

THE LIFE OF J. D. MACDONALD, ESPECIALLY HIS CONTRIBUTION TO SCIENTIFIC KNOWLEDGE OF BIRDS AND ITS PROMOTION TO THE COMMUNITY

GRAHAM J. LEACH

Introduction

James (Jim) David Macdonald died at Sinnamon Village, Brisbane, on 17 September 2002. My aim in this article is to provide a biographical synopsis of Jim's life, bringing out some of the personal qualities that enabled him to become a leading traditional bird taxonomist, an authority on birds in the broader sense, and in later years an authority on Australian birdlife.

Early life and education

Jim Macdonald was born at Foyers, Inverness-shire, on 3 October 1908, the fourth of five offspring of James and Mary, and their only son. Foyers was a small village built for employees of the new Aluminium works in the late 19th Century. While the works was located at the foot of the Falls of Foyers, just upstream from Loch Ness, the village adjoined open moorland above the falls. Jim's father had been gamekeeper on the grouse moor, but took up better-paid electrical work in the foundry when ingot production commenced. Jim married Elizabeth (Betty) Clark Fraser on 6 July 1938, following her graduation from the University of Aberdeen in 1936 with Bachelor Degrees in Medicine and Surgery. Betty, who survives Jim, hailed from neighbouring Banffshire and Morayshire, where she was born and spent her childhood, respectively.

Notwithstanding their modest Highland circumstances, Jim's parents inspired his early love of nature and learning, in turn fostered by an enlightened Hebridean schoolmaster. Jim attended Foyers public school 1913-1924, from which he was awarded a bursary to Inverness Royal Academy 1924-1927. Tertiary education at the University of Aberdeen led to Bachelor of Science in Forestry 1930 and in Botany and Zoology 1932. At school and university he was a high achiever, reflected in prizes and commendations, and he displayed talent sketching and painting with water-colours. He was also much influenced at Aberdeen by the teachings of distinguished biologists Prof. Sir J. A. Thomson and Prof. J. Ritchie, both with strong ornithological leanings.

Thomson's son, Sir Landsborough, Editor of *A New Dictionary of Birds* (1964), became a long-time mentor and friend of Jim.

Bird Section, British Museum, London, 1935-1968

Jim's professional career began with a Kilgour Research Scholarship in Zoology 1932-1934, studying larvae of Decapod crustaceans in Scottish waters in the first year, and development of Hermit crabs at the Marine Laboratory, Plymouth, England, in the second year. His subsequent return to Aberdeen with a Carnegie Scholarship was curtailed through appointment to the Zoology Department, British Museum (Natural History), in February 1935. Fortuitously, and fortunately for readers of The Sunbird and the wider ornithological community, he was appointed to the Bird Section as Assistant Keeper even though there was also a vacancy in the Crustacea Section at the time. Interestingly, until appointment he had shown no strong preferential leanings to ornithology, and his friendship with Landsborough Thomson proved extremely helpful in the early years.

The whole of Jim Macdonald's ongoing professional life, apart from War Service with the Admiralty 1940-1944, was spent with the British Museum. He retired as Deputy Keeper from the Zoology Department and Head of the Bird Section in 1968. He became a prolific contributor to knowledge on the affinities of bird taxa through critical examination of specimens in the collections. Among his distinctions were Fellowships of the Royal Society of Edinburgh, the Linnean Society, London, the Zoological Society, London, and the Institute of Biology. He was on the Permanent Committee of the International Ornithological Congress 1938-1968, was Corresponding Fellow, American Ornithologists' Union from 1949, and Councillor and Vice-president of the British Ornithologists Union, Member of the Royal Australasian Ornithologists Union and President of the Queensland Ornithological Society.

He was transferred to Bath, Somerset, in 1940 and involved in securing and coordinating Wartime munitions supplies. After Bath was bombed in 1942, Jim was posted back to London, and he and Betty returned to their home in Kew. In late summer 1944, blast from a flying bomb extensively damaged the Museum, especially the Bird Section. As there was no staff to salvage the collections in the Bird Room, Jim successfully applied for release from the Admiralty to single-handedly retrieve and, where possible, restore specimens damaged by collapsing debris and weather exposure. One fortuitous outcome

of the devastation was the opportunity for Jim to also modernise displays in the Bird Gallery open to the general public. A domed ceiling in the rebuilt gallery incorporated a montage of ducks in flight, an opportunity for Jim to engage his artistic skills with some guidance and help from waterfowl painter Sir Peter Scott.

Major expeditions to collect specimens and elucidate their taxonomic affinities were made to Southern Sudan 1938-1939, and South West Africa 1950-1951. The former was planned and completed with the help of Major Francis Cave, an enthusiastic amateur ornithologist then posted to Sudan, and concentrated on the mountain groups on the borders with Ethiopia, Kenya and Uganda. The second expedition traversed the arid regions from the Cape to Angola, returning through the Kalahari Desert to Bulawayo, with Francis Cave (then a retired colonel), Pat Hall and Betty as key participants. Pat, earlier a war-time ambulance driver/mechanic in North Africa was a Museum volunteer and amateur ornithologist who also provided crucial logistic support; Betty also had the role of Medical Officer. *Birds of the Sudan* (1955) and *Ornithology of Western South Africa* (1957) provide overall accounts of the expeditions.

Subsequently, Jim established a "Bird Exploration Fund" to overcome some of the hassles and hardships associated with under-funded expeditions in remote and undeveloped locations. The Fund received philanthropic donations and was administered through a Trust Deed. His foresight proved invaluable for the later Harold Hall Expeditions to Australia.

Planning and executing the five Harold Hall Expeditions 1962-1968, taxonomic examination and evaluation of the specimens collected, and reporting their significance to understanding the evolution of the Australian avifauna, occupied Jim's last years at the Museum.

Harold Hall Expeditions 1962-1968

Jim's knowledge of, and links to, Australian ornithology were crystallized through the Harold Hall Expeditions. He was leader of the first Expedition 1962-1963, and also took the opportunity to establish contacts with taxonomists/curators in museums from Perth to Brisbane. Betty was the accompanying Medical Officer in addition to having a substantial supportive role at the field camps as general factotum and in collecting plants on behalf of the Kew Herbarium. Allan McEvey and Bill Middleton from the Melbourne Museum accompanied them, providing invaluable help and local knowledge. All five expeditions were strongly supported by Western

BULAWAYO 1950
Left to right: Col.F.O.Cave; R.H.N. Smithers - Director of the Bulawayo Museum; J.D.Macdonald; Pat Hall; Betty Macdonald

Australian ornithologist, Dom Serventy. Field observations of birds and taxonomic specimens advanced understanding of speciation among several Australian taxa, just before the development of molecular biology, especially DNA technology, facilitated significant revision of the phylogeny of Australian avifauna. The Expeditions also led to the recognition of a new species of babbler, subsequently named Hall's Babbler in acknowledgement of the generous financial support from Melbourne-born philanthropist Harold Wesley Hall. (Interestingly, Jim named the species Hall Babbler in *Birds of Australia*). A detailed report of the expeditions was prepared under the editorship of B. P. (Pat) Hall, *Birds of the Harold Hall Australian Expeditions* (1974). Pat (see above), no relation to Harold Hall, led the second Australian expedition, providing invaluable logistic and mechanical support as in SW Africa.

Retirement in Brisbane, 1968-2002

When Jim and Betty arrived in Brisbane during the first Expedition they determined they would move to Brisbane on retirement from the British Museum. Harold Hall encouraged the move, anticipating it would provide the stimulus for Jim to write about Australian birds. Jim and Betty acquired a home in Kenmore where they enjoyed magnificent views north to Mt. Coot-tha for 19 years. They subsequently moved to Brookland Retirement Village

for 9 years, thence lastly to Sinnamon Village in 1996. They especially enjoyed sharing their Kenmore home with their new feathered friends, notably magpies and butcherbirds (known and named individually), a Black-faced Cuckoo-shrike and several Crested Pigeons.

Birds of Australia: A Summary of Information, with an opening chapter on "Origin and Structure of Australian Bird Fauna" by Dom Serventy and paintings by Peter Slater, brought together much of what was known of Australian birds in 1973 in a form accessible to amateur as well as professional ornithologists. It especially embraced much of the information secured from the Harold Hall Expeditions for a wide readership. *Birds of Australia* has subsequently progressed through five printings with revisions, the last in 1992. Jim also wrote several scientific papers and popular books on birds in his retirement. A feature of all his writings is a logic and precision characteristic of many Scottish scientists, perhaps an enduring legacy of "Academy" teaching. One of his challenges was to foster interest in birds beyond "listing", bird biology in the broad sense and especially bird behaviour. In *Birds for Beginners: How Birds Live and Behave* (1980), Jim successfully adapted earlier writings from a European perspective into an Australian context. His long interest in the etymology of vernacular names led to *The Illustrated Dictionary of Australian Birds by Common Name* (1987).

Jim Macdonald was elected Foundation President of the Queensland Ornithological Society, now Birds Queensland, in 1969. His leadership over the next two years brought together a thriving assembly of individuals with diverse interests, from lay bird watchers, through students to university lecturers and government scientists. It was a time when significant habitats like the Great Barrier Reef and the Cooloola heathlands were under severe threat from oil exploration and sand-mining, and Jim helped lay the foundations for Queensland Ornithological Society to argue the scientific case for conservation. He was later elected to Honorary Life-Membership of the Society. Latterly, the library was named "The J.D. Macdonald Library" to recognize 30 years of ongoing support, including generous donations of ornithological writings and the "Winter Scene with Ducks" by bird illustrator and artist D.M Reid-Henry. Early members will recall his frequent short talks, especially his skill at, for example, demonstrating how seemingly abstruse skeletal or anatomical features could contribute to the resolution of long-standing phylogenetic anomalies. By contrast, he could give equally learned talks on the origin of such three-letter words as "Emu" to captivate those whose interests went little beyond naming birds!

Some members with local friends from the first Easter Campout of the QOS held in 1970 at the Camerons' "Rockwood" property near Chinchilla. From L–R; back row: Barry Morgan, Bill & Mary Ann Hawkins, Douglas & Anne Dow, David Perkins, Bill Wyatt, Sue & Mike Newman, Louie McLaren, Chris Cameron with "Tiger", Mary McKenzie (married Chris in October). Front row: Toby Ford, Tom McLaren, Eric Morgan, Robin Morgan, Cecil Cameron, Simon Ford. (The McLarens were visitors from Sydney; the Fords from Miles, Qld; the Hawkins from California.) Photo: B. & J. Morgan.

We pay tribute to a scientist who contributed richly to Australian ornithology, not least in his "retirement" through bringing his extensive knowledge of birds to a wide readership. Our condolences go to Betty, Jim's partner of 64 years. Even though most of their working life was spent in London, with field expeditions to Africa and Australia, and their retirement spent in Queensland, their Scottish Heritage was a most satisfyingly enjoyable and mutually supportive part of their lives and is an enduring memory for Betty.

Acknowledgements

Recollections and other information from Betty Macdonald were very helpful in completing this tribute. Additionally, Bob Forsyth and Douglas Dow provided access to bibliographic information. I gratefully thank each of them for their assistance.

Graham J. Leach, P.O. Box 568, Kenmore, Qld. 4069.

BY ALL MEANS POSSIBLE

THE FIRST TWO YEARS OF THE QUEENSLAND ORNITHOLOGICAL SOCIETY

DOUGLAS D. DOW

I had been a member of the Royal Australasian Ornithologists Union since 1963, my last undergraduate year in Canada. I read every issue of The Emu from cover to cover. Now, in 1968, I had finally made it to the continent every biologist dreamt of visiting. Brisbane had a fair number of people, mostly amateurs, interested in ornithology. Those who might be considered professionals were connected with the University of Queensland, the Queensland Museum, and a few other Government agencies. But the RAOU, instead of being a vibrant organisation stimulating bird study at all levels, seemed to be caught up in a cathartic revolution.

The RAOU had several Branches, the Queensland one being centred in Brisbane. It was Barry and Joanna Morgan, well-known bird photographers in southeast Queensland, who took me along to my first meeting of the Queensland RAOU Branch held in the old Queensland Museum at the intersection of Gregory Terrace and Brunswick Street. Those meetings consisted mainly of conveying reports from RAOU Headquarters in Melbourne, sometimes followed by a guest speaker. I recall first meeting Stan Breeden there, and being fascinated by his splendid series of photographs made locally of Scarlet Honeyeaters. But generally, there was little discussion; motions from the floor were not entertained; and field trips were not featured. Other organisations in the Brisbane area that provided stimulus for birders were the Wildlife Preservation Society of Queensland and the Queensland Naturalists' Club, but none was devoted entirely to the study or enjoyment of wild birds.

Nor was there official encouragement or support for the study of birds emanating from the Queensland Government. Quite the opposite. Readers today can scarcely imagine the frustration of those interested in field ornithology in Queensland in the late 1960s. The Fauna Conservation Act of 1952 was by then an archaic document, which created regulations with no provision for research. I was told by the Head of the federally operated Australian Bird Banding Scheme in Canberra that Queensland had reluctantly agreed to allow only 50 bird-banding permits to be issued in the State. Under the Act, the Department of Primary Industries issued a list of Pest Fauna: species which

could be destroyed without permit. This included Wedge-tailed Eagle, of course, but also such anomalies as Rainbow Bee-eater in Brisbane, and Grey Currawong elsewhere in the State. I dare say the single historic occurrence of the latter species in Queensland somehow suggested it was not trustworthy. Studies of aviary birds were also hampered because Pest Fauna were not allowed to be kept in captivity, and many of our interesting native birds were considered pests. These were handicaps not felt by ornithologists in other Australian states. Unfortunately, the RAOU had never provided assistance in trying to rectify the problems in what many ornithologists referred to as the country's most backward State, where the fauna was the completely guarded responsibility of an unenlightened government.

At this time, the University of Queensland's Jiro Kikkawa had an active group of research students in the Department of Zoology working on birds, as did Peter Dwyer with students studying mammals. I had just joined the Department and planned to continue field work in ornithology. Glen McBride of the Psychology Department and his students studying animal behaviour showed interest also in behavioural ecology. Students and Staff from these two Departments met weekly at seminars to discuss research issues. These were frequently attended by guests from other University departments or the local agencies that existed in those days, such as the CSIRO Rainforest Ecology Unit. In view of the enthusiasm shown for bird study by these academic and scientific staff, and the number of other people settling in southeast Queensland already embarked on careers as writers, photographers, or illustrators of birds and other wildlife, the need for an active organisation was sorely felt. This was coupled with a sense of disenfranchisement by the RAOU, which had hitherto been the only specialised focal point in the community. As a newcomer I probably felt this need less than the locals because my Australian background was entirely through the RAOU and I had just been invited by them to serve on their newly formed Field Investigations Committee (later the Research Committee) and had also been appointed as Assistant Editor of their journal, The Emu. As I was so excited by ornithology in those days, I hope I will be forgiven now for injecting some autobiographical details into what could otherwise be a rather factual document of our Society's first two years.

Given the climate then, it was not surprising that a young Specimen Collector in the University's Zoology Department, Phil Straw, one week called for an informal meeting of any Staff and students of the Department with an interest in birds. That meeting resulted in resounding affirmation. After discussing the

idea further and assessing the degree of support likely to be found among various local bird enthusiasts, Phil sent a letter to a list of prospective members inviting them to a more formal meeting to discuss the possibility of forming an association devoted to studying birds. Phil was a bird bander with experience at Bird Observatories in England and Wales. He had served as technical manager at Camargue on the French Mediterranean, and later at the Edward Grey Institute of Field Ornithology at Oxford. This second and more public meeting, chaired by Jiro Kikkawa and attended by 33 people, was held in Room G12 of the Zoology Department on 15 October 1969. At this Inaugural Meeting, Jim Macdonald was elected President. Other Councillors: Jiro Kikkawa (Vice-President), Phil Straw (Secretary), Keith Williams (Treasurer), Robin Elks (Editor), Douglas Dow, Nancy Hopkins, and Barry Morgan. It was decided at this meeting that our organisation should be known as the Queensland Ornithological Society. After considerable and careful deliberation, the founders agreed that the aim of the QOS should be "to promote the scientific study and conservation of birds, by all means possible, with particular reference to Queensland". Some publications state that the QOS was formed in 1970. This is incorrect. The first General Meeting of the Society was held on 5 November 1969. It was decided that the Yellow-breasted Sunbird, a uniquely Queensland species, should be the Society's emblem. The Society's journal became The Sunbird. The illustration of the sunbird that was the well-known emblem for many years, and is still to be found, with a little modification, on the cover of the journal, was designed and drawn for us by artist Naoko Kikkawa. The first guest speaker to be heard by the Society was well-known journalist and (Victorian) ornithologist, Alec Chisholm. The first meeting of elected Councillors was held on 18 November that year, at which they ratified the aim of the Society and other matters agreed upon by the founders. By the date of the November Newsletter, 51 members were listed. At the final meeting of the year, on 4 December, Queenslander Syd Curtis spoke on his research on the vocal ability of the Albert Lyrebird, followed by Harold Pollock's film on the Superb Lyrebird.

With ambitious beginnings, buoyed by an experienced and enthusiastic President and a Council willing to work hard to succeed, our Society in its first year embraced a program of activities that included field outings, bird banding, bird photography, sound recording, publication of a monthly newsletter and a quarterly journal, participation in the RAOU's ongoing National Nest Record Scheme, and a special program to encourage junior members.

By the start of 1970, the Society was in full steam. The January Newsletter listed an additional 22 members, bringing membership to 73. Several people worked hard behind the scenes. There were no personal computers or word-processors to produce camera-ready copy in those days. Joanna Morgan typed the Newsletter. Carole (Bevege) Bristow typed the Sunbird. The first Country Vice-President to be elected was Cecil Cameron of "Rockwood", Chinchilla. At the General Meeting in February that year, attendance numbered 40. Hugh Lavery of the Department of Primary Industry detailed his work on Grey Teal, their ecology and movements throughout Australia. Other speakers at General Meetings included Glen McBride, Peter Ogilvie, R.R. Dunlop, Jim Macdonald, Douglas Dow, Phil Straw, Richard Zann, Jiro Kikkawa, and Gordon Harris

The first field outing was held at Mt Glorious on 8 February 1970. Jim and Betty Macdonald attended, as did many other members of the Council — 18 observers in all. I recall sighting my first Eastern Shriketit that day. Monthly field trips continued throughout the year with the Society visiting Raby Bay, Gold Creek and Upper Brookfield, Upper Cedar Creek (near Samford), Pullenvale, Lake Manchester, Dyer's Lagoon (near Laidley), Bribie Island, the University Lake, and Redbank Plains.

The first campout was an Easter Field Outing held on Cecil Cameron's "Rockwood" property near Chinchilla with 32 people attending. Again, President Jim Macdonald and his wife Betty attended along with most Councillors. I recall the particular camp and woolshed. There was even a comet in the night sky, but alas I have forgotten its name. Days produced a list of 117 species of birds, many new to many members. Evenings were highly social. This campout started a tradition of birding hard during the day and partying hard at night. Round a blazing campfire we enjoyed music and old folk songs, poetry and yarns. Norman Kelly regaled us with renditions of Henry Lawson and Banjo Paterson. Discreetly concealed under many a camp stool was a flagon of some of the worst red the country had to offer. The second campout of 1970 was held on the Queen's Birthday Weekend in June at Cooloola. If not as well attended as the Easter campout, this was one of considerable scientific significance in terms of providing first-hand experience of a region under environmental threat.

It is hard to appreciate that our membership subscription then $3.00 per year is currently $50. But then, a bottle of 1970 Penfolds Grange currently lists about $600. Perhaps a better perspective is that in 1970 we were purchasing a bottle of 1967 Penfolds Dalwood Hermitage Claret for $1.10 — over a third of our annual subscription.

By mid-June of our first year, the Society was playing a supportive role in several conservation issues affecting Queensland birds. There were threats of oil exploration and drilling on the Great Barrier Reef. A submission made by Jiro Kikkawa, through Queensland Wildlife Preservation Society, to the "Royal Commissions into Exploratory and Production Drilling for Petroleum in the Area of the Great Barrier Reef" was supported by QOS. Cooloola was threatened by sandmining by two companies. QOS supported the Cooloola Committee in its campaign to have the whole of Cooloola declared a National Park. In July, I undertook the preparation of a submission to the Select Committee on Wildlife Conservation with input from David Gravatt, Robin Elks, Jiro Kikkawa, Jim Macdonald, and Barry Morgan. That was the first official submission made by the QOS, and I represented the Society as a witness at the hearing of the Committee when it met in Brisbane.

The first year ended with a social gathering — a party at the Morgan's property at Belmont (now part of Chandler). Although no minutes were kept nor attendance recorded, our first year was enthusiastically celebrated by founding members and newcomers to the pleasures provided in sharing the pursuit and study of Queensland birds.

The new year, 1971, was a time of consolidating effort and streamlining procedure. The QOS had made it through its first calendar year and was now a force to be reckoned with. The Council undertook its second year. Jiro Kikkawa was overseas on sabbatical leave. I had the role of Acting Vice-President. Jim Macdonald and I lived close to each other in Kenmore and spent considerable time discussing the issues faced by the new Society.

Because of my active involvement with the reconstituted RAOU in 1970 and my belief that a national as well as a State presence was important in matters of ornithology, particularly conservation, I lobbied strongly for the QOS to become an affiliated society. The RAOU's State Branches having been virtually disbanded, this was a new category of supportive association from organisations with sympathetic aims. That formal affiliation was announced in February 1971. In May of that year, as Secretary of the Zoology Section of the ANZAAS Conference held in Brisbane, I had organised a session on ornithology to be contributed by the RAOU (a precursor to their Scientific Days). On 27 May, the QOS met with the RAOU at its Annual General Meeting — the first time the two organisations shared a joint Meeting and dinner. This provided opportunity to hear directly from the RAOU how QOS might contribute to various national programs in Australia.

There were still many conservation matters requiring support or input from the Society. Habitat seemed under threat everywhere. Sandmining was still looming on Fraser Island. There was active lobbying to have Cooloola area declared a National Park. Brush Turkeys were considered threatened in western regions of the Darling Downs as far out as Glenmorgan.

Members throughout the State enthusiastically provided field observations of interest. We undertook a full program of meetings and field trips in the vicinity of Brisbane. Speakers throughout 1971 included Peter Slater, Jan Wilson, Jim Macdonald, Doug Sherrington MLA, David Gravatt, Tim Thornton, Robin Elks, Barry and Joanna Morgan, Gordon Beruldsen, and Douglas Dow. On weekend field trips, we revisited some sites and explored new ones: Deep Water Bend, Raby Bay, Ravensbourne National Park, Upper Cedar Creek, Binna Burra, Caloundra, Gold Creek, Stradbroke Island, Logan Reserve, Bald Hills Swamp, and Mount Glorious. Our Easter Campout this year was at Girraween National Park, a great place to scramble over granite boulders and acquaint ourselves with birds like Buff-rumped Thornbill and Speckled Warbler.

In our first two years we had documented a considerable amount of baseline data on distribution of birds in southeast Queensland. Many of those who contributed are still doing so today. Participants recorded in the Newsletter accounts of those early field trips number at least 115. This is conservative as some were recorded as families rather than individuals and often the names of children were omitted. Extracting the recorded names from field trips and campouts in our first two years, we find the most active, participating in more than half of all field events: Barry and Joanna Morgan, Douglas and Anne Dow, Dave Perkins, Nancy Hopkins, Denis Watson, Marge Hawken, Gordon Harris, Mike and Sue Newman, and Keith Williams. Of course, this is biassed towards the earliest members. An equally active cohort among members joining us later and thus not so well represented in the 1970 records would add Ivan and Sandra Reynolds, Graham Leach, Peter and Doreen Dawson, and Bob and Trish Sothman.

It would be remiss of me not to mention that the completion of our second year was celebrated in another enthusiastic assembly at the home of Jan and Nita Ebblinghaus, which all saw fitting as Logan Reserve had provided us with excellent birding and was represented by active family members who had contributed much to our campfires elsewhere, Ivan and Sandra Reynolds and Peter and Doreen Dawson.

But the biggest change at the end of the year was foreshadowed when Jim Macdonald announced that he and Betty would be away from Brisbane for much of the following year and he had decided to relinquish his position as President, though another year remained in his term. Jiro Kikkawa was elected as President in 1972. I was to serve as his Vice-President. Much of our history from that point remains to be written. I hope this account of our first two years reveals a little of the camaraderie and enthusiasm of those early times and the people who made them happen.

In its origin, the QOS has been seen by some as arising Phoenix-like from the ashes of the old RAOU Queensland Branch. I continued to think, as I did in those early years, that just as birds did not recognise State borders, we needed to support ornithology nationally as well as locally. Formally affiliating with the RAOU in 1971 and meeting with them in Brisbane in May that year, we forged closer bonds. I suppose, as a Councillor of both organisations — and later as the only person to have served as President of both the QOS and the RAOU — I was more sensitive to the need to develop a cooperative spirit between two great ornithological Societies in Australia, but I remember it was with a feeling of humility and acceptance that we all welcomed Noel Jack as our Guest Speaker at a General Meeting. Noel had been the Chairman of the RAOU Queensland Branch and it was a milestone of sorts to have him address the QOS in November 1973.

But this history closes at the end of 1971. The Society was poised for a period in which great change was to occur. There was a stronger focus on amateur and professional study of birds and their habitats. The public was becoming a little more sympathetic to conservation issues. There were still great challenges ahead, but the human population was not yet overwhelming the landscape. Several Junior Members of QOS and post-graduate students at the University of Queensland were yet to make their mark in Australian ornithology. Southeast Queensland was becoming an attractive destination for many international ornithologists. And the QOS had a major role to play.

J.D. MACDONALD — A PERSONAL RECOLLECTION

DOUGLAS D. DOW

Among the heathy hills and ragged woods
The roaring Fyers pours his mossy floods;
Till full he dashes on the rocky mounds,
Where, thro' a shapeless breach, his stream resounds.

R. Burns 1787

Jim Macdonald never faltered in his loyalty to his native land, though, like many a Scot, he spent most of his life outside the country of his birth. As a boy from Foyers he well knew the magnificent Fall of Foyers that Robert Burns had beautifully described 120 years earlier.

I first arrived in Australia in September 1968. Jim Macdonald retired to Brisbane in December of the same year. I had known of his work at the British Museum but had never met him before his arrival that year in Queensland.

I was fascinated that he had left the responsibility to a cousin already living in Brisbane to purchase a house for him prior to his arrival. Obviously, the cousin thought the address appropriate for a crusty fellow Scot: 20 Gleneagle Street in Kenmore. Over the years that Jim lived there with his wife, Betty, I was to hear many tales of early life in Scotland and various adventures and anecdotes connected with his position as Head of the Bird Room at the British Museum (Natural History). In his early years of retirement, my wife Anne and I frequently visited on our way home from work, as we lived nearby in Kenmore. There, on the Macdonald's front verandah, we would share a dram and watch the birds fly in for a handout — Crested Pigeons, Magpies, Pied Butcherbirds, and Black-faced Cuckoo-shrikes. Jim enjoyed feeding birds, and had successfully tamed some enough to accept food from his hand.

Many he recognised individually and called by name. I discovered later that the names had usually been provided by Betty, not Jim, and some of them carried a little history. One magpie — a bit of a clown — was called Trinder after the British music hall comedian from the 1940s, Tommy Trinder ("If it's laughter

you're after, Trinder's the name"). Crested Pigeons were simply Mama Woo and Papa Woo; butcherbirds Papa Butch and Mama Butch. The sequined Spangled Drongo was Liberace, and the Black-faced Cuckoo-shrike was Urquhart. I always assumed that this one was named for vice-regal Urquhart and his Ilk at the famous castle on Loch Ness. Further prodding revealed that, no, the bird was named from Betty's childhood days for a hired hand by the same name on the farm where she grew up. He always had a dirty face. Such was the close association the Macdonalds had with their wild birds that at least one learned to talk. This, quite naturally, led Jim to publish a note on vocal mimicry in birds.

In 1972, Anne spent a fortnight living with the Macdonalds at their home in Kenmore while she regained her strength after a bout with glandular fever. During this time we came to appreciate Betty and Jim's simple and forthright approach to life and work. We shared Jim's taste in more than the few good Australian reds that were beginning to appear on the market. Early in these years, after swearing that I had never put lemonade in my whisky and that I eschewed ice, I was subjected to a stern lecture on the importance of water quality: a single-malt Scotch should never be diluted by the addition of any water; all water is bound to be inferior. He also became a bit of a mentor to me in other subjects — not that I always followed his advice. But it was a good time. A time of frank discussions, amusing recollections of his days in the British Museum, the tactics and strategies of dismissing various visitors trying to capitalise on our respective positions. But always related with a hearty sense of humour and a ready chuckle. I enjoyed his company. Perhaps more so because my own father had died suddenly in 1969, and here was a fellow countryman, although twice my age, full of knowledge of the place we had both spent our boyhood years.

I remember he was quite pleased when I told him in 1975 that I had arranged to spend six months of my first sabbatical leave at the University of Aberdeen, his own "alma mater". Betty and Jim immediately gave me the names of friends who farmed near the town of Turriff, Jim stating that some of the finest water used in the production of Scotch whisky was to be found on their farm. Anne and I duly visited "Tillyfar" and enjoyed the hospitality of Duncan and Margaret Gray surrounded by potatoes, pigs, cattle and sheep. Their lovely little farm was nestled a few miles from Newburgh, where we lived during our sojourn among Common Eiders assembled in their hundreds at the mouth of the beautiful River Ythan in full brunt of the freezing wind that often blew in from the North Sea.

When I last saw Jim, before leaving on another of my overseas journeys in July 2002, he presented me with a copy of T.M. Devine's *The Scottish Nation 1700–2000*, recently sent to him by the University of Aberdeen, where Devine is a Professor. Jim handed me the bulky little volume, saying gruffly, "You might like this; I don't have time to read it." He died eight weeks later, before I had returned.

Those of you who attended sessions of the Queensland Ornithological Society in its first two years no doubt remember Jim chairing meetings. He was provocative: announcing that he had found some hibernating swallows, or declaring that local Pied Butcherbirds always start their song with the first bar of Beethoven's Fifth Symphony. He was generous with his knowledge. He stimulated discussion simply but never demeaningly. He drew on a wealth of experience and anecdote. He frequently terminated an explanation or story by looking up and muttering, "And so on. And so on." As if there was so much more to relate. And, of course, there was. Students were sometimes confused when he animatedly proclaimed, "That's terribly interesting!" A phrase that rolled easily off a Scotsman's tongue, it may have left them wondering if it were high praise or rebuke. When discussion moved to the rare or esoteric, he usually admonished, "Study the commonest burrds!" He was well aware of the gaps of knowledge in Australian ornithology. Jim, while enjoying being in the field, was little interested in merely listing species. He obtained more satisfaction in observing behaviour and habits, and spent more time encouraging those people who took time to study birds by careful observation.

Not everyone appreciated Jim's sense of humour. Perhaps many assumed that as a Scot he was expected to be dour, which only shows that they have never shared in the laughter of a Scottish household. Jim's humour had a wry twist. Many will know that the first edition of his *Birds of Australia* was published in 1973 by Reed in Sydney. Only the observant will know that many books of this publisher have as a logo at the bottom of the spine or on the dust jacket a little clump of reeds. On the first edition of Jim Macdonald's book, you will find clinging to a stalk on the logo a Reed Warbler. One of Jim's own overlooked talents was art. In his home hung several of his own paintings. Raoul Slater, son of Peter and Pat Slater of Brisbane, relates the delightful story when he was about six years old of presenting Jim with a drawing of a goat. Jim had his drawing framed and hung it at home behind a curtain. Whenever young Raoul came to visit, Jim would melodramatically draw the curtain aside to reveal the work of the young artist. Raoul was very impressed,

thinking that such important behaviour had hitherto been reserved for the Queen in formally opening new buildings or monuments.

Jim's style of writing intrigued me. In a day when most writers were using word processors, he composed a paragraph in his head then wrote it long-hand into a notebook. Once, while he was working on *Birds of Australia*, I asked him how much time he put into writing. He claimed to work only two hours each morning. To work more in a day left too little time free for other pursuits. But often those other pursuits would have included research or discussion of material that would eventually appear in his book. He was committed by his word to Harold Hall to produce this book, though Hall had had more lofty aspirations for the recognition of his financial support of the great Australian expeditions. The book was dedicated to Harold Hall, and, previously, a new species discovered on the earliest expedition had been named after him. Some confusion still surrounds the bird's name. I recall the struggle in those days over vernacular names. We eagerly awaited the appearance of the RAOU's updated checklist, and authors preparing field guides and other works had little guidance to consistency. There was at the time a strong move by certain American ornithologists to drop apostrophes from the proper names applied to birds, and the same wave to drop the possessive case had reached Australia. Macdonald and Slater opted for this "simplification". As a result, we find the name "Hall Babbler" used in both of their works, though the originally published name given in the description of the new species by G.S. Cowles in 1964 was "Hall's Babbler". Modern readers may be surprised at the time and effort spent in discussing these mundane matters of "official" punctuation in the early 70s, but it must be remembered that we were working from a checklist published in 1926.

As the seminar coordinator one year in the Department of Zoology at Queensland University, I invited Jim to speak on respiration in birds. Years earlier, he and a colleague at the British Museum had developed a technique of injecting coloured synthetic resin into the air sac system of a dead bird. This spread through the lungs and air sacs into long bones and any other cavity attached to the system. Dissection then allowed examination and measurement of the type of system found in a variety of bird species. In later years, Jim often referred to this work, expressing some disappointment that others had not taken up the technique as he was confident it would have provided a ready means for detailed comparative study. The only follow-up to this interest in

functional morphology of avian respiratory systems was his contribution of the article on *Respiration* in Landsborough-Thomson's *New Dictionary of Birds*.

Through Jim Macdonald's career he was known by several names. Virtually all his scientific contributions were signed "J.D. Macdonald". Betty tells me that as a lad in Foyers, playing in the school's Shinty team, and at home, he was known as "Jamie J.R." Typical of many Scottish communities with naming traditions that depleted choice of both Christian and family names, Jamie J.R. (for his father James Ross) nicely separated him from other Jamies among his cousins and in the community, who took their own father's initials. On his early field expeditions, he was known as "Mac" to his companions. After his retirement to Australia he preferred to be called "Jim". Most of his published accounts in the more popular press were signed "Jim Macdonald". Only one, a reminiscent account of a youthful adventure published in 1975, was signed "Jamie Macdonald". Curiously, the original manuscript of this tale was signed "Jim Macdonald". By the way, for those who have read this piece, I have it on good account that it is not fiction.

QOS members at the 1971 Easter Campout at Girraween National Park. From L–R; back row: David Gravatt, Jim Macdonald, Anne Dow, Bob Sothman, Roy Hando, Trish Sothman, Jean & Cecil Cameron, Ivan Reynolds, David Niland, Eric Zillman, [not identified], Peter Dawson, [not identified], Col Broadley, Douglas Dow. Front row: Barry Morgan, Colleen McKenzie (later Gravatt), Betty Macdonald, Val Hando, Kerry Hando, Brian Hando (behind), Eric Morgan, Doreen Dawson with Jeanette and Karen, Peter Dawson, Robin Morgan, Sandra Reynolds with Fern, Joanna Morgan. Photo: D. Dow.

But Jim Macdonald's interests went far beyond birds. His beloved Loch Ness was obviously near to him all his life. As a lad, he worked during the summer months as Assistant Purser on the steamer plying between Inverness and Fort Augustus. In those days, there was no other means of delivering mail, bread, and other supplies to the small communities along the shore. Betty told me that Jim would spend nights at Fort Augustus, returning to Inverness next day. There he spent long summer evenings lawn-bowling with the Captain, and I'm sure from time to time they would have discussed the monster. In later life in Australia, he was still fascinated by the creature in Loch Ness. He published magazine articles with his views, and even wrote the British Museum concerning their plans for exposing the creature. Jim's advice was to stop hounding the poor animal with boats, surveillance equipment, and submersibles. If one wants a good view of a bird, a feeding station is the best way. After all, he had shown that in Kenmore. To get close to the Loch Ness Monster, one should feed it.

Just as Jim was curious and analytical about the habits and behaviour of birds, he showed a similar interest in habits and customs of the human species. Like many trained biologists, he sometimes showed — at least in discussions — little sympathy for activity by humans who did not consider the responsibility concomitant with the expanded cerebral cortex of their species. Social and sexual behaviour in modern humans did not escape his criticism, though he did not publish his notes on these matters. He was also interested and well-read in concepts of human awareness and consciousness and the value of personal meditation in a modern world.

In his last months, when he felt he could write no longer, he still smiled as I related adventures of my stay on the Isle of Mull earlier in the year. He looked at my photographs of Tobermory and insisted on telling an old joke about the little fishing village — though he admitted it was painful to laugh. He always became animated when given the opportunity to talk about Scotland. Though he loved life in Australia, he never lost his delight in the old country.

And when the lark, 'tween light and dark,
Blythe waukens by the daisy's side,
And mounts and sings on flittering wings,
A woe-worn ghaist I hameward glide.

R. Burns 1786

[This short note from The Emu shows J. D. Macdonald's broad knowledge of birds, and his interest in the people who studied them. Later, Jim used this example in his book for students, "Birds" (Macdonald 1980), to illustrate how the loss of habitat (rainforest in the Mary River Valley) can lead to the elimination of a local population of a species.
Syd Curtis, Brisbane 2003]

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Albert Lyrebird in Blackall Range

Records of the Albert Lyrebird *Menura alberti* north of Brisbane were examined by A. H. Chisholm (1957, *Emu* **57**: 25-30), who referred to an egg which had been in the possession of A. J. Campbell and which had been taken on the Mary River, draining north through the Blackall Range, stating that it had been taken probably by W. H. Caldwell who was studying the lung-fish and platypus in that area. The egg is now in the National Museum, Melbourne. It is of interest to note that there are also two eggs, apparently from the same source, in the British Museum (Natural History).

Campbell obtained his egg from someone in Britain; this was probably the dealer Jamrach who had supplied two similar eggs to P. Crowley, a well known egg collector in the latter half of last century. The Crowley collection was bequeathed to the British Museum where it was received in 1901-2. The two lyrebird eggs were entered in the register as from the Mary River and are so listed in the Museum Catalogue of Birds Eggs 1903, vol. 3. If any further history had been associated with the eggs it is now lost because unfortunately the Crowley catalogues, from which the register data had been extracted, were returned to the family.

Recent efforts to trace them again have proved fruitless. The only additional information to that noted by Chisholm is from a pencil mark on each egg, '7/12/84". But this adds little enlightment, for the date is ambiguous; the interpretation that the egg had been collected on 7 December may be wrong as breeding records suggest that 12 July would be more accurate. Be that as it may, Caldwell collected, or had collected for him, eggs from at least three nests, possibly in the same season, in an area where it is now difficult to be certain that the species continues to exist; it must have been fairly common in 1884.

R. B. Sharpe also included this northern population of the Albert Lyrebird in the Museum Catalogue of Birds 1890, vol. 13, when he noted Wide Bay in its distribution, although not on the evidence of specimens in the Museum collection.

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10 August 1968.

J.D. MACDONALD BIBLIOGRAPHY

Compiled by Douglas D. Dow

J.D. Macdonald was doubtless best known in Australia through the work he published in his retirement, when he lived in Brisbane, Queensland. To provide regular readers of The Sunbird and others with a better appreciation of the scope and interest of the Foundation President of the Queensland Ornithological Society, I have attempted to compile his complete bibliography. It is quite possible that I have overlooked some letters or notes published in the popular press. I would appreciate hearing of any such omissions.

I am grateful to Bob Forsyth of Mount Isa and to Dr Betty Macdonald of Brisbane for providing helpful lists, clippings, and other notes, and to Sheena Gillman and Roslyn Laundon of Brisbane who facilitated my examination of materials from The J.D. Macdonald Library (Birds Queensland) and provided general assistance while I continued this compilation overseas. Kathy Buckley provided assistance at the Queensland Museum Library as did Jenny Freeman at the State Library of Queensland.

It soon became apparent that many of Macdonald's references on available lists are not accurate. For example, of seven references to Macdonald's work included (p. 378) in *Birds of the Harold Hall Australian Expeditions 1962–70* edited by B.P. Hall and published by the British Museum (Natural History) in 1974, four contain errors of typography, title transcription, or pagination. This lapse of scholarship is surprising in a publication of the British Museum. In the following list of references, I have attempted to verify the accuracy of each entry either by personal inspection of the published paper or, if a hard-to-obtain book, by its catalog entry in various libraries. Because there is no major library in Brisbane with most of the ornithological sources contained in this bibliography, I am indebted to several people who elsewhere checked the validity of entries for me.

For access to primary source material not in my own library, I am grateful to the Queensland Museum Library, the State Library of Queensland, the University of Queensland Library, the University of Michigan Biological Station's Library, and Birds Queensland J.D. Macdonald Library. For

secondary sources I used the United States Library of Congress and the Australian National Library. For personally checking material for me, I am especially indebted to Margaret Cameron, retired University Librarian of Deakin University in Geelong, and to Phil Myers and Beverley Dole at the University of Michigan Museum of Zoology in Ann Arbor.

The bibliography comprises three sections: books and monographs or contributed sections to such works (15 entries — but not all original or unique works); periodical scientific literature (68 entries); and articles in popular magazines, reviews, and letters to newspapers (16 entries). Comments contained in brackets are my own and do not form part of the literature reference.

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QOS members taking a break from birding in Girraween National Park at the 1971 Easter Campout. From L–R: Betty Macdonald, Eric Morgan, Joanna Morgan, Jim Macdonald, Robin Morgan, Anne Dow, Val Hando, Barry Morgan. Photo: D. Dow

THE CAPRICORN WHITE-EYE *ZOSTEROPS CHLOROCEPHALUS*

JIRO KIKKAWA

ABSTRACT

The Capricorn White-eye was first described as *Zosterops chlorocephalus* in 1910, but since 1926 it has been treated as a subspecies of the Silvereye *Zosterops lateralis* in official checklists and monographs. It is restricted to the wooded coral cays of the southern Great Barrier Reef, forming a rapidly differentiating metapopulation. Recent studies revealing its distinctive morphology, genetic isolation from other forms of *Z. lateralis* and unique life history on coral cays, indicate that the treatment of *chlorocephalus* as a separate species within the *lateralis* superspecies may be appropriate.

INTRODUCTION

The Capricorn White-eye was first described by Campbell and White (1910) as the species *Zosterops chlorocephalus* (Green-headed White-eye) from specimens collected during the RAOU expedition to the Capricorn Group of coral cays, Great Barrier Reef, in October 1910. The type specimen (AMNH no. 700956) is a male collected by Mr J. W. Mellor on 9 October on North West Island (Mees 1969, p.87). Subsequently, it has been treated as a subspecies of the Silvereye *Zosterops lateralis* in checklists and monographs (e.g. RAOU Official Checklist, 1926; Mees 1969; Sibley & Monroe 1990; Schodde & Mason 1999). In his review of the Indo-Australian Zosteropidae, Mees (1969) gave its subspecific characters as colouration generally similar to the continental race of the corresponding latitude [*Z. l. familiaris* = *Z. l. cornwalli* (Schodde & Mason 1999)] but size very much larger in every dimension.

Study of the behaviour, ecology and evolution of the Capricorn White-eye over 30 years by my colleagues and myself has revealed a uniqueness in these coral cay populations of white-eyes in the southern Great Barrier Reef that may warrant their treatment as a distinct species. I provide relevant data and discussion below.

DISTRIBUTION

The Capricorn White-eye occurs naturally only on wooded cays on the southern Great Barrier Reef (Fig. 1), north to Bushy Island at 20°57'S, 150°05'E (Kikkawa 1997) and south to Lady Elliot Island at 24°07'S, 152°43'E

(Walker 1986), ranging a distance of 422 km. In the south, it is present on all islands of the Capricorn and Bunker Groups, in which the gap in distribution (40 km) is widest between Lady Musgrave and Lady Elliot Islands. To the north, however, the gap between North West Island and Bushy Island is 290 km and contains no wooded coral cays. The distance between the wooded cays and continental shores varies from 58 km at Masthead Island (off Gladstone) to 90 km at Bushy Island (off Mackay).

Mainland Silvereyes appear regularly on Heron Island in winter, usually in small numbers but occasionally in flocks (Kikkawa 1970), suggesting that they may reach most islands of the Capricorn and Bunker Groups during migration. On Heron Island the winter visitors from the mainland rarely remain until the next breeding season. In 1986 a male that did survive on the island sang for approximately a month without finding a mate before

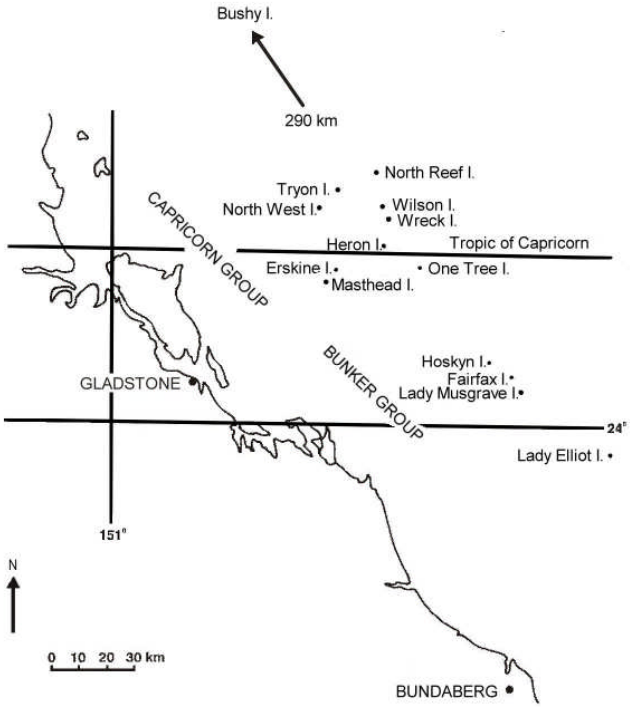

Figure 1. Islands of the southern Great Barrier Reef within the range of the Capricorn White-eye.)

eventually disappearing in mid-October. Although birds of intermediate size were found among some 10,000 live specimens of the island form examined, no mating between the mainland form and the island form on Heron Island was observed from 1979 to 1993, when over 150 breeding pairs were being monitored annually.

Heron Island birds disperse to other islands but do not migrate. A small number of Capricorn White-eyes banded on Heron Island have been sighted regularly on Wilson, Wreck and One Tree Islands, and also recovered from Tryon, Masthead and North West Islands. White-eyes disappeared from Lady Elliot Island when guano mining between 1863 and 1873 destroyed its vegetation (Heatwole 1984), but re-colonised it in the late 1970s following the partial recovery of woody vegetation (Walker 1986). Because island white-eyes fly long distances over open seas to disperse, they would have reached the mainland from time to time. Yet they have never been recorded from the mainland, nor have they been sighted on any of the continental islands along the coast, which are well within their reach. No incidences of hybridisation are known between the mainland and island forms. Thus the breeding populations of the Capricorn White-eye and mainland forms are allopatric, and the overlap of distribution outside the breeding season is caused by drift migration of mainland forms.

Table 1: Growth rate of nestlings and fledglings in Capricorn White-eye *

Age (days)	Weight (g)	Wing (mm)	Tail (mm)	Remarks
0	2	_	_	body pink with no feathers, eyes closed
2	4	_	_	body still naked and grey, eyes closed
4	6	_	_	eyes beginning to open
6	8-9	19-24	_	eyes open, primaries appear in shaft
7	8.5-11.5	25-30	1-6	primaries unsheathing, contour feathers on dorsal tracts
8	10.0-12.5	31-38	6-9	wing feathers unsheathed, contour feathers patchy
9	10.5-13.0	35-41	10-12	body well covered, head contour still patchy
10	11.0-13.5	41-43	11-13	head and body completely covered
11	11.5-13.5	42-44	13-16	ready to fledge, legs pink, back all green
13	11.5-14.0	46-50	20-23	at fledging white eye-ring absent
17	12.0-14.0	53-55	25-30	eye-ring appears, back grey, legs black, mouth orange
23	13.0-14.0	59-62	45-48	yellow gape disappears
juvenile*	mean = 13.6	mean = 63	mean = 48	
adult*	mean = 14.1	mean = 64.8	mean = 49.3	

EXTERNAL MORPHOLOGY

Growth rate

Egg size in the Capricorn White-eye varies a great deal. The measurements of three eggs (17.0-17.5mm x 12.6-12.8mm) from a typical clutch (Kikkawa 1970) are similar to those of the nominate race of *Z. lateralis* in Tasmania or New Zealand (Mees 1969). Table 1 shows the growth rate of nestlings and fledglings. At fledging the white eye-ring is absent and the back is uniformly green.

Colouration

Melanin pigmentation starts to spread before the young are independent. Their legs become black, the feathers of the upper back turn grey and the flanks become tinged with buff. Chromatin pigments become conspicuous in the

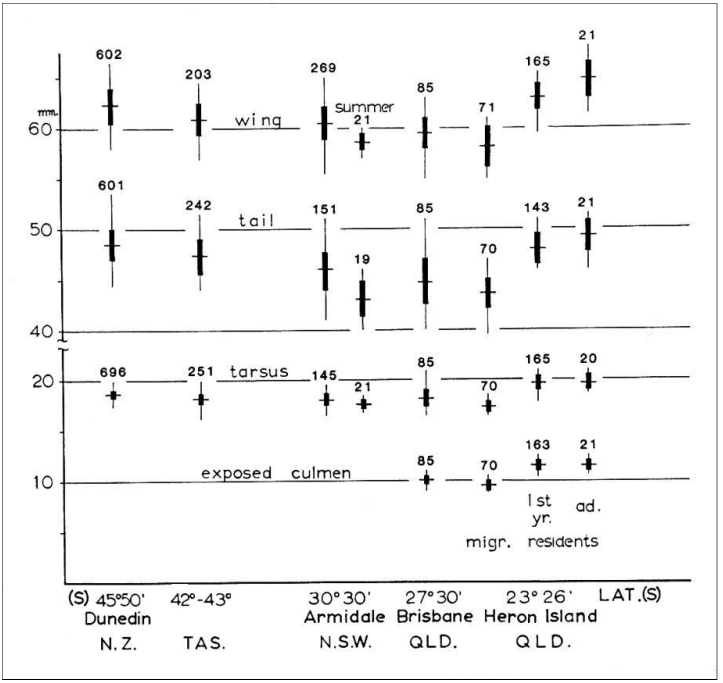

Figure 2. Size distributions of Australasian races of the Silvereye along a latitudinal gradient compared with migrant and resident (first year and adult) populations on Heron Island. (Sample size (n), mean (horizontal), standard deviation (bar) and range (vertical). All are winter measurements except Armidale (summer).

Table 2: Measurements of Capricorn White-eyes from different islands. (Means and Standard Deviations. See also Tables 3 – 5).

Islands		Weight (g)		Wing (mm)		Tail (mm)		Tarsus (mm)		Culmen (mm)		Depth (mm)		Width (mm)	
(abbreviations)	n	mean	SD	mean	SD	mean	SD	mean	SD	mean	SDE	mean	SD	mean	SD
Bushy (by)	11	13.6	0.92	62.3	1.74	47.2	2.36	19.80	0.48	11.81	0.51	3.86	0.19	3.21	0.15
North Reef (nr)	1	14.5	-	61.0	-	-	-	20.40	-	11.80	-	3.80	-	3.30	-
Tyron (tn)	16	12.9	1.12	63.3	1.33	47.7	1.16	20.43	0.60	11.89	0.36	3.92	0.17	3.28	0.15
North West (nw)	14	13.5	0.66	63.7	1.45	47.8	1.63	20.73	0.85	11.93	0.23	3.93	0.14	3.38	0.11
Wilson (wl)	12	13.0	0.77	64.2	1.05	49.2	1.39	20.50	0.75	11.84	0.39	3.88	0.11	3.26	0.07
Wreck (wr)	22	12.8	0.80	63.6	1.36	47.4	1.67	20.35	0.79	11.81	0.44	3.98	0.20	3.31	0.19
Heron (he)	41	14.0	1.22	63.6	1.54	48.2	1.52	20.14	0.71	11.57	0.41	3.90	0.18	3.27	0.13
Erskine (es)	6	12.3	0.75	62.3	1.48	47.4	1.20	20.57	0.60	11.82	0.29	3.78	0.13	3.17	0.14
One Tree (ot)	31	13.0	0.69	63.5	1.47	48.5	1.49	20.61	0.59	11.67	0.37	4.04	0.14	3.48	0.15
Masthead (mh)	25	13.5	1.33	63.7	1.19	48.5	1.31	20.66	0.46	11.95	0.46	3.99	0.15	3.36	0.20
Hoskyn (hk)	14	13.4	0.96	62.4	1.75	47.4	1.29	20.26	0.49	11.99	0.27	4.02	0.15	3.42	0.15
Lady Musgrave (lm)	21	12.8	1.24	63.3	1.63	47.8	1.77	20.00	0.72	11.84	0.52	3.81	0.21	3.26	0.18
Lady Elliot (le)	30	13.8	1.02	63.6	1.14	47.1	2.31	19.85	0.54	11.56	0.42	3.88	0.13	3.35	0.11

Depth = Depth of bill at the exposed base Width = Width of bill at anterior end of nostril Culmen = Exposed culmen

first juvenile moult during autumn. All adults are brightly coloured with a yellowish green head and a yellow throat. The yellow hue of under tail coverts varies, but is never as bright as the throat. The creamy underside sometimes has a yellow tinge, which may form a centre line. The breast is greyish and the flanks are buff or sometimes brown in darker individuals. There is no difference in flank colour between the sexes (as in the Tasmanian race, Kikkawa 1963). The yellow-green hue of adults blends into the background foliage colour of the *Pisonia* forest (Endler 1993), in which they occur. The iris colour ranges between grey and brown, a variation unrelated to age or sex. The mandibles are horn-toned, except the basal half of the lower mandible, which is light grey, as in the mainland counterparts. Leg colour varies with age, from dark grey or black in young birds, brownish grey in mature adults, to light pinkish grey in very old birds.

Measurements

The standard measurements (Fig. 2) show that the first-year birds in winter have shorter wings and tail than adults though their tarsus and bill are of adult size. On Heron Island the continental winter migrants are decidedly smaller and weigh about 4 g (30%) lighter than Capricorn White-eyes (Kikkawa 1970). When clinal trends in size are considered for the continental Australian and

Table 3. Significant differences of wing and tail lengths between populations of different islands (See Table 2 for island names).

	nr	tn	nw	wl	wr	he	es	ot	mh	hk	lm	le
by	-				*		*	*				
nr	-	-	-	-	-	-	-	-	-	-	-	
tn						**						*
nw					**		**	*	-			
wl						*						*
wr						***				*		***
he							**	-			**	
es										*		**
ot									-		-	***
mh												
hk												
lm												**

Legend for Tables 3-5

Probability (P) of difference
* = 0.01 < P < 0.05
** = 0.001 < P < 0.01
*** = P < 0.001
blank = Not significantly different

– = Not compared (Samples too small and/or F-value test P< 0.01

New Zealand forms, the island populations are significantly larger in all dimensions than the continental form that breeds at comparable latitudes (Fig. 2).

I took size measurements of Capricorn White-eyes at all known localities, except Fairfax Island, finding much variation (Table 2). Differences between populations on different islands are statistically significant for some measurements (Tables 3 – 5), suggesting various degrees of isolation within the metapopulation and a possible clinal effect (Kikkawa 1973) in the Bushy Island population. The differences in corresponding measurements between the mainland *Z. lateralis* and the island populations of Capricorn White-eye were significantly greater in all cases than those between the populations on the islands.

BEHAVIOUR AND ECOLOGY

Capricorn White-eyes live for up to 11 years. Though not all birds breed, those that do so breed annually in pairs within territories. On Heron Island at the beginning of the breeding season the population density may be as high as 25.4 birds per ha. (Kikkawa & Wilson 1983). Natal dispersal occurs mostly well within the available distances on the island (Kikkawa 1987). Adults become sedentary for life, generally remaining within a small area around the breeding territory (Catterall *et al.* 1989). Breeding starts in late September or

Table 4. Significant differences of wing and tail lengths between populations of different islands. (See Legend Table 3, Island Names Table 2)

Wing length \ Tail length	by	nr	tn	nw	wl	wr	he	es	ot	mh	hk	lm	le
by		-			*				*	*			
nr	-		-	-	-	-	-	-	-	-	-	-	-
tn		-			**								
nw	*	-			*								
wl	**	-				**		*			**	*	**
wr	*	-							*	*			
he	*	-											*
es		-			**	*	*						
ot	*	-									*		*
mh	**	-						*			*		*
hk		-		*	**	*	*		*	*			
lm		-											
le	*	-						*			*		

October and extends through to February, or occasionally, as late as April. Birds pair for life and monogamy is maintained without special mate guarding behaviour. Molecular evidence also supports genetic monogamy with no extra-pair paternity (Robertson *et al.* 2001). Widowed birds do re-mate usually with an experienced breeder (Kikkawa 1987). Unfortunately, no comparable information is available for mainland populations.

In winter flocks the island birds appear to be more aggressive than the mainland birds (Morris 1968) and make indiscriminate attacks on opponents in crowded conditions (Kikkawa & Wilson 2002). They also inflict physical wounds on starved migrants on Heron Island (Kikkawa 1970) where their larger size, strong legs and bill, are apparent advantages in aggression.

Because island ecosystems are simple, the interactions of abundant species become prominent in the community (Kikkawa 1998). The Capricorn White-eye is the main disperser of sandpiper figs, *Ficus opposita*, and depends on them for survival in winter (Catterall 1985) and successful reproduction in summer (Catterall *et al.* 1982, Kikkawa & Wilson 1983). As expected, island populations use a wider variety of foods than their mainland counterparts. This may result from different individuals specialising into a variety of niches rather than all

Table 5: Significant differences in tarsus and exposed culmen lengths between populations of different islands. (See Legend Table 3, Island Names Table 2)

Tarsus \ Exposed culmen	by	nr	tn	nw	wl	wr	he	es	ot	mh	hk	lm	le
by		-											
nr	-		-	-	-	-	-	-	-	-	-	-	-
tn	**	-					*						*
nw	**	-					**		*	-		-	**
wl	*	-											
wr	*	-					*						*
he		-		*						**	**	*	
es	*	-											
ot	***	-					**			*	**		
mh	***	-					**						**
hk	*	-								*			**
lm		-		**					**	***			*
le		-	**	***	**	**		**	***	***	*		

individuals becoming generalised (Owens *et al.* 2003). Cyclones cause severe damage to white-eye populations and their habitat, yet the population can recover after a single breeding season (Kikkawa 1998). Adult population size is density-dependent, which might be related to density-dependent survival (McCallum *et al.* 2000). Such characteristics of Capricorn White-eyes are typical of the insular life cycle.

EVOLUTION AND BIOGEOGRAPHY

Of the 14 subspecies of *Zosterops lateralis* recognised by Mees (l969), three eastern and southeastern Australian subspecies intergrading with one another (four subspecies in Schodde & Mason (1999)) are treated as one subspecies by Sibley & Monroe (1990). Another continental subspecies is a green-backed form in temperate Western Australia. The nominate *Z. l. lateralis* in Tasmania, which migrates north through southeastern Australia in winter, has colonised New Zealand and Norfolk Island in historical time. Founder effects in the colonists are relatively weak (Clegg *et al.* 2002a) and microevolutionary differentiation in their morphology is slight, though directional selection rather than random drift is suspected (Clegg *et al.* 2002b).

When viewed in this light, other island forms might also have arisen similarly in the recent past. One such group, possibly derived from a single founding event from the Australian continental stock, includes *griseonotus* (New Caledonia), *nigrescens* (Maré, Ouvéa and Beaupré Islands in the Loyalty Group), *tropicus* (northern Vanuatu), *valuensis* (Balua Island in the Banks Group) and *flaviceps* (Fiji). More aberrant are *melanops* with a blackish forehead, confined to Lifou Island of the Loyalty Group, and *vatensis* of large size, from southern Vanuatu (Mees 1969). They suggest different founder episodes and isolation periods.

The Capricorn White-eye is comparable to *vatensis* in size and distributional pattern. Yet, sequences of mitochondrial DNA from the Capricorn White-eye are closest to those of adjacent mainland populations and verify its recent origin and subsequent rapid morphological differentiation (Degnan & Moritz 1992). It is remarkable that this should happen in the last 3000 to 4000 years when the coral cays of the region first began to support woody vegetation. Despite the morphological differentiation found among the island populations (Tables 2-5) the metapopulation of the Capricorn White-eye has limited

genetic variability compared to the mainland populations (Degnan 1993). At the minisatellite loci examined the mainland and island populations differ both in allelic diversity and in the frequencies of specific fragments, indicating that the populations are distinct at this level and there is no significant gene flow between them (Degnan 1993).

CONSERVATION

The Capricorn White-eye is the only bird taxon that is known to have differentiated on the Great Barrier Reef (Kikkawa 1976). Its conservation status, though not presently endangered, deserves special attention, as it is endemic to this region. If its environment remains unaltered, it is unlikely to become threatened (Brook & Kikkawa 1998). Possible threatening processes are the introduction of new predators or diseases, inbreeding depression and frequent cyclone damage to its island habitats. These risks would be minimised if its metapopulation were viewed as a single entity in a population viability analysis (PVA) and a suitable management plan was developed.

The Rota population of the Bridled White-eye, *Z. conspicillatus*, in the Mariana Islands was given the species status as *Z. rotensis* in the world list of threatened birds (Collar *et al.* 1994) and this was subsequently vindicated by the mitochondrial DNA data (Slikas *et al.* 2000), warranting increased protection. As many island species of white-eyes (*Zosterops*) are threatened with extinction (Collar *et al.* 1994), it is important to ascertain the status of the Capricorn White-eye and provide it with the appropriate measure of protection.

CONCLUSION

The Capricorn White-eye has a well-defined distribution and nowhere is it sympatric with any other form of *Zosterops* during the breeding season. It is isolated genetically from the most closely related subspecies of *Zosterops lateralis* on the Australian mainland. No hybridisation with mainland forms is evident, at least on Heron Island where migratory mainland forms appear regularly in winter. Unlike other subspecies of *Z. lateralis* in Australia with overlapping morphometric measurements (Schodde & Mason 1999), the Capricorn White-eye is considerably larger and has longer tarsus and bill lengths than any of the related mainland forms. Although the history of its differentiation may be recent, its distinctness from other forms is clear. Thus the current status of *Zosterops lateralis chlorocephalus* needs to be reviewed taxonomically with a view to treating it as a separate species within the *lateralis* superspecies.

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