

JOHN WARHAM

His Life in Photographs

This photo-autobiography was not planned from the outset.

Initially I thought that it would be worthwhile for the University of Canterbury archives to have a photographic record of the subAntarctic expeditions that I organized – to The Snares and to Antipodes Island. Having done this, and the results looking good, I expanded the work to cover 15 months on Macquarie Island as biologist with the Australian Expeditions there, 1959-61. Thereafter the ideas grew like Topsy. I tackled my 6+ years of Army life from 1940-1946 and realized that coverage of my whole life might be worthwhile: our archivists agreed.

As this work was done haphazardly the style of the setting out of the pictures varies. Those of my early years had been mounted long before and had to be used as they were. Another lot from 1940 on through early war service were in an album designed to show postage stamps! However, subsequent volumes are more uniform being in the same style of loose leaf binders.

The quality of the photographs also varies. Wartime ones, taken with a range of cameras, often on out-of-date film and paper, tend to lack the crispness and quality of my wildlife shots. Nor are all presented in precise date order. Sometimes a relevant photograph turns up with no appropriate space for slotting in precisely, so might have to be fitted in later. Sometimes too a completely blank page was left and, rather than leave a gap, some shot has been added unrelated to neighbouring material.

Most photographs are dated although a few with n/d are included. Black and white prints also have their negative number in the caption, the negatives also being archived in Macmillan Brown. The provenance of colour shots was less easily documented, particularly when on negative film, but most could be dated reasonably accurately.

The 19 albums are held in the Macmillan Library with other items of my material at MB 548.

Christchurch.

Sept. 2007.

JOHN.DOC

JOHN WARHAM – IN BRIEF

Born: Halifax, Yorks, 11 October 1919.

Educated at King Edward VI Grammar School, Retford, Notts.

Began work as a laboratory assistant in 1937. Was sent on a 1 year management course in London in 1939. At that time he aimed for a degree in colour chemistry, available then as an honours course in the world only at Leeds. However this was an unpropitious time for such plans. Instead he served for 6.5 years in the British Army. He married Pat Sabido in March 1943 during 5 days commissioning leave. Serving wholly in Europe, he was demobilised in 1946 as a Captain. He returned to the same textile processing company as he had left, and, after some extensive and expensive training in management techniques financed by his firm, he returned to working as a methods engineer, shifting after a few years to become a works manager in the same field as before with a staff of about 80 people.

However, in the early fifties the outlook for the world's wildlife seemed bleak, environmentalists and conservationists regarded as cranks, and having been an amateur naturalist since his teens, "Country Life" publishing his first book (on birds in Sherwood Forest) in 1951, and selling his work to some of the best journals to pay for his photographic expenses, the Warham's decided to leave the 'rat-race' to have a look at wildlife overseas. They chose Australia and from 1952 to 1961 wandered that continent working on the wildlife, birds mostly, and, by selling their articles and photographs, managed to keep out of the red for 9 years. They shipped out to Western Australia a 15-cwt truck that had been used in the Western Desert as a headquarters for controlling flights on RAF airfields, a large tent, a small library and equipment to run a darkroom out in the back blocks with no mains electricity, etc. Once established, they were very comfortable camped in the bush. In Australia they travelled extensively from the Leeuwin to the Kimberleys, across the Nullabor to the eastern states and Bass Strait

and north to the very end of the Cape York Peninsula and through the Red Centre back to Melbourne. They managed to get to many offshore islands in their quests for birds, seabirds especially, writing up their findings in the ornithological journals. During their last year on mainland Australia the CSIRO provided a grant for their work: the amount awarded was twice what the Warham's asked for. During their stay John spent 15 months as biologist with the 1959/61 Australian National Antarctic Research Expedition to Macquarie Island.

On the way back to the U.K. in 1961 the Warham's spent 10 weeks in New Zealand seeing a good deal of the wildlife of this country thanks to the guidance of local ornithologists and zoologists. Back home they mounted a photographic exhibition of their work in the Qantas Gallery, Piccadilly, opened by David Attenborough and their story was featured on the BBC's "Tonight" show. Later John's Macquarie Island film was run on Peter Scott's 'Look' programme and on French, Scandinavian and Australasian T.V. In 1962 he read a paper at the first SCAR meeting of the Antarctic Treaty nations in Paris (as an Australian representative). That year John entered the University of Durham to take that first degree missed by World War II. After graduation in 1965 he obtained a position as Lecturer in Zoology in the University of Canterbury, New Zealand teaching mostly vertebrate biology and wildlife ecology. He was secretary of the zoology section of the 1968 ANZAAS meeting in Christchurch and served on the committee of the N.Z. Ecological Society for several years, mainly working on conservation problems. He was president of that Society in 1973 before taking a year's sabbatical leave. While in New York working at the American Museum of Natural History that year he met Dr A. Brown responsible for a current U.N. "Islands for Science" program as well as Maurice Strong, Director of the U.N. Environmental Agency. He wanted to draw their attention to the conservation values of the N.Z. subAntarctic islands, something neither had realised, and in which the N.Z. Government of the day had little interest. This attitude changed dramatically later when it was realized how valuable these islands were in defining the New Zealand Exclusive Economic Zone.

In New Zealand his major research project was a continuation of earlier work on penguins started at Macquarie Island, notably on the crested species, one of which breeds on the 'mainland' here. To complete this work he had to organise and lead a series of expeditions to the Antipodes, Snares and Campbell Islands. According to his wife, during the 7 years needed to collect the data on these birds, there were very few days when he was not involved with university work and most of those Christmases

were spent on the southern islands. Much of his work in the field, in museum collections and in the study could not have been completed without the assistance of his wife Pat.

Once the penguin studies were published he turned his attention to tubenosed birds (albatrosses, muttonbirds and their allies), a group particularly well represented in the New Zealand fauna. His first experience with tubenosed birds had been on Skomer Island, West Wales which the Warham's visited three times in the early 1950's, but to get to know a wide range of species involved stays on the Orkneys, the Salvage Islands south of Madeira, many islands around Australia and New Zealand, Norfolk and Lord Howe Islands, Midway Atoll, Kauai and Maui in the Hawaiian Group and Cleland Island (British Columbia). He continued to help organise research on The Snares and a total of 82 scientific papers on The Snares flora and fauna has been published by a wide range of scientists, the last a vegetation map based on field work done in 1970 but previously too expensive to print in 4 colours as needed to show the various vegetation zones.

By his retirement from teaching in 1985 as Reader in Zoology his research students had all found jobs somewhere in the world, his alma mater, the University of Durham had conferred on him the degree of Doctorate of Science on him for his seabird researches, and he now used his knowledge of these birds worldwide to publish a 2-volume synthesis on the biology of petrels (1990 and 1996) which has been very well received. His current project is a keyworded bibliography of these birds. This was begun in 1980, contains 14,387 citations from Aristotle to the present, and is available on the Internet via his web page at:-

<http://www.biol.canterbury.ac.nz/people/warham.shtml>

If printed this would take up about 5,000 pages; rather, it is intended to be downloaded into the user's PC for searching using appropriate combinations of keywords and it is available without charge. Otherwise his main activity is in getting appropriate materials into archives – his very large collection of reprints and scientific papers is in a specialist ornithological library in Oxford, films in Australian and N.Z. Film Archives, many photographs in an archive in the Philadelphia Academy of Sciences and in that of the Royal Photographic Society and in the National Museum of Photography, Bradford, U.K. An Illustrated autobiography is held in the Macmillan Brown Archive of the University of Canterbury. The photographs are fully documented with dates, negative number etc. in 19 volumes, 1919 - ??

Christchurch
August 2006

Academic Qualifications

B.Sc. Hons. (1st. Cl.) Durham, 1965.
M.Sc. Durham, 1968.
Ph.D. Canterbury, 1973.
D.Sc. Durham, 1985.

Awards & Honours

Australian Antarctic Medal 1960.
Frank M. Chapman Awards, 1973 & 1996.
Prince & Princess of Wales Science Award (Royal Soc. N.Z.) 1988.
Claude McCarthy Fellowship, 1988.
Serventy Medal of Royal Australasian Ornithologists' Union, 1992.
Kenyon Lifetime Achievement Award of the Pacific Seabird Group, 1999.
Member New Zealand Order of Merit, 2001.

Elected

Associate, Royal Photographic Soc, 1950, Fellow in 1957.
Corresponding Fellow, American Ornithologists' Union in 1987.
Corresponding Member, British Ornithologists' Union in 1986; Honorary Member, 1996.
Senior Member International Ornithological Committee of the International Ornithological Congresses in 1986.
Fellow, Ornithological Society of New Zealand, 1999.

Profiles

Photographic Journal, 125(6):268-272. (1985).
University of Canterbury `Chronicle', 20(1) 8 Feb.'85.
Emu, 92(2):122. (1992).
Notornis, 46(3):414-416 (1999).
'Who's Who in Ornithology', 392 (1997).
Pacific Seabirds, 26(1):134-14. (1999).

Books

Bird-Watcher's Delight. 1951. Country Life Ltd. London. pp.146.

The Technique of Bird Photography. 1956. Focal Press, London. pp.199; 2nd. Ed. 1966, pp.218; 3rd. Ed. 1973, pp.218; 4th Ed. 1983. pp.287.

The Technique of Wildlife Cinematography. 1966. Focal Press, London. pp.222.

Serventy,D.L.; Serventy, V.N.; Warham,J. The Handbook of Australian Sea-birds. 1971. Reed, Sydney. pp.254.

The Petrels: Their Ecology and Breeding Systems. 1990. Academic Press, London. pp.440.

The Behaviour, Population Biology and Physiology of The Petrels. 1996. Academic Press, London. pp.613.

JOHN WARHAM

His father, Joseph Percy Warham, was a P.O. Signaller who undertook a 12-year stint in the Royal Navy before and during World War I, serving in the Home Fleet and the Mediterranean. He was a Yorkshireman from Wressle, near Selby and on leaving the Navy married Jessie Louise Stables, a farmer's daughter and pupil teacher from Newhay Grange near Selby. John spent his first year of life in Halifax while his father qualified as an optician, then moving to Doncaster and, when he was 6 years old, to Retford in North Nottinghamshire.

Here he attended the local grammar school and developed an interest in natural history, having the use of a microscope, and, with a fellow student, searching the local countryside for moths and butterflies. This was not encouraged by his teachers, there being no biology department in those days, and schoolboys were expected to play games on Saturdays, not disappear into the countryside sporting butterfly nets and killing bottles. They were very keen, 'sugaring' at night for noctuids and cycling the 19 miles there and back to Thorne Waste (a peat bog on the south bank of the Humber) for fritillaries and other 'goodies'. As a child he spent much of the summer holidays at Hunmanby in East Yorkshire and close to the sea. On one occasion he traveled there in grand style – in a Rolls Royce. But it was only a hearse! Despite John and his cousins spending much of their time at the very wide sandy beach and in the sea, he never

became a proficient swimmer. He also continued his hunt for insects, beating the hedges around his Aunt Elsie's home, and to her horror, bringing home sundry caterpillars in the the inevitable jam jars. Despite spending a lot of the holiday on the wide Hunmanby beach with his cousins, John never became a polished swimmer, something that could have been most useful during his later island tripping.

In their search for good collecting places for insects John and his friend checked out most of the woods and swamps within cycling range. They found that the small Treswell Wood, some 5 miles from home, consistently turned up moths they found nowhere else. This was a bit of a mystery because the wood lacked mature timber but was covered in hazel that had been coppiced on a rotation system evidently for many years. Much later John learned from the Nottinghamshire Naturalist's Trust that the then Nature Conservancy had surveyed the wood and found some quite rare plants and invertebrates. They pointed out these findings to the Trust; that it is in the "Domesday Book", and needed protection, and that the Trust should buy it. Needing 12,000 pounds they raised 15,000 and set about looking after the place with volunteers: no paid wardens, no holiday pay, no paper work etc. It is a private sanctuary.

About this time John became interested in photography and acquired a variety of cameras, mostly quite unsuited to the tasks he attempted. His first bird photograph was of a Dabchick taken from a hide at its nest in a gravel pit. The bird was visible in the negative – just.. But his first essay at nature photography was of a Vorticella fixed in balsam and taken with a Box Brownie lashed to the microscope eyepiece. He became more interested in birds and under the guidance of Frank Rippingale, a first-class photographer at the local paper, learnt the use of cameras, hides and other impedimenta. From about 1935 he also started to sell photographs to pay for the cost of plates and the better equipment that he needed, while also persuading several large landowners within bicycling range and on the fringes of Sherwood Forest to allow him to work in their woods and fields. A batch of photographs at the end of the season helped to keep him onside with the landowners and their gamekeepers.

At school John had been particularly good at Chemistry and English. He set up a small lab. at home in a big, below-stairs cupboard. Needing some absolute alcohol for one experiment, a chemical unavailable without licence, he tried distilling commercial spirit in the kitchen. The liquid seemed to be taking a long time to boil so he turned up the gas. The cork flew from the flask and the alcohol that followed ignited so that the window nearby looked spectacular with

flaming liquid trickling down. Mum rushed in and the flames quickly expired, BUT no more amateur chemistry in future....

Having obtained school certificate in 1937 he went to work in the laboratory of a local firm, Clark's Dyeworks Ltd. (now defunct). This was involved in dyeing piece goods, clothing, with a large dry cleaning establishment with a big postal business and a laundry. Like many firms in those days they produced their own electricity, had their own wells, water softeners and boilers, so the laboratory work was very varied. John imagined that he might become an industrial chemist working on organic studies for example, with Kodak or other firms involved with dyestuffs. The place to do this was the University of Leeds, then unique in having an Honours School in Colour Chemistry. To matriculate he attended night classes after which he gained a 9 months scholarship from the British Launderers Federation to study in their laboratories in Hendon. Here, in 1939, he learned some of the basics of engineering, how to use a lathe, pipe fitting and suchlike, industrial law, cost accounting and associated topics as well as industrial psychology – this latter from a member of the Tavistock Clinic.

Nine months in London was quite an experience for a 19-year old. With about 2 pounds a week pocket money he managed to see many of the West End shows, mainly from 'The Gods', some concerts, Beecham etc. He also worked through the book stalls in the alley from St.Martins Lane, picking up music scores and a few gramophone records, mainly of Wagner, Mozart & Beethoven works.

By now World War II was looming. It was generally thought that the Germans would use poison gas on British cities, house windows were sealed up and so on, and so John started looking at some of these gases since knowledge of their different characteristics could help survival when under attack. He made several of the lesser poisonous agents in the laboratory with the tacit approval of the chief chemist and even when one of the experiments got out of hand and quite a large department below the lab. had to be hastily evacuated, there were no recriminations. Meanwhile key people began getting called up and John was moved to the laundry in a semi-supervisory role and gained his initial experience in getting results through people.

In March 1940 he was called up too, having failed to get into the Navy as a lab. assistant and now found himself in a training camp of the Worcestershire Regiment and was shifted to sleep under canvas so that the recently arrived Dunkirk veterans could rest in

barracks. He joined the 8th Battalion when it was formed, soon moving from Worcester to the West Country and the summer of 1940 was spent on the Cornish coast housed in a boathouse on a private beach while looking for parachuters and armed with a miscellaneous collection of weapons. The most memorable episode was in arranging for his battalion to experience a real gas cloud. On a rather quiet day the troops were lined up on three sides of a square while chlorine gas produced by running acid onto chloride of lime was allowed to drift over to the soldiers. The alacrity with which they whipped on their gasmasks was quite impressive.

It was a beautiful summer and a beautiful location – the Helford River and as an acting unpaid lance-corporal he had an enviable task – cycling around to the different sections and platoons instructing on how to cope with the expected gas attacks. However, John thought he was wasted here and applied via his MP for transfer to a chemical warfare company of the Royal Engineers. In due course this was done. Here they not only had to master the use of Levens Projectors – First World War gear – but had to do everything that the infantry did and more. It was quite exhausting but they were very fit and many of the troops had degrees in chemistry, were interested in the theatre and literature and so on, so were quite a different bunch from the P.B.I. But he wasn't in the REs long. When testing the electric circuitry in a Levens Projector charge a fault caused it to blow just missing his head but sending him to hospital for extensive facial and hand burns. On his discharge he was transferred to a new branch – the Ordnance Corps. This included a number of Mobile Laundry Units and less mobile Base Hospital Laundry Units. Their function was twofold. First to provide a means whereby troops in the field could get changes of linen with some degree of regularity or to service field hospitals and second to have the means of decontaminating clothing soiled with mustard gas, lewisite or similar hazards. Presumably it was his slight acquaintance with war gases and understanding of laundry equipment that was behind this posting. In the event no gas was encountered and the units worked in the field as laundries.

He joined his first unit at a camp outside Taunton in Somerset where he met his future wife, a nurse, Audrey Ivy "Pat" Sabido, the eldest daughter of a retired colonial servant and draughtsman from British Honduras and a farmer's daughter from Exeter. While in Taunton he rose rapidly through the ranks and was a staff sergeant by the time he went to the Officer's Training Unit at Wrotham and on completion of the courses there was commissioned on 13 March 1943 in the R.A.O.C. On that day he married Pat Sabido from his home in Retford during 5 days' commissioning leave and before posting to a

laundry unit assembling in Northern Ireland. On leaving Ireland he was given his first test of command by being detailed to take charge of the unit's shift from there to Ashford in Kent. While the other officers moved independently he was detailed to ferry the string of trucks and heavy trailers across the Irish Sea when conditions were so bad that sailings were cancelled shortly after they left. Despite a few wrong turns and several trucks without functional brakes, all reached their destination in Ashford, Kent as an intact unit. Pat, who had come out to Northern Ireland to be with him (rather to the OC's disapproval) had a less turbulent crossing of the Irish Sea but a more scary one as the ship was hove-to, all engines stopped and complete silence imposed because a U-boat had been reported nearby. On her return to her hospital near Taunton she was back to 12 hour shifts and watching for incendiary bombs from the roof of the nurse's quarters.

Following further postings he sailed for Normandy on D+30 as a member of a Base Hospital Laundry Unit. This was usually quite close to the front lines and used mainly German P.O.W.s as the labour force. From the base near Bayeux the unit shifted to Eindhoven just before the Ardennes offensive and thence to a German searchlight store unit in the Hamburg suburb of Rissen. Neither on the Continent nor in Britain did John see much of the fighting – Pat working long shifts and fire-watching was nearer the heart of things. Perhaps the most frightening episode was in Normandy one evening when a 400-Lancaster force flying very low came over to bomb a place called Tilly-sur-Seulles not far away. The unit was sited next door to an advanced U.S. fighter airstrip and the gunners there opened up on the RAF planes with everything they had despite the prominent roundels on their wings. Whether they hit anything is doubtful, but they were certainly a trigger-happy lot.

On 1 January 1945 John's unit was working beside the airfield at Eindhoven when a posse of German fighters with an old JU87 in their midst beat up the neatly lined up RAF Spitfires. The Germans had rightly reckoned that the airmen would have thick heads on New Year's morning and could be caught off guard. Bullets flew in all directions and quite a number of RAF planes were destroyed. Not that this seemed to matter- the following day replacements arrived from U.K. stocks and the unit was once again ready for action. Whether the German planes carried enough fuel to get back to home territory was unknown – by this time they were all desperately short of fuel in Germany.

Waiting to be demobbed was a bore but helped out by farewell parties, wanderings around north Germany and Denmark, a home leave loaded with gramophone records

taken from the Deutsche Gramophon Company's Hanover store and making furniture from German Army wardrobes – all of which was able to be shifted back to Britain thanks to the Army's facilities. Music also helped to make life more tolerable at this time. The Hamburg State Opera House had been badly bombed but the Germans were determined to regain their music. The stage was largely intact, huge, and big enough that, with some repairs it could provide a stage, partly dropped for an orchestral pit, and raised to provide a reasonably size auditorium. The British had the best seats and enjoyed some familiar operas like "Don Pasquale" as well as some out-of-the-run ones like "Iphigenia auf Tauris". "Fidelio", with its emphasis on `freiheit' was a favourite with the Hamburgers – they were looking forward to reclaiming their country. There were also orchestral concerts every week the chief conductor being Eugen Jochum: Hans Schmidt-Isserstedt was also often on the podium – he was a typical flaxen-haired Saxon.

In addition, in 1945 they had the Sadler's Wells Opera. It was sent out by the Army to entertain the troops and gave had performances of "Butterfly", "Cosi fan Tutte" and "The Bartered Bride". Looking at his photos of these performances many years later, John wondered in the opera archivists in London knew of them. From the Coliseum where the English National Opera's base was, their archivist wrote that they knew nothing of the Wells's work in Germany and they were very pleased to receive the negatives and original ENSA programmes.

Finally, after 6 and a half years he was back in civvy street, returning to the firm from which he had left. Now his courses for management training started afresh. During the war an American programme called "Training Within Industry" designed to speed up and improve training on the shop floor was widely used in Britain. There were 3 main aspects – "Job Instruction" provided a drill for instructing workers in specific tasks, "Job Relations" was designed to develop supervisors' abilities in getting work done, the way it should be done because the worker wanted to do it, and "Job Methods" set out to improve existing ways of doing tasks by eliminating the unnecessary elements and simplifying the necessary ones. John became a qualified instructor in all three after attending special courses run by the Ministry of Labour. Subsequently all supervisory staff in the firm, from the Managing Director, down attended courses that he led on all three programmes.

His company also sent him on a course on “Methods Engineering” run by the Anne Shaw Organisation near Manchester. Anne Shaw was a pupil of Frank Bunker Gilbreth, the pioneer of the study of works methods whose life became familiar to a wider audience with a book and film “Cheaper by the Dozen”. The objective here was to learn the latest methods of analysing ways of working with a view to improving output by simplification and elimination of unnecessary movements. The courses were composed of about 10 trainees from quite different industries – steel, ICI, Doulton’s Potteries, Bulwer’s Cider spring to mind. Each member had to bring a specific problem for discussion and analysis by all. All were also tutored in public speaking. This was before the advent of tape recorders but each was filmed and their addresses recorded on a large wire recorder and subsequently both were played back. This was quite an experience. One clear lesson came through when discussing others’ problems was that someone with an analytical approach could often see solutions that others closer to the problem overlooked.

On return to work the analytical methods learned were put to use in the workplace. Frame by frame analysis of work activities was unnecessary but filming was useful in getting worker’s cooperation for change. Another project successfully established was the production and editing of a monthly magazine for the firm. This ran successfully for 5 years until John left the Company in 1950. It was still being published 5 years later.

Meanwhile John continued his photographic activity. During the early post-war years a new development of considerable importance to nature photographers was that of electronic flash. Formerly flash bulbs had enabled work at night but these had a number of limitations. The new device allowed repeat flashes and these were at such high speeds that most movement of birds and of insects were frozen. Initially these were built individually from bought components and, as they weren't synchronised with the shutters, they could usually only be used after dark when the open shutter, fire flash, close shutter method ensured that double images, one from the flash, one from ambient light, did not eventuate. Consequently owls became a natural target and using several cameras one could capture several photographs from the same flash. These and other types of photographs proved quite saleable and John’s work reached quality journals such as ‘Country Life’ and ‘The Field’, usually in illustration of his own articles. About this time John filmed a Barn Owl after dark using two 500 watt photofloods. Although the birds must have felt the heat from these bulbs neither chicks nor adults showed the slightest evidence that there was anything abnormal: the parents entered the nest, fed

the chicks and left without an upward glance – see “Bird Watcher’s Delight”, p. 48 et seq. In retrospect John’s most ambitious and original photographs were of free-flying insects taken in Britain and Australia. These varied from the abundant Silver-Y moth of English gardens to butterflies, beetles to flying ants and termites on their marriage flights. They included some primitive species like dragon- and soldier-flies. See, e.g., Brit. J. Phogr. 10 Aug.56, pp.388-391. All were in black & white, his high-speed flash not throwing enough light to shoot in the colour material then available in the ‘50s. These single-shot photos. seem never to have been bettered and some are archived in the National Photo. Archive in Bradford. Cine sequences would be much easier provided that you had a powerful flash synchronized with the frame speed: in these situations only a few seconds of sharp focus are enough to reveal the complete wing cycle.

By now John was proficient both in the field and the darkroom and sending 20” x 16” prints to the annual R.P.S. exhibitions held at their HQ in 16 Lancaster Gate (now the Iranian Embassy) as well as various exhibitions overseas.

Photography and close watching of birds led to a change of emphasis, his interest started to switch from the photographic aspects to studying the behaviour of his subjects and his sessions in the hides were accompanied by copious note-taking. And, mainly to allow individuals to be recognised, he became a bird ringer under the national U.K. scheme, leg banding a variety of species, mostly nestlings, for this purpose.

By 1950 the Warham's were ready for a change and John gained the post of works manager for a laundry, dry cleaning and garment dyeing firm in Heanor, Derbyshire with responsibility for about 80 workers. It was a comfortable appointment with a company house, pleasant garden and gardener when needed. He found the work challenging but not excessively difficult and was able to increase turnover at the expense of his competitors. Heanor was within easy reach of moorlands and habitats new to him, with Dippers and Grey Wagtails along the rivers. Also, about this time the Warham's made their first visit to Skomer Island, getting to know the auks, buzzards and the first of the petrels, the Manx Shearwater. They made two further visits in the next years as guests of the owners and, in those days the only other visitors were French fishermen ashore briefly, keen to exchange lobsters for rabbits as well as some day visitors slipped over by a local fishermen. In effect, they had the island to themselves.

Meanwhile John continued paying his photographic bills by selling illustrated articles on the animals he studied from 'hides'.

His first book was published (by 'Country Life') in 1951, being an account of the natural history of his study areas in Nottinghamshire. By now his ability as a photographer had developed. He joined the Royal Photographic Society and, in due course he was elected an Associate on the strength of a portfolio of prints. He was also elected a member of the Zoological Photographic Club, a group restricted to 40 members which included the country's major nature photographers. They circulated postal portfolios of their work for comments and criticism and held an annual conference.

In September 1951, Five years after demobbing John received a call from the Army to report for training for Korea! After over 6 year's service in Europe, the Far East was not an inviting proposition. Fortunately he wasn't needed there, but the 2-week training gave him one new experience – that of driving 10-tonne trucks – much less difficult than had appeared at first sight. It was not until 1952 that he was gazetted off the list of reserve officers and he was free to leave the country.

By then the Warham's were able to sell their work with some confidence and they decided to leave the 'rat race' for Australia to look at the wildlife there before it was all gone! Actually it was far from being at that extreme, but the threats to wildlife were already quite apparent. They chose Australia because of its special fauna and because John had roots there on both sides of his family and with a base there until they sorted themselves out on the ground. Furthermore, they were able to get assisted passages from the Australian Government. Their venture was against the advice of Australian friends and relatives who visited them in their Derbyshire home. They planned to pay for their tour by writing and photography. In the result they never got into the red – nor very far into the black either! When their funds got low there was plenty of other work available. John's temporary jobs included working in a dry cleaning unit in Perth, printing wedding photographs in a Perth and unloading Bentonite for an oil exploration company from the hold of a ship in Derby where the temperature must have reached the mid 40s°C. For this he needed a Waterside Worker's Ticket, waterside labour in Australia being very tightly unionised. Pat too worked as a nurse in hospitals in Albany, Corrigin, Perth and later in Melbourne, her U.K. qualifications being fully acceptable in Australia.

This was at a time when naturalists and conservationists were unfamiliar species to the general public, TV programmes had had hardly any impact and in Britain bird watchers and their ilk were generally thought rather eccentric. In Australia the Warham's were usually considered as 'funny peculiar', but harmless! Naturalists that they met however, and particularly those living in the bush with very little contact with people of similar interests, made them very welcome. They found most people quite helpful and, particularly after they had begun to publish their findings in the ornithological journals and people realised that they were workers, even government agencies gave support, e.g. a fisheries vessel got John to Pelican Island in Shark Bay, a CSIRO boat took him from Thursday island to Raine Island at the northern end of the Great Barrier Reef, he had a trip up that reef in a Government lighthouse tender, and so on. However, it was only in 1959 when their work on mainland Australia was almost over, that the C.S.I.R.O. gave them a grant towards their fuel and food costs, etc. This was very welcome particularly as the amount given was actually twice that asked for..

The Warham's went well equipped. An ex-R.A.F. 15 cwt. Bedford truck that had been used in the Western Desert as a radio van was stripped down, new panels of termite-proof plywood stacked inside, and shipped out to Albany from Liverpool. This was not a 4-wheel drive vehicle (these were very scarce in 1952) but had a crawler gear, and by deflating the tyres heavy sand could be crossed without much trouble, while a pump on the gear box made re-inflation simple. They dubbed the vehicle "The Yak" – ugly but tough – and it ended its days on the airfield at Mawson, Antarctica, used for towing planes around, then got blown over in a winter blizzard, and is now, presumably deeply entombed in the icesheet. Thanks to the help of the Army stores at Didcot a maintenance manual and spare parts list was also taken and in a Perth garage an ex-R.E.M.E. sergeant was found who knew the vehicle well and agreed to send any spares that might be needed. Also went a large tent, flysheet, mosquito nets, coir matting to act as carpet in the tent and to help 'corduroy' sandy river crossings. John's ex-Army camp gear was very useful. The camp beds were about 2 feet high and there was also a collapsible wash stand with canvas basin and which could also be used to support a canvas bath. Canvas buckets were also taken --no plastic ones in those days. The Warham's carried 5 still and one cine cameras, a rotary converter to produce 230v A.C. from 12v batteries so that their enlarger could be operated in the bush, a Briggs & Stratton electric generator, a one-man inflatable dinghy as carried by Spitfire pilots, and a small library. To keep the butter cool they carried a 'Coolgardie Safe', this being a galvanised iron box covered with hessian onto which a drip of water was fed from a

canvas container. The water evaporation cooled the container and its contents and allowed butter to remain solid even on very hot days particularly when there was some wind and shade. And even saline water worked. The safe's legs stool in water-filled tins to which a little kerosene had been added to repel the ever-present ants..

Initially they stayed briefly at an uncle's farm on the Upper Kalgan River near Albany getting used to the country and local conditions, even building a darkroom there with overhead water tank etc. However, the only reliable water was from a nearby creek and needed hand-pumping into drums to fill the darkroom supply. In practice the shed, quite well-made, was never used for enlarging and a good deal of time was wasted in similar activities. They also found that people in the south of the State and even in Perth had little idea of what was needed for camping over reasonably long periods in the outback. For example, it was suggested that they needed to carry 40 gallons of drinking water and, in the result they had 10 neat 4-gallon cans specially made. Most they gave away over the years as 4 gallons of water for drinking lasts a long time if sea or bore water is used for washing and suchlike.

Their expedition, planned to take 3 years, lasted for 9. Some 112,000 km were covered by truck and unrecorded miles by sea and air. They rattled along the dry, dusty corrugated roads of the inland, slithered over wet black-soil plains, bumped across the spinifex, camped on coral strands and uninhabited islands, and weathered a `wet' in North Queensland. A wide range of sea-going craft took them to islands in search of sea-birds: frequently the natural history of these places was unrecorded.

During their first year or so they made forays into the country around Albany and Perth, working out a drill for making and striking camp, etc. They used a bank address so that mail could be held until they were settled enough to have it forwarded and the bank, at its various branches did an excellent job in this respect. They also had accounts with Kodak and Shell so could receive and pay for photographic materials and get petrol in bulk: in practice they tended to refuel by emptying a 44-gallon drum into their twin tanks and jerry cans.

Their first 5 years were spent in Western Australia and they soon shifted from Albany to Perth from where they explored the Darling Ranges, took trips to Manjimup and Kwinana (no refinery then, just the old wreck on the beach), to the wheatbelt and investigated some of the many lakes around the city and the coastal dunes around Yanchep. They

soon worked out the drill for setting up camp – coping with ants (kerosene round the tent), setting up the cool safe, batteries to drive the electric light and radio, camp fire cooking, and the like. The body of the truck was high enough for them to stand upright inside. They had shipped a table with it and fly-wired the double doors and windows, flies being always with them. They often slept in the truck when on the move and it was not worth the effort to pitch the tent.

Pat adapted well to life in the bush, making bread in a kerosene tin over a kerosene-fuelled Primus, washing clothes and crockery in sea or bore water (see, for example, Aust. Women's Weekly for 9 Nov. 1955), checking river depths by wading over crossings before committing the vehicle to them, and so on. She spent many hours in the hides, partly making observations and sometimes taking the photographs. She had successes; as when after sitting at a burrow down which a varanid (gouldi) had disappeared she caught the animal to perfection as it emerged to stare around before departing; and disappointments such as the time when on Pelsaert Island she emerged from a hide over an Osprey to say that she'd got everything, the parents singly, together, feeding the chick and so on: unfortunately on development it was found that due to a shutter fault all the negatives had double images and were useless. And again, after training one of their long lenses on a sandbar in the Fitzroy River onto which the Johnson's Crocodiles emerged to sunbathe, none ever did that while she watched..

One of their earliest camps was by Lake Banburn near Gingin, a shallow swamp where Straw-necked Ibis nested. Here they put up several hides using the dinghy which could be towed through the shallow water carrying the necessary poles cut locally, cameras and so on. In the event they failed to photograph these birds at their nests, the chicks were too far advanced and were prone to fall into the water if alarmed. Later, when the birds had left, they returned to set up hide frameworks in the trees overlooking nests with the intention of returning earlier in the next season to study the birds. A lot of work was involved as they actually built hide frameworks over nests or groups of nests of 6 Ibis, 2 Nankeen Night Herons and one Little Pied Cormorant. In the event they were far away by the next breeding season but a fellow ornithologist recounted how the birds had built nests all round and particularly on the hide frameworks which, evidently, were ideal for their purposes!

During this introductory phase they did quite a lot of wait-and-see photography from hides set up on the shores of the coastal lakes and lagoons such as Lake Pindar,

Mungal, Mariginup, Bibra and so on, some of which have disappeared with the spread of the city, but which in those days were important feeding places for a range of ducks, herons, dotterel and other water birds. This kind of work involved using a rather bulky camera and long focus lens and was much more difficult than would be the case with today's light-weight 35 mm, through-the-lens reflexes, zoom and automatically focusing lenses, and so on.

They also worked on one of the commonest local passerine birds of South-west Australia, the Splendid Blue Wren. These live in small family groups usually composed of one brilliantly blue adult male and a number of females and immature birds. They were easily found and had a range of complex behaviours so, from both photographic and zoological perspectives, were fascinating to observe. Many of their nests were found and some of their findings were written up in the national ornithological journal "The Emu". However, the first native bird that was studied was the Red-eared Firetail breeding among the paperbarks on the Darling Scarp. Subsequently they learned that no previous photographs of the species were known.

This little finch was nesting about 8 m up and for photography and close observation a 'pylon' hide had to be built. They erected many of these during their Australian days, using local saplings and plenty of nails and long guy ropes for stability. Even though timber was available locally just for the cutting, a lot of work was involved in erecting a pylon 10 m high, and this had to be done little by little if a bird's nest was involved as in the Australian heat eggs or chicks could be rapidly killed if the parents were not there to shade them.

In their excursions, having found a good area they tended to spend some weeks finding out what animals were present, pursuing their photography and filling their notebooks. One favoured area was the wandoo (Eucalyptus miniata) country of the Dryandra Forest, famous for the Numbats that could still be found there. Other marsupials were also common notably the Woilie (Bettongia penicillata) and Tammar Wallaby (Thylogale eugenii). Another famous Australian here was the Mallee Fowl and they spent a lot of time over several seasons watching these birds at their incubation mounds as well as building tree top hides for studying lorikeets.

It was during these runs into dry country that they developed their techniques for attracting birds and mammals in to camera range. By pressing a Mallee root into a block

of wet concrete they made a sort of bird bath with very irregular sides. This could be buried in the sand so as not to look artificial. Instead of just putting water in this device to attract animals to feed or bathe they also rigged up one of their 4-gallon water cans with a tube and valve to drip water into the 'pool'. This proved very attractive at times to a range of birds but particularly to honeyeaters. Grain baits were also used to lure seed eaters and wallabies into camera range, often at night. On the whole the marsupials took little notice of flashes but were often wary of the hum of the vibrators needed to operate the high-speed gear. Such baits were laid in shallow furrows in the focal plane so that the bait was hidden and exposures only made when the animal was at the furrow, at night no refocusing being possible.

One of the first islands they investigated was Eclipse Island about 4 miles off the coast near Albany. This was then a Lloyds Lighthouse Station with 3 lightkeepers (and their families) maintaining a 24 hour watch. They were provisioned every fortnight by boat from Albany which, after one visit to reconnoitre, allowed the Warhams to make 2 further visits to work on the seabirds that lived there.

By 1954 they were venturing further afield and in the early summer of that year (November) persuaded a Geraldton fisherman to take them to Pelsaert Island in the Abrohlos Group. Here they camped for 12 days working mainly on the various terns that make this island their home. They saw no sign of human activity whilst ashore – quite a usual situation when on offshore Australian islands in those days.

After returning to the mainland they drove north to the Murchison River and camped near the river mouth under a shady sheoak (Casuarina) and close by a freshwater spring. Not far upstream a Little Eagle was nicely sited in a river gum. Rabbits seemed to be the main prey brought to its chicks.

On leaving the Murchison they turned north, planning to reach Carnarvon and loop back south by turning east along the Gascoyne River and thence south to Mullewa and back to the south-west again. Like all the roads in those days the track to Carnarvon was hard going, heavily corrugated and the road east along the river no better. Worse, although this was early December and the really hot weather of January some distance off, the thermometer reached higher the further they went. About 70 miles inland the engine was overheating and they had to heave to. They learnt later that the shade temperature was 47°C. This was the hottest encountered in Australia. They returned

back the following morning at first light to a spot on the Carnarvon River known as Rocky Pool where there was a little shade and still some water. The wildlife was obviously also suffering with Emus, kangaroos and various hawks, parrots and a dingo coming to the water and ignoring man. The Warham's were too exhausted to take advantage of the situation and were glad to be able to get away at dusk when the temperature fell significantly. Back in Carnarvon they headed south along the main 'highway' meeting a trail of woe - a man with his children heading home for Christmas from their Perth school in a brand new car whose radiator had burnt out, lending a silk stocking to another to replace a broken fan belt, etc. Everyone had been caught out by the unexpected heat wave. John and Pat seemed to be lucky and they kept going through Geraldton, Perth and south along the coast road to Busselton and an aunt's farm at Metricup in karri/marri country for Christmas. Here the temperature was just in the low 20s and they had to dig deep to unearth some warm clothing!

Pat had an offer of a post in the country hospital at Corrigin, a small town in the wheatbelt. They camped in the hospital grounds with most facilities to hand. The medical officer in charge was a keen photographer so John was able to use the hospital darkroom instead of having to set up his outback laboratory. Here he wrote a series of articles for popular journals in Europe and the U.S. and even wrote a book on insect flight that never achieved publication. The winter of 1955 was spent at Corrigin and there were some very cold nights for under-canvas living, needing 2 water bottles in each bed and a heavy load of blankets above. The water in their washstand in the morning was often frozen. Another book put together at this time was "The Technique of Bird Photography", this appeared in 1956 and, being well received, ran to 4 editions, getting bigger at each new printing, the last edition being in 1983.

Although Pat was rather tied here, John could make forays on his own. He found an isolated colony of Rock Wallabies in an outcrop surrounded by cultivated country at a small place called Yarding and got some useful studies of these handsome and rather rare animals using his baiting techniques. During their stay at Corrigin a cyclone striking inland from the Port Hedland area brought about 8 cm of rain to Corrigin and drenched a swathe of country before fizzling out in the goldfields. The countryside responded, flowers appeared everywhere and so did frogs, wildfowl and many birds started breeding. However, by July everything was beginning to dry up but to the south, near Lake Grace, the pools were full of cladocerans and at a small claypan near Pingrup a

small band of Red-necked Avocets was found and photographed over several days. These are arguably the most beautiful of all Australia's many wading birds.

With the onset of spring the Warham's moved on and after a run across to Coolgardie and Kalgoorlie returned to Perth. Among other visits they spent some time at Rottne Island getting to know the Quokkas and helping band terns and gulls on the offshore islets and stacks. That Spring (1954) they drove down to the south west and at many places along the coast from Busselton to Cape Leeuwin then across country to Albany and another visit to Eclipse Island, thanks to the help of the boatowner who serviced the lighthouse there – a 3-family island (see "Walkabout", Dec. 1, 1955:16-18). They had first stayed there in mid-winter (July).

The onset of cooler weather saw them back in Perth and then heading along the inland road to the Pilbara District en route for the Kimberleys. This took them through the sand plain country to Payne's Find, and into the mulga belt at Mt. Magnet, Meekatharra and Marble Bar, this latter being infamous as the hottest town in Australia. However, their campsite at the bar itself among the pools of the Coolgan River was probably the most colourful they experienced. After losing a tyre through a blowout they were delayed at Port Hedland on the coast for a while until a replacement tyre was flown up from Perth. Then they left at first light hoping to cross the dreaded Pardoo Sands while the overnight dew still held the grains together. They were now on a road marked on the map as the 'North-western Highway', which for the most part, consisted of two wheel ruts in the sand with grass and other vegetation, varied with termite mounds, between them. Indeed, at this time they very seldom encountered a bitumen road away from the towns.

In the event the soft sand traps were negotiated without much trouble and they proceeded north without a hitch across open spinifex plains with low bushes and occasional trees, stretches of white clay soils and sand dunes to the left as the track ran quite close to the sea. Over at the shore near Anna Plains station on 16 May 1956 the tide was far out and a wide expanse of muddy sand was exposed alive with mud-skippers and with many wading birds feeding as far as the eye could see. Clearly this 80-mile beach must be a major wintering ground for these northern hemisphere birds if the whole of the beach was occupied at this rate, although they were unaware of previous suggestions about this. In the event this beach is now recognised as one of the world's major feeding grounds for stints, godwits, tattlers, various dotterel as well as some native species like oystercatchers.

Not many miles beyond the Anna Plains outcamp they topped a rise and before they could avoid it found themselves in flooded ground and stopped with the differential resting on the soil. This was the first and only time that they were caught out in this way: usually they would stop to check out any possible hazards, lay out their coir mats in the wheel tracks and so on. This time there was no option but to unload the truck to lighten it, carry everything onto firm ground and stay there overnight while entertaining a bevy of outsize mosquitoes. In the morning after digging out and jacking up the wheels and corduroying the track ahead with twigs and sticks they were soon on firm ground, loaded up and away, pressing on to Roebuck Plains and, entering the acacia scrub known as the Pindan, reached Broome without incident. A feature of the last 20 miles into Broome was the great number of hawks, every telegraph post had a kestrel or Brown Hawk with Whistling Eagles, harriers and at least one Wedge-tail. In all their years in Australia they never encountered a greater range or number of raptors in one limited area although the Kimberleys as a whole seemed well stocked with these birds.

Broome was an interesting and colourful place, with pearling as a main industry and luggers being built in the local yards. The rich red sands and cliffs against a turquoise sea often with Red-backed Sea Eagles – “Brahminy Kites” – and frigate birds sailing around, were unforgettable. After a few days they cut across the base of Dampierland through more pindan with boabab trees, overnighting at Nillibubbaca and reaching Derby the next day.

In the centre of Derby's wide main street a series of huge baobabs provided welcome shade. After refuelling and taking on some fresh vegetables and other stores they camped near the town bore entertained by Brolgas, Red-backed Kingfishers and a mob of corellas, loquacious as always. The next day saw them at Meda Station on the river of that name where several days were spent watching the birds on the billabong. There was a wide range of species with Plumed Tree Ducks predominant. At their hides by lakes the routine was to enter unobserved in the dark before dawn, a routine that didn't call for Pat to see him in as would be necessary when entering by day. From Meda they were taken to an outstation at Obagooma close to the sea with wide coastal flats and many billabongs. Many birds including Brolgas, Wedge-tailed Eagles, a dingo trotting out in the open, flocks of corellas and galahs with saltwater crocodiles in the May and Meda Rivers which had to be forded. Birds were abundant around Meda Homestead, with many Black Kites and Whistling Eagles and an aboriginal lady showed Pat a

Greater Bower Bird's bower – the first of many we found later here and in Queensland. The male at this bower proved very tame and well worth the time spent watching him working on and `painting' his bower and displaying to his various potential partners.

The next camp was beneath river gums on the banks of the Fitzroy River on Liveringa Station and about 4 miles from the homestead. This was in effect a medium sized village as the station employed a lot of staff, many of them aborigines together with their families. The Warham's were impressed by the care taken by the owners, Kimberley Rose and his wife, of the school, and particularly in the way that the pregnant women were fed in the homestead kitchen and not allowed to take the food away when it would have to be shared out with the whole family and the person needing nourishment the most would get little.

The river still held water and plenty of Johnson's (Freshwater) Crocodiles would haul themselves out onto the sandbanks. Despite their reputation for being harmless Pat was always very cautious when getting water there and with good reason as the Saltwater Crocodiles were present even further upstream.

On the Fitzroy they found and worked a range of nesting species like finches and photographed a pair of kites breeding 12 m up in one of the big eucalypts. Very conveniently the same hide gave excellent views of spout containing a two well-feathered Galah chicks. While ensconced high in the branches on 22 June 1955 John heard a deep crunch as if someone had blown a posthole, which was odd, there being no fence posts around. That evening they asked the Roses about this. They themselves hadn't heard anything but the aborigines had. Later it was learnt that the noise was from the Montebello atom bomb test, the sound and vibration having taken about 20 minutes to reach the Fitzroy. An unexpected wind change led to some of the fallout also reaching the station for, according to the Roses, radiation monitors set up around the property by the authorities were later found to have changed colour. Oddly enough, going up the east coast of England heading for Preston, they again passed through a radioactive cloud – that from the Chernobyl disaster.

Moving on, the Warham's struck camp and took the river road for Fitzroy Crossing, a pleasant run along a sandy, termite-mound infested track. At the crossing, after refuelling at considerable cost (prices for fuel varied according to the distance from the port where it was unloaded) they headed back towards the coast along the main road,

spending a few nights at Geike Gorge without seeing a soul and some more at nearby Brooking Station where a Crimson Finch was building its nest in an open shed quite undeterred by a camera and flash at about 1.5 m. A little closer to the coast a camp was made at a small spring in the limestone hills and marked by a group of Pandanus, hence "Palm Spring" about 30 km north of the highway. Western Australian Petroleum (WAPET) were camped here doing survey work. They took them over the deeply pitted Oscar Range with layer upon layer of deeply eroded rocks like inverted molars by driving a 4 x 4 truck along a tenuous course between trees and rocks and eventually descending the very steep 50m to the northern plain below – "Fairfield". The whole feat was only possible with the help of stereo-aerials, the navigator detailing each few yards where to move over an apparently quite impassible terrain. At the base of these cliffs there were many aboriginal paintings – men, lizards, geckoes, hand-prints etc., much as they'd seen earlier in the Grant Range.

Back in Derby, they camped in the pindan at the edge of the town among the Peaceful Doves and honeyeaters. Because it was a fairly hand-to-mouth existence, cheques for their articles dribbling in very erratically, they decided to take action. Pat obtained a job cooking for the pilots and staff of the local W.A. airline, MacRobertson Miller, who had a base in Derby while John was taken on as a wharfie. With a 10 m rise and fall to the tide, ships coming in to the port were keen to get unloaded without delay and if this occurred at a weekend (double time on Saturday, treble time on Sunday – till midnight, anyway) big money could be earned for 2 or 3 days' work. John's gang's task was unloading bentonite for the drilling rigs from a hold probably at around 42°C. It was very hard work but an interesting experience. John worked with Australians, Aborigines, and Chinese but the latter, by far the smaller in stature, were also the best to work with, doing their share and more. Pat cooked roast dinners with the shade temperature in the high 20s. She had an aboriginal woman as helper and a man to chop the wood for the Aga Cooker. She discovered that the regular cook, while feeding her helper, never gave her the food of the day, always yesterday's: the aborigine was quite amazed when Pat insisted that she had the same food as everyone else, at least when she was cooking....

Diversions were made to Cockatoo Island in Yampi Sound thanks to BHP management, this then being mined for its iron ore. Despite a lack of surface water there were quite a lot of birds, suggesting that free water was not strictly necessary for some of the species like the seed eating Zebra and Chestnut-breasted Finches that were breeding freely. They also managed a trip to the mainland nearby where there was a mission at

Wojulum. A visit memorable for landing on a beach with mud covering sharp oyster shells and learning at the same time that the local saltwater croc. was dubbed "The Harbourmaster". Another memory from this short visit was of playing carpet bowls in the Missioner's lounge while several species of bats swept through hawking for insects flying round the Tilley Lamps.

For naturalists Derby and its environs was a goldmine and the locals urged them to stay – they would find them a house and so on. However, they had no intention to take up any permanent place and presently they were back in Broome for a few days in September before heading south once again, diverting to the east to have a look at the Hamersley Range and Wittenoon Gorge, photographing Painted Finches at a tiny rock pool among the river gums and on the western side making a brief visit to Shark Bay and Denham. Another diversion not far from Perth was to the Moora Lakes where many wildfowl were breeding, including a rather special bird, the Pink-eared Duck, a filter-feeder.

Then followed several months writing and catching up with truck maintenance, etc, while in the south-west at Metricup, a small halt between Busselton and Margaret River. The one-man inflatable proved its value many times, not so much for carrying them over the water but acting as a load carrier when working in the many shallow swamps; all the gear could be piled aboard and the lot towed to the site as required. However, about this time there was a visit from Peter Scott who in those days had a widely syndicated nature programme on the BBC TV called "Look". He was interested in the special Australian ducks such as the Freckled, Musk and Pink-eared and was taken to a series of lakes near Dumbleyung, a small settlement in the wheat belt. Here there was a good range of birds and the inflatable dinghy came in useful in ferrying people over to small islets and across the lakes. It proved to be capable of carrying two people (just) even though with Scott aboard there was but a few cm of freeboard. Scott was interested in our account of the Moora Lakes and induced John to return there to look at and photograph the Pink-ears. They proved very photogenic, with some interesting behaviours which he described in detail and were eventually published in the Wildfowl Trust's Annual Report, nicely embellished with his photographs and Scott's sketches. Furthermore, this was actually paid for – most unusual for a scientific paper!

About this time John wrote a book on insect flight, but the mss. went off at an inopportune time as an Oxbridge professor beat him to it with a work carrying a more

mathematical approach and John's text never achieved publication. This was not a major setback.

Back in Perth Pat went nursing in a hospital at Applecross and they found a flat on the water front nearby. While she was 'bringing in the bacon' and John was writing, there was time for him to go north back to Denham from where a WAPET barge took him over to Dirk Hartog Island and Australia's most western point – Cape Inscription. He stayed there for 9 days at the beginning of June 1957. This island's avifauna had only been written up once, back in 1917 so, like many other places that were visited during their tour, it was largely terra incognita. The island was the stronghold of a special fairy wren, and around the coast precipitous limestone cliffs full of ledges and holes there were many Ospreys and some Sea-eagles. Both the copy of Dirk Hartog's inscribed pewter plate (1616) and the later nailed post of Commdr. King were still there during John's visit – see Walkabout, Jan. 1959:30-32.

Thanks to the local fisheries officer, while in Shark Bay John also spent a night camped on Pelican Island to see something of the breeding of these birds. They had well developed and mobile chicks so were not in danger from disturbance.

In early October 1987 the Warham's packed up much of their gear for storage and left the Kalgan River, Albany to drive across the Nullabor Plain to South Australia. First across the heathlands and mallee to Esperance. After leaving a small strip of bitumen in Norseman the road was most rough (especially between Eucla to Koonalda), and with little traffic. Just inside South Australia a strange phenomenon was encountered. Running for several miles in the centre of the road was a massive 'Potato pie' of mounded earth with a "Danger Men at Work" notice at the front. They must have stopped months ago as the mound now supported quite a rich flora with bushes several metres high. It had been a dry year and there was no great display of animal life, mainly parrots and cockatoos and a fair number of Shinglebacks and other lizards with hardly anything flowering. One of the overnight camps was at White Wells, a deserted mission station near the head of the Great Australian Bight where they made their first acquaintance with wombats. At Ceduna the first House Sparrows and Starlings appeared, the latter at first being taken for wood swallows! Considering the distance involved and the 7 days taken to reach Port Augusta from Norseman that only 3 Emus and about 2 kangaroos were seen was surprising, particularly as the Warham's were often up and about at dawn.

Adelaide was reached on a Sunday. In those days this was a very Victorian town. There seemed to be no public toilet unlocked and a policeman of whom they enquired seemed quite put out when asked what visitors were supposed to do. Eventually a facility of sorts was found in the railway station, apparently deserted at the time, and they were able to have a wash and brush their teeth from a tap on the platform, tossing the waste water onto the trans-line!

Outside Adelaide they camped in the hills at Brown Hill Creek, a site made colourful by drifts of Viper's Bugloss (an introduced weed). Here John shot 3 rolls of film at mayflies engaged on nuptial flights, but their girations must have proved too elusive and nothing remains of the results.

On leaving the Adelaide area they headed for Melbourne but took an indirect route along the Coorong, a long lagoon stretching behind coastal sand dunes. The wealth of wildfowl was impressive – more than they'd seen so far in Australia and at one place John glimpsed the swans' heads and necks as like a thicket of trees. There were masses of ducks as well as ibis (mainly White), spoonbills (2 species), pelicans, egrets, herons, plovers and many species of waders, some, like the Greenshanks and godwits, familiar from Europe, others, like the mass of Banded Stilts and Red-necked Avocets, of endemic kinds. Camped in the dunes they soon got acquainted with the common blue wren of S.E. Australia Malurus cyaneus, the males not quite as resplendent as those of the W.A. M.splendens, but colourful enough. A nesting pair was watched and John was able to get photographs of the male feeding the female on the nest and, later, of a Brown Snake eating their small chicks. The parents kept well out of the way and after some exploratory visits must have abandoned the site and were missing by the following morning. They would have re-nested within a few days.

One of their mentors in W.A. was Dr D.L. "Dom" Serventy who had established a research project on the Tasmanian Mutton Bird or Short-tailed Shearwater about 10 years earlier and it must have been Dom who drew attention to the needs of the Tasmanian Fauna Board for someone to camp on Cat Island in the Furneaux Group in Bass Strait during the breeding season to guard the Australasian Gannets there. These were being harassed by fishermen who were believed to take birds for crayfish bait. Such a post, with food provided would enable some detailed observations to be made, not only on the gannets, but also on the "mutton birds" and on Little Penguins. So, after

a few days looking around Melbourne and parking the “Yak” in a fellow RAOU member’s section, they sailed to Launceston and after a few days there they were taken to Hobart and presently flown to Flinders Island. From the settlement at Lady Barron they were rowed across to tiny Fisher Island where Dom had a small hut. They spent several days here, checking band numbers of the shearwaters and undertaking other chores before the seas were smooth enough for the fisheries inspector/policeman’s boat to carry them through a shoaly area, “The Potboiler”, to Cat Island, offloading stores onto a sandy beach. There was a small hut, the water supply being rainwater from the roof run-off.

Their task was to see that the depleted gannetry was protected from further interference. The colony first came to the attention of Europeans when Surgeon Bass landed on 8 Jan. 1799 to get a load of seals and gannets (for food) and in 1893 there were about 2,500 birds on nests but by 14 Nov. 1958 there remained only 21 occupied sites. The Warham’s 5 month’s stay allowed them to follow a major part of the breeding cycles of the gannets, the Tasmanian Mutton birds and Little Penguins. The results were written up substantially while they were still on the island, such a system often being much better than to take notes back to a mainland base and writing up later: one can easily re-check when some information is found incomplete – once away this is usually impossible.

Cat Island, like most of those in Bass Strait, is heavily infested by Tiger Snakes. The Warham’s kept antivenine in the hut but if bitten might not have got injected in time. However, these snakes were quite timid and it was mostly a matter of watching where they put their feet, and if delving into a burrow for petrel chicks, not to squeeze any scaly forms! Mary Gillham, a plant ecologist who visited them during their stay, was somewhat alarmed by the snakes. However, her method of scoring the vegetation which involved walking backwards over marked quadrats didn’t help and on her first foray she encountered 5 snakes. She stuck to her tasks, nonetheless.

This stay on Cat Island was productive for writing partly because their subjects were literally at their door. They had underground burrows fitted with false roofs both for the petrels and the penguins so there was neither travelling time nor a need to lug heavy gear over difficult terrain as was so often needed elsewhere.

Fishing boats occasionally anchored in the south bay and they got lifts at various times to the other islands of the Babel Group. On Babel itself, a major island for the Cape

Barren Islanders" mutton bird industry, they saw just how the chicks were collected, cleaned and salted in barrels. They also got to the smallest of the Furneaux Group, Storehouse Island. Later, while waiting on Flinders Island to get back to Launceston, they were able to see some of the other islands hereabout like Green Island and also to have a look at much of Flinders Island itself, climbing the slopes of Mt Strezlecki with Dr Serventy. Later, while John was on Macquarie Island, Pat and a friend from Melbourne returned to Fisher Island to help with Dom's mutton bird studies. One day they went across to Cape Barren Island in the mailman's boat. He had a group of tourists on board and pointing to the low smudge on the horizon that was Cat Island, recounted how, a few years before, a mad Englishman and his wife had stayed there for months looking at seabirds and he'd not allowed her to kill the Tiger Snakes. Needless to say Pat kept mum. Actually she was quite efficient with a piece of no. 8 fencing wire in despatching snakes too close to our hut, breaking their necks by a shrewd blow, the flexibility of the wire facilitating this despite the uneven ground. They had learned earlier that some Australians seemed to go berserk when sighting a snake and that, particularly if he had a gun, the man was more dangerous than the snake!

Flown back to Launceston they were shown some more of Tasmania by the Fauna Board's warden before sailing back to Melbourne from Burnie. After reorganising themselves, they paid a brief visit to Canberra to meet fellow ornithologists in the C.S.I.R.O. at Gungahlin, then carried on to Sydney, making several camps on the way. They were in Sydney by 30 April 1958.

By now they had already published a number of papers on their work and evidently word had got out that they were self-supporting and productive, hence the C.S.I.R.O. Science & Industry Fund grant that came through about this time and paid their travel expenses and food costs for their remainder of their stay in mainland Australia.

Keen to get north again to, they didn't linger in Sydney, but Keith Hindwood took time off to show them something of the city's birds, while Alec Chisholm, who couldn't work out how they could travel all these distances without a lot of money, gave them, as "the only millionaire naturalists I've ever met", a slap-up lunch at his club. He was joking, of course!

By 1 May they were off again through Macksville, Port Macquarie, Bangalow, Nambucca, Coff's Harbour, Grafton, the Richmond River and visited Currumbin for Alex

Griffiths' Rainbow Lorikeets and David Fleay's sanctuary for his Platypus (which they'd never seen in the wild at that time) before heading up into the hills to the Binna Burra Reserve,

A fortnight at Binna Burra gave them a good preview of many of the animals to be seen further north. Some, of course, were familiar from the Kimberley days, but they'd not previously encountered Brush Turkeys, Satin Bower Birds, Bristlebirds and Lyrebirds, nor had bandicoots grubbing around their campsite. They were also introduced to some of the spectacular Queensland insects, the butterflies especially.

Brisbane was reached on 26 May but, tarrying only a few days they continued north with a diversion to Murphy's Creek where E.A.R. Lord showed them some of the local birds that he'd been studying and writing about for many years. Three days later they were at another student of birds with a large property at Colombulla and one in the middle of a drought. Here, among other species they found Spotted Bowerbirds and noted their ability in copying the sounds of other birds and farm noises. Previously, at Meda Station in the Kimberleys the owner's wife had complained of the mimicry by the resident Greater Bowerbirds of the cries of their children quarrelling when these were actually at school in Perth far to the south.

The next camp was in the Carnarvon Range National Park reached via Roma and Injune and on the way they made their first acquaintance with black soil plains. A slight shower stopped them in their tracks as the damp earth piled up on the tires, scraping against the mudguards. They were also had some tricky creek beds to corduroy before attempting them, so that the CWA hut at the entrance to the Carnarvon Gorge was not reached until 3 June. Camp was made here for 12 days and without seeing a soul during that time. While in south-western Australia the blue wrens were just about the commonest small bird in unburnt country, here in central Queensland an equally gaudy relative, the Red-backed Wren, was everywhere. In flight when seen from behind the males' red backs glowed in the sun as if sprayed with fluorescent paint – something yet to be invented. There were many other passerines in the creekside timbers and scrubs, Pale-headed Rosellas were common and new as were Blue-winged Kookaburras and Coucals. There were also some Rock Wallabies here. Well into the Gorge the undercut cliffs carried some aboriginal paintings often in the side gullies. They collected a range of the common plant species (as they did elsewhere, e.g. at Cat I.) and later put a small paper together describing the birds of the Range and their habitats. They were rather

surprised to learn 30 years later that this account was still in use by the rangers of the Park, now quite accessible to the public.

At `Buckleton`, a property 12 miles from Springsure, the rather open grassy country was dotted with ironbarks and blue gums and crossed by rocky ridges, much of the rock being basaltic. Below the plateau around the homestead were thick `Bonewood` scrubs with many acacias, Bauhinias in which were Scrub Turkey mounds, many Apostle Birds and other dry country species. Along the creeks and wet areas were dark Melaleucas and river gums and many fairy wrens were common. On one occasion females of all the three species living here – Red-backed, Blue and Variegated turned up side by side to scold them. The Red-backs were also noted way out among the scrub on the dry ridges far from the creeks. Wallaroos were common throughout this country, but despite setting up hides by waterholes these marsupials eluded the camera. However, the bowerbird of Australia's dry country – the Spotted was common and they were soon studying its behaviour from hides. One bird evidently visited our host's garden as the boy's marbles were part of the display paraphernalia and a male would display its crest to the full in the garden although there was no bower nearby. At `Buckleton` Pat got on horseback for the first time since her childhood days in Pembroke.

On 30 June they drove to Gladstone on the coast and the following day took the launch Capri to Heron Island to stay at the University of Queensland research station while studying the life of the Pisonia forest – the Black Noddies in the trees and the Wedge-tailed Shearwaters below ground. Out on the reefs was a fine range of wading birds and Reef Herons with several terns new to them – Lesser Crested and Black-naped. They had the field station to themselves and the tourists in those days seemed seldom to venture far from the beaches.

They stayed for nearly 3 weeks at `Gracemere` outside Rockhampton. This was an old-established property on a large lake and with a rather well-known `slab house`. Their camp was beneath a huge baobab tree at the front of the house. Their hosts were very helpful, showing them much of the varied habitats of the district. There was plenty of life here, particularly the lakeside and swamp birds, ducks, pelicans, herons, grebes and so on. Coming back from town one night a Barn Owl was caught in the headlights. It was perched on a roadside post and peered down in the full glare of the lights at the vegetation, obviously watching for prey. The lights were ignored much as had the owl in the church tower back in Nottinghamshire.

Back to the coast they explored some of the beaches and inlets before setting up camp at Airlie Beach near Proserpine. They had a good look at the Whitsunday Group of islands being taken around by a local fisherman and paying for the trip by cleaning the fish and similar chores. In the result they were able to land on a number of these islands – Whitsunday, Tancred, Hook, Repair, Daydream, North and South Molle – while John could often row out to nearby beaches while they were anchored with Pat busy cleaning fish! It was all very colourful but the islands, while having fringing reefs, were not coral cays but chunks of the mainland isolated by rising sea levels during past ages and they had much the same faunas and floras of the nearby mainland. There were wrens, fruit pigeons, drongos, a range of honeyeaters particularly the Lewin, Scarlet and Dusky species, Mangrove Butcher Birds, sundry cuckoos and lorikeets and usually a white-breasted Sea Eagle and or an Osprey not far away.

After a week of this pleasant sailing they drove north to Ayr and Alan Ey's place at Airville. He reckoned he had the shortest address in Australia – A.Ey, Ayr. Qld. He knew his local birds well and several days were spent photographing a common local species, the Yellow Honeyeater. There was a good range of honeyeaters among the latana, acacias, pandanus, the White-gaped being new to them. Finches too were plentiful with many Crimson, Chestnut-breasted, Masked and Double-bars like those seen in the Kimberleys, as well as Friar Birds, Tawny Grass Birds, Cisticolas, Mistletoe Birds and coucals. Other new species were the Lemon-breasted Flycatcher and the Crested Hawk. In open country the plovers were the Masked form and stone curlews were quite plentiful too. Ayr was in sugar cane country with plenty of Black Kites and eagles aloft. These followed burn-offs to snatch up grasshoppers and lizards from along the smoke.

At Townsville, where they camped on the edge of the common they had a natural wildlife sanctuary at their door with flocks of Magpie Geese, Brolgas, a Jabiru, Lotus Birds, Glossy Ibis and range of ducks and birds not seen since Noonkumbah airstrip in the Kimberleys – pratincoles. There were display grounds of the Greater Bower-bird that they'd looked at in northern W.A. and more data were gained on these fascinating animals. At Townsville they met a suburban resident with a bower in the corner of their lawn and who mowed the grass right up to it. She could see all the owner's antics from her kitchen window. Some useful film footage of these was shot and later the owner

kindly kept a record for the Warham's of the bird's presence and absence spanning a whole year.

Arrangements had been made with the Commonwealth Marine Dept. for John to accompany one of the biannual trips to refurbish the navigation lights and lighthouses along the northern section of the Great Barrier Reef. The ship involved was the Cape Leeuwin scheduled to work north from Townsville to Torres Strait and out to the Carpentaria Lightship at 140°E. They moved camp to Townsville and set up tent and gear beneath a big mango tree behind the house of a helpful businessman of the town. Here Pat stayed while John proceeded north. To help boost our finances she took a job as a waitress in a mainstreet café: this was evidently quite an eye-opener.

The ship proceeded slowly north, replacing gas cylinders on buoys and light platforms, rebuilding some and erecting new ones. Sometimes new lights were built on concrete bases on reefs covered at high water, so that the ship had to anchor for days whilst the work was carried out. Landings were made by an ex-U.S. DUKW carried on board but a whale boat was sometimes used and often dropped John on some nearby island or the mainland where he spent much of the day and was picked up in the evening. He handed on about 40 islets and reefs [for details of birds seen see Emu, 62:99-111, (1962)]. A notable feature in Torres Strait was the large movement south into Australia of birds evidently from New Guinea – lots of White Ibis, Spangled Drongos, Cuckoo Shrikes and Spine-tailed Swifts were flying south while the ship was there between 22 October and 5 November 1958. This flyway seems first to have been noted by the naturalists of The Beagle back in 1839 and at Booby Island in the Strait John was struck by its suitability for the establishment of a Heligoland type trap. There was a gully filled with bushes in which such a trap could be easily fitted, while the lightkeepers reported a whole range of birds migrating through. Later, back in Melbourne, they discussed this idea with Prof. `Jock' Marshall but by then they felt they were drawing their tour to a close and to this day (2005) the importance, timing and extent of this two-way trans-Torres Strait migration still awaits investigation.

The engineers worked on several lights around the tip of Cape York. John spent a day on Albany Island which forms the northern flank of the so called Albany Pass between that island and the mainland. This area, `Somerset', once had an active staging post for ships sailing west and to Java with the Jardine Homestead on the far side of the Pass well established. There was a small graveyard on the top of Albany, one to the

Government resident D'Oyly Hay Aplin, another to Mary Colville, wife of Rev. W.Y. Turner of the London Missionary Society who died there 21 November 1876 and another headstone marking the grave of Mary, wife of Albert Collins of Co. Mayo who died at Somerset 21 December 1877.

John was also landed on the long sandy beach that lies immediately to the west of Cape York and he spent a day exploring the very tip of Australia. This is just a point of basaltic rock running out to sea looking like a crocodile's snout. Just inland at the base of the point is a small patch of rainforest where he called up 5 bird species he'd not previously seen. Making squeaking noises with ones lips against ones knuckles is an old dodge for enticing passerine birds to come closer. It works in Europe and North America and it was quite effective in Australia. However, while small Australian birds tend to be much tamer than those of Europe and getting them accustomed to hides often easy (some will come back to their nests while you're setting the hide in place), they don't like you waving your hands around and at Cape York, as elsewhere, the flies were a bane. Here John encountered two new flycatchers, a riflebird, Yellow Oriole and there were a lot of sunbirds. Along the wide beach backed by casuarinas there was a good selection of waders and Beach Stone Curlews, the latter present on many of the islands visited. Behind the beach casuarinas there was a large paperbark swamp, so with such a range of habitats, it was not surprising that this small area seemed as productive of birds as anywhere encountered.

Going back to Thursday Island and towing a restocked Carpentaria Lightship, the Cape Leeuwin sailed out to 140°E longitude, anchored the new lightship and returned to T.I. with the old one for overhaul and recharging (see Geographical Magazine, April 1962:720-728). Leaving the Strait the ship proceeded south visiting a number of islands on the way. On the 9th of November John spent most of the day on Lizard Island, so named by Capt. Cook when he landed and climbed to the top (360m). It was hot and he thought of Cook climbing up in his naval uniform looking for a way through the reefs. There were still lots of varanid lizards about as in Cook's day and some remains of a stone building suggesting a one-time occupation. Several more islands were to be examined but John ended his journey when the ship tied up at Cairns and he returned to Townsville by train.

In Townsville they had photographed the local fruit bats (gouldi). These fed on the mangoes that sheltered their tent and often broke off very ripe ones that, after washing,

made very acceptable desserts. Over on the Town Common the large chicks in a Blue-winged Kookaburra's nest kept up a continuous purring just as do other kingfishers. On one occasion a snake's tail dangled from the hole but when John pulled on it a youngster came along to look: it had most of the reptile's body down its gullet and wasn't about to let go!

Friday 21 November 1958 saw them once more on the road north camping that night by Bingley Beach near Tully. On the way they saw their first colony of Shining Starlings at Ingham with more at El Arish where the lantana flowers were feeding brilliant blue Ulysses Butterflies (Papilio ulysses) and not far off perhaps 150 Spine-tailed Swifts were dashing about hawking insects and contrasting to the rather fluttering flight of the Grey Swiftlets also insect-hunting. By taking about 30 shots of the Spine-tails John managed to get one sharp shot well worth keeping – but only in monochrome in those days. These might have been some of the birds John had previously seen in Torres Strait on their southward journeys. The next day gave them their first Cassowary as it walked calmly across the highway into a patch of rainforest: another gave an even better view when about 45 miles south of Cairns. It was feeding on the fallen pandanus nuts which it appeared to swallow entire: the whole made a useful piece of film.

Cairns was interesting mainly for the birds on the mud flats – spoonbills, egrets and a range of wading birds. One tame Bar-tailed Godwit feeding high up on the turf of the promenade was attacked by a troupe of Indian Mynas for no apparent reason but the wader moved on and continued feeding. Back down the road south at Babinda they explored the local forests, beaches and cane fields and encountered the Cape York Birdwing for the first time as well as Sugar Gliders, Striped Possums and Cicada Birds and another Cassowary. Erecting the big tripod on top of the truck they got some cine shots of the Glossy Starlings without recourse to a hide – quite a change from the pylons that they'd become adept at erecting.

Back in Cairns briefly, and then it was north to Mosman over a very rough road and thence to a guest house at Julatten. The proprietor, a New Zealander, took them in an old Ford Prefect up a winding forest track with many hairpin bends to about 4,000 feet on Mt. Lewis to show us a bower of the Golden Bower-bird.

Having hardly encountered anything approaching a hairpin bend since coming to Australia, this drive was quite a tour-de-force, but there was little difficulty the following

day in taking the “Yak” to the end of the track where camp was made about a mile from the Golden Bower-bird’s display ground. They stayed up there for nearly a fortnight watching this bird and its relative the Toothbill, many of which had bowers near their camp, as well as another relative, the Green Catbird. The forest was full of song with hissing of the bower-birds, the clamour of Chowchillas and Logrunners, the occasional yells of passing cockatoos and the single melancholy notes of robins – mainly the Grey-headed species. The Logrunner parties made so much noise that sounded like a mob of wart hogs on the prowl!

With the wet season close the Warham’s found a flat in Atherton as, on the Tableland it was much cooler than down on the coast and even back in 1958 there were a lot of bitumen-surfaced roads, so that despite the heavy rainfall a good deal of movement was possible. The town was excellently sited for access to open dry savanna type forest, to rainforest and, down the Kuranda range, to the mangrove-fringed coast. Around Atherton the forest was mostly cleared, much of it to grow peanuts, but there were still pockets of scrub with many birds and other animals.

Despite the rains there was much avian activity and a range of species was studied from hides, particularly at Lake Eachem, at Mt Hippipome (“The Crater”) and in a forestry plantation at Wongabel. The subjects here were flycatchers, including the charming and fearless Boat-billed species, the Scrub Fowl at their nesting mound, the Brown Shrike-Thrush and the Coucal and Cisticola, both common birds of the ‘bladey grass’, with more Toothbills, as well as a range of dragon lizards and snakes.

Back in Britain, when planning where they should like to get to in Australia, the name Raine Island had featured prominently as it was clearly one of the world’s most important breeding places for seabirds and hadn’t been reported on for many years. On broaching this idea to the bird people in W.A. the suggestion was dismissed as impracticable, the place being remote and it would cost the earth to hire a boat to get there. However, thanks to help from friends in the C.S.I.R.O. they learnt of a project in train in that part of the Great Barrier Reef which involved scientists working on problems of the pearl fishery and who regularly travelled down within the Barrier in the course of their work. They agreed to take John with them and divert to drop him off at this island, a place once well known to sailors passing from the deep water outside the Reef through Raine Entrance to the inner waters en route to Albany and the Torres Strait.

Accordingly he flew from Cairns to Thursday Island touching down at Cooktown, Coen, Weipa and Horn Island often watched without much interest by the local wallabies and Masked Plovers whose habitat was the open grassland of the landing strips. The flight gave excellent opportunities to appreciate the varied nature of both east and west coasts of Cape York with the many meandering rivers lined with mangroves flowing into the Gulf of Carpentaria on the western side much of which was flooded.

In T.I. all the luggers were in because the NW winds then blowing made the sea murky and interfered with the pearl fishing. At night their Tilley Lamps showed where the crews grouped in the sterns were cooking their evening meals on glowing braziers – all very picturesque.

The following day – 6 January 1959 the CSIRO lugger Galeru left the anchorage, traversed Albany Pass to anchor at dusk by Halfway Island, south of Cairncross Island. The anchor came up at dawn and they sailed through the Boydong Cays then kept east of Cockburn Reef and well east of Sir Thomas Hardy Group before turning NE to reach Raine I. About 5.00p.m.

With the help of some of Torres Straits' Islanders who formed the crew, John's tent was erected that evening but he slept on board that night with quite a fleet of sharks cruising around the boat – perhaps used to getting offal from a fishing boat Trader Horn that worked these waters. After getting the rest of his gear and water (none here, of course on a low lying coral atoll) the Galeru sped away. This was a good season for the boobies, frigate birds, night herons and noddy terns, but also the cyclone season in this part of the world, so that thought had to be given to how he could cope single handed in dropping the tent and tying everything down, and so on. However, nothing like this transpired and his time here was fully occupied recording the behaviours of the birds. On the day when the Galeru was due to pick John up, 14 February 59, another boat appeared - the first sign of human activity during his stay. It was the Trader Horn whose skipper landing on the beach thrust out his hand and said "I'm Snowy Whitaker, who are you? Where's your mate – have you been shipwrecked?" When told that John was just looking at the birds he was obviously taken aback, it must have sounded like the words of a maniac! However, soon the Galeru also arrived and John had the choice of returning to T.I. with the CSIRO folk or a trip with the other boat fishing and turtle hunting with return to Cairns. He chose the latter and that night slept under a big tarpaulin on the beach of Pandora Cay some miles to the north of Raine. The fishing trips took them

through a passage to deep water east of the reef and north to Darnley and Murray Islands with the crew out fishing in all directions from individual dinghies. By the 22nd they were back at Raine to slaughter Green Turtles and cover the deck with live ones laid on their backs. – see Pacific Discovery, Jan/Feb 1963, Vol. 16:2-9. This was actually the last time turtle hunting was allowed and it is now thought that Raine is probably the most important breeding station in the world for the Green Turtle.

When landing on Raine to collect hides and other items left there a week before, a new petrel alighted nearby that John knew was unknown in Australia. He popped it in a box and brought it back with him to Cairns. It was placid and was force-fed fish without any difficulty and when released flew strongly back to sea. This did prove to be a new species for Australia – the Herald Petrel.

Back in Atherton the bird work continued but Pat meanwhile had taken a job inspecting peanuts in the local factory, testing them for their oil content – payments were made on this factor. John drove to Herberton one day to visit the Kitchener Mine (disused) on Eureka Creek near Stannary Hills in open savannah woodland. The objective was a colony of bats deep in a shaft that went in at least $\frac{3}{4}$ mile with a 12 ins. Layer of guano on the floor of the shaft and despite the moist conditions some excellent photographs of the animals in flight were obtained. The valley of the Eureka at this time (15 April 1959) was very green with a mass of bright yellow cosmos beneath the sheoaks, evidently escapes from local gardens when the mine was being worked more than 25 years before. More bats were found about a week later in other shafts behind Herberton and for some days there were bats roosting in the curtains of their Atherton flat...

Another diversion during the first week of May was to the Valley of Lagoons beyond Ravenshoe. John and a keen local ornithologist and farmer Jim Bravery from Tolga examined a series of lakes near Gunnawarra – Wairuna Lake, Lake Walter and a very big swamp at Minnamoolka. There were birds galore and particularly noticeable were the Lotus Birds and the Green and White-quilled Pigmy Geese, along with the usual Brolgas and ibis with many eagles and other raptors overhead and both Masked and Spur-winged Plovers.

Atherton was a great place for a naturalist. The small Atherton garden had a custard apple tree beloved of the Rainbow Lorikeets that roosted across the street and in their 5 months on the Tableland they were able to explore much of it. Pat found a new Golden

Bower-birds bower up at The Crater and much time was spent photographing the many species of butterflies, particularly around Hastie's Swamp. One of the birds studied during this period was the Dollar Bird. A pair had a nest in a spout high in a eucalypt not far out of town. It needed a 60 foot hide rigged in the branches and reached by a ladder created by nailing branches onto the trunk, the gear being hauled up later by a rope. This also served as a device to delude the birds that a man had left the hide as, by lowering a bundled sack to the ground, it appeared that the hide was empty again. This device generally works even when the sack isn't picked up by another person and, conversely, hauled up again at the end of a session helps to deceive the bird into believing that another person has appeared, allowing the 'hider' to depart without increasing the subject's timidity. The hide and 'ladder' took quite a few hours to put together since work could only be done at the site for short periods to avoid keeping the birds from their chicks. At least the results were worth the effort.

On 9 June 1959 they left Atherton heading north hoping to reach the tip of the Cape York by road that John had already visited from the sea. However, this was not to be because, well into the hills and about 12 miles north of Mt Carbine when descending a steep incline the truck's brakes failed, John told Pat to jump but she stayed put and presently he wrestled the vehicle to a halt without incident. On returning to Mt Molloy the brakes were fixed but it was decided that they lacked the time to attempt Cape York. This was because notification had come through that the plan for John to go down to Macquarie Island with the 1959/60 A.N.A.R.E. party was under consideration and he would be required for interview in Canberra in July. Before then they wanted to cross to the Northern Territory and back south down the Centre.

So they returned to Mt Kooyong and the Julatten guest house, continuing their investigations there with side trips to Mossman and the Upper Daintree, the latter via a very rough road, and to Port Douglas. This place was notable for the abundance of Sunbirds and Forest Kingfishers. At Sandy Pocket near Moresby and elsewhere in these latitudes, the activities of mixed feeding flocks of passerines was very obvious. On the morning of 20 June one group at Mrs Gill's farm here held 16 different species – Macleay, Dusky and Lesser Lewin Honeyeaters, Rufous Shrike-Thrush, Grey Whistler, Rufous, Grey and Northern Fantails, Silvereye, Red-backed and Lovely Wrens, Sunbirds, Red-Browed and Nutmeg Finches, Varied Trillers and Pied Flycatcher.

Back in Atherton a few mornings were spent watching platypuses in a local stream and on 27 June they set off for the Northern Territory, camping that night about 30 miles south of Mt Garnet. The road to the Gulf and across to Darwin passed through a great range of habitats and plenty of birds: reptiles but not very many marsupials were seen. At Forsyth there were many Greater Bower-birds and masses of Rufous-throated Honeyeaters draining nectar from the Bauhinia bushes. A feature of the run to Georgetown were the Jacky Winters resting on the road throughout the day. Each flew up with rapid evasive flights as we approached. Why so many of these birds were here was a mystery, but there was no time to investigate this. A lake at Cumberland looked interesting with Lotus Birds, Brolgas and about 30 Red-tailed Black Cockatoos busily feeding. The famous Gilbert River was not flowing but pools still remained. In the pools in the Norman River 150 miles on via Croydon crocodiles' snouts could be seen. Normanton, reached on 1 July was a town of Black Kites. The night was spent out on the Gulf at Karumba on the foreshore by an abandoned RAAF station and with very good birding country all around. Further west the next day they crossed the Bynoe and Flinders Rivers, seeing a number of large varanids and camped not far from the Leichart River which was still flowing. Burketown on 3 July was a place of dusty desolation with mobs of kites and crows only relieved by a pair of Brolgas marching about the streets and seemingly very tame.

It had been planned to carry on along the coastal track to Boroloola and hence to Daly Waters, but the Burketown police told them that several of the rivers along that route were impassible, so they turned south down the Gregory River. 17 miles from Burketown at Beames Creek they came to the most attractive watercourse seen since the Tablelands. It was a narrow, strongly-flowing stream edged with pandanus, cajaputs, River Oaks and Leichardts and with many birds working through them. Camped on the banks of the Gregory at Gregory Downs, their first sighting of the Purple-crowned Wren was when a Yellow-tinted Honeyeater dived straight at 4 of them and sent them into cover. During the morning there were many of Black-tailed Tree Creepers which flew with a characteristic style and had loud calls. Not far past Thornton, at a lunch stop, a pair of Bustards walked slowly past and many Long-tailed Finches were building nests. Camooweal was reached on the 5th July where Cloncurry Parrots and Ground Cuckoo Shrikes were new to them. It was good to be on a bitumen road again after the corrugated tracks experienced since leaving Atherton. On the Barkly Tableland most of the creeks held water and the country was very green with wattles and grevilleas in full bloom. On reaching the Stuart Highway – then often dubbed “Tojo’s Highway” as it’s

wartime building had been prompted by the threats from Japan - they turned north, reaching Darwin on 9th July and seeing their first Black-breasted Buzzards.

They didn't linger long in Darwin, just diverting for a visit to Humpty Doo and meeting a Jabiru that walked in characteristically stately style down the tarmac before them. Turning south and with diversions to Mataranka Station, Tennants Creek was reached on 13 July. The overnight camp was beneath the Hann Ranges where a Peregrine was chased by a Kestrel – probably both were nesting in the cliffs above.

At Alice Springs they set up in the camping ground and while John flew down to Adelaide for interview re the ANARE biologist's job, Pat stayed there and got to know some of the local aborigines, including Albert Namatjira. He offered her some of his paintings but they were fairly tight for cash and simply couldn't afford them: they'd have been a good investment! Nor was there time to visit the Hermansberg Mission, which they would have liked to have done.

But with John's return they had a good look around the 'Red Centre', driving up the Finke River bed to Palm Valley (the crawler gear came in handy here, as elsewhere when heavy sand was encountered). The Valley was very impressive; its palms, Callitris and figs, the colours stupendous. Other beauty spots – Emily Gap, Simpson's Gap, Standley Chasm were mostly quite deserted in those days. On 24 July they left the Alice on a very cold morning passing through mulga country and turning off for Curtin Springs with gibber country and very sparse scrub and then, after Mt Quinn, into country with red sand dunes every 400-800 yards. They spent the night about midway between Mt Quinn and Angus Downs after a hard day's drive marred by two punctures on a very rough road.

Ayer's Rock was reached on 25th July along a track running in the swales between the dunes and then turning at their ends. At the Rock the resident warden in a tent was none other than Bill Harney who showed us where to set up camp. Here they were greeted by a band of Turquoise Wrens that fed on broken biscuits by the camp fire. This suggested that they were familiar with people but, apart from Bill and themselves, there was no one to be seen. After a few days exploring the rock and its art galleries they shifted to Mt Olga and camped about 500 yards from the waterhole at the head of Bubia Valley. The Olgas were impressive and during their short stay they were on their own: not a soul passed by and the animal life wasn't plentiful either despite the waterholes in

a dry landscape. Back at Ayer's Rock there were Whitefaces roosting in pairs – clumped together to counter the cold nights. These birds also fed on broken biscuits like the fairy wrens but with their stouter bills they broke up the biscuits whereas the wrens ate only the small crumbs. Some aborigines were moving through and Bill Harney suggested that John accompanied them on their walkabout as he was keen to see some of the special inland animals like the Marsupial Mole, Bilbys and the like and Bill said these were the people to find them. However, unfortunately there simply wasn't time for a diversion and on 2 August they were away again headed south via Curtin Springs, the Musgrave Ranges and Mt Connor, overnighing about 15 miles west of Victory Downs. The country here was in poor condition with bare ground and very sparse mulga. At Kulgera the next day the storeowner had an aviary with many Bourke's Parrots – a common bird at the local windmills, evidently. About 80 miles to the south the track passed through gibber plains and here was their first Gibber-bird, a rather chat-like species that, when John squeaked at it, flew forward and began a kind of diversionary display with opened and drooped wings – a sort of 'rodent-run' with body held low and cowering in small ground depressions. There appeared to be neither nest nor chicks to account for this behaviour. Crossing more gibbers, the next day they reached Cooper Pedy where they spent a night but first parked by the roadside to repair a spring – a leaf had broken further back and every hole or corrugation was accompanied by a loud 'clang' – but a spare was carried and after some effort they managed to remove and replace the broken one.

They also had a look down one of the opal mines – at that time opal was not in great demand – but again they couldn't spare the money to buy any.

The road from Cooper Pedy was about the worst so far encountered in Australia with much heavy sand, but the country was improving with myalls starting to come in near Bon Bon Station. At the Dingo Proof fence was their first Wedgebill on this trip: it was singing flat out in full view by the gate and presently the first Emus turned up since leaving Atherton. And at Kingoonya our first Sparrow. By the turn-off for the Woomera Testing Range a fence line was crossed with a notice that those entering the area did so at their own risk.

Soon they were back in Port Augusta from which they left on 9 August to drive over the Flinders Ranges to mainly cleared country around Clare and Auburn to spend a few days at E.H. Boehm's property at Sutherland in mallee country. He was a keen bird man

and introduced them to the avifauna of the area. One, the Chestnut-crowned Babbler was new and they were also intrigued by the parties of Brown Tree-creepers that fed largely on the ground. A Yellow-tailed Pardalote had so loud a call that it was thought at first that they were listening to a parrot!

Travelling along the Murray River valley there were many waterfowl at Lake Bonney (and at least 8 Great Crested Grebes) and many birds too at Renmark. Here a CSIRO contact showed them a small island sanctuary where a few Koalas had been released: their food here was Black Box (*E. bicolor*), a tree outside these mammal's normal range. He also took them to Merriti Lake with a wide range of water birds and to some mallee patches in search of the Spotted Quail-thrush. There was an old nest of this bird but none was seen but there were several White-eared Honeyeaters with their rather natty colour scheme plumage. The next day they were driven north into Casuarina/Callitris country scattered over grassy plains, the highlight of the day being a group of about 20 Apostle Birds and an occupied nest. These were extremely excitable, natural clowns and showmen that flounced around not more than 5 feet away. One sat inside their mud nest flanked by two others, but these changed over and it seemed that about 6 birds were involved in this one site. On the 17th they left Renmark and the Murray after Mildura with its vineyards to turn south on the Henty Highway with a break by the Hatta lakes. Some miles beyond there they clocked a pair of Crested Pigeons flying beside the truck at 30-32 m.p.h. in windless conditions. They were headed for Zumsteins in the Grampian Hills, another location well-known for its birds. Here they photographed kangaroos, a Ground Thrush and Yellow-tufted Honeyeaters – another species that used a ground-fluttering distraction display when its nest was approached. A Willy Wagtail perched on a resting 'roo was quite ignored but evidently was getting insects from around them as they do from around cars. Scrub Wrens and Blue Wrens came down to pick up crumbs. On the 22 August the Warham's took the road up through the Grampians to Bacchus Marsh via Ballarat across a rather wet countryside to get to Melbourne the next day.

In those days the Antarctic Division's headquarters were in Collins Street in the centre of the city and John's task now was to plan his research programme at Macquarie Island for which the boat would leave about a week or so before Christmas. This meant checking up on the literature, having medical and dental inspections, getting kitted out and so on. The parties' teeth were checked by a dentist and again by people at the Dental School, and few were found to be dentally fit after the first inspection. There

were about 4 months for this preparation and John would be paid for a further year or so on his return whilst writing up his results. This meant that both could save during this period as all John's needs would be provided while was down south and Pat planned to work at a Melbourne hospital where she could live in and again contribute handsomely to the family budget and so ensure that, after paying their fare back to Britain there was enough money in the bank to keep afloat while deciding on their future activity.

The chance to work for a whole year meant that John could undertake some substantial research instead of the rather hit and miss studies undertaken so far (apart from their 5 months' work on Cat Island) and where photography was important as a money earner. Macquarie offered a rich array of bird species with 4 kinds of penguins and 4 of albatrosses, for example – among the more photogenic species – and at least 2 species of seals. When crossing the Nullabor earlier John had learned of his election to the rather select ranks of the Fellows of the Royal Photographic Society, so he would be the official photographer to the Macquarie Party. It would also be a fine chance to experience field work in a sub-Antarctic island. At 55°S it would be like Eclipse Island but worse, windier, more exposed and lacking any woody plants.

During this fitting-out period they lived in a house on a farm at Mt Selby and also got to know Dick Selby himself who was a keen bird photographer and lived at Kallista nearby. He showed them something of the life around the Dandenongs and was later to visit them in Durham City on his way to the Farne Islands. Pat learned some new skills such as how to upright a merino that, due to the weight of its fleece, couldn't regain its feet after it had fallen onto its back! During this period they found time to see quite a lot of the life in Sherbrooke Forest, to photograph the lyrebirds at their nests and on the forest floor, and make some side trips into new country. Most of October was spent at the CSIRO Wildlife Division in Canberra working out details of the Macquarie biological programme, with the unaccustomed comfort of a government caravan in the local caravan park.

The wildlife of the local savannah country around Canberra was attractive. The Gang Gang Cockatoos were particularly memorable for their exotic colourings but Galahs seemed absent from the city in 1959 but on our next visit in 1973 they were everywhere. The Warhams were taken to the big Narragullen (?Burrinjuck) Reservoir near Yass in search of bats, reaching their caves by boat and finding a small colony of Myotis in one limestone cave and some Miniopterus schreibersi deep in tunnels in another.

They drove back to Melbourne through hilly country and very winding roads where, at each of the hundreds of bends, heavy rain had worn a fan-shaped gully in the road so progress was slow and they seldom exceeded 25 m.p.h., but once the hills were left behind them the Mountain Ash forests gave way to a drier kind of eucalypt forest and wattles, paper barks and bottlebrushes appeared as they neared Lakes Entrance. Back in Melbourne John worked at the Division HQ until sailing for Macquarie on 17 December 1959. By then Pat had taken a nursing post in Royal Park Hospital in the city where she worked during the 15 months John was away. She was soon involved in setting up a new development – a self-referred clinic for people with problems like alcoholism, mental illness and suchlike. Drug abuse was, in those days, not the major hazard that it is today, although some patients were involved. Her boss was the President of the World Mental Health Organisation, so presumably the top man in his field.

John sailed in the Thala Dan with the 1959/60 party on 17 December, passing down the west side of Flinders Island and seeing the lighthouse on Goose Island quite clearly as well as the Strezleckis on Flinders. They reached Macquarie on 21 December after not too rough a trip, seeing the usual Wandering Albatrosses, giant petrels, prions and so on en route. For the first time the party included 4 women, who would return on the boat after the new party was settled. These were Susan Ingham (Dr Carrick's assistant), Mary Gillham, botanist, Isobel Bennett and Hope Macpherson, marine biologists. On arrival there was a dead flat sea, a condition that was not to recur in the next 15 months.

Landing stores etc. was relatively easy at first, the amphibious DUKWs running people to and from the ship while large inflatable pontoons were dragged to and fro to bring in heavy gear like engines, water tanks. John also went down with the ship to the southern end of the island to help land stores at the hutments at Hurd Point. This was not an easy run as the seas were up and one of the two DUKWs used broke down, had to be taken in tow by the Australian Army personnel in charge who left John holding the tiller of a boat with a dead engine while they secured the tow and with unpleasant looking rocks too close for comfort. He also helped in the replenishment of stores at a hut half way down the island at Green Gorge. This too didn't go smoothly as stores were landed with the ship's boat which got snarled in the kelp while a dinghy got swamped in the surf. However, everything was eventually got ashore and the dinghy hauled back to the ship.

Macquarie Island is rather tough going because, to get around requires either very tiring walking along the coast across raised beach terraces and very heavy tussock, with some places impassable at high water, or climbing about 800 feet to the more or less level plateau to the top of the island when, apart from the rain and drizzle the wind can be very fierce. Susan Ingham and John first climbed in this way up Gadgets Gully and they decided after reaching the top exhausted, that there must be a better way. However, apart from a non-existent helicopter, there was no such better way. After about 100 such ascents John knew just how to tackle the climb and where to rest etc. He improved the situation by inserting short ladders at crucial points with the help of the other members of the party and their Ferguson tractor. Ascents, and especially descents, were particularly tricky in mid-winter when it was dark by 3.30p.m. with a heavily loaded pack and the ladder steps iced over. Later, he thought that his ability to make the climbs was deteriorating and it now took a little longer than the 20 minutes needed earlier.

The island is notable for its rain (some falls about 360 days each year) although it seldom downpours, and its wind. It is not excessively cold, although the high ground freezes in winter, the going being easier than as one's boots don't sink in the soft morainic soil. However, if it snows it also blows and then the snow sticks on one's spectacles and clothing and is often driven horizontally as one plods along the spine of the island fully exposed on either side. The frequent gales could lift the wet gravel from the beaches and, on the plateau one's feet disturbing plant and other debris, these tended to be flicked up into the traveller's face. This was very unpleasant as one needed to watch where one stepped – heavy loads in one's pack didn't help. Another problem was that when walking in, say, a westerly, the traveller would be leaning into that wind but, owing to the many small hillocks and exposed rock outcrops, the wind could abruptly beat in from the east and one could easily fall down as the westerly support was lost. On a few occasions the wind was so strong that it was impossible to walk and crawling had to be resorted to, but only for a few feet. During the changeover in December 1960 a 1000-gallon galvanised iron water tank, due to be installed simply disappeared on the night the boat left. The wind had blown it away as no one had thought to tie the thing down. Working in the field at night was helped to some extent by the frequent aurora australis which tended to light up the scene a little. Another problem related to the weather was that they really had no suitable wet weather gear. Their boots, developed for the Korean War, were excellent, but to keep dry in driving and continuous rain they had suits of a new lightweight fabric called Ventile; these were

certainly light in weight and would probably be excellent in Antarctic conditions with cold dry snow but in the sub Antarctic with relatively warm wet conditions they proved unsatisfactory: they let water through and in any sort of exertion one more or less drowned in one's own perspiration. In mid-winter John's main garment was a heavy jacket designed for submariners to withstand the salt spray when cruising on the surface: the Ventile trousers were often quite good in this combination. In gales the streams that formed waterfalls were blown back inland as they fell down to the coastal plains; it was as if a huge pipe had burst.. The vegetation was all salt tolerant – everywhere got dosed in salt spray during gales – while more moisture was added as the surfaces of the lakes were whipped up in swathes, drenching the ground downwind.

The 1959/60 party proved to be quite a diverse group but they seemed to get on pretty well with no real problems. It included some middle-aged men who had been around a lot. They didn't regard being on the island as a great adventure and any account of how near one had come to breaking one's neck on some cliff or other hazard would be greeted with a derisory "Gee, it was Hell!" The later 60/61 party, with whom John spent 3 months was of a different ilk and some of them thought that they were quite brave going to such a wild place. For his first 3 months John had a CSIRO technician with him to help with some of the work, notably in flipper-banding fledgling Royal Penguins at 4 widely-separated colonies. They banded over 8,000 such birds and John was able to use his background of methods engineering to develop a system that made the best use of their time on the colonies. It was a filthy wet job and although some of the other members – radio operators, engineer and others – helped for one day none ever came back for a second dose!

The main station is sited at the north end of the island on an isthmus across which the sea sometimes burst. The accommodation was quite good, John slept in the biological hut which was a corrugated iron structure with plenty of storage space for gear, chemicals and a separate bunk room. It was quiet apart from the animal noises and was a favoured resting place for the elephant seals during their moult. It was quite normal on opening the door to go across to the canteen for breakfast to find a pod of large seals in one's path. The trick was to run straight over them: by the time that they responded and reared up one was long since gone. One of the parties decided that these animals should be excluded from the station site and, using the D4 Caterpillar Tractor and many railway sleepers, erected a 6 ft. fence to keep the seals at bay. This worked for a while until a gale banked the sand up to the top of the fence and the animals simply poured

over it to take up their long-accustomed quarters. This provided a useful lesson for the inexperienced – one has to learn to work with nature not always try and control it.

There was quite a good library, not restricted to lightweight publications, and a radiogram with classical as well as popular records. A TV was taken down but all this produced was `snow' – as if they didn't have enough of that... The cook of the 59/60 party liked his food so meals were excellent and with their big freezers there was adequate variety. In addition there were sheep on the island that were slaughtered from time to time for fresh meat. Later they were all eaten at John's suggestion as they were damaging the natural vegetation. There was also a radio link with the Melbourne Technical College and Pat and John were able to have a long talk about every 2 months. It could have been more often but the link was often poor. However, the radio men in the party were very experienced and could sometimes stitch them through via all sorts of distant links outside Australia.

There were huts of various quality up and down the island. On the west coast there was only a packing case at Bauer Bay which John used very often. It was about 2 hour's walk from the Station and was 7 feet long, 4 ft. wide and 3 feet high with a door 2ft.3" square. The previous party had never found it and the carpenter later added an annex where some tinned food, a primus stove, etc. could be kept, freeing the main space for sleeping. As users were generally wet when arriving it was quite a palaver getting organised for a meal and sleep before the annex was added. On the east coast there was a small hut at Sandy Bay, another at Green Gorge about half way down the island, a large, rat-infested crate at Lusitania Bay near the King Penguins and a rather more comfortable two-roomed place at Hurd Point almost at sea level. This was most easily approached from the plateau about 600 feet above by walking down a scree, digging ones heels into the soft morainic material. At the top some wit had erected "Engage Lower Gear" and nearby another sign announced "Shire of Hurd Point".

The CSIRO technician left the island in March on an ANARE boat returning from Antarctica and thereafter John had the island's biological programme to himself. His official task was mainly to work out details of the annual cycle and behaviour of the Royal Penguin and to search the island for banded birds and branded seals. In addition his own objectives were to investigate the breeding behaviour of the Rockhopper Penguins and of the White-headed and Giant Petrels. He also kept a daily log of biological events and activities. This was typewritten with 2 carbon copies as the

previous year's log, handwritten, was quite indecipherable. The Rockhoppers were just round the corner from the Station at Buckles Bay and he had a small group of banded and sexed pairs to work on. Some of his observations were continued the next year by a member of the 1960/61 party, the data incorporated in the resulting paper. The giant petrel observations led to the discovery that two distinct species with different breeding times were present, now known as the Northern G.P. Macronectes halli and the Southern G.P. M.giganteus which were later found to be nesting sympatrically elsewhere in the Southern Ocean. There was a great deal to do, particularly as so much time was taken in walking from one place to another. It was possible to travel from the Station down to the south end of the island at Hurd Point in a day but one needed to be quite fit as there was always a bigish load to be carried. On one occasion John took his Bolex cine camera, tripod etc. all the way down the 28 or so miles over hill and dale without taking it out of its case – he was enveloped in mist throughout the trip.

Mist and drizzle were normal accompaniments when travelling over the higher ground. There was a marked trail along the plateau winding between a myriad of tarns and lakes from the Station to the top of the Hurd Point scree. The markers were slices of beer crates stuck in the soft soil at about every 100 yards and protruding about 12 inches. On a misty day they often loomed quite large but on clear days it was quite easy when climbing up from the coast to walk right over the trail and not to realise one's mistake until sighting the sea beyond or smelling the penguin rookeries below.

There was a darkroom in the station, but, having seen other darkrooms in use by all and sundry, John took the precaution of taking with him a good deal of material of his own – chemicals and a plano-convex condenser and an enlarging lens in case the department's equipment was faulty. It was. With the help of the station engineer he built his own enlarger using a Thornton-Pickard Reflex as the main body of the machine. It was important to have these facilities as Kodaks had arranged to provide a large photographic display of the Warham's wildlife work for the use in their shops in Melbourne and Sydney. John had carried with him selected negatives and 20" x 16" mounts and planned to do the prints during the wintertime. This he did and later Kodak mounted and titled 140 or so of them and exhibited them as planned. A problem was washing these large prints. This was done using a cascade system in the station bath. John also developed and printed a lot of conventional negatives showing the station at work, for the station's magazine "Hardships" and for the Antarctic Division's archives,

and he also developed some Ektachrome material which was quite a tricky business – particularly in keeping the temperatures right.

Many of the Royal Penguin chicks banded in the 1959/60 season were back as yearlings in the next season and John re-sighted hundreds of these birds, often initially on the west coast and later at the colonies where they had been born, perhaps on the eastern one. They did not climb over the island to get there but swam around and must have fledged with an image of the characteristics of their natal colonies stored in their brains.

His Rockhopper study was done on a small group of breeding birds that he flipper-banded for individual identification. He set up a hardboard covered hide overlooking this group, partly to allow him to move about without alerting the birds and partly as a protection against the weather. The station carpenter was a big help in such projects. Some time was also spent watching the local Antarctic Terns at their nests on isolated stacks again near the Station. Other party members also helped to get a hide onto one of these stacks, backing the trailer and the Ferguson tractor through the surf to do that. About 2 hours hard walk further south his group of White-headed Petrels had burrows on the open feldmark but, while he did get some useful information from his efforts, a plan to watch their activity underground by building a “dark hide” over a burrow was thwarted when, after a big blow, he found pieces of hardboard sliced into the ground far from the major nest site: despite being tied down firmly, the hide had disintegrated to the four winds. The nest, however, was quite secure and the cameras inside were, fortunately, in tins and undamaged. Such setbacks were inevitable.

Further off, about 3 or 4 hours hike from the Station, he put up a tall hide to watch a group of giant petrels (now known to have been halli) with nests scattered among rocks and tall tussocks on the west coast. In this instance much of the timber used was from jetsam cast up between rocks helped out by planks carried from the camp with “Malthoid” to give a waterproof cover. One advantage of this was that, by shifting some of the huge tussock tumps, a hidden approach to the structure could be gained without alerting the birds he overlooked.

The changeover starting on 4 December 1960 was preceded by a spate of letter writing. The new party included two biologists – Tony Evans, a limnologist, who was down until the Antarctic relief ship passed by in March to plan his year-long studies starting in December 1961 and Keith Watson, an entomologist, a permanent member of the

1960/61 party. Both helped John in his projects from time to time. Meanwhile John had received permission to stay until the March 1961 relief ship passed by: this would allow him to see the breeding cycles right round and check up on points missed the previous year when domestic activities at the station hindered some aspects of his work.

Work slackened off during the winter. The penguins had gone except for the King's chicks down at Lusitania Bay and so had the mollymawks and most of the skuas but there were still Wandering Albatross chicks to weigh and, unexpectedly, the giant petrels continued to occupy their colonies long after their chicks had flown, some indulging in nest-building during the autumn in places where there had been no nests in the spring. The local Starlings were now more obvious as they flocked and a group of about 250 birds was sometimes encountered. A characteristic of all these self-introduced birds and the odd Blackbirds that were encountered was their extreme shyness. The Starlings, for instance, feeding on the coastal moss hundreds of yards away, would fly up in alarm when anyone popped into view over a ridge while a Blackbird at Bauer Bay managed to escape proper observation time and again before being caught in full view.

During this time John did a lot of writing including many of the species accounts for the projected "Handbook of Australian Sea-birds" being written in conjunction with the Serventy brothers, a work that didn't see publication until 10 years later.

On 22 October 1960 a party of at Hurd Point heard an aircraft flying overhead. It was obscured by the mist but was heading south. This was duly reported back to Melbourne in that evening's sked but everyone there said there was no such plane. They didn't explain how so many of us could have been mistaken and when we back in the city we discovered that there had indeed been a plane going to Antarctica and it had struck some trouble in the process. On 4 August quite a large iceberg appeared and disappeared after two days stuck on the reef between the Judge and Clerk and North Head. They estimated that it was probably 150 feet high and 250-300 feet long at the waterline before it began to dwindle away.

Macquarie is of volcanic origin and natural erosion is rapid and visible but, although we were warned of a possible tsunami after an earthquake in Chile on 26 May, the only shake John felt was when he was sleeping in his Bauer Bay crate and he wondered whether he was going to be tossed into the sea. The tsunami alarm induced the authorities in Melbourne to instruct the party to shift the Station radio to the top of

Wireless Hill nearby in case of flooding, but this radio was a massive affair with big valves and would have taken several days to dismantle let alone shift, so they just hoped for the best; in the end there was no detectable effect on the seas locally.

On 6 March the party had a `ding' to celebrate John's hundredth ascent of Gadget's Gulley: he was getting ready to return to Australia, but had learnt on 27 February that the "Magga Dan" was stuck in the ice off Chick Island. However, the ship appeared on the horizon on 12 March and no sooner had it anchored than a helicopter landed near the Biological Hut and Dr Philip Law, Director of the Antarctic Division, stepped out and asked John whether he was ready for the aerial count of the penguin colonies. Apparently everyone on the ship had known of this project for weeks but typically no one at the Station and particularly the person detailed to do it knew anything about it. Anyway he was soon aloft lugging a notebook and a Fairchild F24 camera and sailed down the west coast taking shots of the colonies on which he had worked during his stay. The project was not a success. The helicopter and its racket startled the birds which tended to move from their sites and crowd to one side, while the quality of the negatives was inadequate to count heads: too much vibration. However, it was a new experience to be leaning from the open door of the machine high above the rugged terrain while tethered by a harness to the plane itself. It was also somewhat alarming as the pilot flew close to the hills despite near gale-force winds and evidently did not appreciate how dramatically these winds can change direction. It was tricky getting down to the ship's helicopter deck and the party below watched anxiously as they sidled in. The next day was too misty for any penguin helicopter flights but John did get a very bumpy flight round North Head and Gorilla Rock to look into crevices for signs of nesting Cape Petrels: none was seen.

The following day the ship set sail and after a fairly rough but typical journey John was back in Melbourne 7 days later.

Before getting down to writing up much of the Macquarie research John and Pat had a short break in Tasmania where the Fauna Board staff helped to show them something of the countryside around Launceston, the Huon Valley, the view from Mt Wellington, down to Coles Bay with side trips to Moulting Lagoon, much of this in mist or heavy rain. Quite a few new birds seen as well as some familiar ones like the White-breasted Sea Eagles first seen on Pelsaert Island. In Hobart Michael Ridpath showed them his research project on the Tasmanian Native Hen. They also visited Eric Guiler in his house on the

outskirts of the city learning that no less than 9 different species of marsupials had been found in his garden!

Back on the mainland they spent several weeks at CSIRO Gungahlin in Canberra, working through the Macquarie data. They still had their truck which had been left at the Antarctic store in Melbourne during John's absence overseas. A visit to Sydney from Canberra via Goulburn and the Hume Highway followed. Here they met 'Lofty' Hinwood, a famous birder of his day who took them to some of the bird habitats thereabouts and introduced us to one of the local Lyrebirds with a nest and egg and, on the coast, to the habitat of the Rock Wren. Back in Melbourne in between writing up the Warhams revisited Sherbrooke, seeing about 15 Lyrebirds in one afternoon, many displaying and demonstrating their mimicry abilities. Notable here was the tameness of the Yellow Robins, one of which settled on John's arm to grab some crumbs. "Spotty" was the familiar Lyrebird of those days who could be followed around without any difficulty while younger birds took cheese from a hand without a qualm.

They visited Phillip Island to see the shearwater and penguin burrows, also a fur seal colony at The Nobbies and a wired-off sanctuary near Pyle where about 200 White Ibis came in to roost and where translocated Koalas were eating out the tops of the eucalypts.

They embarked on the "Wanganella" for New Zealand on 28th July 1961, seeing masses of White-faced Storm Petrels during the first part of the journey. On reaching Auckland on 1 August they were given a series of addresses of birdworkers by Ross Mackenzie which were very useful as their reputation seemed to have preceded them. In the result they got a good introduction to New Zealand's birds and specialities such as the New Zealand Dotterel on Pakiri Beach, Pukekos everywhere, gannets off Muruwai Beach, many very tame Wrybills on the Manukau Harbour, Tuis around Rotorua where Black-billed Gulls seemed to be nesting on quite hot soil behind the Ward Baths, Paradise Duck and Banded Dotterel around the Wairoa River. At New Plymouth an essay at whitebaiting was a failure – only one fish fell to their net! In Wellington they had a few days staying with Fred Kinsky of the Dominion Museum and having some useful discussions about Macquarie Island with the Director, Dr Falla.

During the train journey from Picton to Christchurch they were struck by the majestic appearance of the mountains behind Kaikoura and they made out several species new

to them en route – Black-fronted Terns on gravel river flats and White-fronted ones near Goose Bay, etc. On the Summit Road overlooking Lyttelton Harbour they mistook the calls of Californian Quail for shearwaters! After staying for a few days at Pleasant Point they entrained for Dunedin where a highlight was the Yellow-eyed Penguins of the Otago Peninsula. After a few days at Queenstown a country bus took them to Hawea to be rowed across the lake with snow flakes the size of half-crowns falling, to Dingle Burn station where they stayed for about a week getting the feel of a back-country property. A trip through to the West Coast via Haast Pass was quite rugged and the bridge over the river linking the West Coast road was still being built. Then back to Timaru by bus via the Mackenzie Country and to Wellington where they visited Soames Island in the Harbour with Fred Kinsky to see his project on the Little or Blue Penguins; John was surprised to note how small and easy to handle these birds were in contrast to their Australian counterparts. At Kapiti Island off the west coast they were housed in a whare or hut near the caretaker's home. New birds were the tame Kakas and flocks of Yellowheads and Red-capped Parrakeets feeding on blossom and dropping flowers onto the forest floor. Here Blue Penguins were evidently nesting quite high up as they wandered inland under dense understorey in almost complete darkness and evidently could navigate quite effectively under these conditions.

By 20 October they left Wellington for Auckland on the "Southern Cross" trailed by the usual motley throng of giant petrels, Cape Petrels, odd Flesh-foots and macroptera, assimilis and possible griseus with several Royal Albatrosses seen at a distance with 3-4 Wanderers.

Departing Auckland on 22 October Fiji was reached on the 25th. The Warham's spent an instructive day in the countryside around Suva where introduced Crested Mynahs and Red-vented Bulbuls were very obvious birds, but of more interest were the White-rumped Swiflets, Broadbills, Parrot Finches and various honeyeaters. A day in Tahiti on 29 October produced nothing of particular zoological interest but was certainly scenically dramatic with its notched skyline. Through the Tuomotos there were White terns and noddies but crossing the Pacific little was to be seen until north of the Equator when various boobies began to be common, mainly Red-footed and Brown, some frigate birds and various petrels including P.pacificus. In Panama there were many new birds and a hummingbird even appeared by the ship before they reached land, and along the Canal many waders, Turkey Vultures everywhere and frigate birds circling overhead. On arrival at Port Lauderdale they took a Greyhound bus to Homestead for a day in the

Everglades guided by Bill Robertson, then working on Sooty Terns (among other things). On the way there were several species of herons with more in the Everglades which was recovering from the previous year's hurricane with many mangroves flattened and killed. Among many others were Marbled Godwits, White Pelicans, and mobs of Louisiana and Blue Herons, American Avocets, skimmers, many hawks and, among the vultures, two Black ones. A visit well worth the effort.

Again little of note in the crossing to Bermuda where the brilliant Red Cardinals looked incongruous pecking among the sparrows on the street.

Southampton was reached on 23 November on an uninviting grey day and in due course they were reunited with all their many boxes. They now pondered their future activity. John's previous employer at Heanor was glad to see them saying John's position was open if he wanted it, but their's was really only a "courtesy call"; neither of them fancied returning to industry. Other possibilities were work with the BBC Natural History Unit, editing a planned series of natural history books for James Fisher – "Aldus Books" – getting a trade-union card by studying for a first degree, or continuing as a freelance natural history photographer. It was with the photographic possibilities in mind that they sold QANTAS the idea of hanging their "Wild Australia" exhibition in their gallery at the corner of Piccadilly and New Bond Street in the heart of London. In due course this was hung in February and March 1962, being opened by David Attenborough (then in charge of BBC2), featured on BBC TV, and so on. However, John's real interest was in research and it was James Fisher who urged him to get to university despite the financial disadvantages of such a course and in 1962 he entered the honours school in the Zoology Department at Durham. In the interim they attended the first Conference of Antarctic Biology in Paris where John (as an Australian representative) gave a paper on the biology of the petrels which was well received.

Their furniture had been stored with various relatives during the Australian tour but there was a great shortage of unfurnished accommodation in Durham. Eventually they bought a terrace house due to be demolished for road widening in 8 years' time. It was a very convenient roomy place with a big cellar that served as a darkroom and where they installed a coke stove to heat a large radiator in the hall. They had also to put in a WC in the bathroom, and so on. The house was very dirty, but some of their fellow students helped clean the place up, one of whom, washing the floor suddenly exclaimed "Hey, there's a pattern on this lino!"

John had financial help for his course fees etc. through his local County Education Committee (in those days available whatever the student's age), while Pat went to work at a hospital.

The time at Durham was well spent, the ecological aspects of the work very appropriate and John could draw on his field studies and publications in handling the projects and exams, something the younger folk on the courses lacked although most were better qualified and more up to date academically. In his finals his oral examiner, Prof. J.Z. Young, commented that he couldn't remember another undergraduate quoting his own papers in his final exams. John's major tutor, John Coulson, was a brilliant and very productive biologist, whose studies of a colony of Kittiwake at North Shields became a classic of ornithological research. This ocean-going bird had increased in recent years and, with its natural breeding sites on cliffs overcrowded, had taken to nesting on the window sills and roofs of houses, castles and other artificial ledges. A colony on sills of a warehouse overlooking the Tees River was a major project. By inserting shelves half way up the windows extra nest sites were created and their gradual occupation could be followed and a wide range of controlled experiments conducted. This was one of the excellent teaching projects available at Durham. During this period John visited the Farne Islands on several occasions, the Aberdeen University Field Station at Newburgh, Eynhallow in the Orkneys with George Dunnet, Pembroke, Hilbre Island, Cheshire for waders, and the Warham's also toured northern Spain in their Ford Prefect car during the long vacation of 1963. During these study years John found time to work at the Edward Grey Institute in Oxford and at the Natural History Museum in Cromwell Road meeting fellow ornithologists and using the library facilities. He worked particularly on biometrics of the Procellariiformes, relating various dimensions and variables of breeding biology to body size.

Also written during this period while a student was a second edition of the "Technique of Bird Photography" and a new work, "The Technique of Wildlife Cinematography".

The view from the Durham home was particularly appreciated by visitors from Australasia as it was dominated on the one side by the Cathedral and Castle, regarded as one of the major views of Europe, and, in contrast, on the other by the viaduct carrying the London – Edinburgh railway. Among others Lance and Agnes Richdale came through as did Dick Selby from Kallista near Melbourne.

After graduation in 1965 with first class honours John sought a university post. He was well referenced with 3 F.R.S.s as sponsors – David Lack, J.Z. Young, and Charles Fleming, as well as his own H.O.D. Prof. David Barker, and he accepted the offer of a lectureship in the Zoology Department of the University of Canterbury, Christchurch, New Zealand starting in January 1966.

Here John's research initially concerned crested penguins. He had already worked on two species, the Rockhopper and Royal Penguins at Macquarie Island and in New Zealand could find all the other members of the genus. One species actually nested on the "mainland" and before shifting he had determined that the place to work was at Jackson Bay on the West Coast of the South Island. This was 360 miles from his base in Christchurch and, at first, a long drag over very rough roads in a Ford Prefect car they'd shipped from England, a car never designed for such conditions, but which served until he got a heavier vehicle by which time there had been some improvement in the road. His study at Jackson Head lasted for 5 years.

After a few months in Christchurch getting his bearings he started to look at the possibility of getting a party to The Snares, one of the world's most important breeding sites for seabirds. A previous group under Prof Knox had built a small hut there for subsequent parties. One of the attractions of Canterbury was the desire of the Professor to extend the Department's research on the subAntarctic islands and John, with his experience, had been appointed partly with a view to his organizing appropriate programmes. However, this did not go down well with some of his fellow zoologists who got the idea that most of the Department's research funds would be diverted to studying the ecology of The Snares and similar programmes. Although he'd only been in the Department a matter of months John knew that this sort of dissension could be very unproductive. He did what he'd have done as a works manager – called a meeting to explain what was planned. This cleared the air although it wasn't long before the main objector got himself a U.N. position with decent and untaxed salary. Later he took over the chair in zoology at another New Zealand university where the department was in a mess because of disagreements among senior teachers. Getting everything back on the rails must have been a mighty task but he did this, creating one of the most productive zoology departments in the country.

Another advantage of moving to Canterbury was that it was possible to do a “staff” Ph.D over a 6-year span. To unravel the breeding phenology of all the crested penguins would form a suitable concise topic. However, the other two species bred on islands to the south of New Zealand and to get to grips with these meant organising expeditions to The Snares, Campbell and Antipodes Islands. Summertime expeditions with government biologists, university colleagues and students were run in 1967, 1969 and 1970. Today government agencies run conservators and others to these subAntarctic Islands most years costing N.Z. taxpayers thousands of dollars. In John’s day the government departments weren’t interested in these islands and much of the tiny finance for his expeditions came from non-New Zealand sources like the Nuffield Foundation and Trans-Antarctic Fund. There was never any money to hire boats, getting to and from the islands was in three ways, a. by inducing fishermen to take them there in the hopes of finding new crayfishing grounds (none ever did this twice – the heavy seas and lack of anchorages were very off-putting), b. getting the U.S. Navy to drop them off as, in those days, a frigate or destroyer was stationed half way between southern New Zealand and Antarctica in case one of the planes flying personnel to the ice had to ditch, and c. getting the New Zealand Navy to take and return them during routine tours of the southern islands. Later, when their value in demarcating New Zealand’s Exclusive Economic Zone (EEZ) became clear, the government became much more interested in having people on the islands and money became available quite readily, but too late for John’s work. During these early expeditions in addition to the penguin work John found time to examine facets of the lives of some of the petrels breeding at these places.

As he found himself having to examine post-graduate theses John decided to write one himself and put together the data he’d collected in the U.K. and elsewhere on the relationships between body size and other variables among the tubenoses (their weights range from about 19 g to 8 -10 kg). The various relationships, many of them allometric, formed the basis for an M.Sc. thesis from his parent university, Durham. In some ways this was a more enterprising piece of work than the later penguin one, but the latter took up much of his free time and he missed out on getting the biometrics results into print at a time when such relationships were beginning to be examined in other groups.

In New Zealand the Warham’s visited some of the offshore islands to collect data on the petrels breeding there – e.g. Great and Little Barrier Islands, the Poor Knights, Stephenson I., Portland I. off the North Island, Motuara Island in Queen Charlotte Sound and Motunau I. off the east coast of the South Island. At Open Bay I. off the West Coast

near Haast he had a hut built for biological workers in conjunction with the then Wildlife Service. It has been used mainly by students studying the resident fur seals. At Motoremu I. in Kaipara Harbour, with no other boat visible when they landed, they heard voices below them as they clambered up to the crown of the island. They rested while 3 burly characters caught up with them. These were local policemen intent on finding a reported cannabis patch and, seeing our boat, had thought themselves onto a `fair cop'. The healthy crop was well hidden on the top of the island, the plants uprooted and taken away for evidence. The Warhams never learnt whether the growers were ever identified.

During study leaves between 1973 and 1980 the Warham's work took them to a range of seabird habitats – Cleland Island off British Columbia and other islands in the Strait of Georgia, Grand Salvage Island in the central North Atlantic where Christian Jouanin and his colleagues worked on the Cory's Shearwater, Skokholm off the West Wales coast, Cabbage Tree Island off New South Wales and Norfolk and Lord Howe Islands. John also spent some weeks on Midway Atoll in the North Pacific in 1980 working on the petrels there and he was involved in a successful project to establish a new breeding colony of Laysan Albatrosses at Kilauea Point, Kauai, Hawaii. Midway was then an important U.S. base with networks of aeriels to check on radio traffic and his visit required the approval of the Commander of the Pacific Fleet. It involved a 1,300 mile flight in a windowless plane up the North-western Chain of the Hawaiian Islands. According to the ground staff they landed with a Laysan Albatross squatting on one wing! Once ashore the station staff were very helpful, providing bicycles for shifting around etc.

When overseas Pat's contacts were often more useful than John's. For instance, coming into Honolulu on 20 August 1973 they discovered that 25,000 U.S. Legionaires were having their annual get-together in the city, the centre of which was closed, their hotel inaccessible. This was said to be the largest meeting ever held in Hawaii. However, as a member of the Pacific and South-east Asia Women's Association (PASEAWA), Pat had been corresponding for some years with the Hawaiian branch of that organization and on emerging from their plane with many others the Warhams were called out from these and escorted through customs, agriculture etc. and delivered to a PASEAWA member who took them home, gave them a bed and a run around Ohau. They never saw their hotel. It was only some time later that Pat learnt that her correspondent was the granddaughter of the last Hawaiian Queen, a person of considerable influence in that State who had been in Korea during the Warham's visit.

And, during the next month while in New York, they met the president of the PASEAWA branch there which had an office in the United Nation's Building as an NGO. She showed them round that establishment on 24 October 1973 and gave them tickets for a forum that day on "World Development" attended by journalists from many countries. For one thing, the U.N. Council was keen to find out why some countries were most reluctant to contribute to efforts in helping struggling countries in Africa and elsewhere. This invoked much waffle from some of the journalists until Peter Jay of the London "Times" said that this was all a waste of time: everyone knew that the main reason was the way in which much of the money given was 'diverted' into the pockets of politicians and officials with little reaching the poor being targeted. Loud applause. The Australian chairman seemed quite nonplussed by such candour.

After this meeting they were being escorted to a tea room when the group they were with suddenly encountered another stream of senior U.N. staff on their way to their particular feeding spot. There was quite a lot of congestion and John, stepping back to let some character with hands full of tea cups pass, trod on Secretary-General Kurt Waldheim's foot! He gave John a nasty look. According to Pat, John went white... In those days Waldheim's history as a Nazi wasn't well established, otherwise maybe John should have trod harder! It isn't every day that a simple lecturer gets to stamp on what might well be described as the most powerful man in the world.!

The day was by no means over because an unscheduled meeting of the Security Council was called for the afternoon. It concerned the Yum Kappur war then in progress. The Warhams were guided into excellent seats by their hosts, seats where the journalists normally sat, but the place was crowded because the last time such a sudden meeting of the Council had been called was back in the days of the Cuban missile crisis. Waldheim was in the chair, of course, and the many delegations each had their posse of advisors while a group of translators in the gallery ensured that everyone could follow what was going on. The whole episode was quite an education.

Four days earlier John had met Dr.A. Brown who was starting a U.N. programme on "Islands for Science" and Dr. Maurice Strong, Director of the U.N. Environmental Agency, in order to draw their attention to the importance of New Zealand's SubAntarctic Islands, particularly for their wildlife: this was before the concept of EEZones would

make them important markers for a vast oceanic territory for which New Zealand would become responsible.

Most long leaves were timed so that John could participate in international meetings. For example he took part in the first SCAR (Special Committee on Antarctic Research) meeting in 1962 (as an Australian representative), his paper being well received. On arrival in Paris, Dr. Bourliere, Professor of Medecine, presented overseas members with pills to stave off 'la grippe'! And they were needed! Later, in 1978, at the 17th. IOC (International Ornithological Congress) in Berlin it was an honour to chat over breakfast with Nobel Laureate Konrad Lorenz as well as to meet Mrs. Heinroth, herself a distinguished scientist and the wife of the "Father of Modern Ethology", Oscar Heinroth having been himself Lorenz's tutor.

John was expected to give talks in biology and zoology departments about his work and often had one of his films to screen. At a big meeting of the American Ornithologists' Union in Provincetown, Cape Cod a new experience was to show a film of The Snares to about 500 people in a skittle alley! On another occasion, as he was being taken to Harvard to talk in the Museum of Comparative Anatomy he had a bit of a shock when his host casually (?) remarked that "of course there'll be Professors Gaylord Simpson, Ernst Mayr and C.Darlington present, among others". Fortunately John was talking on Antipodes Island, a topic on which he was well able to handle any questions.

Much of the work during these study breaks involved examining specimens in the museums of the U.K., France, N. America, Japan and elsewhere. One big advantage of working in the American Museum of Natural History in New York was that they were given a key to the bird collections so that they could work at week ends and at night if needed – there was always more to do than time allowed during these study leaves.

In 1983 John learned of a plan by a rich American to buy Henderson Island in the Central Pacific, part of the Pitcairn Group and controlled by Britain. This man hoped to put in an airstrip and build a house for his family. Its purpose, to get away from the nuclear fallout which he anticipated!

Although Henderson had never been properly examined, it was known to be an important breeding place for some tropical seabirds, but its extreme remoteness and lack of fresh water seemed to provide adequate protection. John immediately jumped to

and alerted Baroness Young of the Foreign & Commercial Office in London, as well as fellow ornithologists. As expected, London seemed to know little about the place, but anyway the various pressures not to let the island go were successful and also raised the interest of other scientists and eventually the Royal Society mounted an expedition there so that its geology, flora and fauna are now quite well documented. There was evidence of earlier attempts at settlement but, with no fresh water, visitors would have died of thirst or be forced to leave, probably to meet the same fate.

Most of their work in Australia and New Zealand was written up in the scientific journals, some of the photographic aspects in "The Technique of Bird Photography", 4th ed. 1983 and "The Technique of Wildlife Cinematography" 1966. For profiles see 'The Photographic Journal' (1985). 125(6): 268-272; Slater, P. (1980). "Masterpieces of Australian Bird Photography", p.100; 'Emu' (1992). 92(2), p.122 "Who's in Ornithology", p. 392. 1997. (Ed. Pemberton, J.E.); Notornis, 46(3):414-416 (1999) and 'Pacific Seabirds' (1999), vol. 26(1):13-14. During his early years in New Zealand John took an active role in the affairs of the N.Z. Ecological Society, as a councillor on its conservation sub-committee and president of the society in 1973. His D.Sc. from Durham was gained in recognition of his contribution to our understanding of the biology of Australasian seabirds.

John retired in 1985. He was then a Reader in Zoology. The Warhams had not planned to retire in New Zealand. Rather they'd hope to end their days in Exeter where Pat had been born and where John would be able to get a desk in the local Biology Dept. with Xerox and similar facilities. Also, from Exeter one could get to London, work in the libraries all day, and get back to Exeter in the evening. This wasn't to be. When they'd come in 1966 they received more or less one N.Z. pound for every British one they brought, but by 1985 the N.Z. currency had fallen to be worth only about half of the the British money. Despite an unexpected 'golden hand shake' from The University, to get a decent house in Exeter would have required digging into their savings since the returns from the sale of their Christchurch home wouldn't cover the cost of one in Exeter. So, reluctantly, they elected to stay put.

In retirement his major task was a 2-volume work on tubenosed birds – the albatrosses, mutton-birds and other petrels – "The Breeding Biology and Ecology of the Petrels", 452 pp. (1990) and "The Behaviour, Population Biology and Physiology of the Petrels", 613 pp. (1996). He also produced a bibliography of these birds from Aristotle to the present.

This now holds some 14,387 fully key-worded citations and is generally available via the Internet at :-

<http://www.zool.canterbury.ac.nz/people/warham.shtml>

without charge. It is intended that the ASCII files be downloaded into the users' own PCs and searched via the allotted keywords by whatever search programme is in use.

This file also contains John's autobiography.

John Warham is an Honorary Member of the British Ornithologists' Union, a Corresponding Fellow of the American Ornithologists' Union, a Senior Member of the Committee of the International Ornithological Congress and a Serventy Medallist and Honorary Life Member of the R.A.O.U. He was elected a Fellow of the Royal Photographic Society in 1957 and of the Ornithological Soc. Of N.Z. in 1999 in which year he was awarded the Kenyon Lifetime Achievement Award of the Pacific Seabird Group at their annual meeting near Blaine, Washington.

His 16 mm. Films "SubAntarctic Sanctuary" and "At the Edge of the Coral Sea" covering his stays on Macquarie and Raine Islands respectively are in the Australian Film Archive, his exhibition "Wild Australians" with the R.A.O.U. in Melbourne, films on The Snares (Tini Heke) and Antipodes Islands are deposited in the N.Z. National Film Archive. The large collection of scientific papers and reprints on tubenosed birds is housed in the Alexander Library of the Edward Grey Institute in the Zoology Dept. of Oxford University, a selection of black and white prints and some colours are in the "Vireo" collection of the Academy of Natural Sciences of Philadelphia and some exhibition prints in the permanent collection of The Royal Photographic Society, now in the National Museum of Photography in Bradford, England. His biology log from Macquarie I. is in the National Archives in Canberra, copy in the University of Canterbury archives which will also be getting his field note books as well as Pat's diaries which fill in a lot of the human details of their travels. Included are 19 albums comprising a photographic autobiography of his life, 1919 - ???. Each photograph is dated and properly annotated with the negative number in the case of black and white prints.

Looking back, apart from his wife Pat, without whose help he'd have achieved little, a few people stand out. At Grammar School his English teacher encouraged his catholic reading, e.g. he tucked into Ibsen's plays, reading them all over 3-4 weeks; ditto for Bernard Shaw's prefaces, and so on. In Australia he had support from CSIRO officer Dr. Robert Carrick who had been a former member of the ZPC before emigrating, while Dr.

Dom. Serventy, also of the CSIRO was equally helpful in various ways and particularly in helping to get the Science & Industry Fund grant that largely covered their expenses in Queensland and Central Australia. Back in Britain it was James Fisher who persuaded the 42-year old to tackle his first degree and obtain his `union card'. Finally, at Durham he had one-to-one tutorials with his head of department Prof. David Barker, who, when approached for a reference to a post in an Australian university that shall be nameless, refused to provide one, saying "You can do much better than to go to that dump"!

Christchurch, September 2007.

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