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Afring News accepts papers containing ringing information about birds. This includes interesting ringing trips, interesting captures, faunistic observations relating to ringing, analyses of ringing data, and reports of projects and conferences that had a ringing component.

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HOW BIRD RINGING LED TO RESEARCH IN BIOLOGY

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HOW BIRD RINGING LED TO RESEARCH IN BIOLOGY

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It is a fairly long story. When I started writing this article the focus was on where I was now. I soon realised that I needed to start at the beginning, more or less, anyway. I think that I have always been interested in birds. After my graduate years in physics, mathematics and computer science at Rhodes University, I was very fortunate to be offered an opportunity to spend a year in the Antarctic, involved in upper atmosphere research. I remember well my fascination with seabirds on the voyages there and back, particularly the gracefulness of the albatrosses, and in Antarctica itself, the South Polar Skua *Catharacta maccormicki*, Adelie *Pygoscelis adeliae* and Emperor Penguins *Aptenodytes forsteri*, the Antarctic *Thalassoica antarctica* and Snow Petrels *Pagodroma nivea*. The year after returning home from the Antarctic I went to Gough Island, south Atlantic, still as a physicist. On this trip I was fortunate to meet some very inspiring people who took my appreciation of ocean life and seabirds to a new level; they were John Cooper, Tom Hecht, Graham Ross, Peter Ryan and Barry Watkins. I had more enthusiasm than knowledge which may be what led John to invite me to be part of a Wandering Albatross *Diomedea exulans* ringing team during our stay on the island. I was delighted. It was my first ringing experience, and we ringed 48 chicks on their nests. A while after coming back from Gough Island I joined the Diaz Cross Bird Club in Grahamstown, and then met Adrian Craig and Pat Hulley. After some years in the club, they got me really interested in bird ringing, and with a new perspective - I could actually become a bird ringer myself. After a couple of years of mentoring I obtained my ringing license (29 July 1997), and started my own records on 9 November 1997 with an African Hoopoe *Upupa africana* in my garden; how lucky can you get! My next catch was the then “Bully” Canary *Crithagra sulphurata*. I became particularly curious when I saw that there were an increasing number of birds around in my garden with rings on their legs. It could be no coincidence. I cannot remember where the idea of colour-ringing came from, but possibly individually marked Atlantic Yellow-nosed Albatrosses *Thalassarche chlororhynchos* on Gough Island and/or conversations with Adrian and Pat. I began colour-ringing Olive Thrushes *Turdus olivaceus* in my garden in 1998. Dieter Oschadleus and Cynthia Best advised me on how to undertake colour-ring projects. The recording of moult had been an essential part of my ringing training, and in October 2000, I accompanied Pat on a trip to visit Les Underhill in Cape Town to learn how to use a moult analysis model that he had developed with Walter Zucchini. On our return we used this model to further analyse moult in sympatric seed-eaters and I was invited to co-author a paper on this study, my first publication. I have been very fortunate to live in a university environment that offers such opportunities. Our initial investigation of Olive Thrushes then led me to a M.Sc. in zoology with Adrian as supervisor, and it was during this time, as a student again, that Adrian and I attended the 11th Pan-African Ornithological Congress in Tunisia. Here, I co-incidentally met Sébastien Jaquemet whom two years later, I accompanied to Marion Island to work on albatrosses, while he was a post-doctoral fellow in the Southern Ocean Group at Rhodes University. It was a dream come true, and I had now been to Antarctica, Gough and Marion Islands. I had the pleasure of continuing fieldwork on Marion Island for another two autumn seasons, working with Maëlle Connan and Christopher McQuaid. Being the “ornithologist” in our research team, I was ever grateful to John and Peter for their recommendations and advice, drawing on their island experience and knowledge. Before all that though, and in the final stages of my M.Sc., Adrian took me to the East London Museum to investigate the *Turdus olivaceus* species complex housed there, and to meet Carl Vernon. So, bird ringing led me to running around in museums looking at stuffed birds! I will not underestimate its value. A couple of years later, while working on African Black Oystercatchers *Haematopus moquini* along the east

coast of South Africa, I was privileged to spend time in the field with Carl, who also later gave me his copy of the original “Bird Ringer’s Manual”, published in 1976. This was interesting history for me as I had started ringing with a booklet entitled “SAFRING, Guide to ring sizes, 1991, 5th revision”. I was fortunate to just escape having to submit ringing data using SAFRING SCHEDULE 1, and instead have been able to submit my data electronically. I do, however, have copies of these forms in my SAFRING file, together with instructions for new ringers on how to complete them.

Bird ringing has inspired a general interest in nearly all aspects of biology for me. It is immensely useful in the studies of population dynamics (density, survival and movement), behaviour, taxonomy, ecology and physiology such as moult. This potential of moult as a window into the physiology and even evolutionary biology of birds has become a major focus of my interests. One of the first realisations in such studies is the importance of large sample sizes in order to compare variations resulting from a multitude of non-random factors such as phylogeny, sexual dimorphism, age classes, and geographical variation. Patterns in moult are complex and despite many investigations into the control and mechanism of moult, generalisations have mostly remained elusive. The SAFRING database provides an immense resource to undertake studies that may reveal insights to many unanswered questions in this field. In 2010, analyses of SAFRING moult data led me to four publications. These were only possible because of large samples that allowed comparisons between geographical areas, and between males and females; and made possible by all the ringers who contributed these data. In one of these papers (Craig et al. 2010), 28400 records of moult in Southern Red Bishops *Euplectes orix* were compared spatially across the southern African region. A histogram (Figure 1) of these records by year shows that such a study would not have been possible ten years earlier.

However, the analyses of data that have been collected by many different individuals and over long periods of time do present some challenges, and care needs to be taken to deal with variation in records and measurements, including moult scores, between ringers. There is also a growing need for ringers to be aware of the research implications of field measurements and records. For instance, patterns of primary wing moult in the non-passerines are often very different from the typically descendent sequence seen in passerines. For me, this realisation, recently reminded me to record what I see, rather than what I expect. This is something I had been taught, but it is all too easy to forget.

In conclusion, the SAFRING database is an enormous resource thanks to all the ringers, first and foremost. But, without proper management of such data, its value would be compromised. I have over the last few years collaborated with Dieter on several studies in moult and I have enormous respect for the way that he looks after all our data.

Acknowledgements

Many names have been mentioned that have influenced my development as an amateur biologist. While the article is intended to highlight the value of SAFRING and the repository of ringing data, it also offers me an opportunity to thank many good friends and collaborators. I especially wish to thank those that stand out for particular reasons, such as continuing support and inspiration, and also significant past contributions, such as books and journals without which my research would be much more difficult. In alphabetic order these are John Cooper, Adrian Craig, Pat Hulley, Dieter Oschadleus, Peter Ryan, Jack Skead, Les Underhill, Carl Vernon and Craig Whittington-Jones.

References

Adrian JFK Craig, Bonnevie BT and Oschadleus HD. 2010. Regional patterns in moult and sexual dimorphism of adult Southern Red Bishops *Euplectes orix* in southern Africa. Ostrich 81(2): 123-128

Figure 1. The numbers of Southern Red Bishops extracted from the SAFRING database where moult had been recorded (histogram with two year intervals).

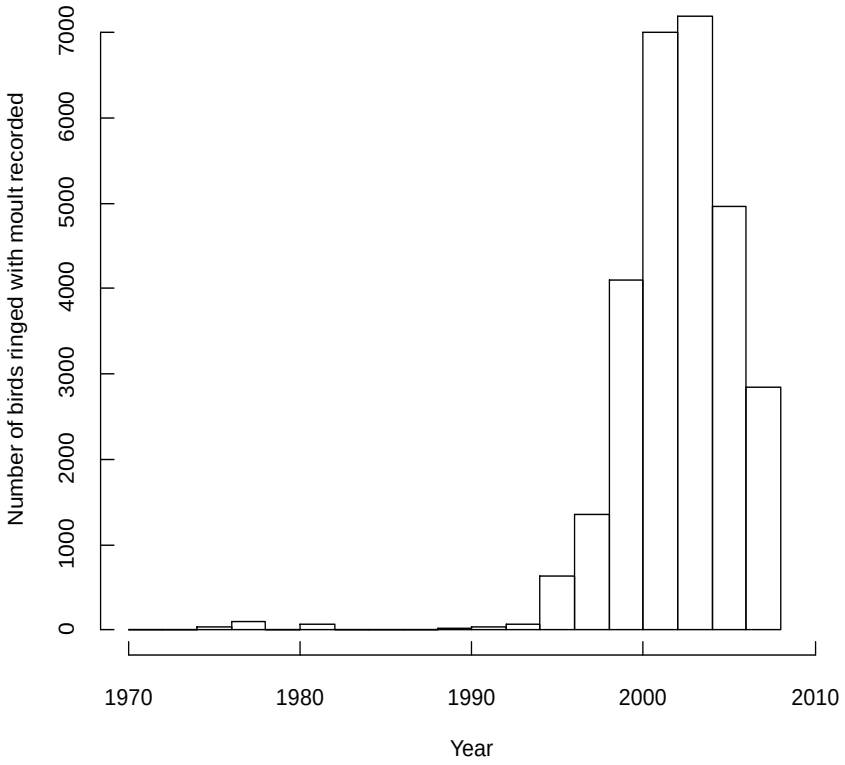

Figure 2. Adult male Southern Red Bishop with first two primaries in moult (photo: H.D. Oschadleus)