

FOURTH EURING CONFERENCE, LAUREL MD, USA, SEPTEMBER 1994

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What is an ornithostatistician? A bird-number? Is it a valid species? Perhaps it's a hybrid? Assuming that they exist, where are they to be found and how can they be recognized? Do they come in at least two sexes? Can they breed? Are they just grafted onto some sturdy root-stock rather like a fragile rose onto a briar?

The first formal meeting between a group of statisticians and ornithologists to explore common ground was organised by the British Chapter of the Biometrics Society and held in England in the early 1980's; the results of this conference were published as a book called "Statistics in Ornithology". As a result of this meeting the President of EURING asked for a meeting to be organised which would bring together statisticians specifically interested in analysing data from marked birds and organisers of a number of European ringing schemes as well as number of ornithologists.

This meeting was held in Holland in 1986. It proved to be a real bun-fight and everyone had a high time. There were some strong points of contention between opposing "schools" of statistical thought and at the end of the conference it was clear that we would meet again to watch the next round of the battle.

The next meeting was held in Switzerland during 1989 and the range of theoretical methods of analysing capture-recapture, capture-resighting and capture-recovery data had increased and a number of papers presented were directed at answering questions raised at the earlier meeting. There was still a fundamental difference of opinion as to whether or not it was possible to estimate survival if only birds ringed as nestlings were included in the scheme.

France was the scene of the third meeting during 1992 and this attracted an even larger audience from around the world. By now it was clear that there was a wide variety of models which could be tailored to suit a number of different applications. Flowing from these models were a plethora of home-grown computer packages for estimating the model parameters, however, you had to be a computer boffin to drive them! A number of ornithologists had started to use some of the techniques presented at the previous two meetings and were able to show that it was indeed possible to gain useful information from the data stored in the data banks of national ringing schemes. A major question to arise was: which model is best? Given that it is possible to choose from a large number of models, all of which seem to give good results, which is best?

Last year, Dr Terry Oatley and I went to the USA to attend the fourth EURING meeting, now the first to be held outside Europe. At this meeting less fur flew, there was more agreement on the techniques to be used and the ways in which they should be applied. Two points struck me as significant at this meeting.

Firstly, the software has matured and the number of different packages has reduced with the more powerful, more generalised packages absorbing the features of the earlier versions and variants. I would expect to see only two or three major packages at the next EURING meeting (England 1997) and it is likely that these will have ceased to be user-hostile and will incorporate ringer-friendly front-ends which will enable users to input and manage their raw ringing data as well as pre-process it into a form suitable for analysis. The analyses will then just become a matter of choosing the appropriate options. It is likely that these packages will check the data for consistency and will test to see if it fulfills the basic assumptions of the model to be applied, before the model's parameters are estimated – a necessary precaution to prevent the blind application of incorrect models. In due course I would expect the incorporation of expert systems to aid the ornithologist.

Secondly, there is now a sound theoretical basis for choosing the most appropriate model. This is based upon a well-developed statistical procedure which has been tested for its applicability to the estimation of survival rates from ringing data.

A practical issue which will impact on ringers is that of primary data capture. It is now obvious from nearly a decade of intensive debate on the subject that national ringing schemes have to capture the primary ringing data collected by ringers, not just the recoveries. From experiments conducted in Europe, at some of the national offices, it has been found that if the ringers capture their own data (both primary ringing data as well as recaptures, controls, recoveries, etc.)

then it is possible for the national office to increase its productivity (by an order of magnitude) while dramatically reducing its costs.

The British Trust for Ornithology (BTO), the largest of the European ringing schemes and one of the largest in the world, is now moving in this direction. It has developed specialised software for ringers and provides training and support. In addition, it acts as a clearing house for old and redundant computers and channels them to ringers who cannot afford their own machines. I hope that SAFRING will follow this trend in the near future.

The EURING conferences are most productive and I hope to attend the next.

STORM PETRELS AT THE CAPE OF GOOD HOPE

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My interest, like Les Underhill's (1993), was also drawn to the paper on tape-luring European Storm Petrels *Hydrobates pelagicus* in Portugal by Harris *et al.* (1993) having as I do, some painful memories of this mildly esoteric pursuit.

In 1984, I obtained a continuous loop tape of European Storm Petrel colony calls from Bernie Zonfrillo, then secretary of the Isle of May Bird Observatory off the east coast of Scotland. Bernie had surprised everyone, but not, he always claims, himself, by catching "stormies" on the Isle of May within a few minutes of first turning on a tape there one August night. There had previously been a "few old records at the lantern [lighthouse]" and single records of the species in 1916, 1922, 1962 and 1971 (Eggeling 1985), so it could hardly be considered a common species; certainly few birders believed that it could be classified as any more than a vagrant to this well-watched isle. This was in the early days

of tape-luring and ringers were only just beginning to realise what potential these tiny, nocturnal seabirds held and how abundant they, in fact, were at previously unrecognised sites. In the following years, the birds have proved themselves to be more than obliging and tens of thousands have been tape-lured and ringed at a string of headlands and islands off the British and European coastline well away from their breeding grounds.

I caught a few European Storm Petrels on the Isle of May in 1982, a fascinating experience. Thus inspired, I wondered if similar results could be had in the birds' southern hemisphere wintering grounds (waters?). Armed with Bernie's tape, tape recorder, car battery, speaker and 12 m mistnet, I installed myself for a few nights in January-March 1985 at Olifantsbos (34° 16'S, 18° 23'E) on the Atlantic coast of the Cape of Good Hope Nature Reserve. On ten nights, from 21h00 to 03h00, I caught nothing. On one night I caught a bat and, after another similarly unproductive night, I furled the net and removed the other equipment to the field centre nearby which served as my base. At 07h30 the next morning, I went to fetch my net and found that the fastidious reserve staff had