South African National Society

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NEWSLETTER & PROGRAM FOR APRIL 2016

Generals, Admirals and Statesmen of the Great War by Robin Smith
Tuesday 12th April 2016

This promises to be another all absorbing presentation from Robin Smith, who writes,

'I was fortunate enough to be in London in September 2014 to see the poppies around the Tower of London. But the real highlight of my visit was a visit to the National Portrait Gallery in Trafalgar Square. Three life-size pictures were commissioned by Sir Abe Bailey in November 1918 at the end of the Great War. They depict the Generals, Naval Officers and Statesmen of the war and for the first time in many years they have been hung together in the main exhibition hall of the National Portrait Gallery. 2014 was an appropriate year for this to finally happen. The Admirals (Naval Officers) has been the subject of a £20,000 refurbishment after being in poor condition and in storage for many years. To see the three together was quite stunning and I spent nearly two hours in this one room. But really the subject of my presentation will cover how these stunning works of art came to be commissioned, how the painters developed their concepts and how they put their themes onto canvas.

I do cover some aspects of the military, naval and political background to it all. But not much of that is really possible in a short talk.'

DATE & TIME: Tuesday 12th April. Meeting commences at 17:30. Refreshments served from 16:45.

VENUE: KwaMuhle Museum, Bram Fischer Road [Ordnance Road] Durban.

PARKING: Off Bram Fischer/Ordnance road [next to the Museum]; security person is present

The Barn Swallows of Mount Moreland by Roy Cowgill – talk given 8th March 2016
or as sub-title
The Plight of the Barn Swallow (*Hirundo rustica*) and why were we concerned?

Roy started by saying that in 2001 he was asked to do two things; firstly look at bird life at the new airport and secondly to count the swallows at Lake Victoria (Mt Moreland).

We used to ring in the swamps not far from this area and the Barn Swallows might have been there all along. But attention was attracted because of the sheer numbers of birds. It appeared few had noticed the Barn Swallows and the swamp until the airport started.

The Barn Swallow is a Palearctic migrant from the Northern Hemisphere (NH) which at the time was thought to be coming from Eastern Europe. It is a summer visitor during the period late October – November to April. This means the birds will be leaving soon.

It is a non-breeder which breeds and nests in the Northern Hemisphere.

A Migrant is a bird that moves from a breeding area to a non-breeding area. That does not necessarily mean from the Northern to the Southern Hemisphere, simply from where birds breed to where they do not breed.

Then we need to ask whether we allow these birds to be ingested into the engines of aircraft which was a big issue. One because it would annihilate the birds; two because it could bring an aircraft down; three because it would be contrary to international conventions on migration that SA has signed. So these were big questions.

We had a responsibility for the birds. If we annihilate them down here what affect will this have up there in Europe? Recapping the birds arrive towards the end of October, spend the summer here and then move off sometime in April.

So where did we start? When the swallows come in during the evening they just start collecting. A picture shows the number that one sees collecting but a photo only shows one plane and does not show the birds at the back of the picture. In fact we thought that perhaps we were only taking a shot of a quarter to as few as a sixteenth of the birds. That will not work in terms of obtaining numbers.

Then we thought let us try and to position enough observers to circle the swamp. Then we would count between telephone poles and do this over a five minute period. Why did we only count as they arrived? It was because the birds that arrived did not leave so we got that right. Then we added all the numbers together which gave us an estimate of numbers of all the birds coming in.

Next we involved some photographers; projected the photographs onto a screen which we had divided into a series of squares and brought in mathematicians to make some calculations. But at the time we were unsure how we would be able to use these.

Photo © Angie Wilken

Recapping the swallows come in to the area over the swamp for perhaps 20 or so minutes; then for 20 minutes fly round and round in this huge vortex; and within seven minutes the entire mass drops vertically like a stone into the swamp.

We also noticed that when the birds arrive in October they are quiet. However in March there is a great deal of chattering and we need to know what they might be communicating with each other and why. By the way the best viewpoint for this spectacle is actually down in the valley not on the side of Mount Moreland. Looking from the bottom one enjoys a panoramic view and can see the birds arriving from both up and down the coast.

Next I worked with a partner to do some counting. But there were rules for this. We were not allowed to communicate with each other. We alternated and were never allowed to overlap. We then had to collate all our observations and answers and submit those.

Then we looked at what the birds were doing and why. We thought that they had come from Eastern Europe so would travel 8000 km and guessed that they would take 18 to 21 days to make that journey. Note some of this is guesswork. But one of the ladies at Mt Moreland has relatives in Wales and when the main body of birds leave sometime in April the lady in Wales noted the Barn Swallows arrived there some 18 to 21 days later. But we 'knew' our birds were going to Eastern Europe so where were the birds leaving from to fly to Wales? We guessed Botswana and flying around the bulge of Africa to land up in the UK.

Then we asked how they make the journey? There is some evidence from the US that these birds will fly at night using the stars or landmarks. But we do not have this evidence in SA. So we employed some bird ringers who after experimenting with various methods perfected a trapping technique; a technique that saw them ringing birds right through the night. Handling birds for ringing allows examination of the feathers which revealed that the birds were sub-adults. In fact the birds flew to Africa when just four months old.

Swallow ringing at Mt Moreland used the numeric ring technique. Each bird is fitted with an extremely lightweight uniquely numbered aluminium ring or band. Biometric information recorded from each bird is sent together with the ring number to SAFRING in Cape Town. To reduce stress the birds are released as soon after ringing as possible although this may be the following morning as birds are not released after dark. And this is done in the hope that another bird ringer in the

Northern Hemisphere will also be capturing birds for ringing and thus allow some correlation of data.

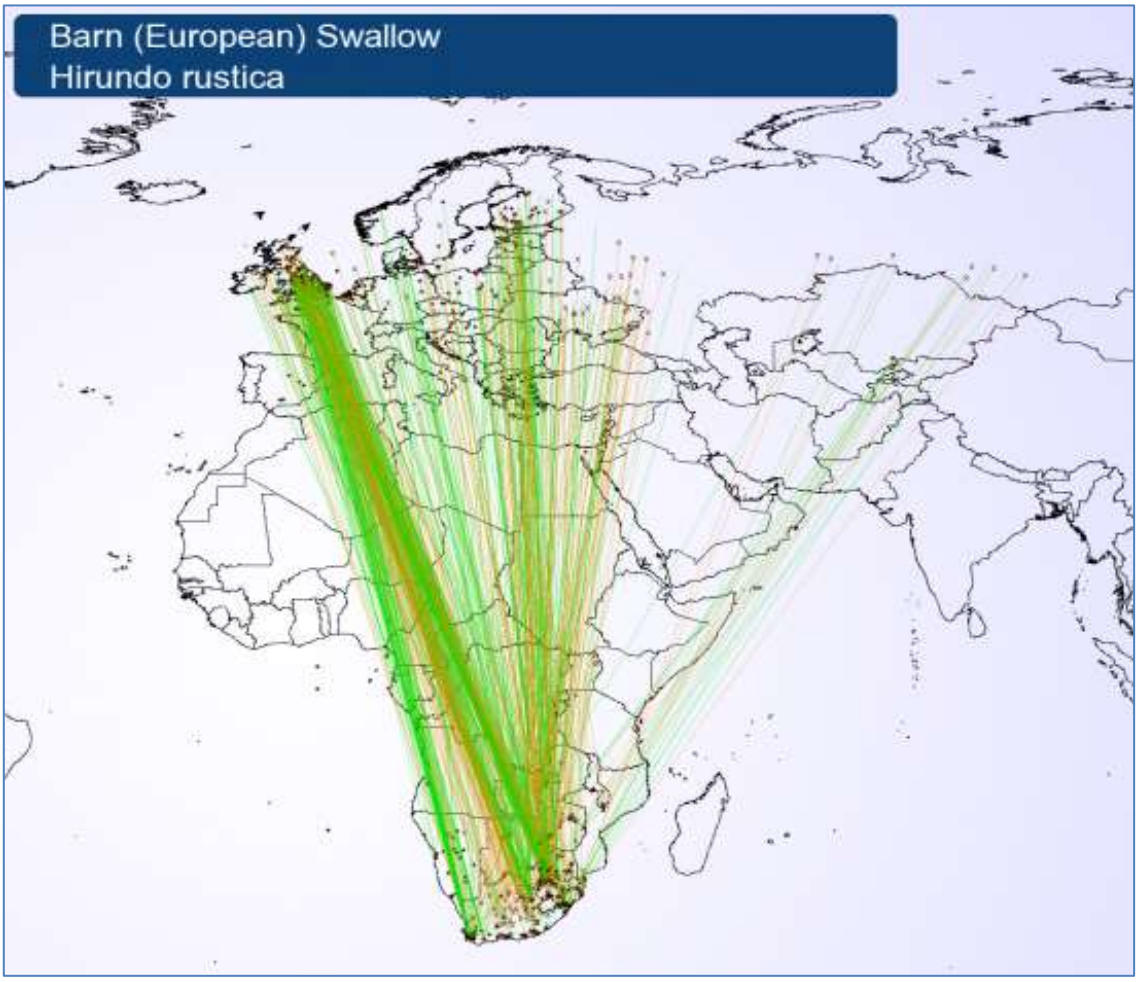
At this stage a university professor in Poland who was studying the *Hirundine* or swallow family heard about this project. His interest was in pollution. So he came out to Mt Moreland where together with the late Professor Steve Piper, and me, they took minute cuttings of various feathers, preserved them in vials and took these back to Poland for analysis. In South Africa swallows tend to hawk insect food along the highways not over the cane fields as expected. But the insects flying over highways are breathing polluted air which contains several lethal pollutants. So this research showed that whilst the birds over-wintered here we were quietly killing some of them off because of pollution.

Ringing allowed us to examine the plumage over a feather cycle, from juvenile when the birds first arrive, to adult feathers as the birds prepare to return to the north. The next task was to establish the sex of the birds, something which had not previously been done in the Southern Hemisphere. The feathers also allowed the sex of the birds to be established because the males had some small white feathers not present in the females.

The next question was which route do migrating birds follow and what is their destination?

And we asked the question, Why are the birds silent on arrival in October yet chatter noisily in March and April? Perhaps the chatter was birds with different dialects coming from different places thereby establishing which group they should join and be part of? After all breeding penguins in their thousands can identify parent and offspring in the breeding colony. In the afternoons as birds come in to roost notice that birds will often move to different places on phone wires so could we assume they are joining up with geographical groups?

We were also able to check with the Animal Demography Unit at UCT (ADU) where ringed birds had been re-trapped or rings collected in southern Africa against the original place of ringing whether in Europe or here as the ADU provided a map of recoveries. SAFRING is part of the ADU.



Map courtesy of SAFRING

Returning to birds numbers, one evening I had completed my count from 17:00 until the last birds dropped. Then, driving off in the dark to my surprise saw that the headlights were showing birds as they were flying across the dirt roads. This flagged that our number counts were still adrift. At this stage we know that Mt Moreland probably had the biggest roost anywhere in South Africa simply because there were no reports of any other. We also searched the literature for any Southern Hemisphere reports of how to count swallows but drew a blank. So we continued with the same methods on the basis that somebody would subsequently have to prove us right or wrong.

Around this time I had a phone call from Rob to ask whether I had been at Mt Moreland and counting during a particular week; and if so how many birds had I calculated as the total. Independently each had come to a total of three million birds which caused many questions to be asked by sceptics. That figure is one percent of the total Barn Swallow population. It is eight percent of the European Barn Swallow population. So the question is, where does the rest of the population go? What we did not know then was the age of the birds.

We then acquired radar from the US which took a vertical as well as a horizontal 'image' of the birds. However this was unable to count the birds and could only indicate that birds were there. It was nevertheless a system that with some human input could be used to stop or provide an all clear to flights.

Next I worked on the airport lands proper to record the bird species that occurred there including species like Crowned Eagles which were certainly large enough to do real damage to an aircraft. Our US friends provided radar images of a Turkey Vulture as well as pictures of aircraft damaged when Turkey Vultures and aircraft or helicopters collided. We pointed out to the airports company that we also had Martial Eagles and Pelicans in the area, birds which are larger than Turkey Vultures and this came as no little surprise to the company.

The questions to be answered from radar 'pictures' were, What is the safe angle of descent or ascent for aircraft if they were to land over the swamp? If the aircraft did hit a swallow or swallows then how many birds being ingested by an engine could cause a catastrophic failure and crash or would the aircraft still be able to land? What height did an aircraft need to be able to miss the swallows?

Steve Piper then acquired a huge bright pink coloured balloon which was filled with helium. Using radios we then lowered and raised the balloon until it was at the same height as the swallows flying around. Steve was a statistician so after a great many mathematical calculations it was established that 226 m was the maximum height above the swamp that the birds flew. As this was well below the flight path of an aircraft taking off or landing we knew then that the swallows were safe.

During the period of this research I was based in a building on the airport as the airport was being developed. Then we saw that following a sugar cane burn or when the long alien grassland on the airport was burnt this resulted in a generally warmer temperature over the airport which proved to be immensely attractive to the swallows. Three million swallows would leave the swamp and roost in the fields on and surrounding the airport. Bearing in mind that the birds are fattening up for the journey back to Europe this meant that an aircraft strike could prove a fatty, gooey and very slick mess.

The 24 hour radar provided additional insight into the behavior of the swallows. One day the radar specialists called to tell us that a huge mass of birds were captured by the radar leaving the swamp at 03:00. Later an equally large mass erupted and left to forage. This was followed by a third great mass sometime later. The folks operating the radar then said they believed as many as four million birds were involved, which came as vindication of our previous calculations and provided a behavioural surprise too.

Using statistics and the radar patterns the next question involved traffic patterns. We asked questions such as, Do we stop aircraft landing during the peak times of say 18:00? This was of doubtful appeal to commercial airlines. Then we looked at the altitude profile which meant asking, Do we ask pilots to fly above a minimum level and then drop steeply before landing? This might involve considerable skill on the part of the pilots and be of limited appeal to an airline as well.

A recognised test of how a jet engine can handle the ingestion of a bird is to fire a frozen chicken at the running engine. So we calculated how many swallows would equate to a two and a half kilogram frozen chicken. We also estimated how many might be ingested against a temporal scale. We knew from the radar recordings that between 03:00 and 05:00 up to three million birds left the swamp. Did these birds fly high to disappear to their feeding areas or did they fly low over the sugar cane and feed as they left? There is a considerable difference between the effect on a jet engine running at full speed and the effect on the speed it is running at as it lands. This meant that the swallow ingestion risk on take-off was likely far less than on an engine as the plane makes its landing approach. And we had to take into account that far larger birds might be preying on the swallows and therefore cause a large bird air-strike.

The control tower needed a range of options to advise aircraft of potential risk from bird interaction. Experience gained from aircraft accidents throughout the world shows that some cockpit crews do not take kindly to instructions from the control tower. This meant that phraseology needed to be used that left the decision to the Captain but provided a clear statement of the risk. The first option was say nothing. The second was simply to inform the aircraft there were a million swallows circling in its flight path and leave the decision to the captain. The third and better option was to suggest that the aircraft go round as the birds would have dropped within a few minutes. In fact using the radar and as far as I can recall an aircraft had to circle around at the last minute on just two occasions when for some unknown reason the mass of three million birds suddenly flew above the 300 m level.

Before the radar was shipped out it was installed for training purposes at the old Louis Botha Airport. This revealed a new and very large Barn Swallow roost in vacant scrubland between the oil refinery and the airport. Airports constantly operate safety vehicles along the runways to check for debris from aircraft and bird strikes amongst other things. So we knew that Barn Swallow strikes were not occurring at Louis Botha Airport. The radar operated for four days. Watching the radar we saw an aircraft leave the apron, come round and take off. We then saw that as soon as the aircraft took off the swallows erupted, took off from the roost and flew across the runway. This happened three times and each time without any collision. From this we assumed that the birds have somehow learned to coordinate their flight to avoid collisions with aircraft.

So our conclusion was that if the control tower and aircraft are provided with information and instructions we can avoid collisions between Barn Swallows and aircraft, which we have done until now. But nature has a way of throwing up exceptions which was exactly what happened when the new airport opened. The airport was opened during a very wet and cool season. And the numbers of birds roosting at Lake Victoria was probably just 100000. Some people tried to blame this on the opening of the new airport but this did not entirely make sense. Calling on birders from far and wide we searched vast areas and discovered literally hundreds of normally dry areas had become small wetlands. The swallows took advantage of these and literally hundreds of smaller roosts appeared.

One year on and swallow numbers had really plummeted at Lake Victoria. Why was this? In nature fire will race through an area of moribund dead reeds enabling fresh growth to appear post fire, but the frog people objected to a reedbed burn so it took three more years for the swamp to regain its earlier condition and the swallow numbers to return to the previous levels. And the cooler weather affected insect numbers so food levels were depressed too. We had a report from Finland of one of our Barn Swallows, which is in Western not Eastern Europe and hope that in time we will receive more reports to improve the pattern of where our birds go.

The development of the airport did affect many species including 12 in our Red Data Books. These were species such as the migratory Corncrake, the Black Coucal, and one reptile. A part of the airport's licence specified the requirement to replace habitat which had been destroyed and thanks to some vigorous campaigning on the part of an eThekwini Councillor this is likely to happen soon.

And then we had a truly exciting discovery. One day the airport's environmental officer saw a small bird struggling so caught it, photographed it, recorded its call and fortuitously collected faeces which allows for DNA analysis. It was then released much to the chagrin of the many birders around Durban who have sadly never seen the rarest of Africa's birds, the White-winged Flufftail.

Transcribed from Roy Cowgill's outstanding presentation by Hardy Wilson, who apologises for any errors of interpretation.

Report back on the Mt Moreland Outing – 15th March 2016

Many of us who had enjoyed Roy's amazing presentation of the week before went to view the Barn Swallows at Mt Moreland a week later. The evening was quite overcast so the birds were rather harder to see than normal but they were still there even if in slightly fewer numbers and after circling round and round plummeted into Lake Victoria's reedbeds in the usual spectacular fashion.

Barn Swallows plummeting down to roost at 18:18 on 15th March
A clearer image can be seen on the web www.sanationalsociety.co.za

The new art of swallow gazing being enjoyed on that Tuesday evening.

Birding, as members can see, is arduous and totally exhausting.

Report back on the Holocaust Museum Outing and Lunch 23rd March 2016

Some 20 or so members visited the Holocaust Museum on Wednesday 23rd March. This event really lived up to expectations being both enthralling but disturbing as it drove home the message that we cannot be spectators when it comes to Human Rights. Our guide Maureen told riveting stories of how many souls' first in Germany and then Europe generally, had suffered appalling humiliation, degradation, torture and frequently agonising death. It is hard to visualise the numbers of human beings murdered in the death camps.

We must never forget that in totalitarian states such as Hitler established it is possible for total evil to become an accepted norm.

Whilst the Holocaust must never be forgotten the museum also draws parallels with apartheid, the atrocities of the Khmer Rouge and genocide in Rwanda. And one can fully understand how a visit is a meaningful part of the curriculum for standard nine pupils to gain a better understanding of what Human Rights should and should not be.

The evening before our visit some members had visited the museum to view what we believe was a rather shattering film. We understand this may have portrayed 25 year old Major Leonard Berney who was one of the first to enter Bergen-Belsen in 1945. By coincidence Leonard Berney died very recently and one can view his obituary on the UK Telegraph using the link below.

SA National Society tries to maintain a social side so we were grateful to the café for seating almost everyone around a large table where conversations and discussions flowed right through an enjoyable repast.

http://www.telegraph.co.uk/news/obituaries/12190100/Lieutenant-Colonel-Leonard-Berney-obituary.html

A reminder OLD BOOKS – BUY & SELL BY MEMBERS

Several members agreed at last month's meeting that this was a worthwhile experiment so please bring along a book that you no longer use yet believe may appeal to others. It should preferably have some bearing on history or natural history and not be a work of fiction.

The rules will be simple.

1. Don't ask an unrealistic price as you are probably selling to a fellow member.
2. The selling price is shared between the seller 70% and SA National Society 30%.
3. Any unsold and unwanted books can be donated by SA National Society to one the eThekwini Museum Libraries.

MEMBERSHIP GROWTH

The committee urges members to introduce a friend to the SA National Society. In recent months we have consistently had excellent attendances and believe the meetings provide wonderful educational entertainment.

CATERING AT MEETINGS

Joan Widdowson with some generous support from a few other members is consistently putting on a very welcoming and generous spread at meetings. It would help her enormously though if just one or two more members could also assist.

Joan is gradually compiling a list of those able to provide goodies once or twice a year so please give her a call if you can contribute in any way.

Joan's mobile is 083 661 3259.