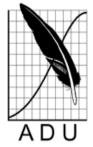
Ornithological Observations

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Ornithological Observations accepts papers containing faunistic information about birds. This includes descriptions of distribution, behaviour, breeding, foraging, food, movement, measurements, habitat and plumage. It will also consider for publication a variety of other interesting or relevant ornithological material: reports of projects and conferences, annotated checklists for a site or region, specialist bibliographies, and any other interesting or relevant material.

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PHOTOS OF WEAVER NESTS. WHY PHOWN?

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PHOTOS OF WEAVER NESTS. WHY PHOWN?

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PHOWN (**PHO**tos of **W**eaver **N**ests) is a Virtual Museum, citizen science project of the Animal Demography Unit, to collect and monitor breeding distributions and colony sizes of weaver birds globally. It began in mid-2010 (Oschadleus and Underhill 2013) and has collected over 11 000 records in four years.

Many weavers are common and you may wonder if there is anything more to learn about them. Precisely because many weavers are common, means that there is potential to collect large amounts of data to provide new insights into their breeding biology. In a series of articles over the coming months, different results will be presented in OO, showing how valuable your PHOWN records are. The results do not mean we have enough records though, so do keep submitting photos.

Breeding records can be collected without photos, and this is what the Nest Record Scheme (NRC) did for many decades. The NRC scheme provides essential breeding data and it should be continued. Without a coordinator, however, the participation has decreased dramatically over the last 20 years. At the same time, the advances in digital photography provide an alternative opportunity for collecting breeding information. The information collected is different, but nevertheless provides a way of monitoring some aspects of breeding. The popularity of photography, over filling in a card form, is

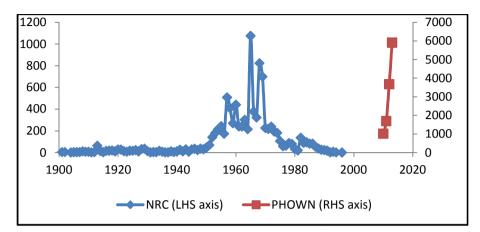


Fig 1 - Records by year for NRCs and PHOWN – note the y axis is much larger for PHOWN (RHS=right hand side).

shown by a comparison of number of records in PHOWN and the NRCs (Fig 1). The total weaver records in the NRC collection is 10 133 and has been exceeded by the number of records in PHOWN in merely four years. Note that PHOWN is global but most records so far are from southern Africa.

There are some important differences between the NRCs and PHOWN in concept and in results obtained. The NRCs aimed to collect important life history information, but localities are often vague, meaning that analyses need to be on a broad spatial scale. Capitalizing on GPS technology, PHOWN records aim to have precise localities, meaning that individual colonies can be tracked over time, even by different observers. The primary data on the NRCs has been digitised but the nest contents data have not. The PHOWN data is digitised by the participant, and the records are immediately available and the web summaries are automatically updated. Online submission for the NRC system could also be programmed but substantial funding would be needed to implement



this. The weaver records in the NRC database are, however, being prepared for inclusion in the PHOWN database, where the records would be allocated general coordinates with a poor accuracy level. The geographic coverage of PHOWN is global, unlike the NRCs which has a focus on southern Africa, so PHOWN covers the entire weaver family (Ploceidae). The difference between the NRCs and PHOWN is further illustrated in Figs 2-3. The NRC contains breeding information (Fig 2), while the PHOWN record contains colony information (date, species, etc, that is not shown here), 1-3 photos (Fig 3a), and a Google map (Fig 3b) which can be switched between map and satellite views to show great detail about the position and surroundings of the weaver nest(s).

"A picture is worth a thousand words". This saying is apt for the ADU Virtual Museum projects. The enormous additional value of having one or more digital photographic images is not yet fully understood, but some uses are described here. A photo means that often the species can be identified (or confirmed) by an expert. For PHOWN, the photo can provide information on the nest site, e.g. the tree species in which the nest was built, and surrounding habitat. Interesting behaviour or events can be captured digitally, e.g. predation at a nest (Cronje 2013).

Nest shape can be illustrated, and how this varies, for instance in Sociable Weavers (Harebottle and Oschadleus 2014). It may be possible to estimate tube length from the photos for species that build long entrance tunnels – compare the examples of a short and long tunnel of different Spectacled Weaver nests (Figs 4-5).

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Fig 2 - Nest Record Card 792.084, Lesser Masked Weaver, at Shingwedzi, Kruger National Park (by P Chadwick).

Conclusion

Many weavers are common and found near human habitation, making them easy to study. Watching weavers may provide the first step in an interest in birding and even conservation for some people. PHOWN provides an educational value in presenting a large number of correctly identified species with photos showing nests, colonies and sometimes breeding habitat.





Fig 3 a,b - Photo and map for PHOWN record 3030, Lesser Masked Weaver, at Shingwedzi Camp, Kruger National Park (by RJ Nuttall).

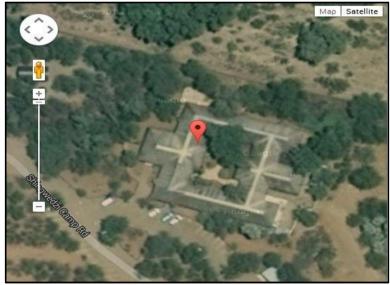




Fig 4 - Spectacled Weaver nest with short entrance tunnel, PHOWN 8318 (by DM Robinson).

Some of the fascinating results of PHOWN to be presented in future articles include:

- Range limits and climate change
- Colony sizes of weavers
- Weaver nest sites
- Weavers and waterbird nesting associations
- Weavers and wasps
- Other species using weaver nests as a resource
- Energy crisis weaver nests on power lines



Acknowledgements

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Fig 5 - Spectacled Weaver nest with long entrance tunnel, PHOWN 5338 (by G Stone).

It is likely that there will be unexpected benefits of the PHOWN database in the future. Who knows how valuable your records will be in 20 years time, when the environment is certain to have undergone major changes in many areas. So find weaver nests, take a photograph and submit - it is fun to participate!

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Box 1. Contribute to PHOtos of Weaver Nests

The Virtual Museum records are submitted online by volunteer participants. A participant needs to register an email and password before being able to submit records, although records are viewable by anyone (without registering).

The upload form for all the Virtual Museum projects is the same. To upload a record, the following are required: date of record, locality details and coordinates, 1-3 digital photos. Optional are identification of the species, and additional notes. For weavers it does help if you can watch the colony for a while and identify the species, as it may be difficult to identify from a photo.

For PHOWN it is also possible to provide a nest count. Whenever possible, please do count the nests (or estimate for large colonies). For Sociable Weavers, count the nest chambers. But if you did not count the nests, do still submit the record.

For PHOWN you should also select the type of nest site in the drop down box (i.e. Tree, Reed, Man-made, Other). The nest site categories are defined as follows:

Tree - nests in woody vegetation, including trees and shrubs, nests suspended from vines in forests.

Reed - nests in reed-type vegetation, including reeds, bamboos and other grasses.

Man-made - nests built on man-made structures, including fences, telephone lines or poles, roof edges, and many other sites.

Other - this category covers multiple sites, e.g. a colony where the nests are in a tree as well as the reeds below the tree; it also covers any types of site not covered by the above categories (if any).

Box 1. Contribute to PHOtos of Weaver Nests - continued

Two websites:

1. The Virtual Museum website, <u>http://vmus.adu.org.za</u> This is where you register and upload photos – read the "How to"

pdf for more detailed instructions on uploading records. You can also view summary data and individual records.

2. The PHOWN website, <u>http://weavers.adu.org.za/phown.php</u> This dedicated web site has additional summaries, including nest count statistics. On this site, exact localities for most records may be viewed - this is not possible in the VM site as many projects

have sensitive species. For the weavers where there is generally no problem in disclosing a colony locality, but on request the coordinates can be hidden for specific PHOWN records.