BIRD IS THE WORD

The power of birding, birders and citizen science

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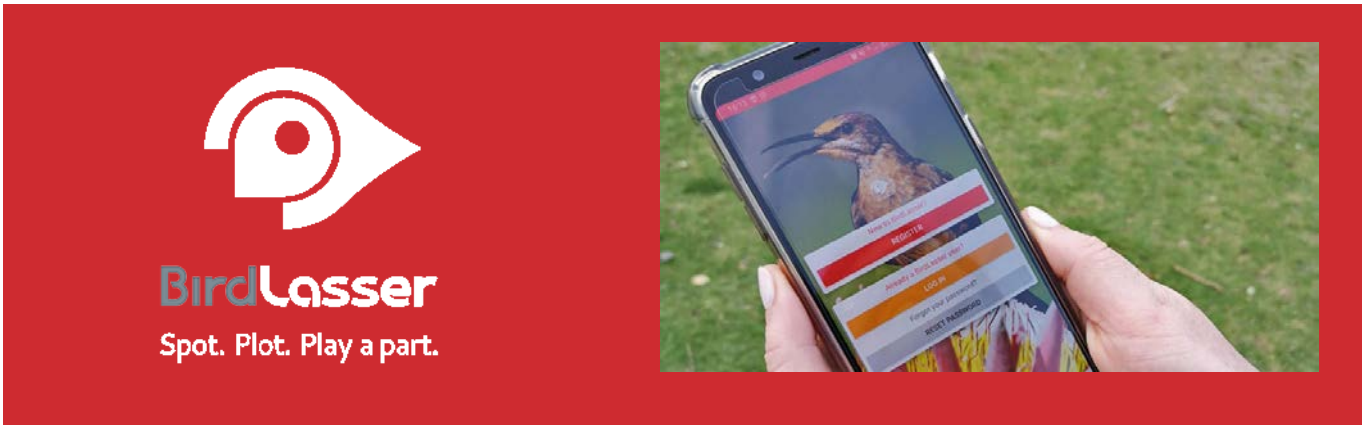
Birding is fun. If you haven't tried it, you should. It is social, competitive, colourful, and takes you to places you might never have seen. Also, it boosts local economies through the buying of equipment, outdoor gear and access permits, and plays a big role in tourism. But most importantly (for me, the scientist) birding generates crucial data that helps determine the conservation status of birds and informs the management plans to save endangered species.

So, what is birding? In its simplest form, it is just looking at and enjoying birds. It is a pastime associated with well-being and connecting to nature. It provides intellectual stimulation: identifying a bird requires careful attention to detail, so that one can tell it apart from similar species. It is entertaining: the multiple soap operas and dramas that occur as birds go about their daily lives are the subject of documentaries. In every garden there is an on-going saga of feathered Love and War.

Birds can tell you a lot about where you are. If you were kidnapped and transported away from home, and locked in a dark room, by listening to birds you would be able to tell if you were in an urban or rural environment and what part of the country you were in. If you hear South African endemic Cape sugarbirds, you're in the Fynbos of the Western Cape. If you can hear house sparrows or common starlings, you're in an urban environment; and if you can hear kelp gulls, you're by the sea. Someone took you to Cape Town! A braying African penguin? You're not far from Boulders Beach! Send a message to the police and await your rescue.

Birds can tell us about the state of our environment. Visiting our arid regions, we can tell if there is a drought and how bad it is by looking at the birds. In good years, the Karoo is full of nomadic bird species: lark-like buntings and yellow canaries. These disappear in a drought, leaving only hardy resident species. Raptors and large-bodied birds disappear when human impacts become too great. Vultures, one of the most endangered large-bodied bird groups, are replaced by pied crows.

Want to start birding and simultaneously become a budding (birding) citizen scientist? BirdLife South Africa recommends the Birdlasser app (available on Apple's iStore and Google's Play Store for Android):



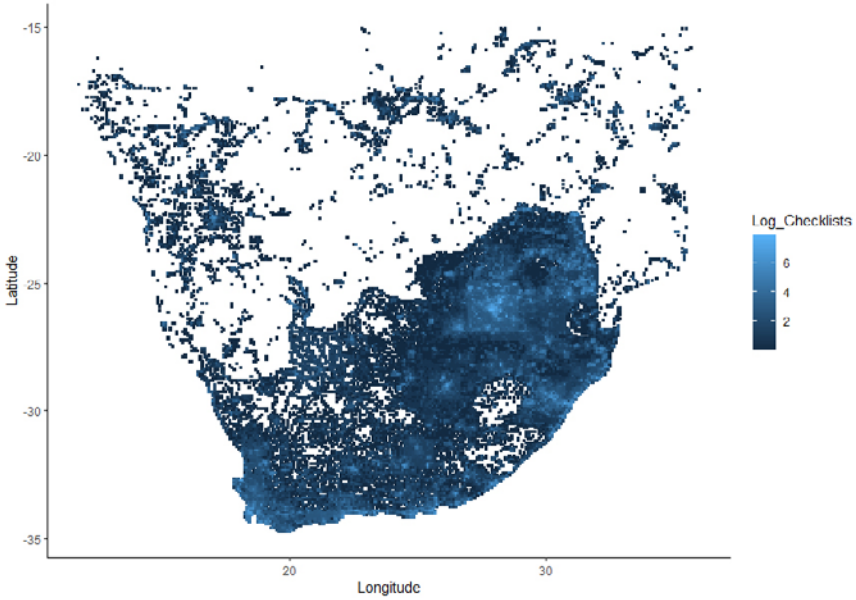
Listing heroes

So if birding can entertain you, educate you, and possibly save your life, is there anything you can do in return to help those in need? The next step up in the birding ladder is to create a list of species you have seen. There are many apps to assist, and I strongly recommend BirdLasser. It is free to download through Google Play Store. With BirdLasser, you can choose to submit your lists directly to species causes with BirdLife South Africa. What is just a name in your list has data associated with where you were and when you saw the bird. From this simple activity, scientists can calculate where species are and create dynamic range-maps. They can calculate if a species is spreading or changing migration patterns. By simply recording what you saw, you are on the path to becoming a citizen scientist, one of the most useful forms of humans on the planet. Citizen science projects range from identifying stars, to taking photos, to making simple lists of birds.

Atlassing agents

Could it possibly get any better? Yes! Through BirdLasser you can also send your lists to the Southern African Bird Atlas Project (SABAP2). You'll need to register first at sabap2.birdmap.org. Here, thousands of bird lists for geographic sampling units (called pentads) are housed at the University of Cape Town. This information is used to calculate not only where species are, but how common they are. With this, we can tell if a species is becoming more common, or more rare. Lots of information is free for the public to use, including distribution records for a particular species, and species lists for selected sites. SABAP2 data is extensively used by environmental consultants to inform developments. Birders who contribute to SABAP2 are called 'atlassers' their systematic birding is called 'atlassing', and they are the elite of the birding world – from the conservation and science point of view. They are highly useful members of society.

SABAP2 is a truly amazing citizen science project. The data is used by scientists across the world. SABAP2 builds on SABAP1, which was undertaken from 1987 to 1992, resulting in one of the most impressive bird books ever produced: *The Atlas of Southern African Birds*, published in 2 volumes. The distribution data has been used in a wide variety of papers, from illustrating patterns of taxonomic relationships to the impacts of climate change. Bird field guides use the maps to illustrate bird distributions.



The area covered by the Southern African Bird Atlas Project (SABAP2).

SABAP2 has birthed a range of similar projects across Africa. The most successful until now are the Kenya Bird Map project and the Nigerian Bird Atlas Project. There are fledgling projects in several other countries. These projects all use the same protocol (BirdMap) and are collectively referred to as the African Bird Atlas Project. The BirdMap protocol requires that at least two hours of active birding is undertaken in a pentad. A pentad is an area of 5x5 minutes. The two hours can be spread up to over 5 days. Only after 5 days can a new list be started for the same site. It might

sound complicated, but BirdLasser automatically records where you are, how much time you've spent actively birding, and when a new list needs to be started. All you have to do is type in the names of the birds you have seen, and then occasionally submit your data to the project.

Agulhas Long-billed Lark_00001

A review of how the SABAP2 project is used was published in the *South African Journal of Science* (https://sajs.co.za/article/view/12030). The authors found over 700 articles that either use or refer to the atlas projects, spanning a range of media from websites, books, environmental impact assessments (EIAs) and over 150 peer-reviewed scientific articles. It should be noted, the EIAs were only those publicly available on the web (many are not). There has been a steady increase in the use of SABAP2 data since its inception in 2007. With this data now providing information to Namibia, Botswana, Zimbabwe, Mozambique, Eswatini and Lesotho, there is no envisaged end date.

Some interesting examples of the data use include illustrating that the increase in pied crows in the Western Cape is due to a combination of climate change shifts coupled with infrastructure development. Pied crows, while indigenous, are a concern because they prey on vulnerable small tortoise species. Another example highlights how unique Africa is in terms of its urban bird composition: our urban bird communities have more scavenging species (like pied crow, but also yellow-billed kites, marabou storks and African sacred ibis), but urbanisation is also linked to the loss of habitat specialists and larger bird species (storks and most eagles).

So, we encourage you to pick up your binoculars, go outside, watch some birds, record what you see, and embark on a journey that will enrich your life while also contributing to science and society. It is probably the easiest, most fun science you can do. If you need more helpful resources, get in touch or visit birdlife.org.za.

Article written by Alan Lee, Science and Innovation Programme Manager for BirdLife South Africa. Alan is the organisation's main Data Scientist, responsible for providing scientific input into ecological monitoring and research on priority threatened species and habitats.

https://pixabay.com/photos/hornbill-bird-safari-perched-5982474/

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Translated by Zamantimande Kunene