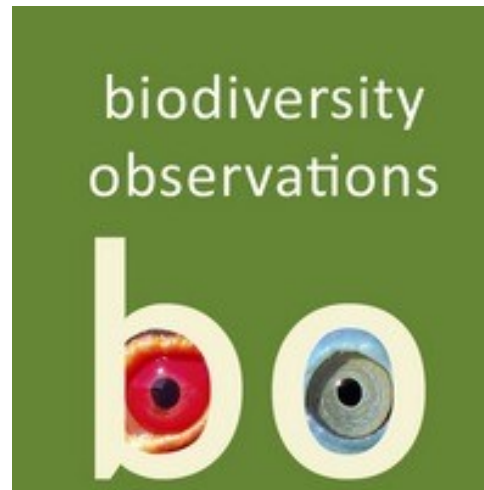


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Ornithology

Red-billed Oxpecker *Buphagus erythrorhynchus* in the KhoiSan Karoo Conservancy, Northern Cape, South Africa

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Abstract

We report the occurrence of a Red-billed Oxpecker *Buphagus erythrorhynchus* at the New Holme Nature Lodge, Hanover, Northern Cape, South Africa. Sightings were made over the period 4 May to 3 September 2022.

Stark (1900) described the Red-billed Oxpecker *Buphagus erythrorhynchus* as “very abundant” on the coastal plain of KwaZulu-

Natal with a range that extended inland, and “nearly always to be seen in small flocks” perched on the backs of animals (Box 1). Stutterheim (1982) developed a map showing what he considered the pristine range of the species in South Africa (reproduced here as Figure 1). This range coincides closely with that of the Savanna Biome as defined by SABAP2 (Figure 15 of Allan et al. (1997)). This range limitation is probably associated with the need for tree cavities within which to breed (Stutterheim 1989).

Arsenic-based compounds for dipping cattle and sheep to kill ticks were introduced in South Africa in 1893, and their use became compulsory as a result of the Stock Disease Act of 1911 (Ramudzuli & Horn 2014). Oxpeckers became locally extinct in the stock farming areas, and by the mid-1970s were largely confined to public and private game reserves within the Savanna Biome (Stutterheim 1982). Bezuidenhout & Stutterheim (1980) demonstrated that most of the dips were toxic for the Red-billed Oxpecker, and “support the view that intensive dipping could have played a major role in the disappearance of oxpeckers from farming areas.” Bezuidenhout & Stutterheim (1980) also demonstrated that, provided toxic dips were eliminated, oxpeckers could play an important role in controlling tick populations on domestic stock.

Arsenic-based animal dipping compounds were banned in 1983 (Ramudzuli & Horn 2014) and were replaced by so-called “oxpecker friendly” dips. These have pyrethroids as an active ingredient. The First Southern African Bird Atlas Project (SABAP1) took place from 1986 to 1990, shortly after arsenic-based dips were no longer in use (Harrison et al. 1997). The SABAP1 distribution map shows that, in South Africa and Zimbabwe, the Red-billed Oxpecker was at this stage largely remained confined to conservation areas in the savanna biome (Mundy 1997, Figure 2). In Botswana, there were two concentrations of distribution; firstly in the Okavango Swamps, a conserva-

Box 1: Species account by Stark (1900)
for the Red-billed Oxpecker *Buphagus*
erythrorhynchus

Distribution: the greater part of the Ethiopian Region; but more abundant on the east coast. Not found in Cape Colony, Great Namaqua, or Damara Land, but occurs in Benguela. Very abundant on the coast of Natal, and gradually extending its range inland, equally common in Zululand and Portuguese East Africa, ranging northwards to Somaliland and Abyssinia. Somewhat local in the Transvaal and Rhodesia.

Habits: The Red-Billed Oxpecker is the common "Tick Bird" on the coast of Natal and East Africa, its place further inland being taken to a large extent by its congener Yellow-billed Oxpecker *Buphaga africana*.

In the lower part of Natal it is resident, and in pastoral districts is nearly always to be seen in small flocks, either seated on the backs of oxen or horses, climbing, woodpecker-like, over their sides, or flying round them with harsh cries resembling those of the European Missel Thrush. Occasionally they perch on trees, seldom or never on the ground. When seated on the back of the animal these oxpeckers rest on the whole tarsus, with head thrown back and bill pointing upwards at an angle; if endangered by the sweep of their hosts' tail they flatten themselves still more and allow it to brush lightly over or jump nimbly out of the way. **Food:** Their food consists almost entirely of ticks taken from the bodies of various animals, donkeys being special favourites. Should they, however, find an animal with sore back they are apt to peck at and irritate the wounds, perhaps for the sake of

the blood, which they drink as it oozes from the raw surfaces. The same individuals frequently attach themselves to particular animals.

Breeding: In unsettled districts these birds build in the holes of trees, but in more civilised parts usually under the roofs of houses. The nest is an untidy structure of straw and grass lined with the hair of various animals. The eggs, three to five in number, are of a uniform pale bluish-white colour.

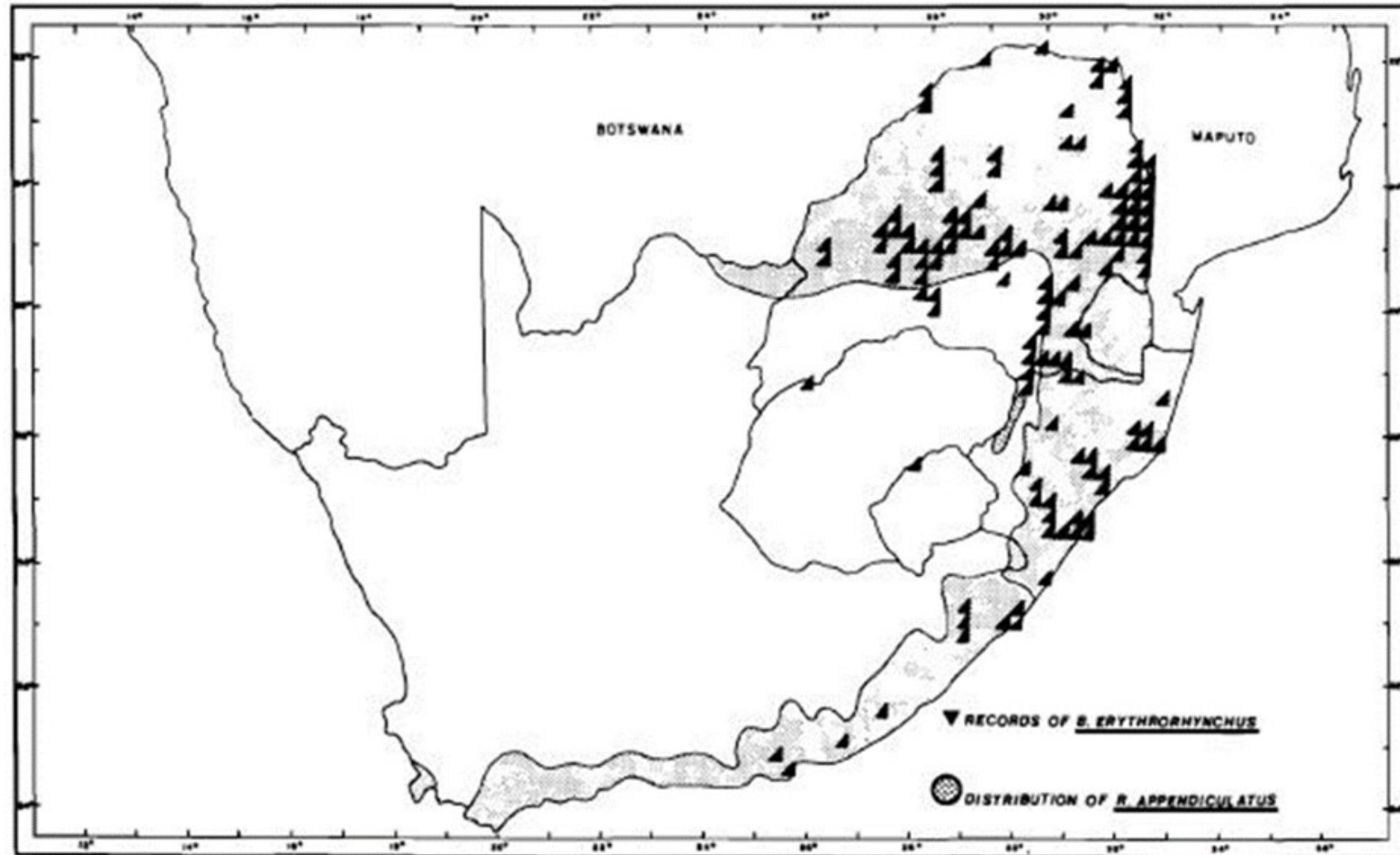


Figure 1: The triangles mark the locations of all records of Red-billed Oxpeckers in South Africa, Lesotho and Eswatini prior to 1970. The compilation was made and the map published in Stutterheim (1982). It is the best available representation of the distribution of the species prior to the advent of cattle ranching and arsenic-based dips. The shaded area is the distribution of the tick *Rhipicephalus appendiculatus* one of the tick species consumed by the oxpecker. Note that the oxpecker distribution is broadly similar to the limits of the Savanna Biome (Allan et al. 1997).

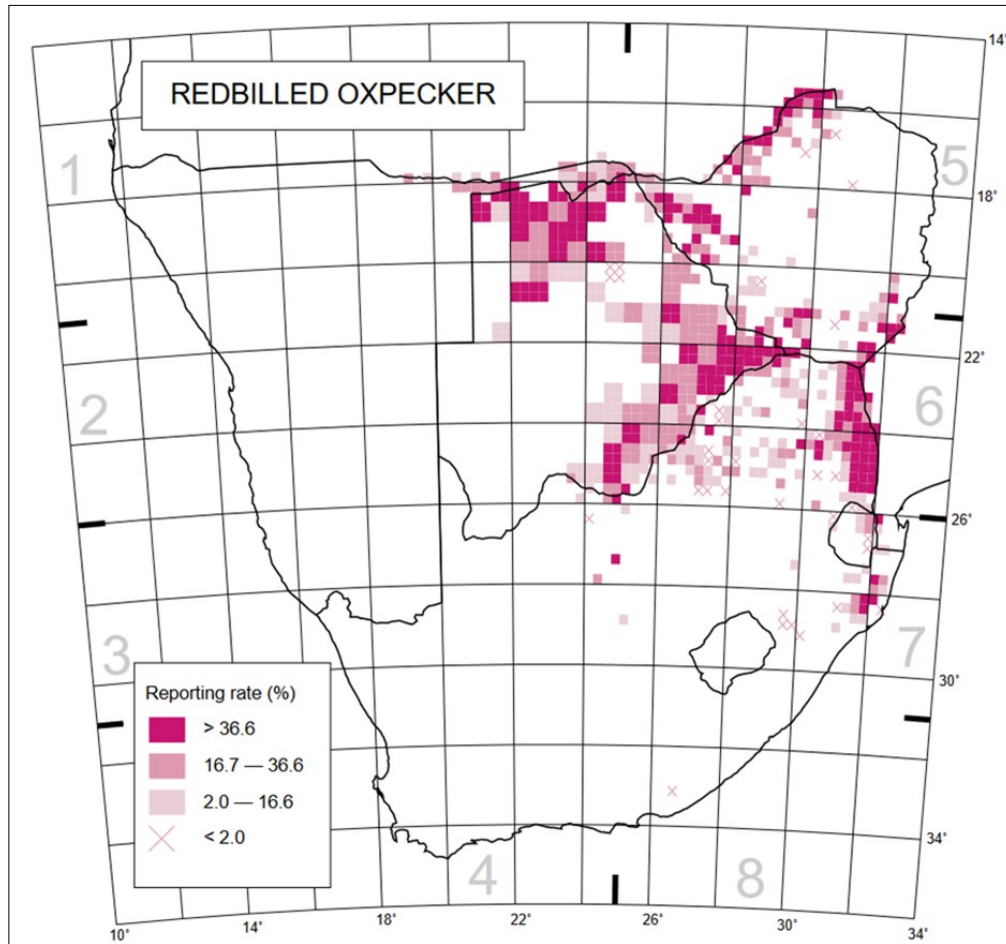


Figure 2: The SABAP1 distribution of the Red-billed Oxpecker in southern Africa (Mundy 1997).

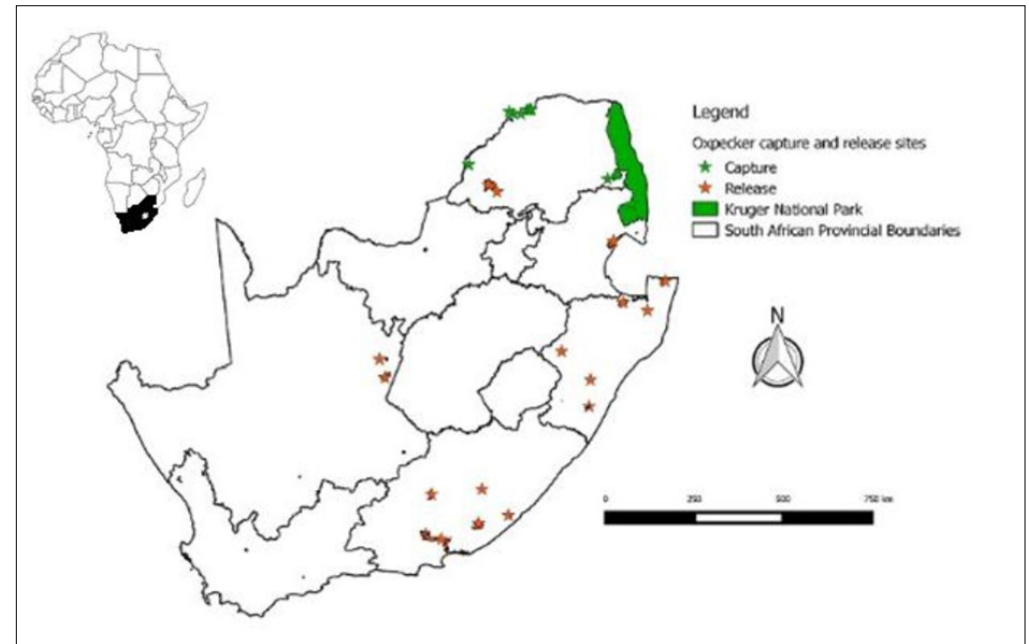


Figure 3: Relocation sites for Red-billed Oxpeckers between 1988 and 2014. From Jordaan (2016)

tion area, and along the border with South Africa, where subsistence farming with little history of cattle dipping occurred. The sharp discontinuity of reporting rates along the Botswana-South Africa border (Figure 2) is almost certainly indicative of the differences in stock-farming practices on either side of the border. This discontinuity was not mentioned in the SABAP1 species text (Mundy 1997), but also occurs for several other species, notably Bateleur *Terathopius ecaudatus* (Simmons 1997) and Helmeted Guineafowl *Numida meleagris* (Little 1997).

The development of pyrethroid dips, toxic to ticks but not to birds, triggered the concept of Red-billed Oxpecker introductions to parts of their range where they had become extinct (Jordaan 2016). She compiled a list of 37 relocation events, involving a total of 1,359 Red-billed Oxpeckers, over the period 1988 to 2014. The relocation localities were plotted by Jordaan (2016) and her map is reproduced here as Figure 3.

A Red-billed Oxpecker was first spotted in the garden of New Holme Nature Lodge (30°54.9'S, 24°37.6'E) by JMA during the afternoon of 4 May 2022. On the morning of 6 May, RJN listened to its amplified calls, using Brodan parabolic microphone and observed it in flight. JB took the first photographic record on 7 May, while the oxpecker was perched on an eland *Taurotragus oryx*. Since then, it was frequently observed in the area (Table 1); it was recorded on eland (Figure 4), sheep (Figure 5) and cattle (Figure 6). The final sighting was on 3 September 2022, so that the total period of occurrence was four months. The photographic records in Table 1 were uploaded to the BirdPix section of the Virtual Museum (Navarro & Underhill in press). All sightings were made in an area of c. 5 ha, on the New Holme Nature Lodge buildings, or on animals in the camp immediately to the east. There is a small herd of African Buffaloes *Syncerus caffer* at New Holme in a camp 3 km distant from the area at the lodge where



Figure 4: The Red-billed Oxpecker on an eland at New Holme Nature Lodge. [BirdPix 235821](#).

the records of Table 1 were made. Although these were checked almost daily for the presence of the oxpecker, it was never recorded here. Buffaloes are one of the preferred species for oxpeckers to feed

on (Tarakini et al. 2017). There are further herds in the district, totaling c. 360 buffaloes, at distances of 8 km, 25 km, 35 km, 45 km and 85 km from New Holme Nature Lodge (PCF pers. obs).

The nearest relocations to New Holme Nature Lodge of Red-billed Oxpeckers were in Mokala National Park (197 km to the north) and Mountain Zebra National Park (1619 km to the south) (Figure 3). Both localities are in the savanna biome within the historical range of the species (Figure 1). New Holme Nature Lodge lies in the Karoo and therefore outside of the historical range. The area surrounding the lodge, however, has an extensive area of trees and large shrubs, and therefore could potentially provide nesting sites for the oxpeckers.

The Second Southern African Bird Atlas Project (SABAP2) (Underhill 2016, Underhill et al 2017, Lee et al. 2022) started in 2007 and is ongoing. It provides an opportunity to evaluate the success of the Red-billed Oxpecker relocation projects, and to see the New Holme record in the context of these relocations (Figure 7). Firstly, it is clear that each of the sites at which relocations of Red-billed Oxpeckers has taken place (Figure 3), there was, by 2022, a cluster of pentads (the name of the SABAP2 grid cells) at which the species was recorded (Figure 7). The Red-billed Oxpecker at New Holme Nature Lodge is shown on the distribution map as an isolated pentad between the clusters of pentads at the neighbouring relocation localities.

What is striking about the SABAP2 distribution map for the Red-billed Oxpecker is the scattering of records of vagrants (Figure 7). These occur as far away from the core of the distribution as the Western Cape. However, these remain rare events, and the probability of two Red-billed Oxpeckers, one male and one female, arriving simultaneously as vagrants at a place such as New Holme, is minute.

It is therefore unlikely, but not impossible, that breeding populations at sites such as New Holme will be established in this way, even though it provides potential nest sites as cavities in trees.



Figure 5: The Red-billed Oxpecker on a sheep at New Holme Nature Lodge. [BirdPix 219998](#). Photo by Graham Pringle.



Figure 6: The Red-billed Oxpecker on a cow at New Holme Nature Lodge. [BirdPix 235789](#).

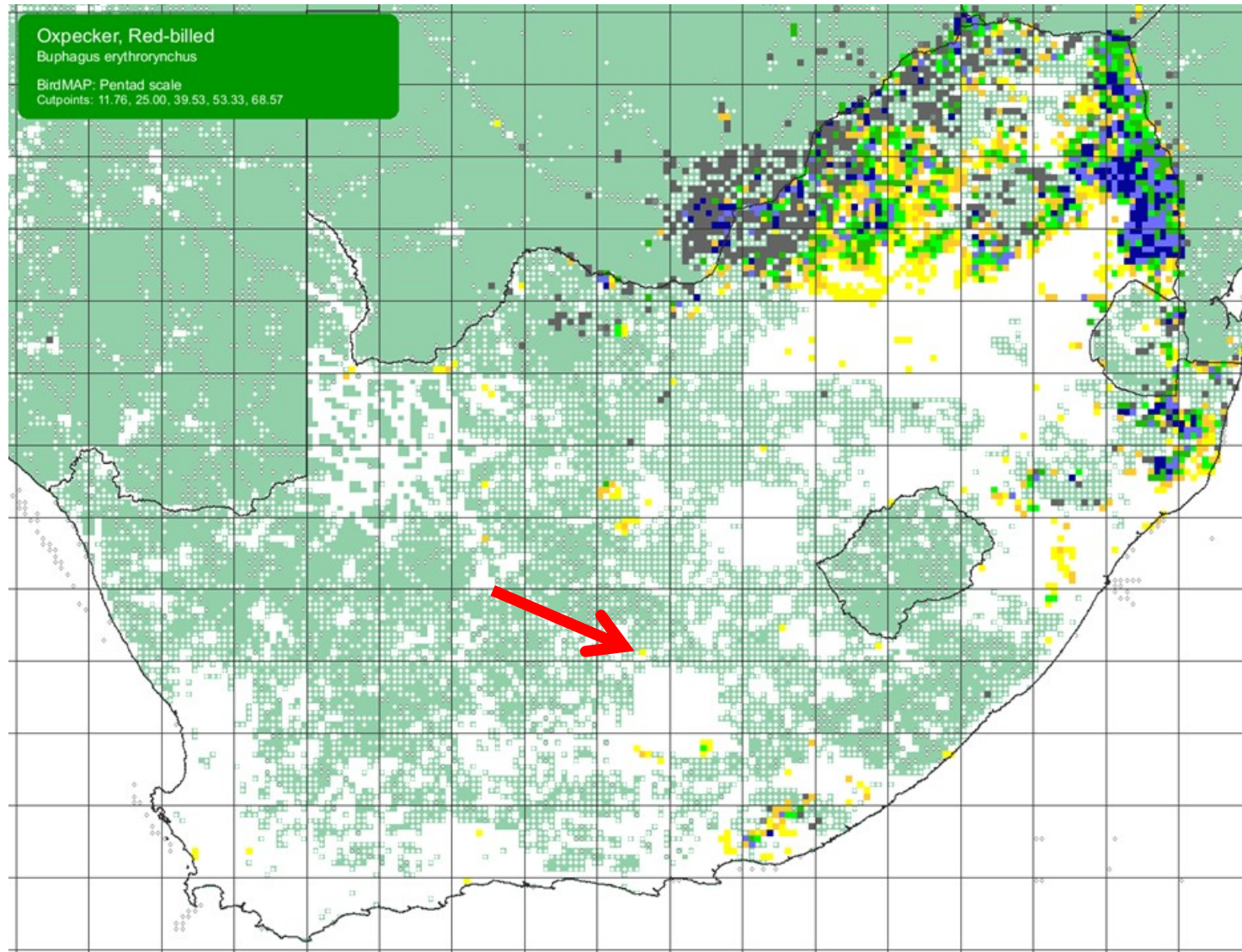


Figure 7: SABAP2 distribution map for the Red-billed Oxpecker, made in October 2022. Guide to the interpretation of this map is provided by Underhill & Brooks (2016). In brief, coloured pentads have four or more full protocol checklists, and the colour scale is graded through yellow (smallest reporting rates) to dark blue (highest reporting rates). Pentads in which the species has been recorded for SABAP2, but which have fewer than four full protocol checklists are shade dark grey. Pentads shaded white have four or more checklists, with Red-billed Oxpecker not recorded. Pentads shaded turquoise have no SABAP2 data. Pentads with a small white dot have fewer than four full protocol checklists, with Red-billed Oxpecker not recorded. The red arrow points to the pentad within which the New Holme Nature Lodge is located.

Table 1: Sightings of Red-billed Oxpeckers at New Holme Guest Lodge, KhoiSan Karoo Conservancy. Where there is a photographic record in the BirdPix section of the Virtual Museum, the record number and link to the record are provided.

Date	Where	VM Record
04/05/2022	Roof	-
06/05/2022	Flying	-
07/05/2022	Eland	https://vmus.adu.org.za/?vm=BirdPix-218234
08/05/2022	Eland	https://vmus.adu.org.za/?vm=BirdPix-218239
20/05/2022	Sheep	https://vmus.adu.org.za/?vm=BirdPix-219998
30/05/2022	Tree	https://vmus.adu.org.za/?vm=BirdPix-221331
31/05/2022	Roof	https://vmus.adu.org.za/?vm=BirdPix-221464
06/06/2022	Eland	https://vmus.adu.org.za/?vm=BirdPix-222498
17/06/2022	Lamb	https://vmus.adu.org.za/?vm=BirdPix-225448
19/06/2022	Lamb	https://vmus.adu.org.za/?vm=BirdPix-225444
27/06/2022	Cow	https://vmus.adu.org.za/?vm=BirdPix-226585
26/06/2022	Cow	https://vmus.adu.org.za/?vm=BirdPix-226159
26/06/2022	Cow and Eland	https://vmus.adu.org.za/?vm=BirdPix-226159
07/08/2022	Eland and Cow	https://vmus.adu.org.za/?vm=BirdPix-235821
03/09/2022	Eland	https://vmus.adu.org.za/?vm=BirdPix-235789

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