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Black-collared Barbet *Lybius torquatus*

A species that has increased significantly as a Harare garden bird (see pp.40-49)

Photo: © Ian Riddell

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GUIDELINES FOR CONTRIBUTORS

Honeyguide is an ornithological journal that accepts scientific papers and articles, short notes and observations, as well as contributions of a more general interest. Its primary emphasis is on the birds of Zimbabwe but scientific contributions from other parts of Africa, and general interest contributions from anywhere else will also be accepted. Wherever possible, articles should be submitted electronically, preferably in MS-Word using the language option 'English (UK)' or any other variant of British English.

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The definitive internationally recognised name for any bird species is its scientific name and this should be included in all contributions except for those of general interest, such as accounts of travel or birdwatching. The scientific name given in *Roberts VII* will generally be followed although contributors should note that many names have been changed since that book was published. The Editor will endeavour to keep up to date with the changes. Common names are more of a problem since there is still some variation amongst different authorities. The journal will be flexible as far as common names are concerned and contributors may use the names they are accustomed to or most familiar with.

Contributors are urged to check previous issues of the journal for the format and style of references although the Editor will check and correct any if necessary. The editor will supply authors with PDF copies of their articles on request.

Editorial: Garden Birds

One of the unexpected consequences of the Covid-19 pandemic lockdowns was that many people began to look at birds in their gardens. At one time there were many online articles, and social media items, in which people related their new-found interest in birds. These seem to be less common now but one has to hope that this interest will become permanent and that more people will appreciate birds and perhaps be involved in their conservation. In many countries, including Zimbabwe, gardens may become the last refuges for many species in the face of growing environmental degradation in rural areas.

In Zimbabwe, many reports on birds in gardens have been published in *Honeyguide* over the years, and several larger surveys have been carried out. The first of these was in Harare from 1968-70 (Woodall *et al.* 1997) followed by the Bulawayo survey, 1973-1982 (Feather 1986). This issue includes three papers from the nation-wide survey carried out from 1999 to 2000; these deal with Harare, Marondera and Bulawayo. We hope to present the results from other areas, and of the more recent surveys, in later issues.

The data from the 1968-70 Harare survey were published 30 years later and so the publication of the 1999-2000 surveys, after only 21 years, is something of an improvement but the Bulawayo people did much better, publishing their results after only four years. Why has it taken so long to publish these results and do they mean anything after so long?

The answer to the first part of the question is relatively simple; these survey data have been collected by people who are not professional scientists and have other jobs that keep

them occupied. Assembling and collating the data can be a tedious and time-consuming task, easily put off as other activities take up one's time. The second part can also be answered quite easily. These surveys are a biodiversity archive telling us what occurred, where and when. This information helps us to understand the changes that have taken place over the years, vital information for conservation efforts and to inform future generations about the changes that have occurred.

The major drawback to these surveys is that they are not standardised. Ideally, they should be done in the same gardens, by the same observers, and over the same time period. Regrettably, this is not the case and some of the variation from one survey to another might be explained by differences in the gardens, as well as the skills and enthusiasm of the observers.

Another problem is that the records tend to include birds seen *from*, rather than *in*, gardens. Most of these are species that fly overhead, accounting for some unusual records. An example is the Martial Eagle, which made it into the top 100 species in the 1968-70 Harare survey – not exactly an everyday garden species! In some cases, the frequencies of overflying species may reflect a real increase in their numbers; an example is the Black-headed Heron in the Harare and Marondera surveys, which seems to have increased generally in Mashonaland.

In conclusion, we hope that these articles will be of interest and thank all those who took part in the surveys. Without your efforts we would know much less about the changes in our avifauna.

Brian Marshall

The Garden Bird Survey, 1999-2000. Part 1: Harare

I.C. Riddell

Introduction

The results of two garden bird surveys carried out in Zimbabwe have been published; the Harare garden bird survey, 1968-70 (Woodall *et al.* 1997) and the Bulawayo garden bird survey, 1973-1982 (Feather 1986). Other data were collected sporadically by the Ornithological Association of Zimbabwe (OAZ), now BirdLife Zimbabwe (BLZ), sometimes for Harare or other cities or towns and sometimes nationally, with comments and short reports published in newsletters. These include notes from Harare 1984-1996 (Harwin 1996), the Eastern Districts for one year from October 1997 (Dixon 1997), and the national survey from 1998-2000 initiated by On Safari International and handed over to OAZ in 1999 (Anon 1999). A further national garden bird survey began in July 2002, but only

20 out of 59 participants had returned forms by January 2003 and participation dropped further by early 2004 (Rushforth 2003, 2004). Finally, a one-off garden survey in the Chiota Communal Lands was carried out in early May 2007 (Anon 2007). Data continued to be accumulated outside of these periods and a more comprehensive table of monthly observations for Harare, 1984-87 appeared in Perrett (1988). Various files of data in non-electronic form are held by BLZ but these have not been analysed or computerised. The National Garden Bird Survey for the two calendar years 1999-2000 resulted in 45 017 bird records on 1191 cards from 94 gardens in 31 localities in 38 quarter degree squares (QDS) around Zimbabwe. This paper reports on the results from 39 participating gardens in Harare.

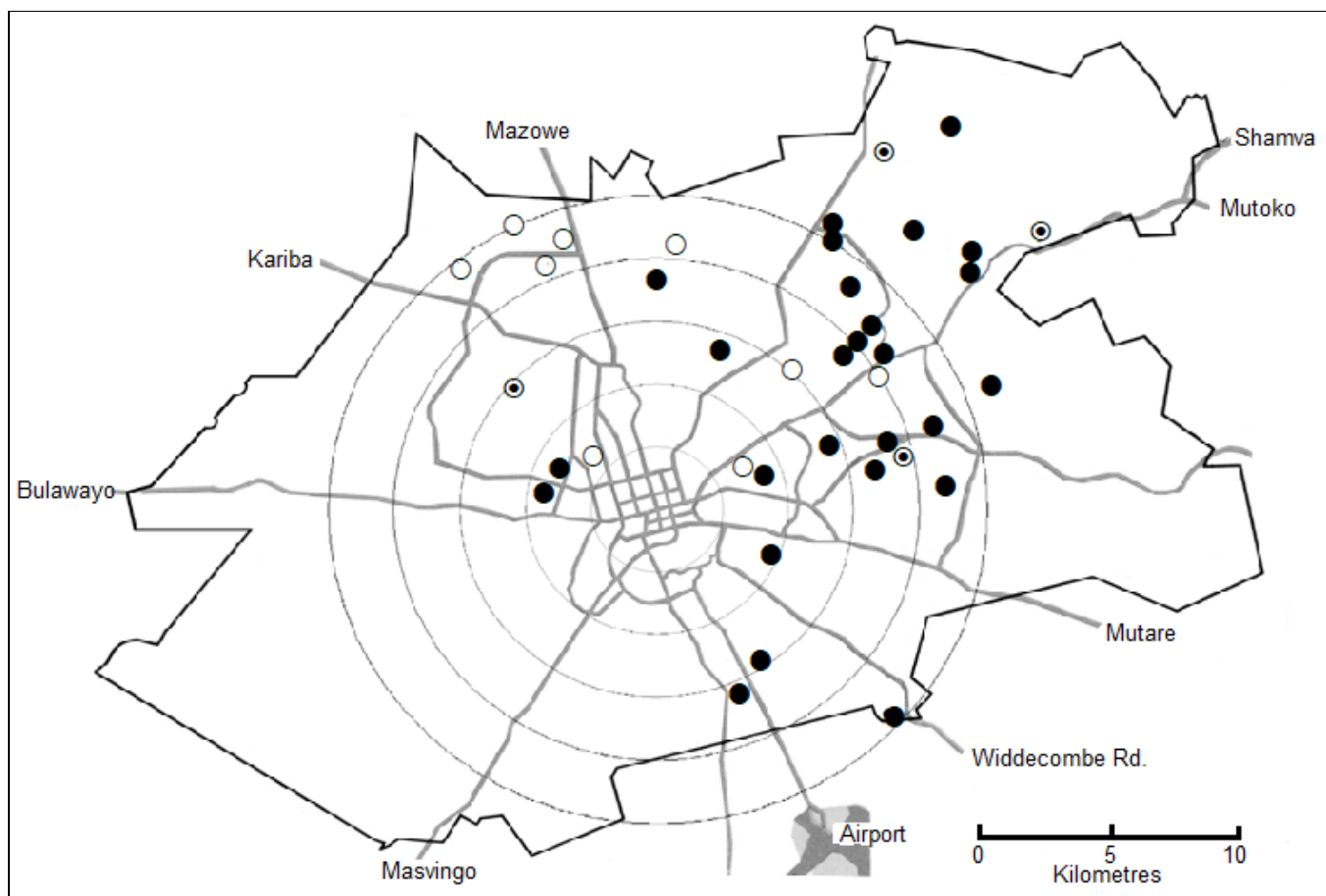


Figure 1. The location of 39 Harare gardens that were included in the 1999-2000 garden bird survey; the symbol ● indicates 26 gardens with > 10 months of records, ⊙ are 3 gardens with 5-9 months of records, and ○ are 10 with < 5 months. Concentric circles from the city centre are shown at 2 km intervals.

Methods

Participants were given sheets listing 200 common garden species, which they filled in every month using the categories 'seen', 'heard', 'overhead' and 'breeding'. When the survey sheets and computerised data were checked a number of errors were immediately obvious, falling into three main groups; (a)

species not found in Zimbabwe, (b) distributional errors, and (c) summer migrants recorded in winter. Suspect data were checked against the survey sheets and changes were made to the tables where necessary. When a suspect record was found all the others on that survey sheet were checked against the tables and in nearly every case this process revealed additional

errors, indicating that unchecked data could hold unquantified errors.

There were some records of Lesser Masked Weaver in Harare, some of which may be probable errors, as were Black-eared Seedeaters in a Groombridge garden, which were likely to be Streaky-headed Seedeaters. African Firefinch records were rejected. Red-backed Shrike, Grey-headed Kingfisher and Woodland Kingfisher winter records were suspect and rejected and various other palaeartic migrants were recorded in winter. The African Dusky Flycatcher/Spotted Flycatcher probably caused some errors and the latter in winter were rejected. The glossy starlings are an identification problem and though they have been kept separate here they must be treated with caution; the Cape Glossy Starling is probably not as common in Harare as recorded or may have changed its range. Woodall *et al.* combined these birds. A log was kept of all changes made to the tables and this altered record is held by BLZ.

Woodall *et al.* (1997) combined data from Harare, Harare South and Christon Bank, in this analysis these areas were kept separate, as these areas were all significantly influenced by ‘bush birds’ that are unlikely to occur in urban environments.

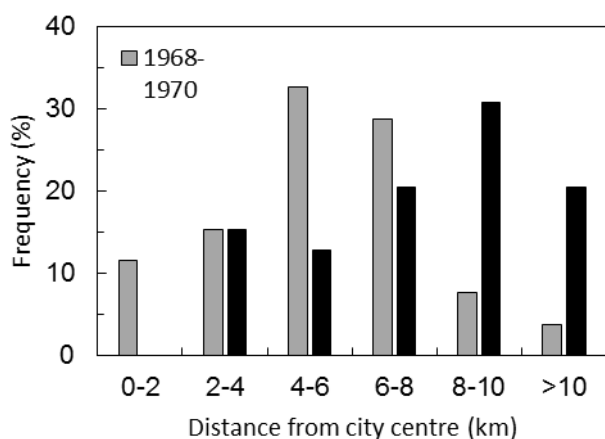


Figure 2. The frequency distribution (%) of gardens in relation to their distance from the Harare city centre in the 1968-70 and 1999-2000 surveys.

Results and Discussion

Data were obtained from 39 urban and suburban gardens in greater Harare from January 1999 to December 2000 (Figure 1), although the number of returns diminished to seven gardens by the end of the period. Most gardens were in the northern and eastern suburbs, and there were none within a 2-km radius of the city centre. In this survey 56% of the gardens were located 8 km or more from the city centre, in contrast to the 1968-70 survey where 60% of the gardens were 4-8 km from the city centre (Figure 2).

There was little relationship between the number of species and the number of months of recording. Five gardens (13%) had records for only one month and 26 (67%) had records for 10 or more months, compared to 20% and 34% respectively in the 1968-70 survey. There has been some discussion recently about the number of cards needed to obtain representative samples of bird communities in atlassing (Cizek 2019; Hustler & Barry 2020) and these concerns will also apply to garden surveys. Plotting the number of species against the number of months (i.e., a proxy for cards) revealed that, although the number of species recorded was highly variable, there was no significant correlation for data from 5 months or more (Figure

3). This suggests that five months is the minimum length of time needed to obtain an approximately representative sample of birds in a garden, although a longer period is necessary as five months would not adequately represent changes between seasons. The variability in the number of species is probably driven by other factors, such as the size and quality of the garden, and whether it provides varied habitats, diverse food sources, and so on.

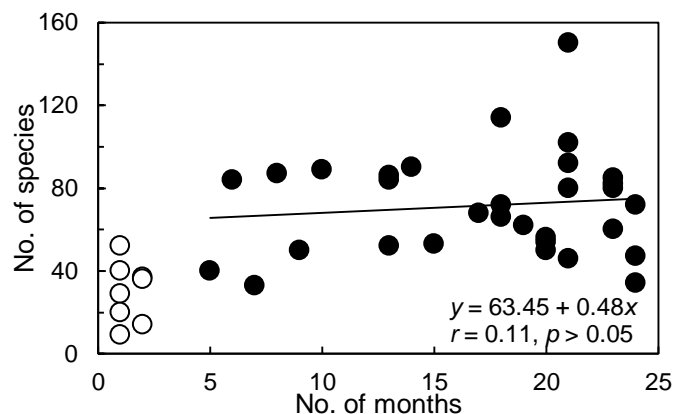


Figure 3. The relationship between the number of months in which birds were recorded and the number of species in the Harare garden bird survey, 1999-2000. The regression was fitted to records of five months or longer (solid points).

Number of species

A total of 235 species were recorded on 537 cards in this survey, compared to 208 in 1968-70, although 61 were only recorded once or twice and 23 three or four times; these marginal records include most of the questionable identifications remaining in the dataset. There were 18 384 individual bird records, giving an average of 34.2 species per card with 135 species accounting for 95% of these records. The average values in 1968-70 were much lower at 29.2 in all gardens, 35.2 when gardens with a single month’s record were excluded and 44.5 in those with at least ten months of records (Woodall *et al.* 1997).

On average there were 63 species per garden, but this increased to 67.8 if gardens with only one month of records were excluded. The three highest scoring gardens with over 100 species were on the edge of the city and were possibly influenced by ‘bush birds’; they included a garden in Mandara (150 spp. over 21 months), one in Hatfield (106 spp. over 18 months) and one at Borrowdale Brooke (102 spp. over 21 months), which was probably a relatively undeveloped area at that time. Three gardens with 24 months of records scored comparatively poorly with 73 (Hatfield), 35 (Mount Pleasant) and 48 species (Belvedere), and were all in long-established suburbs. Three gardens with 23 months of records scored higher with 82 (Rolf Valley), 87 (Hillside) and 82 species (Glen Lorne). The highest scoring garden with 1 month of records had 53 species (Marlborough) and scored higher than 2 gardens with 24 months of records; this is also in a long-established suburb but close to the edge of the city, which may have some bearing on the counts. There was a mean of 73.8 species in the 20 gardens with at least 15 months of records, but if the three high-scoring gardens are excluded the mean dropped to 65.7 species per garden. The structure of gardens, proficiency of observers and observer effort is unmeasured but probably has a strong influence on the number of species recorded and could explain some of this variance.

The 100 most common species were determined according to their frequency of occurrence (Table 1). Seven species were reported with a frequency >90%, three species with a frequency of 80-90% and a further 16 with a frequency of 50-80%, and these can be considered to be the most frequent garden birds in Harare. This group included five species, Crested Barbet, Variable Sunbird, Cattle Egret, Green Wood-hoopoe and Speckled Mousebird that were not in the top 100 in 1968-70. The only introduced species were the House Sparrow and the Rosy-faced Lovebird *Agapornis roseicollis*; the latter was noted in 6 gardens but in small numbers and slightly more frequently in winter. A total of 73 species were in the top 100 in both the 1968-70 and 1999-2000 surveys with most of them having increased their frequency by more than 20% (Table 2).

It is interesting to note that 26 species that were in the top 100 species in the 1968-70 survey were not recorded in 1999-2000 (Table 3). The only one of these that might be regarded as a 'typical' garden bird is the Black-throated Canary which occurs on vleis, miombo ecotone, short lawn-like grass and cultivation in Harare. Brooke (1963) considered it to be a sparse resident, with an occasional winter influx, in the Harare area, and it is possible that its numbers may have increased after the 1967-68 drought. Most of the other species tend to be ones that do not utilise gardens (e.g. White Stork), or were vagrants, flying overhead (e.g. Martial Eagle), or were inconspicuous species (e.g. Garden Warbler). In contrast, 27 species that were not recorded in 1968-70 made it into the top 100 in 1999-2000, with nine of them that might now be regarded as 'typical' garden birds.

Of these, the Crested Barbet, Yellow-fronted Tinkerbird and Green Wood-hoopoe have probably benefited from the maturation of trees, which have provided both food and nesting sites. The Variable Sunbird and Speckled Mousebird are 'eastern' species that favour thickets and seem to be displacing the White-bellied Sunbird and Red-faced Mousebird, both species of more open country (Irwin 1981). The Gabar Goshawk was not recorded in 1968-70 but had become the most numerous raptor during this survey and genuinely appears to have adapted to gardens. The presence of herons, as well as the White-faced Duck and Egyptian Goose, in a garden bird survey seems to be unusual, but were mostly flying overhead. The Black-headed Heron typically forages in open grassland areas, although it breeds near water, and increased in the Harare area between the two surveys. The appearance of the Little Swift in the top 100 in 1999-2000 reflects the increase of this species that began in the 1970s (Brooke 1977, 1980).

Seasonal Variation

Seasonal differences between summer (November-February) and winter (May-August) were noted for the 100 most frequently counted species (Table 1). Species with a seasonal variation of >20% are either migrants or weavers and whydahs (Ploceidae and Viduidae) which are families with dramatic plumage changes in the non-breeding season when they are difficult to identify. They are, therefore, under-represented in winter. The Cape Turtle-dove was the only other resident species in which there was a significant seasonal variation. A total of 206 species were recorded in summer compared to 169 in winter, with a mean 35.8 (n = 38) and 31.7 (n = 32) per garden in summer and winter respectively, in the two seasons for individual gardens. These values were considerably higher than in the 1979-80 survey where the mean values were 22.4 (n = 70) and 19.4 (n = 75) species respectively (Woodall *et al.* 1992).

Breeding

A total of 312 breeding records from 51 species were noted, with 15 species being recorded only once and a further 15 with 2-4 records, while there were 21 species with 5 or more records (Figure 3). The largest numbers of records (54) were for the Southern Masked Weaver whose nests are easily detected while the nests of other, more numerous, species are often difficult to locate. The appearance of the Crested Barbet is interesting as it is a new 'typical garden bird' with 23 breeding records.

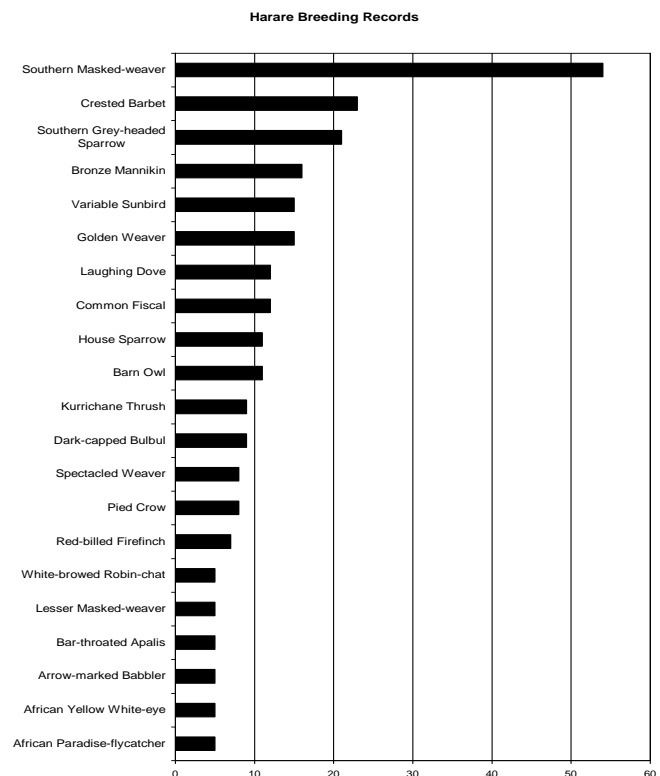


Figure 3. Breeding records obtained during the 1999-2000 Harare garden bird survey listing 21 species with five or more records.

Is there a change in breeding residents and which birds breed in or regularly utilize gardens? This is probably our most pertinent question and one that future surveys should more specifically address. We need to gather better breeding data for garden birds in ways that do not jeopardise the outcome and this sort of survey could provide valuable data, but finding nests is a skill that needs to be developed. We are, however, in a position to assist with nest boxes and by not automatically removing dead or dying trees that are very important for hole-nesters, particularly in the face of peri-urban deforestation.

The Harare 'forest' should perhaps be recognised as a distinct and important habitat, although it is more like a series of thickets interspersed with clearings. Much of the surrounding miombo woodlands have been severely reduced or totally removed (a process that accelerated in the years after this survey). Some generalists, such as the Laughing Dove and Dark-capped Bulbul, have benefited from gardens while other species normally found in riparian forest and thickets have adapted to the conditions in them. The Harare populations of some species, such as the Purple-crested Turaco, are likely to be higher now than in their diminishing natural habitats around the city, supporting the conservation value of gardens. Some species (Table 4) show an apparent decrease, though this

reflects their relative ranking against other garden birds in Harare and not their actual population, which is unknown.

Some noteworthy records

Cattle Egrets appeared as a new 'garden' bird in this survey in 13th place with 71% frequency. Most records (60%) were of birds flying overhead and some of the others recorded as seen were likely to be extraneous birds too. Irwin (2010) commented on the tendency for single Cattle Egrets to feed in gardens and suggested that this was an adaptation to urbanisation. The single breeding record was from Hatfield and may not refer to breeding in the garden.

The Black-headed and Grey Herons were both new records in this survey, coming in at No 41 and 46, respectively. The majority of records for both species was of birds flying overhead, although some recorded as 'seen' could also have been flying overhead. Brooke (1977) commented on their increase in the city in the mid-1970s, and both species breed at Blair Park in the suburbs.

Somewhat unusual species on the list included White-faced Ducks and Egyptian Geese, which were mainly heard or seen flying overhead.

Two raptors appeared on the list for the first time. The Long-crested Eagle was at 93rd place and although there were some records from areas around Harare in the late 1970s it was more common and breeding in the city by 2000. The Gabar Goshawk was at 39th place with a frequency of 31%; it has adapted well to the urban environment and is now the commonest city raptor. The Spotted Eagle-owl rose from 73rd (3%) to 51st place (20%) and although of somewhat erratic occurrence, appears to have benefitted from some gardens.

Doves remained amongst the most frequently seen garden birds. The Laughing Dove scored 5th in 1968-70 at 65% but 1st with 97% in this survey. Red-eyed Doves increased from 52% to 87% in all gardens, probably in response to the more forested nature of Harare gardens, where it breeds, although there were no breeding records in this survey. It undergoes a marked daily movement to fields and farms fringing the city, and also to fields within the city, where it is undoubtedly feeds on seeds and grains, especially at times of the year when grains have ripened; there is a notable movement back into the suburbs in the late afternoon (pers. obs.). In contrast, Cape Turtle-doves decreased from 55% (12th place) to 48.7% (51st place) and may continue to do so in future, though this does depend on the types and localities of gardens participating in these surveys. However, using the total of monthly records its percentage frequency was 34% (n=702, Table 2) and 31% (Tables 1 & 2). This was the only 'resident' species showing a significant variation in seasonal occurrence (Table 1), with a percentage frequency of 27% in summer and 65% in winter. Rowan (1983) discusses movements in the tropics and Hanmer (1999) found it to be absent during the wettest parts of the year at Nchalo, Malawi. This supports the movement of much of the population away from the Harare area in summer with influxes during the dry winter.

The Purple-crested Turaco is now a typical Harare bird, having moved from a rank of 93 (11%) in 1968-70 to 7th place (95%) in 1999-2000. Grey Go-away-birds also increased significantly from a frequency of 3% in 1968-70 to 33% in this survey; both species have probably benefitted from the growth and maturity of trees in the gardens. In 2011, it was very common in the writer's Greendale garden, and existed alongside the Purple-crested Turaco without any apparent

interaction. The granite sands of this part of the city are perhaps preferred to the heavier red soils of other parts?

There was a general increase in barbet sightings, probably also a reflection of the growth and maturity of large trees in many gardens. Crested Barbets were not recorded in 1968-70 but have now become a typical garden bird. The Black-collared Barbet previously occupied 55th place (6%) but jumped significantly to 24th place (53%); it previously occurred in 13% of all gardens. Yellow-fronted Tinkerbirds, not previously in the top 100, jumped to 50th place (21%), having adapted well to gardens. There was also a notable increase in sightings of Whyte's Barbet, the frequency of which rose from 4% to 14%.

Both Zimbabwean mousebird species were reported. Red-faced Mousebirds dropped in rank from 7th to 21st place but with little change in their percentage frequency, 59% and 56%. This species may be declining slightly and needs monitoring, although its frequency in all gardens rose from 70% previously to 82%. The Speckled Mousebird was not ranked in the top 100 species in the 1968-70 survey and it only started to colonise Harare in about 1982 (Ade 1984). On this survey it was found in 59% of all gardens and it was ranked 26th. It is probably too simplistic to attribute one mousebird's decline with the other's ascendancy and other factors may be involved.

The rank of the African Palm-swift did not change significantly (18th to 22nd place) but the percentage frequency rose from 28% to 54%. It is not known how many gardens have suitable palm trees (there were two breeding records) or if observers correctly applied the codes 'overhead' and 'seen'. The latter should be used for birds actually using a garden, i.e. those with suitable palm trees. There were 142 overhead and 143 seen records. The Little Swift was new to this survey in 56th place (18). In the early 1970s, it was uncommon in the city and in 1970 the only breeding colony known to Brooke (1977) was in the silos of National Foods Limited in Stirling Road, Workington.

The Green Wood-hoopoe was not in the top 100 birds in the 1968-70 survey making it a new bird ranked 23rd place with 53% frequency, occurring in 29 out of 39 (74%) gardens. It is another species that may have benefitted from the increase in large, mature trees in gardens, but it is likely to be threatened by deforestation outside Harare. In 1970 it was certainly resident and breeding in places like Mukuvisi Woodlands and woodlands surrounding the city and would no doubt have been a garden visitor in Harare to some extent. However, even in 1974, this species was missing from the *Brachystegia* woodland survey at Warren Hills (Masterson & Weaving, 1975) owing to the complete absence of suitable nesting holes.

Two other new species were the African Grey Hornbill, ranked 82nd (9%), and Meyer's Parrot, ranked 94th (7%). The hornbill's distribution strongly ties in with gardens close to miombo woodlands, while the parrot is still not a common bird. It increased during the drought of 1992-93 when city gardens became a refugium (Tree 1993) but it remains sporadic in various suburbs on the edge of the city and has not really adapted to gardens.

The Pied Crow was ranked in 2nd place in both surveys, but it was generally seen flying overhead and usually only visits gardens to scavenge for leftover food and garbage. The Cape Crow dropped from 46th to 67th place, but its frequency rose slightly from 8% in 1968-70 to 14% in this survey. Brooke (1977) mentions that this crow had increased in abundance in Harare from the early to mid-1970s but Perlmutter (1977) saw "only about ten individuals during the

whole period of two years from March 1975 – April 1977. The largest group of Black Crows encountered numbered four and the birds nearly always went about in pairs.” This crow prefers open spaces and their occurrence will be affected by the types of gardens of participants; nevertheless, it appears to be declining, which might be revealed in further surveys.

The Fork-tailed Drongo was widespread and its frequency increased from 58% to 87% (all gardens) and the fall in its ranking, from 12th to 19th reflects an increase in other species.

The White-browed Robin-chat increased its ranking from 23rd in 1968-70 to 8th in this survey, and from 43% to 97% of all gardens, probably reflecting an increase in shrubbery and other cover in gardens. Similarly, the Kurrichane Thrush increased, but not to the same extent. Its ranking rose from 14th to 9th place and from 31% to 85% in all gardens.

A notable increase was reported for the Bar-throated Apalis, the frequency of which rose from 29% to 60%, although its ranking only moved from 25th to 18th place. This reflects the increased maturity of gardens.

The ‘shrike’ community experienced some changes. The Common Fiscal dropped from 3rd place to 14th in this survey, although its distribution rose from 80% of all gardens in 1968-70 to 87% in this survey. Nevertheless, it has decreased in areas where it was once numerous, such as the University of Zimbabwe campus (Hargrove *et al.* 1972) from which it virtually disappeared in the 1990s (Brian Marshall, pers. comm.). In contrast the Black-backed Puffback rose from 42nd place (11%) to 17th place (60%) and from 22% to 74% of all gardens, reflecting the increased tree cover in gardens. The Tropical Boubou remained at 27th place though its percentage frequency rose from 21% to 49%. Being a bird of riparian fringing forest and thickets, it has benefitted from well-developed gardens with shrubs.

The 1968-70 survey did not differentiate the glossy starlings because of identification difficulties but they were ranked 51st at 6% frequency. These birds have evidently increased because the Greater Blue-eared Starling was ranked 48th (22% frequency), with Cape Glossy Starlings ranked at 57th place (17%) with 92 records from Greendale, Mandara, Greystone Park, Glen Lorne, Rolf Valley, Colne Valley, Kensington, Mount Pleasant, Marlborough and Hatfield. Some misidentification is likely and its status is unclear and it may be overemphasised here. The Miombo Blue-eared Starling was ranked in 80th place (10%) though there could be some confusion between it and the Greater Blue-eared Starling. This species is incursive in gardens and exhibited a seasonal pattern, being most common in winter. There were no breeding records and it probably only breeds in the remaining miombo woodland tracts in and around the city. If this species presence in gardens is dependent on miombo woodland around the city it should be closely monitored. Finally, the Violet-backed Starling rose from 74th (3%) to 54th place (19%) and was slightly more frequent in winter (19%) than summer (13%). There may be a movement into gardens in winter but its annual movements are complex and require further study.

Interesting changes occurred amongst the common sunbirds. The Eastern Miombo Sunbird’s ranking fell from 20th to 25th while its percentage frequency increased significantly from 27% to 53%, and it was found in 32 out of 39 gardens (82%). The statement in Irwin (2010) that it occurred in 20% of gardens in 1968-70 is an error, confusing ranking with occurrence. Whilst the data in this survey does not allow a definitive analysis of its movements it does indicate peaks around February-March and July-September with dips in

winter and November-January. The Variable Sunbird, formerly restricted to the eastern highlands, spread across to Harare in about the mid-1960s but was still unrecorded in the top 100 birds in the 1968-70 survey. In this survey it appeared in 10th place (84%) as a new garden bird. Maturing gardens greatly benefit this species and it does breed in gardens though this was not recorded in this survey. It is likely to consolidate its position as the dominant sunbird in most Harare gardens. The White-bellied Sunbird, ranked 35th and 36th in the two surveys, increased in frequency from 18% to 32% of all gardens. Since it prefers drier habitats, its distribution and occurrence in these surveys may depend on participation, garden structure, situation and changing nectar sources, with well-developed ‘green’ gardens being less favoured. This species has extremely complex movements, probably dependent on the population involved. It has been variably described as resident, wandering locally, to having extensive seasonal movements in some part of its range (Tree 1990). Two other sunbird species lost ranking although their frequency did not change significantly. The Amethyst Sunbird fell from 27th to 45th while its frequency was 22% and 24%, while the Scarlet-chested Sunbird fell from 26th to 63rd with a frequency of 14% and 15% in the 1968-70 and 1999-2000 surveys, respectively.

The African Yellow White-eye dropped from 13th to 31st place but its frequency increased from 33% and 42% and it was found in 27 out of 39 gardens.

The status of House Sparrows in Harare is unclear and it is generally thought to have declined (Irwin 1993, 2002), yet it was ranked at 29th place in both surveys and its percentage frequency rose from 20% to 48%. Nevertheless, it is expected to decrease or disappear from more developed and greener gardens, though the precise ecological conditions that determine their very localised distribution are not clear. However, there was a notable increase in the Southern Grey-headed Sparrow, which rose from 50th place to 15th in this survey. The percentage frequency rose from 7% to 70%, indicating a genuine increase as a garden bird. There were 21 breeding records, making this the 3rd most frequently recorded breeder.

The status of some weavers also changed. The Golden Weaver dropped in ranking from 16th to 20th place but its frequency rose from 30% to 59%. Because of its habitat preference for rank vegetation, bushy areas and streams, the types and situations of gardens involved in the surveys are likely to influence its status. The Spectacled Weaver’s ranking rose from 37th to 28th place but its frequency increased more dramatically from 13% to 49%. A bird of riparian and evergreen forest, it benefits from well-developed gardens and it particularly favours *Phoenix* palms as nesting sites; there were 8 breeding records. Finally, the Lesser Masked Weaver was new to this survey in 79th place (10%). Records were claimed from Rolf Valley, Colne Valley, Greystone Park (breeding in August-September 1999), Borrowdale, Mandara, Chisipite, Greendale, Kensington (breeding January-February 1999), Mt. Pleasant and Hatfield (breeding September 2000).

Another species that increased considerably was the Red-billed Firefinch, moving from 24th to 16th with frequency rising from 47% to 64% of all gardens.

Can we expect new species?

These garden bird surveys have shown that bird populations, predominantly in the eastern suburbs of Harare, changed considerably over two decades. It is very likely that change will continue and a number of species recorded in the

city may eventually become more frequent and possibly appear in gardens. For example, the Black-throated Wattle-eye *Platysteira peltata* occurs in the Harare Botanic Gardens, below Cleveland Dam wall and in riparia in the Mukuvisi Woodlands, indicating a spread along the Mukuvisi system which runs through part of the city. If it confines itself to riparian forest for the meantime, there is yet suitable habitat in the northern suburbs such as the Umwindsi River. The Red-throated Twinspot *Hypargos niveoguttatus* also occurs in the Harare Botanic Gardens, probably having entered via the Mazowe River. Will the Collared Sunbird *Hedydipna collaris*, which also occurs in the upper reaches of the Mazowe River, colonise Harare? A very slight altitudinal hop is involved.

The Collared Palm-thrush *Cichladusa arquata* was found in the Florence Chisholm Park in Avondale in March 2010 (Hyslop 2010) and persisted there for a while in exotic palms; a bird was seen in the Harare Botanic Gardens in December 2010 (pers. obs.) and it could in time spread to suitable gardens if it establishes itself in Harare. Buff-spotted Flufftails *Sarothrura elegans* has been regular in Greystone Park Nature Preserve since 2005 (Riddell 2011, Robertson 2011) and bred in a Highlands garden in 2010 (Butler 2001), indicating that its status has changed from a vagrant in Mashonaland (Manson & Manson 1971, Talbot 1976, Irwin 1981, Tree 1988, Tree 1991, Sheehan 1997) to a breeding resident. Another vagrant is the Olive Thrush *Turdus olivaceus* (Paxton 1996) recorded in a Northwood garden in December 1995 and which possibly hybridized with a Kurrichane Thrush in 1996. A vagrant White-starred Robin was found in a Colne Valley garden in 1995 (Duncan 1996) which appeared to be of the race *orientalis* from north of the Zambezi and a recent recovery involved a juvenile bird in Greendale (Irwin 2001), though it is not intimated that these vagrant migrants would breed in Harare gardens.

Apart from those mentioned above we also have some birds that are present in gardens that have failed to adapt, or may appear not to have done so on the evidence we have. The main limiting factor here is that we may not have enough data to make firm statements regarding some of these birds, or alternatively the position may have already changed since this survey. The African Green-pigeon, for example, just comes in at number 100 but did not make the top 100 in 1968-70 and its status is unclear. Harwin (1998), Rockingham-Gill (1999) and Kileff (2000) discussed its apparent decline but it seems always to have been uncommon in Harare gardens. The Grey-headed Bush-shrike *Malaconotus blanchoti* (at number 99) was quite common in my Greendale garden prior to 2012 and called nearly every day, along with the Orange-breasted Bush-shrike *Chlorophoneus sulfureopectus* (78th), but in my current Newlands garden is relatively uncommon; has its status already changed? These were listed at 69th and 78th respectively by Woodall *et al.* (1997).

The insectivorous miombo specialists are just that and have failed to adapt to gardens. The Black-eared Seedeater *Crithagra mennelli* has been mentioned and though it may have occurred in or on the edge of the city in the past, the habitat changes, not only gardens but alterations to mature miombo woodland, are detrimental and it is replaced by the Streaky-headed Seedeater in gardens and in isolated preserved miombo tracts like Mukuvisi Woodlands and Cleveland/Haka Park.

Vlei and grassland birds impinge on gardens to a limited degree but the locality and proximity of the garden to these habitats seems to have some bearing. The Rufous-naped Lark *Mirafra africana* was found only in one Mandara garden rather

isolated from well-developed suburbia and was recorded as heard, and may not have been in the actual garden. The Southern Red Bishop at 49th place was the most common vlei bird but the 18 gardens that recorded it were almost always close to vleis or drainage lines through the suburbs or in the outlying suburbs. This species may also come to feeding trays in the non-breeding season when identification problems could arise.

Irwin (1980) highlighted the increasing effects of woodland clearing and fragmentation on susceptible bird species. This process has increased significantly and will continue to do so, further isolating the forested Harare 'island'. Short-range movements from outside the city are less likely and will become increasingly so with deforestation and it can be assumed that the Harare population is isolated and self-sustaining, illustrating the importance of garden habitats with suitable nesting holes, as well as the remaining natural woodland areas within the city.

Those species that are now quintessentially garden birds in Harare are those that have adapted to a new habitat, which can support populations of them, sometimes in greater numbers than in the surrounding rural areas. These populations are now largely independent of those areas and can be maintained without recruitment from them.

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Table 1. The one-hundred most common garden bird species recorded in the 1999-2000 Harare survey ranked according to number of records (total sample of 537 cards) and expressed as a percentage frequency (%F), and for summer (November-February) (T=171) and winter (May-August) (T=188). Species with a seasonal variation of >20% are in bold font.

| Rank | Species | Total | Summer (%) | Winter (%) |
|------|--|-------|------------|------------|
| 1 | Laughing Dove <i>Spilopelia senegalensis</i> | 97 | 98 | 97 |
| 2 | Pied Crow <i>Corvus albus</i> | 97 | 95 | 97 |
| 3 | Dark-capped Bulbul <i>Pycnonotus tricolor</i> | 96 | 96 | 95 |
| 4 | Crested Barbet <i>Trachyphonus vaillantii</i> | 94 | 92 | 95 |
| 5 | Bronze Mannikin <i>Lonchura cucullata</i> | 93 | 92 | 95 |
| 6 | Purple-crested Turaco <i>Gallirex porphyreolopus</i> | 93 | 97 | 87 |
| 7 | Arrow-marked Babbler <i>Turdoides jardineii</i> | 93 | 92 | 93 |
| 8 | White-browed Robin-chat <i>Cossypha heuglini</i> | 89 | 89 | 86 |
| 9 | Kurrichane Thrush <i>Turdus libonyanus</i> | 85 | 82 | 85 |
| 10 | Variable Sunbird <i>Cinnyris venustus</i> | 84 | 84 | 82 |
| 11 | Southern Masked Weaver <i>Ploceus velatus</i> | 77 | 83 | 71 |
| 12 | Red-eyed Dove <i>Streptopelia semitorquata</i> | 74 | 74 | 72 |
| 13 | Cattle Egret <i>Bubulcus ibis</i> | 71 | 77 | 69 |
| 14 | Common Fiscal <i>Lanius collaris</i> | 71 | 72 | 70 |
| 15 | Southern Grey-headed Sparrow <i>Passer diffusus</i> | 70 | 73 | 65 |
| 16 | Red-billed Firefinch <i>Lagonosticta senegala</i> | 64 | 65 | 62 |
| 17 | Black-backed Puffback <i>Dryoscopus cubla</i> | 60 | 57 | 62 |
| 18 | Bar-throated Apalis <i>Apalis thoracica</i> | 60 | 60 | 57 |
| 19 | Fork-tailed Drongo <i>Dicrurus adsimilis</i> | 59 | 56 | 59 |
| 20 | Golden Weaver <i>Ploceus xanthops</i> | 59 | 61 | 55 |
| 21 | Red-faced Mousebird <i>Urocolius indicus</i> | 56 | 46 | 59 |
| 22 | African Palm-swift <i>Cypsiurus parvus</i> | 54 | 62 | 44 |
| 23 | Green Wood-hoopoe <i>Phoeniculus purpureus</i> | 53 | 44 | 57 |
| 24 | Black-collared Barbet <i>Lybius torquatus</i> | 53 | 54 | 55 |

| Rank | Species | Total | Summer (%) | Winter (%) |
|------|---|-----------|------------|------------|
| 25 | Eastern Miombo Sunbird <i>Cinnyris manoensis</i> | 53 | 46 | 54 |
| 26 | Speckled Mousebird <i>Colius striatus</i> | 52 | 52 | 49 |
| 27 | Tropical Boubou <i>Laniarius major</i> | 49 | 53 | 47 |
| 28 | Spectacled Weaver <i>Ploceus ocularis</i> | 49 | 56 | 41 |
| 29 | House Sparrow <i>Passer domesticus</i> | 48 | 46 | 49 |
| 30 | European Bee-eater <i>Merops apiaster</i> | 43 | 79 | 1 |
| 31 | African Yellow White-eye <i>Zosterops senegalensis</i> | 42 | 40 | 42 |
| 32 | African Paradise-flycatcher <i>Terpsiphone viridis</i> | 39 | 70 | 2 |
| 33 | Blue Waxbill <i>Uraeginthus angolensis</i> | 36 | 38 | 31 |
| 34 | African Hoopoe <i>Upupa africana</i> | 35 | 24 | 43 |
| 35 | Grey Go-away-bird <i>Corythaixoides concolor</i> | 33 | 27 | 34 |
| 36 | White-bellied Sunbird <i>Cinnyris talatala</i> | 32 | 23 | 39 |
| 37 | Hamerkop <i>Scopus umbretta</i> | 32 | 37 | 25 |
| 38 | Streaky-headed Seedeater <i>Crithagra gularis</i> | 31 | 36 | 26 |
| 39 | Gabar Goshawk <i>Melierax gabar</i> | 31 | 35 | 29 |
| 40 | Cape Turtle-dove <i>Streptopelia capicola</i> | 31 | 27 | 65 |
| 41 | Black-headed Heron <i>Ardea melanocephala</i> | 29 | 35 | 26 |
| 42 | Cardinal Woodpecker <i>Dendropicus fuscescens</i> | 27 | 26 | 29 |
| 43 | Abdim's Stork <i>Ciconia abdimii</i> | 27 | 69 | - |
| 44 | Fiery-necked Nightjar <i>Caprimulgus pectoralis</i> | 24 | 14 | 26 |
| 45 | Amethyst Sunbird <i>Chalcomitra amethystina</i> | 24 | 22 | 23 |
| 46 | Grey Heron <i>Ardea cinerea</i> | 23 | 23 | 23 |
| 47 | Barn Owl <i>Tyto alba</i> | 23 | 26 | 21 |
| 48 | Greater Blue-eared Starling <i>Lamprotornis chalybaeus</i> | 22 | 19 | 23 |
| 49 | Southern Red Bishop <i>Euplectes orix</i> | 22 | 38 | 9 |
| 50 | Yellow-fronted Tinkerbird <i>Pogoniulus chrysoconus</i> | 21 | 25 | 18 |
| 51 | Spotted Eagle-owl <i>Bubo africanus</i> | 20 | 20 | 19 |
| 52 | Tawny-flanked Prinia <i>Prinia subflava</i> | 20 | 19 | 21 |
| 53 | Levaillant's Cuckoo <i>Clamator levaillantii</i> | 19 | 36 | 6 |
| 54 | Violet-backed Starling <i>Cinnyricinclus leucogaster</i> | 19 | 13 | 19 |
| 55 | Black-headed Oriole <i>Oriolus larvatus</i> | 18 | 18 | 18 |
| 56 | Little Swift <i>Apus affinis</i> | 18 | 28 | 10 |
| 57 | Cape Glossy Starling <i>Lamprotornis nitens</i> | 17 | 15 | 21 |
| 58 | Brubru <i>Nilaus afer</i> | 16 | 16 | 15 |
| 59 | Village Weaver <i>Ploceus cucullatus</i> | 15 | 19 | 14 |
| 60 | Steel-blue Widowfinch <i>Vidua chalybeata</i> | 15 | 14 | 12 |
| 61 | Diderick Cuckoo <i>Chrysococcyx caprius</i> | 15 | 31 | 1 |
| 62 | Southern Black Flycatcher <i>Melaenornis pammelaina</i> | 15 | 15 | 16 |
| 63 | Scarlet-chested Sunbird <i>Chalcomitra senegalensis</i> | 15 | 18 | 12 |
| 64 | Pin-tailed Whydah <i>Vidua macroura</i> | 14 | 28 | 3 |
| 65 | Jameson's Firefinch <i>Lagonosticta rhodopareia</i> | 14 | 15 | 14 |
| 66 | Whyte's Barbet <i>Stactolaema whytii</i> | 14 | 10 | 17 |
| 67 | Cape Crow <i>Corvus capensis</i> | 14 | 15 | 13 |
| 68 | White-faced Duck <i>Dendrocygna viduata</i> | 14 | 16 | 11 |
| 69 | Red-chested Cuckoo <i>Cuculus solitarius</i> | 13 | 27 | 1 |
| 70 | Barn Swallow <i>Hirundo rustica</i> | 12 | 28 | 1 |
| 71 | Egyptian Goose <i>Alopochen aegyptiaca</i> | 12 | 11 | 12 |
| 72 | Amur Falcon <i>Falco amurensis</i> | 11 | 30 | - |
| 73 | Brown-hooded Kingfisher <i>Halcyon albiventris</i> | 11 | 15 | 11 |
| 74 | Chin-spot Batis <i>Batis molitor</i> | 11 | 11 | 10 |
| 74 | Black-shouldered Kite <i>Elanus caeruleus</i> | 10 | 11 | 10 |
| 76 | Red-winged Starling <i>Onychognathus morio</i> | 10 | 10 | 11 |
| 77 | Yellow-fronted Canary <i>Crithagra mozambicus</i> | 10 | 12 | 10 |
| 78 | Orange-breasted Bush-shrike <i>Telophorus sulfureopectus</i> | 10 | 11 | 10 |
| 79 | Lesser Masked Weaver <i>Ploceus intermedius</i> | 10 | 11 | 9 |
| 80 | Miombo Blue-eared Starling <i>Lamprotornis elisabeth</i> | 10 | 6 | 13 |
| 81 | Common Waxbill <i>Estrilda astrild</i> | 9 | 12 | 7 |
| 82 | African Grey Hornbill <i>Tockus nasutus</i> | 9 | 7 | 7 |
| 83 | Lesser Honeyguide <i>Indicator minor</i> | 9 | 7 | 11 |
| 84 | African Harrier-hawk <i>Polyboroides typus</i> | 9 | 9 | 9 |
| 85 | Black-crowned Tchagra <i>Tchagra senegalus</i> | 9 | 9 | 6 |
| 86 | Little Sparrowhawk <i>Accipiter minullus</i> | 9 | 7 | 10 |

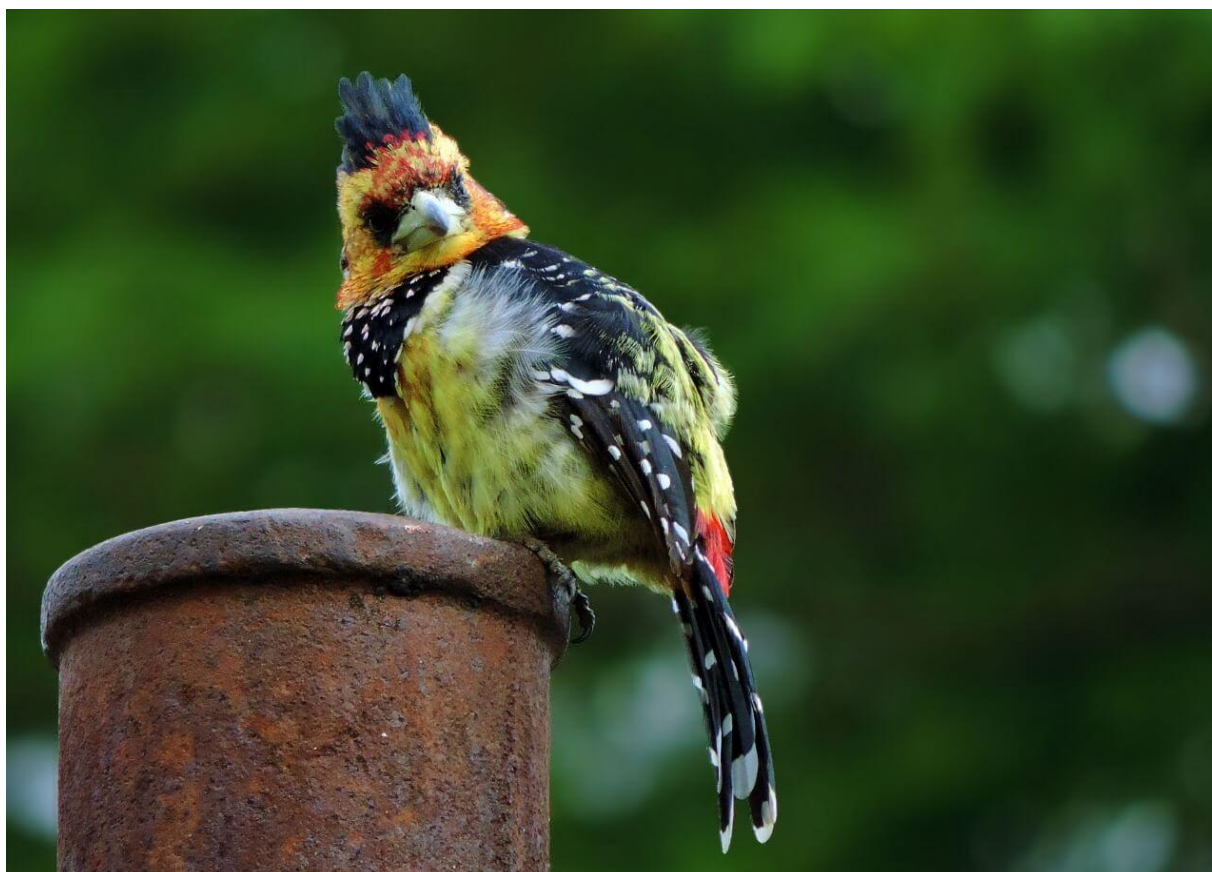
| Rank | Species | Total | Summer (%) | Winter (%) |
|------|--|-------|------------|------------|
| 87 | Senegal Coucal <i>Centropus senegalensis</i> | 8 | 15 | 2 |
| 88 | Crowned Lapwing <i>Vanellus coronatus</i> | 8 | 4 | 12 |
| 89 | Brimstone Canary <i>Crithagra sulphuratus</i> | 8 | 8 | 10 |
| 90 | Reed Cormorant <i>Phalacrocorax africanus</i> | 8 | 9 | 5 |
| 91 | Helmeted Guineafowl <i>Numida meleagris</i> | 7 | 6 | 7 |
| 92 | Groundscraper Thrush <i>Turdus litsitsirupa</i> | 7 | 5 | 9 |
| 93 | Long-crested Eagle <i>Lophaetus occipitalis</i> | 7 | 9 | 5 |
| 94 | Meyer's Parrot <i>Poicephalus meyeri</i> | 7 | 8 | 7 |
| 95 | Lizard Buzzard <i>Kaupifalco monogrammicus</i> | 7 | 7 | 7 |
| 96 | African Sacred Ibis <i>Threskiornis aethiopicus</i> | 7 | 9 | 4 |
| 97 | Shikra <i>Accipiter badius</i> | 6 | 4 | 5 |
| 98 | Wahlberg's Eagle <i>Aquila wahlbergi</i> | 6 | 12 | 1 |
| 99 | Grey-headed Bush-shrike <i>Malaconotus blanchoti</i> | 6 | 4 | 6 |
| 100 | African Green-pigeon <i>Treron calvus</i> | 6 | 5 | 6 |

Table 2. The 73 species that were in the top 100 both in the 1968-70 and 1999-2000 surveys with their frequencies and an indication of how those frequencies have changed; * = increased by >50%, none decreased by >50%. Note that the 1968-70 survey did not distinguish between glossy starling species and they have therefore been combined in this table.

| | % Frequency | | | %Frequency | |
|------------------------------|-------------|-----------|-------------------------------|------------|-----------|
| | 1968-1970 | 1999-2000 | | 1968-1970 | 1999-2000 |
| Dark-capped Bulbul | 84 | 96 | Pin-tailed Whydah | 11 | 14 |
| Pied Crow | 77 | 97 | Tawny-flanked Prinia* | 9 | 20 |
| Common Fiscal | 77 | 71 | Southern Black Flycatcher* | 9 | 15 |
| Southern Masked Weaver | 67 | 77 | Cardinal Woodpecker* | 8 | 27 |
| Laughing Dove | 65 | 97 | Cape Crow* | 8 | 14 |
| Bronze Mannikin | 63 | 93 | Common Waxbill | 8 | 9 |
| Red-faced Mousebird | 59 | 56 | Southern Grey-headed Sparrow* | 7 | 70 |
| Arrow-marked Babbler* | 45 | 93 | Chin-spot Batis | 7 | 11 |
| White-browed Robin-chat* | 34 | 89 | Red-winged Starling | 7 | 10 |
| Cape Turtle-dove | 34 | 31 | Black-collared Barbet* | 6 | 53 |
| Fork-tailed Drongo* | 33 | 59 | Glossy Starlings* | 6 | 49 |
| African Yellow White-eye | 33 | 42 | Brubru* | 6 | 16 |
| African Hoopoe | 33 | 35 | Amur Falcon* | 6 | 11 |
| Kurrichane Thrush* | 31 | 85 | Fiery-necked Nightjar* | 5 | 24 |
| Red-eyed Dove* | 30 | 74 | Barn Owl* | 5 | 23 |
| Golden Weaver* | 30 | 59 | Levaillant's Cuckoo* | 5 | 19 |
| European Bee-eater | 29 | 43 | Groundscraper Thrush | 5 | 7 |
| African Palm-swift* | 28 | 54 | Southern Red Bishop* | 4 | 22 |
| Eastern Miombo Sunbird* | 27 | 53 | Steel-blue Widowfinch* | 4 | 15 |
| Blue Waxbill | 27 | 36 | Whyte's Barbet* | 4 | 14 |
| Streaky-headed Seedeater | 25 | 31 | Brimstone Canary* | 4 | 8 |
| Abdim's Stork | 25 | 27 | Senegal Coucal* | 4 | 8 |
| Red-billed Firefinch* | 24 | 64 | Grey-headed Bush-shrike* | 4 | 6 |
| Bar-throated Apalis* | 24 | 60 | Grey Go-away-bird* | 3 | 33 |
| Black-headed Oriole | 24 | 18 | Spotted Eagle-owl* | 3 | 20 |
| Amethyst Sunbird | 22 | 24 | Violet-backed Starling* | 3 | 19 |
| Tropical Boubou* | 21 | 49 | Orange-breasted Bush-shrike* | 3 | 10 |
| House Sparrow* | 20 | 48 | Crowned Lapwing* | 3 | 8 |
| White-bellied Sunbird* | 18 | 32 | Black-shouldered Kite* | 2 | 10 |
| Jameson's Firefinch | 17 | 14 | Lesser Honeyguide* | 2 | 9 |
| Barn Swallow | 16 | 12 | Shikra* | 2 | 6 |
| Yellow-fronted Canary | 16 | 10 | Hamerkop* | 1 | 32 |
| African Paradise-flycatcher* | 14 | 39 | Red-chested Cuckoo* | 1 | 13 |
| Spectacled Weaver* | 13 | 49 | Brown-hooded Kingfisher* | 1 | 11 |
| Purple-crested Turaco* | 11 | 93 | | | |
| Black-backed Puffback* | 11 | 60 | | | |
| Diderick Cuckoo | 11 | 15 | | | |

Table 3. Species that were in the top 100 in 1968-70 but absent from the list in 1999-2000, and those species in the top 100 in 1999-2000 new to the list. Species with a frequency of >20%, which might therefore be considered to be typical garden species, are in bold font. The two heron species are excluded because most were seen flying overhead and rarely enter gardens.

| Absent in 1999-2000 | %F | New in 1999-2000 | %F |
|------------------------------|-----------|----------------------------------|-----------|
| Black-throated Canary | 21 | Crested Barbet | 94 |
| Willow Warbler | 11 | Variable Sunbird | 84 |
| Yellow-billed Kite | 4 | Cattle Egret | 71 |
| Jacobin Cuckoo | 4 | Green Wood-hoopoe | 53 |
| Rock Dove | 4 | Speckled Mousebird | 52 |
| Red-billed Quelea | 4 | Gabar Goshawk | 31 |
| Greater Honeyguide | 4 | Black-headed Heron | 29 |
| White Stork | 3 | Grey Heron | 23 |
| Red-backed Shrike | 3 | Yellow-fronted Tinkerbird | 21 |
| Swallow-tailed Bee-eater | 3 | Little Swift | 18 |
| Grey-rumped Swallow | 2 | Cape Glossy Starling | 17 |
| Yellow Bishop | 2 | White-faced Duck | 14 |
| Great Reed-warbler | 2 | Egyptian Goose | 12 |
| African Black Swift | 2 | Lesser Masked Weaver | 10 |
| Spotted Flycatcher | 2 | Miombo Blue-eared Starling | 10 |
| Black-eared Seedeater | 2 | African Grey Hornbill | 9 |
| African Golden Oriole | 1 | African Harrier-hawk | 9 |
| Little Bee-eater | 1 | Black-crowned Tchagra | 9 |
| Southern Carmine Bee-eater | 1 | Little Sparrowhawk | 9 |
| Red-breasted Swallow | 1 | Reed Cormorant | 8 |
| Black Cuckooshrike | 1 | Helmeted Guineafowl | 7 |
| Garden Warbler | 1 | Long-crested Eagle | 7 |
| Golden-breasted Bunting | 1 | Meyer's Parrot | 7 |
| Black-chested Snake-eagle | 1 | Lizard Buzzard | 7 |
| Rock Martin | 1 | African Sacred Ibis | 7 |
| Martial Eagle | 1 | Wahlberg's Eagle | 6 |
| | | African Green-pigeon | 6 |



A Crested Barbet adapted to nesting in a breather pipe on a Harare house. Photo: © Ian Riddell

Garden Bird Survey, 1999-2000. Part 2: Marondera

I.C. Riddell & B.E. Marshall

Introduction

Marondera records came from the Borradaile Trust retirement complex garden and another on a farm on the outskirts of the town. Up to three observers contributed to Borradaile Trust but all records were combined on one card as a single garden. Records were obtained over 21 months, from January 1999 to December 2000. Marondera was an appropriate site for the survey because Carl Vernon carried out a year-long bird census when he was teaching at the high school in 1965 (Vernon 1968). This invaluable record made it possible to analyse some of the changes that had taken place over 35 years.

Methods

The records were tabulated and categorised as D (seen on every survey day), W (every survey week) and M (every survey month). These were then given a score, i.e., D = 3, W = 2 and M = 1, which was then multiplied by the number of months (21) to give a maximum possible score of 63. The scores were then converted to a percentage (63 = 100%) to give an estimate of the relative frequency that a species was seen. Vernon listed all the species he counted giving the number of days, with a maximum of 243, on which a species was reported; these values were also converted to percentages.

Results and Discussion

A total of 152 species were recorded during the 1999-2000 survey, compared to a total of 193 in the 1965 census, and the 100 most frequently recorded species are listed in Table 1 (at the end of the text). The species with the highest values were the Cape Turtle-dove (96.3%) in 1965 and the Dark-capped

Bulbul (100%) in 1999-2000, while the lowest values were for the Golden Weaver (4.9%) and Red-billed Quelea (6.3%) respectively. The general impression from these two lists is that in 1965 the avifauna of Marondera was fairly typical of miombo woodland, interspersed with grassland and wetter areas, while in 1999-2000 it had become a much more 'garden' avifauna.

This conclusion is borne out by a comparison of the top 50 species in the two surveys showing which species were in the list in 1965 but not in 1999-2000 (Table 2). Typical miombo species present in the 1965 list include Neddicky, Coqui Francolin, Yellow-bellied Eremomela, Miombo Tit, Miombo Rock-thrush, African Golden Oriole, Southern Hyliota and African Cuckoo. Typical grassland/wetland species included the Rufous-naped Lark, Lazy and Croaking Cisticolas, Cape Longclaw, African Wattled and Crowned Lapwings, and Black-bellied Bustard. Some species, such as the African Hoopoe and the Cape Crow appear to have declined generally across Mashonaland.

The 1999-2000 surveys revealed dramatic increases of some species. Those not recorded by Vernon include the Purple-crested Turaco (ranked 22 in 1999-2000), Brown-hooded Kingfisher (38), Speckled Mousebird (33), Arrow-marked Babbler (19), White-browed Robin-chat (11), Village Weaver (28), and Blue Waxbill (18). The Variable Sunbird, ranked at No. 188 in Vernon's list, with only one sighting, was in fourth place in 1999-2000, while other notable increases included the Crested Barbet (from 93 to 8), Red-winged Starling (79 to 12), Bar-throated Apalis (70 to 13), Southern Grey-headed Sparrow (56 to 6), Bronze Mannikin (86 to 9), and Jameson's Firefinch (190 to 42).

Table 2. The top 50 species recorded at Marondera in the 1965 and 1999-2000 surveys. Species in **bold** font are ones whose status has changed, i.e., dropped from the 1965 list, added to the 1999-2000 list.

| Rank | 1965 | %F | 1999-2000 | %F |
|------|--------------------------------|------|-------------------------------------|-------|
| 1 | Cape Turtle-dove | 96.3 | Dark-capped Bulbul | 100.0 |
| 2 | Dark-capped Bulbul | 94.2 | Pied Crow | 98.4 |
| 3 | Groundscraper Thrush | 92.6 | Fork-tailed Drongo | 96.8 |
| 4 | Fork-tailed Drongo | 91.4 | Variable Sunbird | 93.7 |
| 5 | Yellow-throated Petronia | 90.1 | Southern Masked-weaver | 93.7 |
| 6 | Chin-spot Batis | 88.5 | Southern Grey-headed Sparrow | 92.1 |
| 7 | Streaky-headed Seedeater | 85.2 | Red-eyed Dove | 87.3 |
| 8 | Rufous-naped Lark | 83.1 | Crested Barbet | 85.7 |
| 9 | African Yellow White-eye | 80.7 | Bronze Mannikin | 82.5 |
| 10 | Kurrichane Thrush | 80.2 | Cape Turtle-dove | 82.5 |
| 11 | Eastern Miombo Sunbird | 79.4 | White-browed Robin-chat | 81.0 |
| 12 | Black-headed Oriole | 79.4 | Red-winged Starling | 81.0 |
| 13 | Green-capped Eremomela | 75.3 | Bar-throated Apalis | 81.0 |
| 14 | Southern Black Flycatcher | 72.4 | Eastern Miombo Sunbird | 79.4 |
| 15 | Golden-breasted Bunting | 72.4 | Kurrichane Thrush | 79.4 |
| 16 | Neddicky | 71.6 | Groundscraper Thrush | 76.2 |
| 17 | Pied Crow | 70.8 | Black-headed Heron | 74.6 |
| 18 | Lazy Cisticola | 68.7 | Blue Waxbill | 79.4 |
| 19 | Brubru | 68.7 | Arrow-marked Babbler | 76.2 |
| 20 | Yellow-fronted Canary | 67.1 | Black-headed Oriole | 74.6 |

| Rank | 1965 | %F | 1999-2000 | %F |
|------|---------------------------------|------|------------------------------------|------|
| 21 | Common Fiscal | 66.3 | Tawny-flanked Prinia | 73.0 |
| 22 | Coqui Francolin | 65.8 | Purple-crested Turaco | 73.0 |
| 23 | Tawny-flanked Prinia | 63.4 | Grey Go-away-bird | 68.3 |
| 24 | Yellow-bellied Eremomela | 61.7 | Black-backed Puffback | 65.1 |
| 25 | Black-backed Puffback | 60.5 | African Yellow White-eye | 61.9 |
| 26 | Miombo Tit | 51.0 | Yellow-throated Petronia | 58.7 |
| 27 | Croaking Cisticola | 50.6 | Southern Black Flycatcher | 57.1 |
| 28 | Black-collared Barbet | 48.6 | Village Weaver | 54.0 |
| 29 | Pale Flycatcher | 44.9 | Black-collared Barbet | 52.4 |
| 30 | Cape Crow | 44.9 | Hamerkop | 52.4 |
| 31 | Cape Longclaw | 43.2 | Chin-spot Batis | 49.2 |
| 32 | Miombo Blue-eared Starling | 43.2 | Cattle Egret | 46.0 |
| 33 | Miombo Rock-thrush | 42.0 | Speckled Mousebird | 46.0 |
| 34 | Grey-headed Bush-shrike | 41.2 | African Paradise-flycatcher | 44.4 |
| 35 | African Golden Oriole | 39.5 | Yellow-fronted Tinkerbird | 42.9 |
| 36 | African Hoopoe | 35.8 | Abdim's Stork | 36.5 |
| 37 | Amethyst Sunbird | 35.8 | Little Swift | 38.1 |
| 38 | Southern Masked-weaver | 35.8 | Brown-hooded Kingfisher | 38.1 |
| 39 | Crowned Lapwing | 35.0 | Amethyst Sunbird | 38.1 |
| 40 | African Wattled Lapwing | 33.7 | White-crested Helmet-shrike | 36.5 |
| 41 | Black-bellied Bustard | 32.5 | Miombo Blue-eared Starling | 36.5 |
| 42 | Wing-snapping Cisticola | 30.5 | Jameson's Firefinch | 36.5 |
| 43 | Grey-rumped Swallow | 28.8 | Streaky-headed Seedeater | 34.9 |
| 44 | Willow Warbler | 28.8 | Fiery-necked Nightjar | 34.9 |
| 45 | Red-headed Weaver | 28.8 | Cardinal Woodpecker | 34.9 |
| 46 | Red-eyed Dove | 28.0 | Lizard Buzzard | 33.3 |
| 47 | Buffy Pipit | 28.4 | Yellow-fronted Canary | 33.3 |
| 48 | Southern Hyliota | 26.7 | Green-capped Eremomela | 33.3 |
| 49 | Cardinal Woodpecker | 26.7 | Tropical Boubou | 31.7 |
| 50 | African Cuckoo | 26.3 | Cut-throat Finch | 31.7 |

The species that were in Vernon's top 50, but were not in the 1999-2000 seem to be (1) characteristic miombo birds, such as the Neddicky, Coqui Francolin, Miombo Tit, Miombo Rock-thrush, Southern Hyliota and African Cuckoo, or (2) grassland-wetland types, such as the Rufous-naped Lark, cisticolas, Cape Longclaw, Grey-rumped Swallow and Black-bellied Bustard. Back in 1965 there was probably much more open country (grassland-wetland) and undisturbed miombo around Marondera High School than there is now. Some species that have dropped from the top 50, such as the Cape Crow, Miombo Rock-thrush and African Hoopoe, may have declined over Mashonaland as a whole.

These changes are fairly consistent with those noted in Harare gardens and many of these new species are those that generally prefer well-developed woodland. There were some differences between Harare and Marondera, however, and species that were in the top 50 in Harare but not Marondera include the Laughing Dove *Spilopelia senegalensis*, one of the commonest species in Harare, which was absent from Marondera in both surveys. It is rare in miombo woodland and has evidently failed to establish itself in Marondera. The Common Fiscal, also rare in miombo, declined between 1965 and 1999-2000, falling in rank from 21 to 65; this may represent a real decline rather than a fall in the ranking caused by new species being listed. Red-faced Mousebirds *Urocolius indicus* were scarce in 1965 (ranked 161) and appear to have been completely replaced by Speckled Mousebirds, in contrast to its situation in Harare. Vernon did not record the Green Wood-hoopoe but it appeared in the 1999-2000 list at 98 and so it may slowly be establishing itself in Marondera, as it has in Harare where it was ranked 23.

House Sparrows *Passer domesticus* were scarce in 1965 (ranked 116) but were not reported in the later survey. White-bellied Sunbirds *Cinnyris talatala* were still present in Harare (ranked at 36) but seem to have been completely replaced by Variable Sunbirds in Marondera. The Gabar Goshawk, which was the commonest small raptor in Harare, was scarce in Marondera where the most frequent raptor was the Lizard Buzzard, followed by the Shikra. Greater Blue-eared Starlings *Lamprotornis chalybaeus* and Southern Red Bishops *Euplectes orix* were recorded in Harare but not at Marondera.

Some species (e.g., Cape Crow) have probably decreased across their range and Vernon's list includes the Bateleur (ranked 134), which must be almost the last record of this bird on the highveld. Others such as the Black-headed Heron have increased – this bird may now be the main predator in grassland following the decline of species such as the Secretarybird *Sagittarius serpentarius*, Southern Ground-hornbill *Bucorvus leadbeateri*, harriers and Marsh Owl *Asio capensis* and African Grass-owl *Tyto capensis*. Both Marondera surveys appear to have been close to water features, such as a dam or garden pond, which explains the presence of species such as the Wood Sandpiper and African Wattled Lapwing in the top 100 in 1965, and in 1999-2000 the Hamerkop in the top 50, and the Grey Heron and African Black Duck in the top 100. The presence of the Cattle Egret in the top 100 in 1999-2000, but not recorded in 1965, is similar to the Harare surveys and may reflect Irwin's (2003) suggestion that this species has adapted to urbanisation by becoming a solitary feeder in gardens.

References

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Table 1. The top 100 species recorded at Marondera in 1965 showing number of days recorded out of 243 (Vernon 1968) and in 1999-2000, score out of a total of 63, see Methods (this survey). Altogether, a total of 142 species is listed because of some species that were present in one survey but absent in the other.

| Species | Sightings 1965 | Score 1999-2000 |
|---|-------------------|--------------------|
| Reed Cormorant <i>Microcarbo africanus</i> | | 6 |
| Grey Heron <i>Ardea cinerea</i> | | 6 |
| Black-headed Heron <i>Ardea melanocephala</i> | | 47 |
| Cattle Egret <i>Bubulcus ibis</i> | | 29 |
| Hamerkop <i>Scopus umbretta</i> | | 33 |
| Abdim's Stork <i>Ciconia abdimii</i> | 34 | 23 |
| African Sacred Ibis <i>Threskiornis aethiopicus</i> | | 4 |
| African Black Duck <i>Anas sparsa</i> | | 9 |
| Yellow-billed Kite <i>Milvus aegyptius</i> | 16 | 8 |
| Black-shouldered Kite <i>Elanus caeruleus</i> | 21 | 8 |
| African Cuckoo Hawk <i>Aviceda cuculoides</i> | 15 | |
| Wahlberg's Eagle <i>Hieraetus wahlbergi</i> | 15 | 12 |
| Steppe Buzzard <i>Buteo buteo</i> | 18 | |
| Lizard Buzzard <i>Kaupifalco monogrammicus</i> | 34 | 21 |
| Shikra <i>Accipiter badius</i> | | 10 |
| Gabar Goshawk <i>Micronisus gabar</i> | | 6 |
| Dark Chanting-goshawk <i>Melierax metabates</i> | | 8 |
| Amur Falcon <i>Falco amurensis</i> | | 7 |
| Coqui Francolin <i>Peliperdix coqui</i> | 160 | |
| Shelley's Francolin <i>Scleroptila shelleyi</i> | 22 | |
| Helmeted Guineafowl <i>Numida meleagris</i> | 14 | |
| Black-bellied Bustard <i>Lissotis melanogaster</i> | 79 | |
| Wood Sandpiper <i>Tringa glareola</i> | 45 | |
| Crowned Lapwing <i>Vanellus coronatus</i> | 85 | |
| African Wattled Lapwing <i>Vanellus senegallus</i> | 82 | |
| Red-eyed Dove <i>Streptopelia semitorquata</i> | 68 | 55 |
| Cape Turtle-dove <i>Streptopelia capicola</i> | 234 | 52 |
| Emerald-spotted Wood-dove <i>Turtur chalcospilos</i> | | 15 |
| African Green-pigeon <i>Treron calvus</i> | 12 | 20 |
| Purple-crested Turaco <i>Gallirex porphyreolophus</i> | | 46 |
| Grey Go-away-bird <i>Corythaixoides concolor</i> | | 43 |
| African Cuckoo <i>Cuculus gularis</i> | 64 | |
| Klaas's Cuckoo <i>Chrysococcyx klaas</i> | 13 | |
| Diderick Cuckoo <i>Chrysococcyx caprius</i> | | 6 |
| Levaillant's Cuckoo <i>Clamator levaillantii</i> | | 5 |
| Great Spotted Cuckoo <i>Clamator glandarius</i> | 11 | |
| Spotted Eagle-owl <i>Bubo africanus</i> | | 8 |
| African Wood-owl <i>Strix woodfordii</i> | | 8 |
| Fierly-necked Nightjar <i>Caprimulgus pectoralis</i> | 43 | 22 |
| Little Swift <i>Apus affinis</i> | | 24 |
| Common Swift <i>Apus apus</i> | | 6 |
| African Palm-swift <i>Cypsiurus parvus</i> | | 15 |
| Speckled Mousebird <i>Colius striatus</i> | | 29 |
| Brown-hooded Kingfisher <i>Halcyon albiventris</i> | | 24 |
| Striped Kingfisher <i>Halcyon chelicuti</i> | 39 | 12 |
| European Bee-eater <i>Merops apiaster</i> | 59 | 15 |
| Swallow-tailed Bee-eater <i>Merops hirundineus</i> | 20 | |
| Lilac-breasted Roller <i>Coracias caudatus</i> | | 5 |
| African Hoopoe <i>Upupa africana</i> | 87 | 6 |

| Species | Sightings 1965 | Score 1999-2000 |
|---|-------------------|--------------------|
| Green Wood-hoopoe <i>Phoeniculus purpureus</i> | | 5 |
| Common Scimitarbill <i>Rhinopomastus cyanomelas</i> | | 7 |
| Crested Barbet <i>Trachyphonus vaillantii</i> | 16 | 54 |
| Black-collared Barbet <i>Lybius torquatus</i> | 118 | 33 |
| Yellow-fronted Tinkerbird <i>Pogoniulus chrysoconus</i> | | 27 |
| Lesser Honeyguide <i>Indicator minor</i> | | 6 |
| Golden-tailed Woodpecker <i>Campethera abingoni</i> | | 10 |
| Cardinal Woodpecker <i>Dendropicos fuscescens</i> | 65 | 22 |
| Red-capped Lark <i>Calandrella cinerea</i> | 38 | |
| Rufous-naped Lark <i>Mirafra africana</i> | 202 | |
| Barn Swallow <i>Hirundo rustica</i> | 29 | 7 |
| Pearl-breasted Swallow <i>Hirundo dimidiata</i> | 30 | |
| Grey-rumped Swallow <i>Pseudhirundo griseopygia</i> | 68 | 6 |
| Lesser Striped Swallow <i>Cecropis abyssinica</i> | 19 | |
| Red-breasted Swallow <i>Cecropis semirufa</i> | 16 | |
| White-breasted Cuckooshrike <i>Cebblepyris pectoralis</i> | 63 | 12 |
| Black Cuckooshrike <i>Campephaga flava</i> | 29 | 7 |
| Fork-tailed Drongo <i>Dicrurus adsimilis</i> | 222 | 61 |
| African Golden Oriole <i>Oriolus auratus</i> | 96 | |
| Black-headed Oriole <i>Oriolus larvatus</i> | 193 | 47 |
| Pied Crow <i>Corvus albus</i> | 172 | 62 |
| Cape Crow <i>Corvus capensis</i> | 109 | |
| Southern Black Tit <i>Melaniparus niger</i> | | 16 |
| Miombo Tit <i>Melaniparus griseiventris</i> | 124 | 6 |
| Grey Penduline-tit <i>Anthoscopus caroli</i> | 17 | |
| Spotted Creeper <i>Salpornis salvadori</i> | 44 | |
| Arrow-marked Babbler <i>Turdoides jardineii</i> | | 48 |
| Dark-capped Bulbul <i>Pycnonotus tricolor</i> | 229 | 63 |
| Kurrichane Thrush <i>Turdus libonyana</i> | 195 | 50 |
| Groundscraper Thrush <i>Turdus litsitsurupa</i> | 225 | 48 |
| Miombo Rock-thrush <i>Monticola angolensis</i> | 102 | |
| White-browed Robin-chat <i>Cossypha heuglini</i> | | 51 |
| White-browed Scrub-robin <i>Cercotrichas leucophrys</i> | | 17 |
| African Stonechat <i>Saxicola torquata</i> | 61 | |
| Willow Warbler <i>Phylloscopus trochilus</i> | 70 | 5 |
| Red-faced Crombec <i>Sylvietta rufescens</i> | 47 | |
| Long-billed Crombec <i>Sylvietta whytii</i> | 17 | |
| Broad-tailed Warbler <i>Schoenicola brevirostris</i> | 34 | |
| Bar-throated Apalis <i>Apalis thoracica</i> | 34 | 51 |
| Rattling Cisticola <i>Cisticola chiniana</i> | | 11 |
| Tinkling Cisticola <i>Cisticola rufilata</i> | 27 | |
| Lazy Cisticola <i>Cisticola aberrans</i> | 167 | |
| Neddicky <i>Cisticola fulvicapilla</i> | 174 | |
| Wing-snapping Cisticola <i>Cisticola ayresii</i> | 74 | |
| Croaking Cisticola <i>Cisticola natalensis</i> | 123 | |
| Tawny-flanked Prinia <i>Prinia subflava</i> | 154 | 46 |
| Southern Hyliota <i>Hyliota australis</i> | 65 | |
| Yellow-bellied Eremomela <i>Eremomela icteropygialis</i> | 150 | |
| Green-capped Eremomela <i>Eremomela scotops</i> | 183 | 21 |
| Stierling's Wren-warbler <i>Calamonastes stierlingi</i> | 35 | 7 |
| Southern Black Flycatcher <i>Melaenornis pammelaina</i> | 176 | 36 |
| Pale Flycatcher <i>Melaenornis pallidus</i> | 109 | |
| African Paradise-flycatcher <i>Terpsiphone viridis</i> | 27 | 28 |
| Chin-spot Batis <i>Batis molitor</i> | 215 | 31 |
| Buffy Pipit <i>Anthus vaalensis</i> | 69 | |
| Wood Pipit <i>Anthus nyassae</i> | 41 | |
| Tree Pipit <i>Anthus trivialis</i> | 18 | |
| Cape Longclaw <i>Macronyx capensis</i> | 105 | |
| Common Fiscal <i>Lanius collaris</i> | 161 | 12 |
| Grey-headed Bush-shrike <i>Malaconotus blanchoti</i> | 100 | 17 |
| Orange-breasted Bush-shrike <i>Chlorophoneus sulfureopectus</i> | | 5 |
| Tropical Boubou <i>Laniarius major</i> | | 20 |

| Species | Sightings 1965 | Score 1999-2000 |
|--|-------------------|--------------------|
| Black-backed Puffback <i>Dryoscopus cubla</i> | 147 | 41 |
| Black-crowned Tchagra <i>Tchagra senegala</i> | | 18 |
| Brubru <i>Nilaus afer</i> | 167 | 14 |
| White-crested Helmet-shrike <i>Prionops plumatus</i> | 48 | 23 |
| Miombo Blue-eared Starling <i>Lamprotornis elisabeth</i> | 105 | 23 |
| Greater Blue-eared Starling <i>Lamprotornis chalybaeus</i> | | 14 |
| Red-winged Starling <i>Onychognathus morio</i> | 24 | 51 |
| Violet-backed Starling <i>Cinnyricinclus leucogaster</i> | 34 | 6 |
| Eastern Miombo Sunbird <i>Cinnyris manoensis</i> | 193 | 50 |
| Variable Sunbird <i>Cinnyris venustus</i> | | 59 |
| Amethyst Sunbird <i>Chalcomitra amethystina</i> | 87 | 24 |
| Scarlet-chested Sunbird <i>Chalcomitra senegalensis</i> | 22 | 8 |
| Southern Yellow White-eye <i>Zosterops senegalensis</i> | 196 | 39 |
| Southern Grey-headed Sparrow <i>Passer diffusus</i> | 49 | 58 |
| Yellow-throated Petronia <i>Gymnoris superciliaris</i> | 219 | 37 |
| Red-headed Weaver <i>Anaplectes rubriceps</i> | 70 | 12 |
| Village Weaver <i>Ploceus cucullatus</i> | | 34 |
| Southern Masked Weaver <i>Ploceus velatus</i> | 87 | 59 |
| Golden Weaver <i>Ploceus xanthops</i> | 12 | 5 |
| Yellow Bishop <i>Euplectes capensis</i> | 47 | |
| Red-billed Quelea <i>Quelea quelea</i> | | 4 |
| Cut-throat Finch <i>Amadina fasciata</i> | | 20 |
| African Quailfinch <i>Ortygospiza atricollis</i> | 62 | |
| Bronze Mannikin <i>Spermestes cucullatus</i> | 19 | 52 |
| Common Waxbill <i>Estrilda astrild</i> | | 6 |
| Jameson's Firefinch <i>Lagonosticta rhodopareia</i> | | 23 |
| Blue Waxbill <i>Uraeginthus angolensis</i> | | 50 |
| Pin-tailed Whydah <i>Vidua macroura</i> | 50 | |
| Yellow-fronted Canary <i>Crithagra mozambica</i> | 163 | 21 |
| Black-throated Canary <i>Crithagra atrogularis</i> | 26 | |
| Streaky-headed Seedeater <i>Crithagra gularis</i> | 207 | 22 |
| Black-eared Seedeater <i>Crithagra mennelli</i> | 31 | |
| Golden-breasted Bunting <i>Emberiza flaviventris</i> | 176 | 8 |
| Cabanis's Bunting <i>Emberiza cabanisi</i> | 18 | |

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Garden Bird Survey, 1999-2000. Part 3: Bulawayo

I.C. Riddell & B.E. Marshall

Introduction

The birds of Bulawayo have attracted interest since the early 20th century (Chubb 1909) and there are many articles and notes in *Honeyguide* with records and observations of birds in and around the city. The earliest account of garden birds is in Harwin (1959) who recorded 108 species in, or flying over, his garden in Hillside, from August 1956 to July 1957. He did not give a complete list of these species, only commenting on a few of them.

A major garden bird survey began in 1969, but the final report only gives data for 10 years, from 1973 to 1982, with an average number of eight contributors in each year (Feather 1986). In total, 240 species were reported and divided into three categories: garden utilisers (74 species), vagrants and casual visitors (107 species) and incidental (59 species). The 1999-2000 survey was on a smaller scale, with only four participants and lasting for only 22 months.

Methods

The survey methods are described by Riddell & Marshall (*this issue*, p. 50). The results are given as the number of months (out of 22) in which a species was observed. The results were compared with Feather's (1986) findings, while Vernon's (1967) categories were included to give an indication of the relative abundance of bird species nearly forty years before. He defined these categories as: 'common' species almost certainly seen in the appropriate habitat; 'frequent' species regularly seen in the appropriate habitat; 'occasional' species seen at least twice, but irregularly, and 'rare' species seen only once in four years.

Results and Discussion

A total of 101 species was recorded but the total falls to 97 if four doubtful ones are excluded (Table 1). These are all typically Mashonaland species, and although three of them have extended their range it seems unlikely that they have

reached Bulawayo. The Copper Sunbird has been recorded from Robins Camp in Hwange National Park, but Irwin (1981) states that it 'clearly undergoes extensive movements' so it is not impossible that individuals could stray as far south as Bulawayo.

The Variable Sunbird has expanded its range on the Mashonaland plateau and has been recorded as far west as Chegutu, although it may not be established there (Louw 2020). It also occurs along the southern edge of the plateau between Bikita and Great Zimbabwe (Irwin 1981) and Tree (1997) gives some records from the Kezi-Gwanda area, so could it be extending its range northward from there?

The Speckled Mousebird has also extended its range in Mashonaland, and is now a well-established garden bird in Harare (Riddell, *this issue*). It occurs along the Limpopo River, so could it be expanding northwards along the river systems? These three species were only recorded once but Whyte's Barbet was apparently recorded four times. It is a distinctive bird, if seen clearly, and it is unclear what other species could have been mistaken for it. It appears to have extended its range in the Great Zimbabwe area (Butler 2016) but there is no evidence that it has spread west from there.

Excluding these doubtful species, in 1999-2000 there were 53 in Feather's (1986) 'garden utilisers' category, 32 'vagrants or casual visitors', 7 'incidentals' and 5 species that were not listed in the earlier survey (Table 1). A further 19 species listed as 'garden utilisers' were not recorded in this survey (Table 2). It is not clear if this reflects a decline in their numbers, or whether it is simply a result of the small number of observers. Some of these species are habitat-specific and would not be expected in gardens that lack such habitats. For example, the Acacia Pied Barbet and the Chestnut-vented Tit-babbler are common in acacia, but would not be expected in gardens without these trees. Rather surprisingly, Vernon (1967) did not list the Willow Warbler or the Chin-spot Batis; it seems unlikely that they were absent so they may have been left out by mistake.

Can we detect any changes between the 1972-83 and 1999-2000 surveys? Four species absent in 1972-83 were recorded in the later survey. The African Fish-eagle and Sabota Lark were only recorded once and were undoubtedly vagrants. The Cardinal Woodpecker was also only recorded once, although it might have been expected more frequently since it has increased considerably in Harare gardens (Riddell, *this issue*). The Cape Wagtail records are of interest because Vernon described as an 'occasional' species and Feather did not list it so it is interesting to see that it still persisted in Bulawayo given that concerns have been expressed about its apparent decline in Zimbabwe as a whole (Masterson 1976).

Some of the typical garden birds seem to have increased quite early. For instance, Harwin (1959) never saw the Grey Go-away-bird in his garden although it was common in the surrounding areas (Vernon) but it was frequently recorded on both later surveys. Similarly, the Crested Barbet and Bronze Mannikin, both listed as 'occasional' by Vernon, were well-established garden birds by 1972-83. Much the same applies to the Senegal Coucal, which now seems to be an established garden bird in Bulawayo (in contrast to Harare). The Cut-throat Finch was described as 'occasional' by Vernon, while

Feather called it a 'vagrant' and although recording it in every month she noted that there were fewer records in the last five years of the survey. It seems to have recovered by the later survey.

Some species appear to have declined. Harwin (1959) ringed 316 birds in his garden of which 123 were Red-billed Firefinches. Vernon classed it as 'frequent' while classing Jameson's Firefinch as 'common' and both species were regarded as garden utilisers by Feather. However, she noted that the Red-billed Firefinch was seen less frequently in the last 5 years of her survey and was not as common as Jameson's. This trend seems to have continued, with Jameson's being recorded in 15 out of 20 months in 1999-2000, but the Red-billed was not recorded at all.

Both *Tchagra* species were recorded as vagrants/casual visitors by Feather but were not recorded at all in 1999-2000. Harwin noted that the Brown-crowned Tchagra *T. australis* was present in his garden up to July 1957, but by October 1957 it had been replaced by the Black-crowned Tchagra *T. senegala* and he concluded that the two species competed with each other.

Vernon noted that Black Kite *Milvus migrans* occurred in 'great numbers' at the beginning of the rains and Harwin saw a flock of about 1 000 of them on southward migration in November 1957. Feather recorded the Yellow-billed Kite a 'vagrant/casual visitor' in every month of year except March, but did not distinguish between the two kite species. The Yellow-billed Kite was recorded only once in 1999-2000, and Vernon noted that they only occurred in singles or pairs from August.

One final observation from Harwin is his sighting of a bird that concluded could only have been an Irania (White-throated Robin) *Irania gutturalis*. As it is a Palaearctic migrant that reaches central Tanzania, this sighting has been ignored by subsequent authors. However, it is now known that Palaearctic migrants do stray beyond their usual range; an example is the Rufous-tailed Scrub-robin *Cercotrichas galactotes*, which reached Cape Town and may well have passed through Zimbabwe on its southward passage (Anon. 2016).

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Table 1. Species recorded in the Bulawayo garden bird survey, 1999-2000, with comparative data from the 1972-1983 survey (Feather 1986) and the 1962-64 checklist (Vernon 1967). Values for 1999-2000 are the number of months (out of 22) in which a species was seen; values in 1973-82 are the number of months in which they were seen and the symbols are U = garden utilisers, V, CV = vagrants or casual visitors and I = incidental occurrence. The symbols for 1962-64 are C = common, F = frequent, O = occasional and R = rare (Vernon's criteria). The symbol * indicates questionable records.

| | 1999-2000 | 1973-1982 | | | 1962-64 |
|--|-----------|-----------|-------|----|---------|
| | | U | V, CV | I | |
| Laughing Dove <i>Spilopelia senegalensis</i> | 22 | 12 | | | C |
| Pied Crow <i>Corvus albus</i> | 22 | 12 | | | C |
| Grey Go-away-bird <i>Corythaixoides concolor</i> | 22 | 12 | | | C |
| Bronze Mannikin <i>Spermestes cucullatus</i> | 22 | 12 | | | O |
| Crested Barbet <i>Trachyphonus vaillantii</i> | 20 | 12 | | | O |
| Dark-capped Bulbul <i>Pycnonotus tricolor</i> | 20 | 12 | | | C |
| House Sparrow <i>Passer domesticus</i> | 21 | 12 | | | C |
| Blue Waxbill <i>Uraeginthus angolensis</i> | 20 | 12 | | | F |
| African Hoopoe <i>Upupa africana</i> | 19 | 12 | | | F |
| Common Fiscal <i>Lanius collaris</i> | 18 | 12 | | | C |
| White-browed Robin-chat <i>Cossypha heuglini</i> | 16 | 12 | | | F |
| African Yellow White-eye <i>Zosterops senegalensis</i> | 15 | 12 | | | F |
| Scaly-feathered Finch <i>Sporopipes squamifrons</i> | 16 | 12 | | | C |
| Cut-throat Finch <i>Amadina fasciata</i> | 15 | | 12 | | O |
| Jameson's Firefinch <i>Lagonosticta rhodoparaia</i> | 15 | 12 | | | C |
| Grey Heron <i>Ardea cinerea</i> | 14 | | 10 | | F |
| Green Wood-hoopoe <i>Phoeniculus purpureus</i> | 14 | 12 | | | O |
| Senegal Coucal <i>Centropus senegalensis</i> | 13 | 12 | | | O |
| Red-faced Mousebird <i>Urocolius indicus</i> | 13 | 12 | | | C |
| Tropical Boubou <i>Laniarius major</i> | 13 | 12 | | | C |
| Crowned Lapwing <i>Vanellus coronatus</i> | 11 | | | 12 | C |
| Red-eyed Dove <i>Streptopelia semitorquata</i> | 10 | 12 | | | F |
| White-bellied Sunbird <i>Cinnyris talatala</i> | 9 | 12 | | | C |
| Cape Turtle-dove <i>Streptopelia capicola</i> | 8 | | 12 | | C |
| Barn Owl <i>Tyto alba</i> | 8 | 12 | | | O |
| Lilac-breasted Roller <i>Coracias caudatus</i> | 8 | | 12 | | F |
| African Palm-swift <i>Cypsiurus parvus</i> | 8 | 12 | | | F |
| Black-headed Oriole <i>Oriolus larvatus</i> | 8 | 12 | | | C |
| Red-winged Starling <i>Onychognathus morio</i> | 8 | 12 | | | O |
| Hamerkop <i>Scopus umbretta</i> | 7 | | 12 | | C |
| Little Sparrowhawk <i>Accipiter minullus</i> | 7 | 12 | | | O |
| Southern Grey-headed Sparrow <i>Passer diffusus</i> | 7 | 12 | | | F |
| Barn Swallow <i>Hirundo rustica</i> | 7 | | | 9 | C |
| Groundscraper Thrush <i>Turdus litsitsurupa</i> | 7 | | 12 | | O |
| Long-tailed Paradise-whydah <i>Vidua paradisaea</i> | 7 | | 12 | | C |
| Bar-throated Apalis <i>Apalis thoracica</i> | 6 | | 12 | | F |
| Southern Masked-weaver <i>Ploceus velatus</i> | 6 | 12 | | | C |
| Cattle Egret <i>Bubulcus ibis</i> | 5 | | 12 | | C |
| Black-collared Barbet <i>Lybius torquatus</i> | 5 | 12 | | | F |
| Spotted Eagle-owl <i>Bubo africanus</i> | 5 | 12 | | | F |
| Cape Crow <i>Corvus capensis</i> | 5 | | 4 | | C |
| Miombo Double-collared Sunbird <i>Cinnyris manoensis</i> | 5 | 12 | | | F |
| African Paradise-flycatcher <i>Terpsiphone viridis</i> | 5 | 10 | | | C |
| Egyptian Goose <i>Alopochen aegyptiacus</i> | 4 | | | 3 | O |
| Shikra <i>Accipiter badius</i> | 4 | 12 | | | F |
| Common Scimitarbill <i>Rhinopomastus cyanomelas</i> | 4 | 12 | | | F |
| Tawny-flanked Prinia <i>Prinia subflava</i> | 4 | 12 | | | C |
| Cape Wagtail <i>Motacilla capensis</i> | 4 | | | | O |
| Yellow-throated Petronia <i>Gymnoris superciliaris</i> | 4 | | 2 | | |
| Lesser Masked-weaver <i>Ploceus intermedius</i> | 4 | | 11 | | O |
| Common Waxbill <i>Estrilda astrild</i> | 4 | | 12 | | F |
| Pin-tailed Whydah <i>Vidua macroura</i> | 4 | | 12 | | O |
| Brimstone Canary <i>Crithagra sulphurata</i> | 4 | 11 | | | F |
| Emerald-spotted Wood-dove <i>Turtur chalcospilos</i> | 3 | | 11 | | F |
| Black Cuckoo <i>Cuculus clamorus</i> | 3 | 12 | | | F |

| | 1999-2000 | 1973-1982 | | | 1962-64 |
|--|-----------|-----------|-------|----|---------|
| | | U | V, CV | I | |
| Red-chested Cuckoo <i>Cuculus solitarius</i> | 3 | 10 | | | F |
| Whyte's Barbet <i>Stactolaema whytii</i> * | 3 | | | | |
| Freckled Nightjar <i>Caprimulgus tristigma</i> | 3 | | 5 | | R |
| Yellow-fronted Tinkerbird <i>Pogoniulus chrysoconus</i> | 3 | 12 | | | F |
| Kurrichane Thrush <i>Turdus libonyana</i> | 3 | 12 | | | C |
| Grey-headed Bush-shrike <i>Malaconotus blanchoti</i> | 3 | 12 | | | O |
| Violet-backed Starling <i>Cinnyricinclus leucogaster</i> | 3 | 11 | | | F |
| Scarlet-chested Sunbird <i>Chalcomitra senegalensis</i> | 3 | 12 | | | F |
| Amethyst Sunbird <i>Chalcomitra amethystina</i> | 3 | | 5 | | R |
| Natal Spurfowl <i>Pternistis natalensis</i> | 2 | | | 3 | F |
| Gabar Goshawk <i>Micronisus gabar</i> | 2 | | 7 | | F |
| Yellow Bishop <i>Euplectes capensis</i> | 2 | | 12 | | C |
| African Scops-owl <i>Otus senegalensis</i> | 2 | | 2 | | R |
| Brown-hooded Kingfisher <i>Halcyon albiventris</i> | 2 | 12 | | | F |
| Striped Kingfisher <i>Halcyon chelicuti</i> | 2 | | 12 | | O |
| Arrow-marked Babbler <i>Turdoides jardineii</i> | 2 | 12 | | | F |
| Boulder Chat <i>Pinarornis plumosus</i> | 2 | | 1 | | O |
| Green-winged Pytilia <i>Pytilia melba</i> | 2 | 12 | | | C |
| Streaky-headed Seedeater <i>Crithagra gularis</i> | 2 | 12 | | | C |
| Black-headed Heron <i>Ardea melanocephala</i> | 1 | | | 10 | F |
| African Sacred Ibis <i>Threskiornis aethiopicus</i> | 1 | | | | F |
| Yellow-billed Kite <i>Milvus aegyptiacus</i> | 1 | | 11 | | F |
| Black-shouldered Kite <i>Elanus caeruleus</i> | 1 | | | 12 | O |
| African Fish-eagle <i>Haliaeetus vocifer</i> | 1 | | | | |
| Pearl-spotted Owllet <i>Glaucidium perlatum</i> | 1 | | 2 | | R |
| Jacobin Cuckoo <i>Clamator jacobinus</i> | 1 | 10 | | | C |
| Little Swift <i>Apus affinis</i> | 1 | | 12 | | O |
| Speckled Mousebird <i>Colius striatus</i> * | 1 | | | | |
| African Grey Hornbill <i>Lophoceros nasutus</i> | 1 | 12 | | | F |
| Grey-headed Kingfisher <i>Halcyon leucocephala</i> | 1 | | 7 | | O |
| European Bee-eater <i>Merops apiaster</i> | 1 | | | 9 | F |
| Cardinal Woodpecker <i>Dendropicos fuscescens</i> | 1 | | | | F |
| Sabota Lark <i>Calendulauda sabota</i> | 1 | | | | F |
| Fork-tailed Drongo <i>Dicrurus adsimilis</i> | 1 | | 12 | | C |
| Black Cuckooshrike <i>Campephaga flava</i> | 1 | | 9 | | O |
| Yellow-bellied Greenbul <i>Chlorocichla flaviventris</i> | 1 | 12 | | | F |
| Pale Flycatcher <i>Bradornis pallidus</i> | 1 | | 5 | | |
| Yellow-bellied Eremomela <i>Eremomela icteropygialis</i> | 1 | | 8 | | F |
| Magpie Shrike <i>Corvinella melanoleucus</i> | 1 | | 10 | | O |
| Black-backed Puffback <i>Dryoscopus cubla</i> | 1 | 12 | | | F |
| Cape Glossy Starling <i>Lamprotornis nitens</i> | 1 | 12 | | | O |
| Copper Sunbird <i>Cinnyris cupreus</i> * | 1 | | | | |
| Variable Sunbird <i>Cinnyris venustus</i> * | 1 | | | | |
| Red-headed Weaver <i>Anaplectes rubriceps</i> | 1 | | 11 | | F |
| Shaft-tailed Whydah <i>Vidua regia</i> | 1 | | 5 | | O |
| Yellow-fronted Canary <i>Crithagra mozambica</i> | 1 | 12 | | | F |

Table 2. Species recorded as 'garden utilisers' in 1973-82 (Feather 1986) but not recorded in the 1973-82 survey, and species not recorded in 1973-82 but noted in 1999-2000. Letter in brackets indicate relative abundance indicated in Vernon (1967).

| Species listed as 'Garden Utilisers' in 1973-82 but not reported in 1999-2000 | Species reported in 1999-2000 but not listed in 1973-82 |
|---|---|
| African Harrier-hawk <i>Polyboroides typus</i> (O) | African Fish-eagle (-) |
| Diderick Cuckoo <i>Chrysococcyx caprius</i> (C) | Cardinal Woodpecker (F) |
| Klaas's Cuckoo <i>Chrysococcyx klaas</i> (F) | Sabota Lark (F) |
| Acacia Pied Barbet <i>Lybius leucomelas</i> (C) | Cape Wagtail (O) |
| Greater Honeyguide <i>Indicator indicator</i> (O) | |
| Lesser Honeyguide <i>Indicator minor</i> (F) | |
| Golden-tailed Woodpecker <i>Campethera abingoni</i> (R) | |
| Southern Black Tit <i>Melaniparus niger</i> (O) | |

| Species listed as 'Garden Utilisers' in 1973-82 but not reported in 1999-2000 | Species reported in 1999-2000 but not listed in 1973-82 |
|---|---|
| White-throated Robin-chat <i>Cossypha humeralis</i> (C) | |
| Garden Warbler <i>Sylvia borin</i> (O) | |
| Willow Warbler <i>Phylloscopus trochilus</i> (-) | |
| Spotted Flycatcher <i>Muscicapa striata</i> (F) | |
| Chestnut-vented Tit-babbler <i>Curruca subcoerulea</i> (C) | |
| Greater Blue-eared Starling <i>Lamprotornis chalybaeus</i> (F) | |
| Chin-spot Batis <i>Batis molitor</i> (-) | |
| Brubru <i>Nilaus afer</i> (C) | |
| Village Weaver <i>Ploceus cucullatus</i> (F) | |
| Golden Weaver <i>Ploceus xanthops</i> (O) | |
| Southern Red Bishop <i>Euplectes orix</i> (F) | |
| Red-billed Firefinch <i>Lagonosticta senegala</i> (F) | |
| Black-throated Canary <i>Crithagra atrogularis</i> (C) | |

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Red-necked Buzzards in Zambezi National Park – first records for Zimbabwe

Kit & Vicki Hustler

The Victoria Falls sightings

On 28 December 2018 at around 11 a.m., we saw a buzzard perched on a smallish tree on the side of the road adjacent to the Chamabonda Vlei in Zambezi National Park at approximately 17°57'S, 25°41'E. It was sunny with a few clouds and the bird was watched through 10 x 40 binoculars from distances varying from 40-100 m for about 5 minutes. Light conditions were good.

We were expecting a migratory Common Buzzard *Buteo buteo* because of its size when first seen, and it was facing away from us. On examination through binoculars, it was obviously not a Common Buzzard. It showed a mostly plain rufous tail above and other thinner, darker bars, which seemed to be the same distance apart and which decreased in definition closer to the body. The tips of the folded wings were not obviously longer or shorter than the length of the tail. Above it was a light brown colour with no obvious contrasting darker markings. The nape and top of the head were chestnut brown, which contrasted with the rest of the body and the eye was pale. It had unfeathered tarsi and its legs and feet were yellowish.

We were not expecting this. When we started our vehicle to try and get into a position to take a photograph (taking a picture through a dirty windscreen was not an option) it was startled and flew further down the road, where it again perched facing away from us.

Our cautious approach to get another view of the bird failed, and it took off and started soaring some 60-100 m away from us on the opposite side of the vlei. The underwing, when viewed through binoculars, was mostly white. The only obvious dark markings of any description were two small dark and contrasting carpal patches, one on each wing. There were hints of paler primary windows, when compared with the secondaries and a darker trailing edge pretty much the entire length of the underside of both wings. There were no obvious spots or blotches on any of the under parts that we could see and there was no sign of any wing moult. The reasonably long tail was a plain grey/brown and the barring above was not obvious when viewed from below. There was no subterminal

bar. The southern African bird field guides we had access to at the time did not have illustrations of any possible buzzards that looked like this. On this basis, we concluded that this was probably a recently independent Augur Buzzard *Buteo augur*, a species known to breed in the gorges below the Victoria Falls, and moved on.

We thought nothing more of the sighting until a similar looking buzzard to the one we saw was located on Chamabonda vlei in December 2019. This sighting is accompanied by many photographs posted on a WhatsApp group for guides. The photograph of the bird seen on Chamabonda on 16 January 2020 (Figure 1, top right) is a very close likeness to the bird we saw almost exactly a year earlier on 28 December 2018.

It was initially identified as a recently-fledged Augur Buzzard by Trevor Hardaker (*in litt.* to Charles Brightman) but this later was changed to Red-necked Buzzard. Hardaker wrote "I have spent a bit of time looking at your photos again and also comparing them to Brian Ellement's photos. First of all, I am fairly sure that you photographed the same bird as Brian, so that's a good start as I've compared the plumage details closely and they all seem to match up. I have also now critically examined the photos again and I must say that I am now feeling a lot more comfortable that this IS actually a young Red-necked Buzzard. The overall shape doesn't seem to fit for Augur and in all the photos of the perched bird the folded wings don't reach the tip of the tail, whereas in Augur they should extend slightly beyond the tail. There are also some blotches visible on the flanks of this bird, which is in line with a young Red-necked. The flight shots are really what made me look at this again. I know I said originally that the bird was very white underneath but, on closer inspection, it was obviously quite high and the markings on the underparts are lost because of this distance [not to mention looking up against the bright sky – comment from KH]. However, the wing shape and longish tail just didn't feel right for an Augur, which, as you know, is a broad winged and short-tailed bird [as an adult only. The immature is quite different with a long tail when

compared with the adult – comment from KH]. I am now happy that Zimbabwe has its first Red-necked Buzzard *Buteo auguralis*.” A Red-necked Buzzard was seen and photographed on and off by many guides and enthusiasts in the vicinity of the Chamabonda vlei between 28 December 2019 and 16 January 2020 (Figure 1).

Recently, there have been a number of sightings of Red-necked Buzzards in southern Africa (Buij *et al.* 2016), so the presence of similar buzzards with unexpected plumage near Victoria Falls created some excitement and interest amongst

local twitchers and guides. There are no illustrations in the local bird field guides and the purpose of this note is to draw attention to the possible future occurrence of Red-necked Buzzards in the country. It also highlights the similarities in the plumages of immature Augur Buzzards *Buteo augur*, which breed within 20 km of the locality where the immature Red-necked Buzzards were seen. These issues came to light during the validation of recent sightings of two juvenile Red-necked Buzzards seen close to Victoria Falls, Zimbabwe (17°56'S, 25°50'E), one in 2018 and the other 2019.

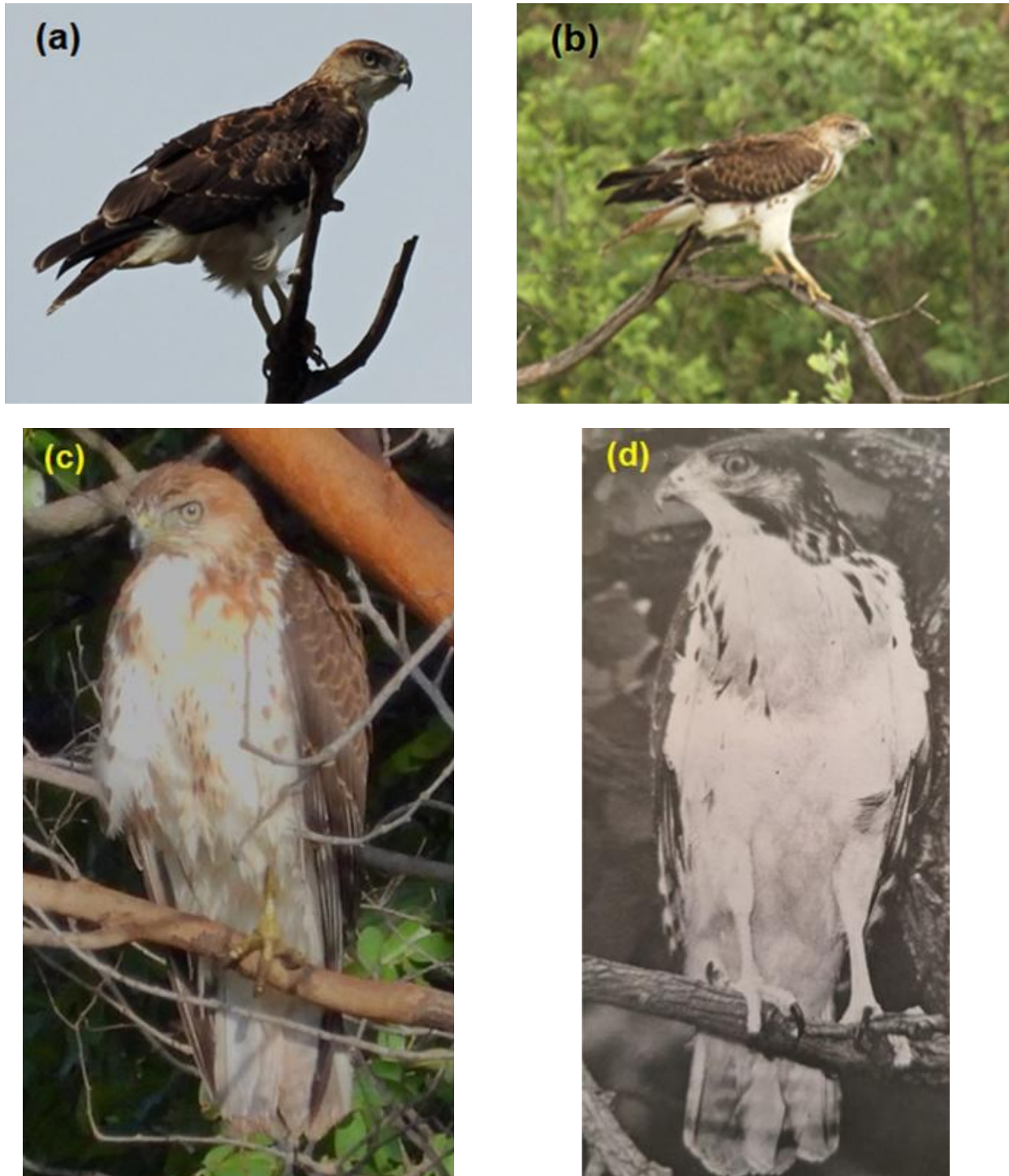


Figure 1. Photographs of the Red-necked Buzzard at Chamabonda vlei between 28 December 2019 and 16 January 2020 taken by Charles Brightman (a), Trevor Lane (b) and Gary Douglas (c), and compared with a juvenile Augur Buzzard (d) from Weaving (1977).

Separating juvenile Red-necked and Augur Buzzards

On 8 January 2019 in the Laikipia district in Kenya, we encountered a juvenile Augur Buzzard at close quarters. This presented an unexpected opportunity and we managed to get some photographs of it (Figure 2), but we did not flush it and so have no photographs of the underwing. This individual was similar in some respects, but somewhat larger, to the bird we'd seen at Chamabonda a few days earlier, but different in others. The intersection of the wing tip/tail tip was similar as was the tail colouration and markings. The upperparts were darker but still uniform and the hint of rufous was only on the side of the nape and much less obvious than the Chamabonda bird, which showed a completely rufous neck and head. We consulted Stevenson & Fanshawe (2002), which we bought on our arrival in Kenya, to confirm the distribution and note that the illustration of a young Augur Buzzard is quite different to the bird we photographed. On the same page we noticed the illustration of the Red-necked Buzzard and agreed that this was an almost exact likeness of the bird we'd seen on Chamabonda a few days before. The illustration of the underwing was somewhat different to that of the buzzard we saw. This created confusion and we believed erring on the side of caution was the way to go, at the time, and moved on.



Figure 2. The immature Augur Buzzard photographed in the Laikipia district, Kenya. Compare this bird with those in Figures 1 (a) and (b). Photo © Kit Hustler.

Augur Buzzards are breeding residents close to Victoria Falls and a known nest is only 20 km from the Chamabonda sightings in December 2018 and 2019. They lay mostly in August and September (Irwin 1981) and with an incubation period of 40 days they would hatch mostly between mid-September and mid-October. A 55 day nestling period means that birds would fledge between the beginning of November and the beginning of December. These birds would start wandering from their breeding sites from about the end of November onwards (calculated from data in Hustler & Dean 2005). Young birds leave their nesting areas 2-3 weeks after first flight (Brown *et al.* 1982) and so it is entirely possible that a young, recently independent Augur Buzzard could be in the Chamabonda Vlei area around the end of December.

Adults are easy to identify but what about young birds? The difference between immatures of both species, are not as

clear-cut as it would seem (Figure 3). Although the tail of the juvenile Augur Buzzard is distinctly longer than the adult (Hustler & Dean 2005) it is not a good field character in separating juvenile Augur and Red-necked Buzzards. The only obvious difference between this description and the Red-necked Buzzard photographs in Figure 1 is the amount of rufous on the nape and head. The other difference is size. Red-necked Buzzards are somewhat smaller than Augur Buzzards but similar in size to a Common Buzzard (Mackworth-Praed & Grant 1962; Brown *et al.* 1982; and Thiollay (1994).

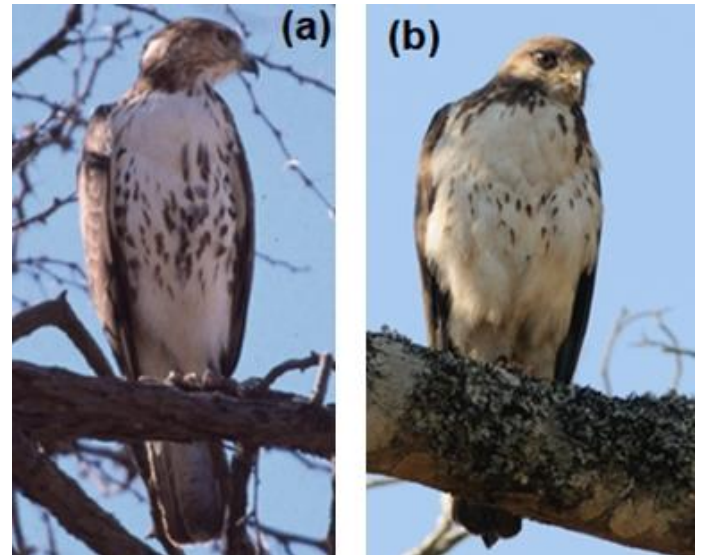


Figure 3. (a) juvenile Red-necked Buzzard, Kgalagadi Transfrontier Park, South Africa, August 2001; Photo © Bill Clark, (b) juvenile Augur Buzzard, Mutare, Zimbabwe. Photo © Per Holmen. Note the similarity of the two species. The heavier blotching on the lower breast and rufous on the nape and sides of the throat distinguish the Red-necked Buzzard. The longer wings, brown nape and streaking on the sides of the throat and upper breast separate the Augur Buzzard.

The underwing of Red-necked and Augur Buzzards is much more similar than we were initially led to believe (Figure 4). All underwing photographs from recently fledged West African birds in Buij *et al.* (2016) show spotting on the breast and underwing coverts to varying degrees. These birds are probably from breeding attempts in October the year before and are of birds between 6-9 months old. Body moult into adult plumage may have already started at this time? It seems that this only applies to birds that have commenced moulting into adult plumage and prior to this the underwings of young Red-necked Buzzards are mostly unmarked.

Young Red-necked Buzzards photographed in flight in Niger in September (Figure 4) are very similar to the individual photographed at Victoria Falls. They all show mostly white underparts and if they have blotches present on the body, they are not easily visible. The underwing pattern of a young Augur Buzzard is very similar to that of a Red-necked Buzzard (Fig. 4), contra Buij *et al.* (2016), who have used photographs of much older Augur Buzzards in their comparison of the underwing patterns of both species.

The Augur Buzzard illustrated in Figure 15 in Buij *et al.* (2016) is not a juvenile bird and is closer to a year old. It is already showing the dark upper chest of the adult, something that is not visible in the photographs of a young Augur Buzzard in Weaving (1977). The photograph taken in Chobe, Botswana of a juvenile Augur Buzzard (Fig 16 in Buij *et al.* (2016) in

June, if correctly identified, is one of few photographs of a young Augur Buzzard we have found. Is this a function of how difficult they are to identify? It is unlikely to be a recently fledged bird, based on the known egg-laying dates in this part of the continent, assuming it fledged from a nest in southern Africa. If so, it would have left the nest in November the year before and would be nearly a year old. It should be showing

signs of moult at this age and the eye is pale and not dark. The bird also lacks the subterminal bar on the underside of the tail, which is visible in young Augur Buzzards (Figure 4). The top of the head appears cinnamon and not dark brown and, on this basis, we wonder if this has been correctly identified? The June date would fit a recently fledged and wandering Red-necked Buzzard much better.

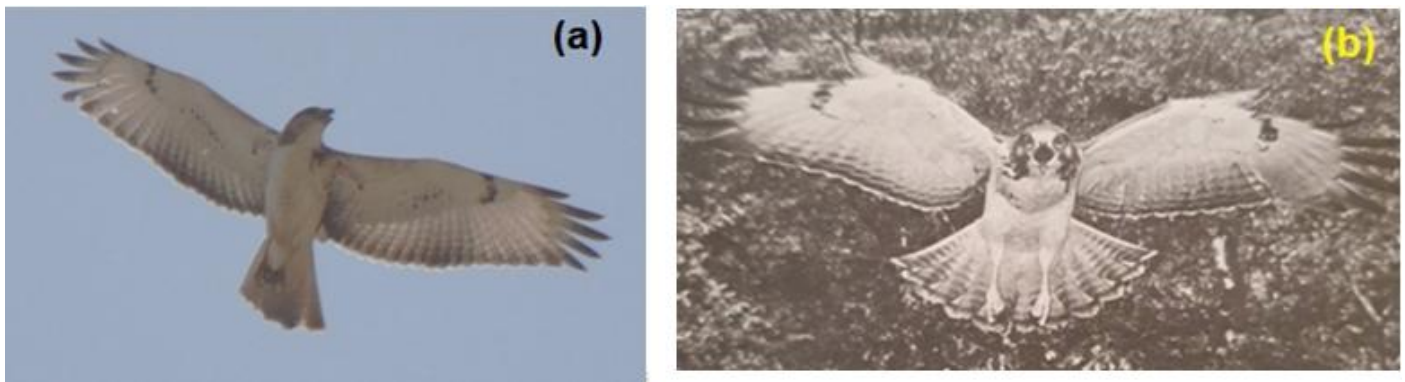


Figure 4. (a) Juvenile Red-necked Buzzard and (b) juvenile Augur Buzzard in flight. Photograph (a) from Thomas Rabell, 9 September 2011, SE Niger, available on www.wabdb.org, photograph (b) from Weaving (1977). Note the subterminal bar on the tail of the Augur Buzzard, which is absent in the Red-necked Buzzard.

What do we know about Red-necked Buzzards?

There are two populations with the main population centred north of the equator in west and central Africa (Brown *et al.* 1982; Thiollay 1994). There they have a regular north-south movement, which starts at the end of the rains in late September when they move south from the Sahel. They arrive in the Upper Guinea & Congo forests in late October and breed in January and February departing north again in early May (Brown *et al.* 1982) to take advantage of the rains in the Sahel which continue until October. Scant breeding records indicate egg laying late in the dry season with young in the nest early in March. The incubation and nestling periods are recorded as 50-60 days. Non-breeding and unsuccessful adults and immatures migrate north earlier than successfully breeding adults and juveniles, which may stay as late as May (Brown *et al.* 1982). The young bird photographed in Niger in September (Figure 4) is probably between 6 and 9 months old.

A separate but smaller population occurs in the Democratic Republic of Congo and Angola, where birds have been seen as far south as the Huambo district. These birds are not well known and are thought to be mostly sedentary (Buij *et al.* 2016). They apparently breed between August and October, almost 6 months out of phase with the northern population and when these birds are in the Sahel. Like the northern population, young are still in the nest at the onset of the rains, which in central Angola start in October. This conforms to the pattern of breeding in the northern population where laying occurs late in the dry season. These birds probably stay in the nest until November and dispersal of juveniles can be expected from the end of November onwards.

Records from the central/southern Angolan population (on www.inaturalist.org) are from all months, except July and August, when they probably start breeding. The only juvenile photographed was in December close to Golingo Alto (9°08'S, 14°46'E) and it was probably reared nearby. Records from www.ebird.org are mostly south of Massango (8°01'S, 16°20'E) and these are from May-December. The nearest confirmed area where they have been seen within their

documented range is in the Huambo province in Angola c.1200 km WNW of Victoria Falls (www.ebird.org, checklist #S39497962).

Add these sources together and there are records from every month of the year for this population. If it was truly migratory, we should expect there to be no records from some months but that does not seem to be the case. There are many problems with using these databases, not least of which is access to parts of the country when it is raining. The population of Augur Buzzards in SW Angola is known to be sympatric with Red-necked Buzzards, so there are also possible identification issues in this area, particularly of young birds, so we have used photographic evidence only rather than individual sightings to confirm distributional records.

It is worth considering the possible impact of the rains in tropical Africa, which are mostly determined by the inter-tropical convergence zone (ITCZ) on the movement patterns of Red-necked Buzzards. The ITCZ is a low-pressure belt that migrates annually as the position of the thermal equator changes. This is determined by the tilt of the earth, which causes the seasons as it orbits the sun. Around 20th June each year the Sun is overhead at 23½° North, the Tropic of Cancer. Around 20th December the Sun is overhead at 23½° South, the Tropic of Capricorn. The movement of the thermal equator shifts the belts of planetary winds and pressure systems to the north and to the south, annually. Twin precipitation peaks depend on the geographical location of the point of interest and its proximity to the equator. Two periods of rain happen because the ITCZ moves north in the early part of the year, bringing rainfall and then south later in the year, again bringing rainfall. If the locality of interest is closer to either tropic, rainfall occurs mostly in the couple of months when the ITCZ is almost directly overhead. The rains are associated with increases in primary production in the ecosystems concerned and the resultant increase in potential prey items.

It seems that the timing of rains plays a part in the movement of Red-necked Buzzards. In the northern populations, they breed in a drier period (December to

February) and have nearly completely developed young in the nest when it starts raining in March. Once they fledge, they follow the rain belt as it moves north into the Sahel. Once the rains subside there in August/September, they move back into their breeding areas by October (which is towards the end of the second rains) and lay eggs after that during the 'dry' season from December to February. These birds are moving north in April/May and south in September/October and any reverse migration, which occurs from this population, should be expected during this time.

There seems to be a similar response to rainfall of the southern population, mostly on the inland plateau of Angola. Egg laying takes place at the end of the dry season (July/August) with nearly fully developed young in the nest when the rains begin in October. They fledge in the middle of the main rains in November/December as the ITCZ moves south. Unlike the northern population, there does not appear to be a regular migration out of south/central Angola after the fledging of chicks, which follows the rain belt as it moves south, but data are lacking. The main rains in Zimbabwe occur between December and February, so Red-necked Buzzards from the southern Angolan population, which might be following the rains as they move south, could be seen during these months.

Could they have wandered this far south in this time frame? Data from similarly-sized Common Buzzards on migration indicate that they travel between 57-84 km a day (Strandberg 2008). It would probably take between 14 and 21 days for a young Red-necked Buzzard to travel from Huambo to Victoria Falls, if they travelled at the same speed. The juvenile Red-necked Buzzards seen at Victoria Falls in December 2018 and 2019 could, therefore, easily be chicks fledged in October/November on the Angolan plateau. Their occurrence in northwest Zimbabwe in December, just prior to the onset of the main rains, fits the hypothesis that there is some dispersal into southern Africa during the start of the wet season, as suggested by Buij *et al.* (2016). The presence of adults at Kasane, Botswana, in January and in the Caprivi Strip, Namibia, in March, towards the end of the austral rains (Buij *et al.* 2016), suggests that it is not just young birds, which move south during the rains, but some adults as well. The question is whether this is a regular movement or not and the available records on www.ebird.org and www.inaturalist.org suggest not.

A young Red-necked Buzzard photographed on the Liuwa Plains (c. 14°45'S, 22°42'E) on 3 May 2016 (www.inaturalist.org) constituted the first record for Zambia. Could this be a young bird following the ITCZ as it moves north? The date of this record also fits the post-breeding dispersal of young birds from the northern population and which has not moved north, as might be expected, but was it a wandering individual on reverse migration? The ITCZ has moved north of the equator at this time and as a result there is little possibility of rain at this time of year.

Some southern African records are from May-October and are of birds that are moulting (Buij *et al.* 2016). These birds could have fledged in central Angola the year before, in November. We do not know if these birds are from the northern population and have become confused, for whatever reason, and instead of moving north along with the birds that breed in the Guinea Forests, have moved south instead in reverse migration?

If Red-necked Buzzards from the central Angolan population are following the ITCZ as it moves south, it is probably a matter of time before more individuals are seen during the main rains in this part of the sub-continent. They are very similar to young Augur Buzzards and guides and birdwatchers need to be aware that this possibility exists. If they see a bird that they suspect to be a Red-necked Buzzard, they should try to take diagnostic photographs of these individuals and ensure that they are published in a place where they can be accessed in the future. These will add important information about an interesting addition to the avifauna of southern Africa.

Acknowledgments

Bill Clarke, Thomas Rabell, Per Holmen, Charles Brightman, Gary Douglas and Trevor Lane all generously gave permission to use their photographs to illustrate this article. Other photographs can be found in the respective online photographic databases of the African Bird Club and the West African Bird Club [www: wadab.com](http://www.wadab.com) and on a variety of pages on [www:facebook.com](http://www.facebook.com).

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Quantifying Threats to the Avifauna of Wooded Habitats in Zimbabwe: The Wooded Habitat Specialists Point Record Survey

A.F. Cizek

Summary

Zimbabwe is facing a deforestation crisis and this is a call for point records of bird species of patchy, localised wooded habitats, so we can develop an understanding of which habitat characteristics drive a species' patchy and localised distribution within landscapes.

That is, we need to know what structural, floristic and functional characteristics of wooded habitats habitat specialists require, and where, precisely, these occur. This information is essential to be able to prioritise conservation action at specific sites and landscapes. The project aims to build a database of point records of the most patchy, localised specialists of wooded habitats – which are defined and listed.

Our ability to map patchy, localised, wooded habitats is developing rapidly, as detailed, fine resolution, repeat satellite imagery is now freely available, and remote sensing modelling approaches evolve rapidly. A database of high-quality point distribution records of bird habitat specialists is needed to match these newly available wooded habitat distribution data.

Please contact me at anthonycizek@mac.com if you are interested in taking part in the **Wooded Habitat Specialists Point Record Survey**.

Introduction

Bird species need the right habitats, and sufficient areas of all of the kinds of habitat occurring in Zimbabwe need to be maintained in order to ensure the longevity of bird populations. Wrapped up in this statement is a great deal of complexity, not just in how land is managed but how habitats are defined – conceptually and spatially – as well as how we measure usage of the great diversity of habitats in Zimbabwe by birds. This article will explore these issues for the bird faunas of wooded habitats, as a way to introduce a new project which aims to develop understanding of wooded habitat selection by bird specialists. The nature of the threats posed to the avifaunas of wooded habitats are explored; specifically, how, in the face of a deforestation crisis, Zimbabwe's conservation estate is not adequate to the task of conserving viable populations of all of the specialists of wooded habitats. The kinds of species that are most at risk from extirpation due to deforestation are discussed, together with the information required to try to mitigate the risks of losing bird species or populations from Zimbabwe.

What we know

(1) Zimbabwe is experiencing a deforestation crisis

Concern for the avifauna of Zimbabwe's wooded habitats is not new. Irwin (1980) drew attention to the threats posed to the miombo avifauna by deforestation in the late 20th century. Whitlow's (1980) national survey highlighted that Zimbabwe's population almost trebled from 1950 to 1980 and was driving unprecedented rates and scales of deforestation. The deforestation problem has escalated to a crisis in the 21st century, with socio-economic decline since 2000 exacerbating the urban woodfuel market and clear-felling woodland for fuel to cure tobacco crops rising exponentially (Miller & Gwaze 2012). Tobacco curing alone accounts for 15% of deforestation, equivalent to the loss of 45,000 ha of woodland-forest cover per annum (Forestry Commission 2011, in Mataruse *et al.* 2017). There was also an upsurge in land being converted to agriculture at the end of the 2000-2010 decade – more than 330,000 ha annually compared with 70,000 ha previously (Forestry Commission 2011).

Global and regional assessments attest to the crisis. Yalew (2015) ranked Zimbabwe *first* amongst sub-Saharan African

countries in terms of the proportion of forest lost between 1990 and 2007. Uncertainties dog the international assessments, however, not least because of variation in how “forest” is defined in different countries (Bodart *et al.* 2013). To avoid discrepancies, Hansen *et al.* (2013) used a globally consistent approach, and reported that a staggering 19.3% of all cells with >50% tree cover was lost from Zimbabwe between 2000 and 2012. Only six other countries (globally) had lost a greater proportion of their closed woodlands and forests.

Conceptually, the term ‘deforestation’ certainly includes ‘woodland’, and ‘forest’ as used by Yalew (2015) and others, including the FAO, which monitors deforestation rates globally, and includes what most in south-central Africa would call ‘woodland’. ‘Deforestation’ is used even more broadly (than for woodland and forest) by the FAO, and clearance for agriculture certainly affects all types of wooded vegetation, including thinly wooded tree and shrub savannahs. Therefore, the scope of a project to assess the impacts of deforestation in Zimbabwe needs to consider all types of wooded vegetation. The birds of different structural types are quite distinct, and the impacts of deforestation of protea tree and shrub savannah on Gurney's Sugarbird *Promerops gurneyi* are no less severe than the loss of forest proper on, say, Swynnerton's Robin *Swynnertonia swynnertonii*.

(2) There is an exceptionally diverse range of wooded vegetation-habitat types in Zimbabwe

The woody vegetation of Zimbabwe is very complex and a full exploration is beyond the scope of this review, but major points are presented. There is huge natural spatial variation in woody cover, from broad to fine scales. Broad-scale, regional patterns are important in placing the Zimbabwean avifauna in context. Most of Zimbabwe occurs within White's (1983) Zambezi Region, but there is also an important part of the (discontinuous) Afromontane Region, and the Zanzibar-Inhambane Region reaches the Eastern Districts, too (Figure 1). Frank White's classification and mapping remains highly influential, for example, in forming the basis of BirdLife International's ‘biomes’ (Fishpool & Evans 2001). White (1983) delineated the Afromontane and Zanzibar-Inhambane regions where forest is naturally co-dominant spatially, and the

Zambezi Region was identified as one of Africa's woodland biomes. The Afrotropical and Zanzibar-Inhambane regions are differentiated from each other by the vegetation types with which forest is co-dominant spatially – grassland and woodland, respectively – and because the forests in each occur at different altitudes, high versus low. Medium-altitude forests such as Chirinda Forest were included in the Zanzibar-Inhambane Region by Burgess & Clarke (2000).

Importantly, *all* ecosystems are open (O'Neill *et al.* 1986), and while climatic forests are *typical* of the Afrotropical and Zanzibar-Inhambane regions in the Eastern Districts, there are

also small outlying patches outside these regions, notably associated with mountains along the southern edge of the Zimbabwean Plateau, like Mt Mberengwa. Furthermore, while woodland naturally predominates, White (1983) recognised the Zambezi Region supports the most diverse range of vegetation-habitat-ecosystem types of any of his African regions, including distinctive types of forest, thicket and tree savannah (Box 1). Therefore, while the major African regions have been recognised by the major physiognomic types (forest, woodland, etc.) which predominate spatially, there is a diverse range of other wooded types which naturally occur with them.

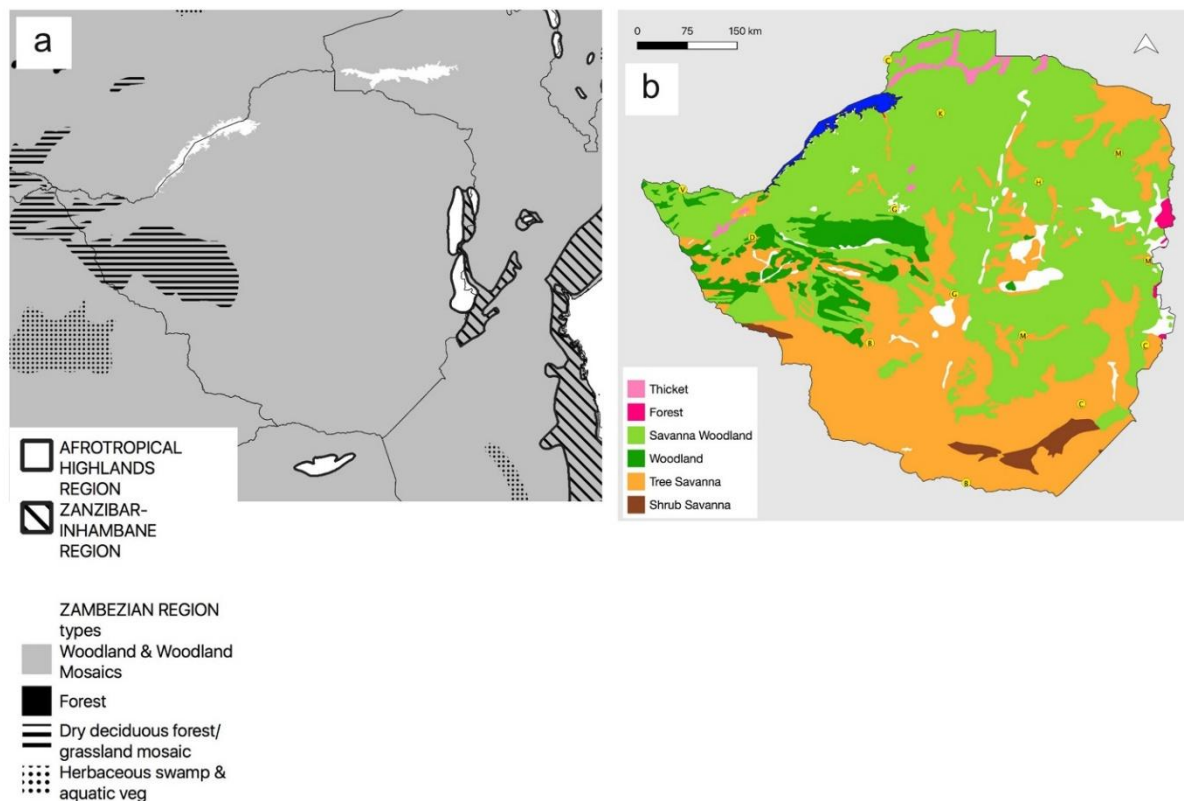


Figure 1. (a) The distributions of the major African Regions occurring in Zimbabwe, as defined and delineated by White (1983), and (b) the distributions of the major wooded vegetation types, as mapped by Wild and Barbosa (1967).

There is enormous variation *within* the major vegetation formations, too. For example, White (1983) recognised five major kinds of woodland (Box 1), based on both floristic and structural characteristics, while Wild & Barbosa (1967) – mapping (and classifying) a smaller area of Africa, and, therefore, at finer resolutions than White (1983) – recognised six major woodland and savannah woodland types and eleven kinds of tree savannah, as well as a large number of distinctive kinds of woodland and tree savannah which naturally occur over areas too small to be able to delineate at their scale of mapping. Mapping across the communal lands in the north and west of the country, Timberlake *et al.* (1993) recognised nineteen woodland types and seven dry forest types, as well as four types of riverine wooded vegetation. The broad-scale (regional and sub-regional) patterns driven by climate and topography are modified by factors acting at local scales, notably soil type. These act at even very fine scales, as there can be obvious changes in woody structure, composition and functioning on termitaria, at the scale of only 10 m (Wild 1952, Muvengwi & Witkowski 2020).

The exceptional natural diversity and spatial complexity of the vegetation of south-central Africa challenges its

classification and there is no consensus. White (1983) did not recognise ‘savannah’, which is important conceptually to a Southern African school (Huntley & Walker 1982; Frost *et al.* 1986; Cowling *et al.* 2004) which recognises that ‘savannah’ synthesises understanding of how the vegetation-habitat-ecosystem *functions*, especially how the grasses present in savannahs influence the system as a whole (e.g. Ratnam *et al.* 2011). Therefore, ‘woodlands’ are (usually) relatively well-wooded savannahs as they generally have a grassy layer (Figure 2), although this is not always the case. Wooded grassland might be used either for thinly wooded savannahs with an even distribution of trees (A in Figure 2), or for grasslands with small patches of woodland (B in Figure 2), so, ‘tree savannah’ is favoured for the former, which cover appreciable areas of Zimbabwe (Figure 1b) but which were lumped by White (1983) into his ‘woodland’ areas (Figure 1a).

Hoare *et al.* (2002) introduced the term ‘thicket-with-emergents’ for an open canopy of tall trees over a dense shrub/short tree layer, which seems an important structural characteristic for the avifauna, which responds to the presence/absence of tall trees. (That is, bird species in thicket-with-emergents differ from those found in thicket.) White (1983)

recognised ‘transition woodland’ for woodlands that are invaded by forest species, suggesting that they are generally secondary and transitional to forest proper. But he also recognised that soils can be too shallow or nutrient-poor to allow the succession. That is, in some places, transition woodland with evergreen forest elements, perhaps especially in a more well-developed sub-canopy and understorey layers, is a *climax* formation. In this case, ‘woodland-forest’ is favoured

for this structural type as ‘transition woodland’ describes the potential for succession. It is likely that the ‘mixed woodlands’ described by Vernon (1985) in the high rainfall areas around Great Zimbabwe are woodland-forest. Like these woodland-forests, which can occur at the ecotone between miombo woodland and evergreen forest proper, riparian forest, thicket and woodland types are also usually too small to map at national scales, but are highly distinctive within landscapes.

Box 1. Major kinds of woodland, forest, thicket and tree savannah occurring in Zimbabwe; generally following White (1983), but with amendments and additions based on Wild and Barbosa (1967), Hoare *et al.* (2002) and others (see text for details).

| ZAMBEZIAN REGION | AFROMONTANE REGION |
|--|---|
| <p>(A) WOODLAND</p> <ul style="list-style-type: none"> (1) Miombo Woodland <ul style="list-style-type: none"> (a) Wet Miombo Woodland (b) Dry Miombo Woodland (2) Mopane Woodland & Scrub Woodland (3) Kalahari Woodland (4) Undifferentiated Woodland & Wooded Grassland/ Tree Savannah (5) Riparian Woodland (6) Scrub Woodland (7) Transition Woodland <p>(B) THICKET/ THICKET-WITH-EMERGENTS</p> <ul style="list-style-type: none"> (1) Itigi (= Jesse) Thicket (2) Kalahari Thicket (3) Termite mound Thicket (4) Rupicolous Thicket & Bushland <p>(C) FOREST</p> <ul style="list-style-type: none"> (5) Dry evergreen Forest? (6) Dry deciduous Forest & Scrub Forest (7) Swamp Forest & Riparian Forest | <p>(A) FOREST</p> <ul style="list-style-type: none"> (1) Montane Forest (2) Undifferentiated montane Forest (3) Single-dominance montane Forest (4) Transitional (montane) Forest (5) Bamboo <p>(B) THICKET (& BUSHLAND)</p> <p>(C) SHRUBLAND</p> <p style="text-align: center;">ZANZIBAR-INHAMBANE REGION</p> <p>(A) FOREST</p> <ul style="list-style-type: none"> (1) Lowland Forest (2) Transitional Forest (3) Undifferentiated Forest (4) Scrub Forest (or Thicket) (5) Swamp Forest <p>(B) WOODLAND</p> <ul style="list-style-type: none"> (1) Transition Woodland (2) Woodland & Scrub Woodland (3) Evergreen & semi-evergreen Thicket (& Bushland) |

The exceptional natural diversity and spatial complexity of the vegetation of south-central Africa challenges its classification and there is no consensus. White (1983) did not recognise ‘savannah’, which is important conceptually to a Southern African school (Huntley & Walker 1982; Frost *et al.* 1986; Cowling *et al.* 2004) which recognises that ‘savannah’ synthesises understanding of how the vegetation-habitat-ecosystem *functions*, especially how the grasses present in savannahs influence the system as a whole (e.g. Ratnam *et al.* 2011). Therefore, ‘woodlands’ are (usually) relatively well-wooded savannahs as they generally have a grassy layer (Figure 2), although this is not always the case. Wooded grassland might be used either for thinly wooded savannahs with an even distribution of trees (A in Figure 2), or for grasslands with small patches of woodland (B in Figure 2), so, ‘tree savannah’ is favoured for the former, which cover appreciable areas of Zimbabwe (Figure 1b) but which were lumped by White (1983) into his ‘woodland’ areas (Figure 1a).

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From even this very brief overview, it is clear that there is an exceptionally diverse range of wooded vegetation-habitat-ecosystem types in Zimbabwe, which vary in composition, structure and functioning, and can be identified at a number of scales and levels of organisation. While much work remains to formalise the classification outlined in Figure 2, which is a useful framework for quantifying the limits between major woodland types.

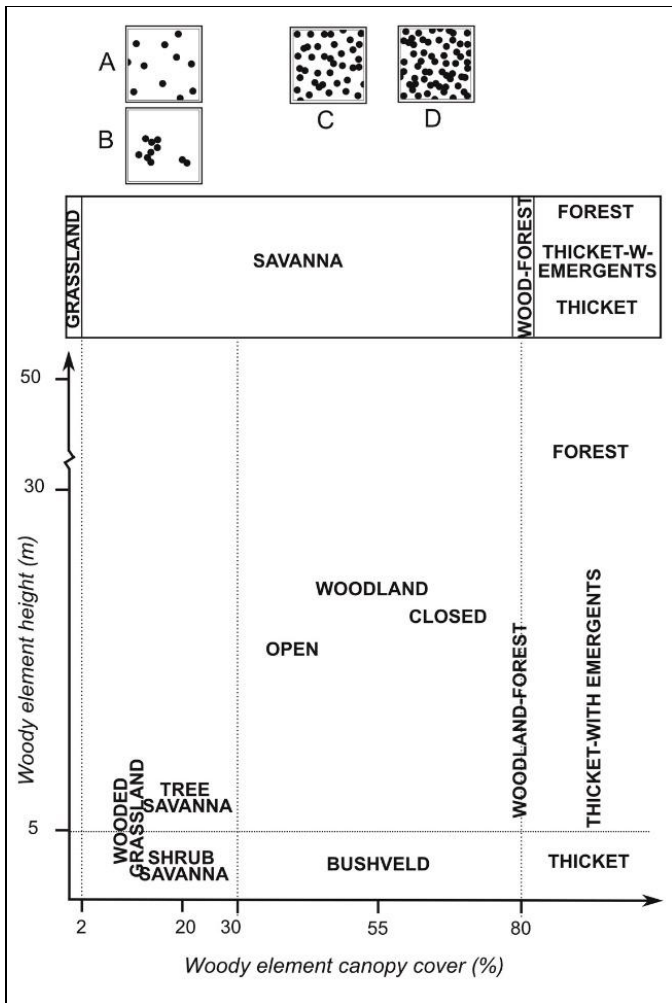


Figure 2. Structural classification of the major wooded vegetation-habitat types in Zimbabwe.

(3) Bird distributions are driven by the complex spatial patterns of wooded habitats

Hutto (1985) defined *habitat* as ‘A spatially contiguous vegetation type that appears more or less homogeneous throughout and is physiognomically distinct from other such types.’ This needs to be expanded in light of Noss’s (1990) characterisation of all biodiversity by three main factors: *structure*, *composition* and *functioning*. An assemblage of forest birds responds not just to the structure of the vegetation but also its composition and functioning. For example, there are different bird assemblages in deciduous forests and evergreen forests, and the presence (or absence) of fruiting trees, notably figs *Ficus* spp., is important for frugivores. So, habitat for birds can be defined as “a spatially contiguous vegetation type that appears more or less homogeneous throughout and is structurally, floristically and functionally distinct from other such types.”

Because vegetation integrates the complex abiotic features of a landscape (soils, climate, topography), it is often used as a surrogate for ‘ecosystem’. Noss (1996) recognised that ‘the beauty of the ecosystem concept is that it unites both the biotic and abiotic worlds’, and he provided a practical definition of ‘ecosystem’ as ‘A physical habitat with an associated assemblage of interacting organisms.’ Vegetation is used here as an approximation for both ecosystems and habitats. The overlap between vegetation, ecosystem and habitat is more

limited for a bird species such as the Mocking Cliff-chat *Thamnolaea cinnamomeiventris* whose distribution is driven by topographical features. But its distribution is still influenced by vegetation, as it prefers less wooded cover than the Boulder Chat *Pinarornis plumosus* (Irwin 1981). Even cliff-nesters can require wooded habitats, feeding above the canopy. For example, the Taita *Falco fasciinucha* and Peregrine Falcons *F. peregrinus* both require more densely wooded landscapes than the Lanner Falcon *F. biarmicus* (Hartley *et al.* 1993). This also emphasises that many bird species require more than one kind of habitat-ecosystem.

This can be illustrated by the distributions of four species typical of miombo woodland (Figure 3). The Black-eared Seedeater *Crithagra mennelli* is the most widespread, occurring across all parts of the distribution of this vegetation-ecosystem-habitat, as well as in Zambezi teak *Baikiaea plurijuga* woodland, but not mopane *Colophospermum mopane* woodland (even well-developed types, like ‘cathedral mopane’). In contrast, the Miombo Grey Tit *Melaniparus griseiventris* is absent from much of the miombo wooded landscapes at lower altitudes dominated by *Brachystegia boehmii* or *Julbernardia globiflora*, while the Western Violet-backed Sunbird *Anthreptes longuemarei* is generally restricted to miombo woodland on the Mashonaland Plateau and in the Eastern Districts. The Green-backed Woodpecker *Campethera cailliautii* has an even more limited distribution, being confined to Wet Miombo Woodland and forest edges in the lowlands to the east of the Manica (or Eastern) Highlands. Thus, the avifauna responds not only to the structural, composition and functional differences between the major types of Zambezian woodland (e.g. miombo versus Zambezi teak versus mopane woodlands) but also to the differences within these types (between sub-types; e.g. miombo on Kalahari sands versus on the basement complex geologies; wet versus dry miombo).

(4) Some vegetation-habitat-ecosystem types are poorly represented in the conservation estate

The Mashonaland Plateau supports a distinctive assemblage of birds, and very little of it is formally protected (Cizek 2002; Figure 4a). Much of this avifaunal zone is naturally covered with miombo dominated by *Brachystegia spiciformis* (often with *Julbernardia globiflora*) (Figure 4b). Only a tiny proportion of this vegetation-habitat-ecosystem type is formally protected, for example, in Lake Chivero and Kyle Recreation Parks, and even these do not include the distributions of some miombo specialists. For example, the Cinnamon-breasted Tit *Melaniparus pallidiventris* has not been recorded in either, despite them being well-worked (Vernon 1977; Couto and Couto 1997). Large tracts of miombo occur in Chizarira and Matusadona National Parks, Forest Land on the Kalahari sands (e.g. Mafungabusi Forest Land), and the safari areas, but most of these do not support all (or any) of the miombo specialists typical of the Mashonaland Plateau (Figure 3). The higher rainfall areas on the higher, cooler Zimbabwean Plateau are prime agricultural land and it is no coincidence that most of the conservation estate occurs in the hot, drier, low-lying major river valleys. The miombo which does occur in the conservation estate is in warmer, lower-lying areas (generally dominated by *Julbernardia globiflora* or *Brachystegia boehmii*-*B. allenii*). Furthermore, the cover in the conservation estate has been much thinned by elephants, fire and drought (Tafangenyasha 1997, 2001; Mapaure & Campbell 2002), causing the local extirpation of even the more widespread miombo canopy specialists (Cumming *et al.* 1997).

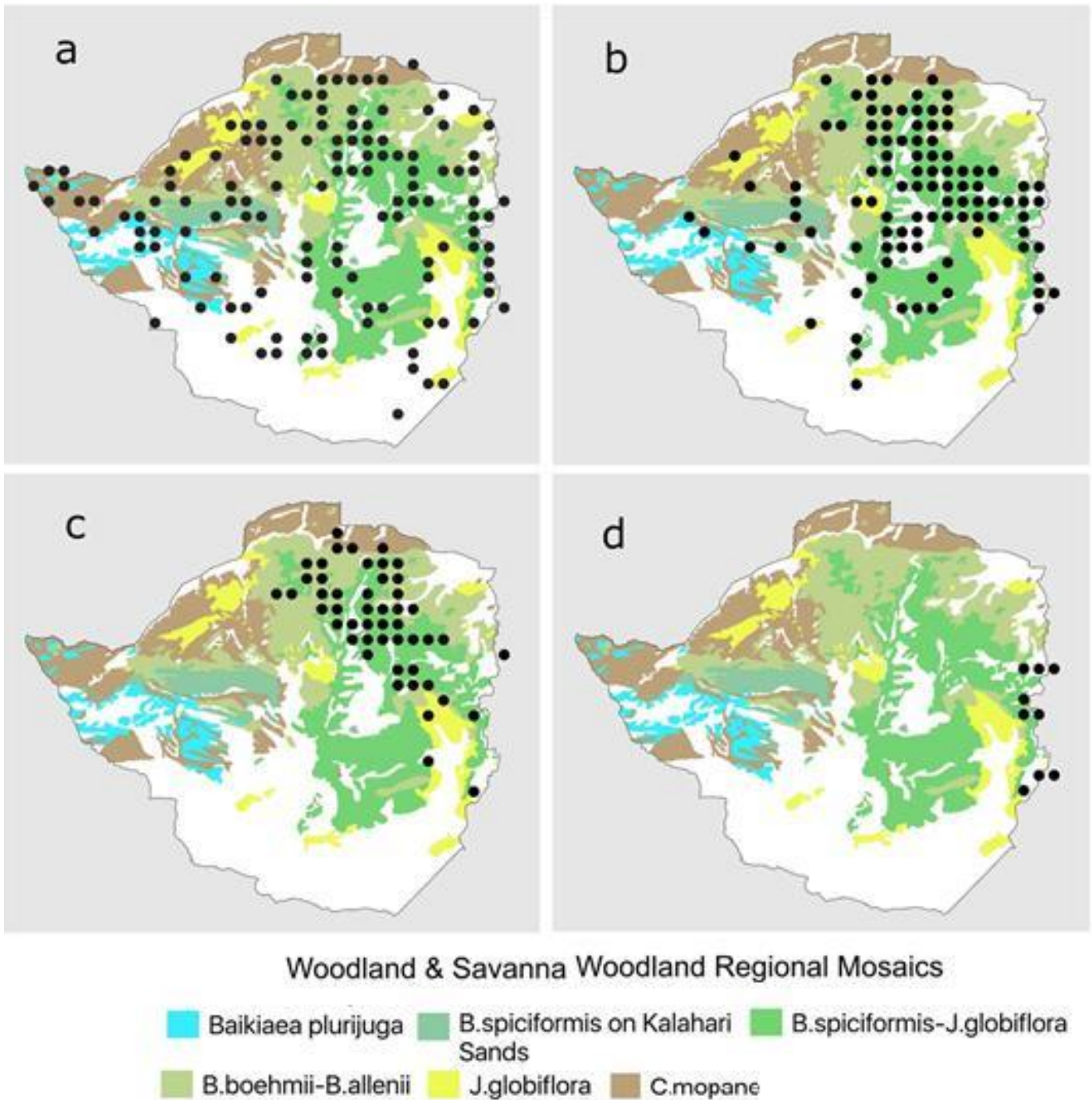


Figure 3. The distributions of the (a) Black-eared Seedeater *Crithagra mennelli*, (b) Miombo Grey Tit *Melaniparus griseiventris*, (c) Western Violet-backed Sunbird *Anthreptes languemarei* and (d) Green-backed Woodpecker *Campethera cailliautii* mapped by quarter-degree-square – round circles (data in Harrison *et al.* 1997) – compared with the potential distributions of major kinds of woodland (mapped by Wild & Barbosa 1967).

The formal protection of the Mavuradonha Wilderness Area in 2017 was significant because it supports miombo at higher altitudes on the moister Mashonaland Plateau and covers an appreciable area (c.57,500 ha). But, even so, it is unlikely to support large enough populations to ensure the longevity of the Mashonaland Plateau avifauna. For example, the Cinnamon-breasted Tit occurs at low densities of c.1 pair per 100 ha (Cizek *et al.* 2013), suggesting a goal to conserve enough habitat for 1,000 pairs would have to include patches of suitable habitat found far beyond the extent of Mavuradonha Wilderness Area.

The wet miombo in the valleys to the east of the Manica Highlands is naturally patchy and localised and has never been

mapped, but it is likely very little occurs in the conservation estate, since most of the land set aside in the Eastern Districts was to protect montane ecosystems. The lower-lying parts are prime land for agriculture, and wet miombo is amongst the most threatened vegetation-habitats-ecosystems in Zimbabwe. It supports a distinctive assemblage of birds, including the Green-backed Woodpecker (Figure 3).

(5) Vegetation-habitats-ecosystems need to be delineated at fine resolutions

There is much anecdotal evidence – much of it in the pages of *Honeyguide* – showing that many bird species in south-central Africa select wooded habitats that are distinct from

other wooded habitats at very fine resolutions. For example, the Speckled Mousebird *Colius striatus* is typical of the moist Eastern Districts, in thickets and the edges of patches of especially the drier types of forest in the rain shadow parts of the Manica Highlands, but is also known to range across the Southeast Lowveld and higher parts of the Mashonaland Plateau, where it feeds in small patches of thicket, including along drainage lines and on termitaria (Irwin 1981). That is, the Speckled Mousebird's distribution across large parts of the country is confined to patches of (likely evergreen) thicket which cover very small areas, even of the order of 10 m². Indeed, it only occurs on the eastern Mashonaland Plateau because of these tiny (from a regional perspective) but very numerous patches of thicket (which now include those cultivated in gardens). Therefore, in order to model the potential distribution of the Speckled Mousebird, the distribution of these tiny patches of thicket needs to be identified. The avifauna of riparian forest-thicket-woodland habitats is usually highly distinctive in Zambezian Region landscapes, yet they might extend over only the order of 10 m from a river. Many of these species are widespread across the country but have patchy, highly localised distributions within the landscapes in which they occur.

Furthermore, while we have some understanding of a species' habitat requirements, more detailed data are required. For example, we know it usually requires much more work to find a bird party with Cinnamon-breasted Tits in woodland on the Mashonaland Plateau than one with a Fork-tailed Drongo, but why, exactly? There is anecdotal evidence that it requires the largest patches of the best-developed woodland, with the largest trees, and favours patches with much lichen cover, including pendent *Usnea* spp. (Harrison *et al.* 1997). This suggests that it is hard to find in Mashonaland Plateau landscapes because its habitat is patchy and localised. This might be at least partly due to deforestation and/or thinning of wooded canopies, but how important is the *composition* of the canopy (versus tree size and canopy cover)? For example, how prevalent is it in woodlands dominated by *Brachystegia boehmii* (compared with those dominated by *Brachystegia spiciformis*)? The composition of miombo wooded landscapes can change across small areas, even between adjacent interfluvies – where greenstones, with woodland co-dominated by *B. boehmii*, lie next to granites and their *B. spiciformis* co-dominated miombo so detailed, fine resolution distribution records are required.

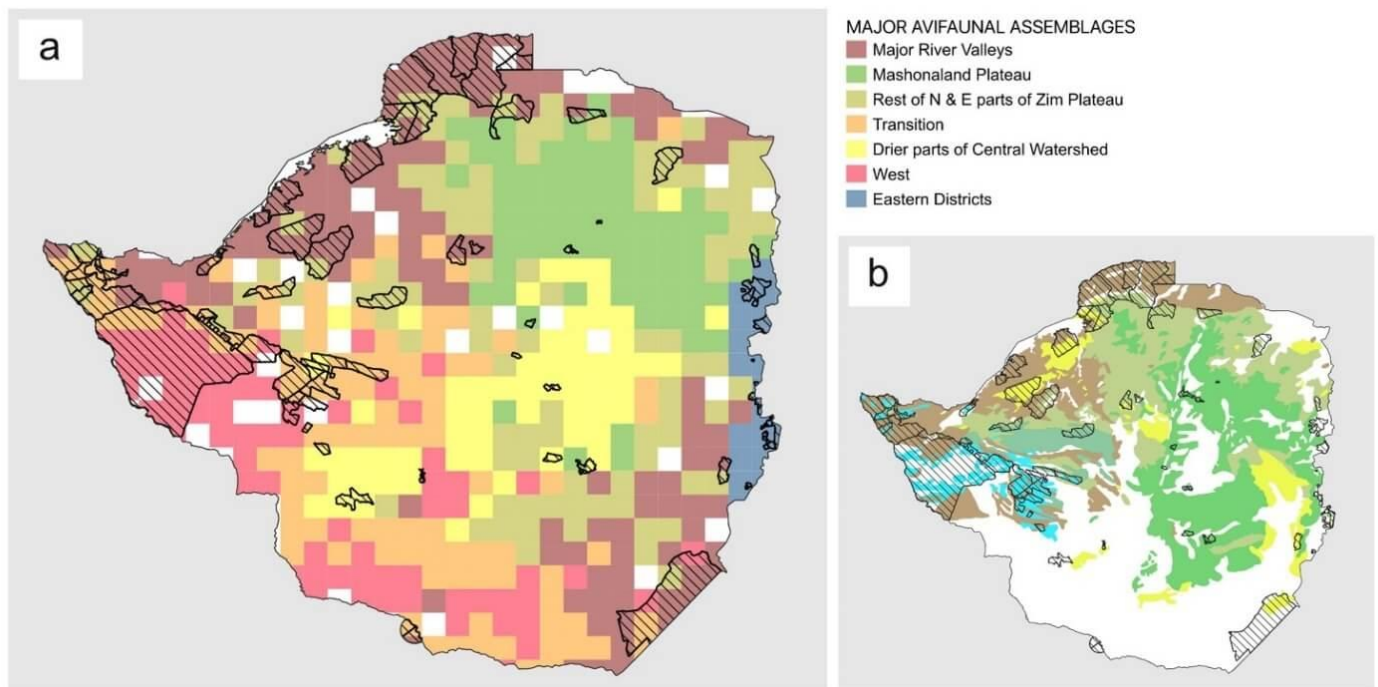


Figure 4. (a) The distribution of the major avifaunal zones (following Cizek 2002) and the conservation estate (hashed); (b) the major kinds of woodland (as mapped by Wild & Barbosa 1967) and the conservation estate (types correspond to legend in Figure 3).

(6) Our ability to model the distributions of patchy, localised habitats is improving rapidly

Remote sensing technology has evolved rapidly over the last two decades, especially with regard to the spatial resolution of free imagery. For example, the European Space Agency's (ESA) Sentinel-2 satellites now provide imagery with a spatial resolution of 10 m every five days – all freely available. It remains to be determined how best to employ these to map bird habitats, but models developed using remote-sensed data are useful for broad-scale mapping and management. Amongst the most widely used is the University of Maryland's Vegetation Continuous Fields (VCF) model of tree canopy cover,

developed by measuring the amount of sunlight obstructed by tree canopies, using spectral information in the visible and near- and middle-infrared parts of the electromagnetic spectrum (Hansen *et al.* 2003). Percentage cover of trees is mapped at 30 m resolution (i.e. pixels have sides of 30 m) in the 2013 data release (Sexton *et al.* 2013), and is used by the World Resources Institute's Global Forest Watch project to identify where deforestation is taking place around the world (see <https://www.globalforestwatch.org/>). These 30 m tree canopy cover data are mapped across Goshu Park in Figure 5, and compared with the vegetation map of Cizek (2012).

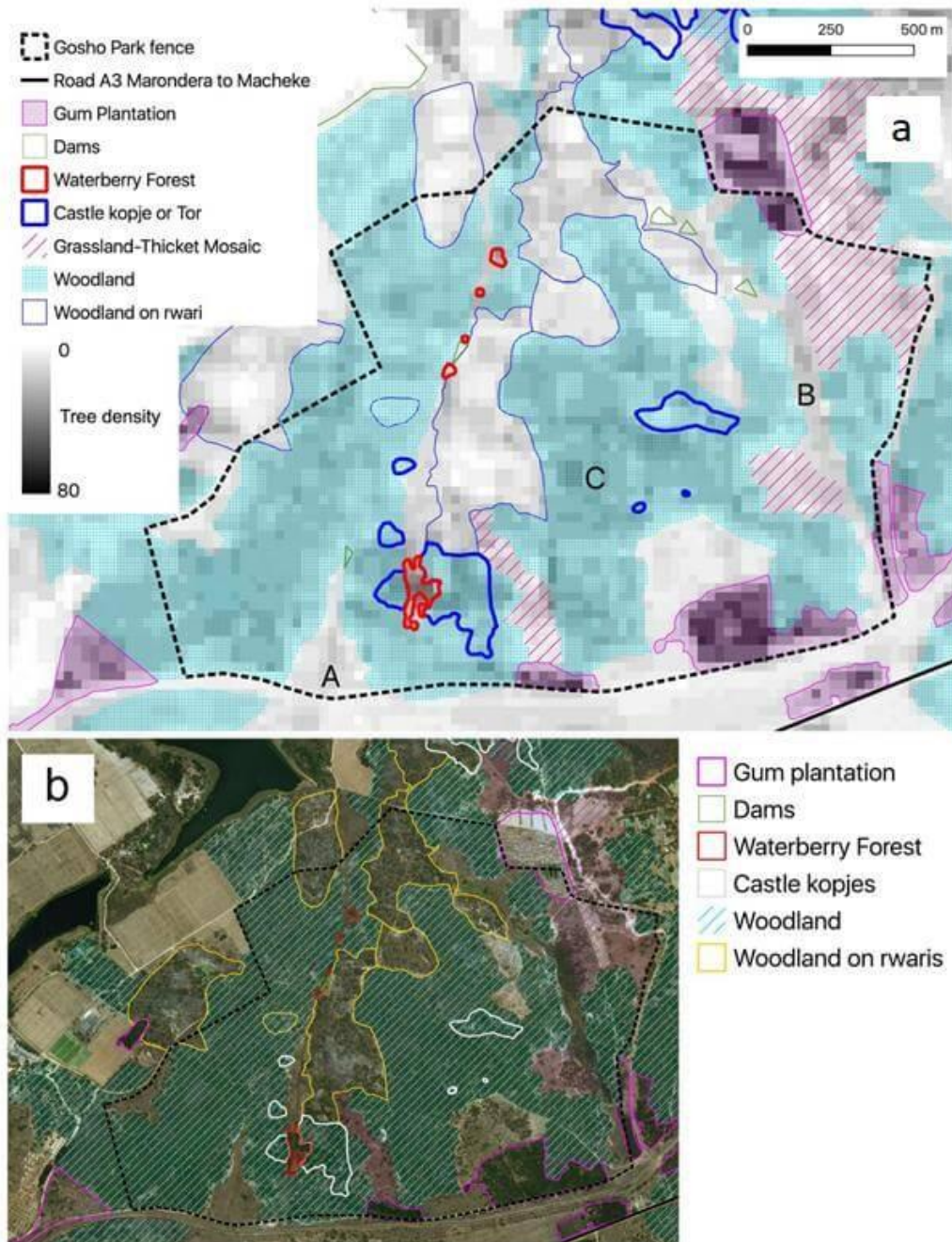


Figure 5. (a) The density of tree cover in 30 m pixels (estimated by Sexton *et al.* 2013) compared with the vegetation map of Goshu Park, Marondera, following Cizek (2012). (b) Recent very high-resolution Bing satellite image

The data have to be treated with much caution as they still need to be ground-truthed in Zimbabwe, and, for example, it is evident that the VCF algorithm misinterprets the moistest parts of the vleis as tree-ed cover (e.g. “A” and “B”). However, comparison with the very high resolution Google Earth imagery (Figure 5b) shows tree canopy cover is modelled accurately on the *rwaris* – with bare rock patches readily separated from stands of *Brachystegia glaucescens*. The data show appreciable variation in tree cover within the miombo woodland, but it is not clear how this relates to the distribution of patches of thicket on rocky outcrops. While some of the denser growth on castle kopjes identified by Cizek (2012) was retrieved, the VCF algorithm aimed to model trees (defined as a woody element ≥ 5 m high), specifically, yet, the thickets on rocky outcrops are characterised by a dense layer of *shrubs* (i.e. much less than 5 m tall). Relying on optical wavelengths alone is problematic (since there is no difference between trees and

shrubs in images taken from above), and radar data could provide more information regarding the structure of the understorey. Bouvet *et al.* (2018) estimated above-ground biomass across Africa using radar back-scatter measured by the Japanese Space Exploration Agency’s (JAXA) ALOS PALSAR sensor, but as far as is known these data are yet to be ground-truthed in Zimbabwe. It also remains to be determined how above-ground biomass relates to *layering*, specifically. Much work needs to be done to determine exactly which wooded habitats can (and cannot) be modelled using remote-sensed imagery, but certainly some key characteristics can be modelled using freely available fine resolution, broad-scale, repeat satellite observations. These are ushering in a new age of opportunity to model, map, characterise and classify Africa’s vegetation-ecosystems-habitats, to aid monitoring and management.

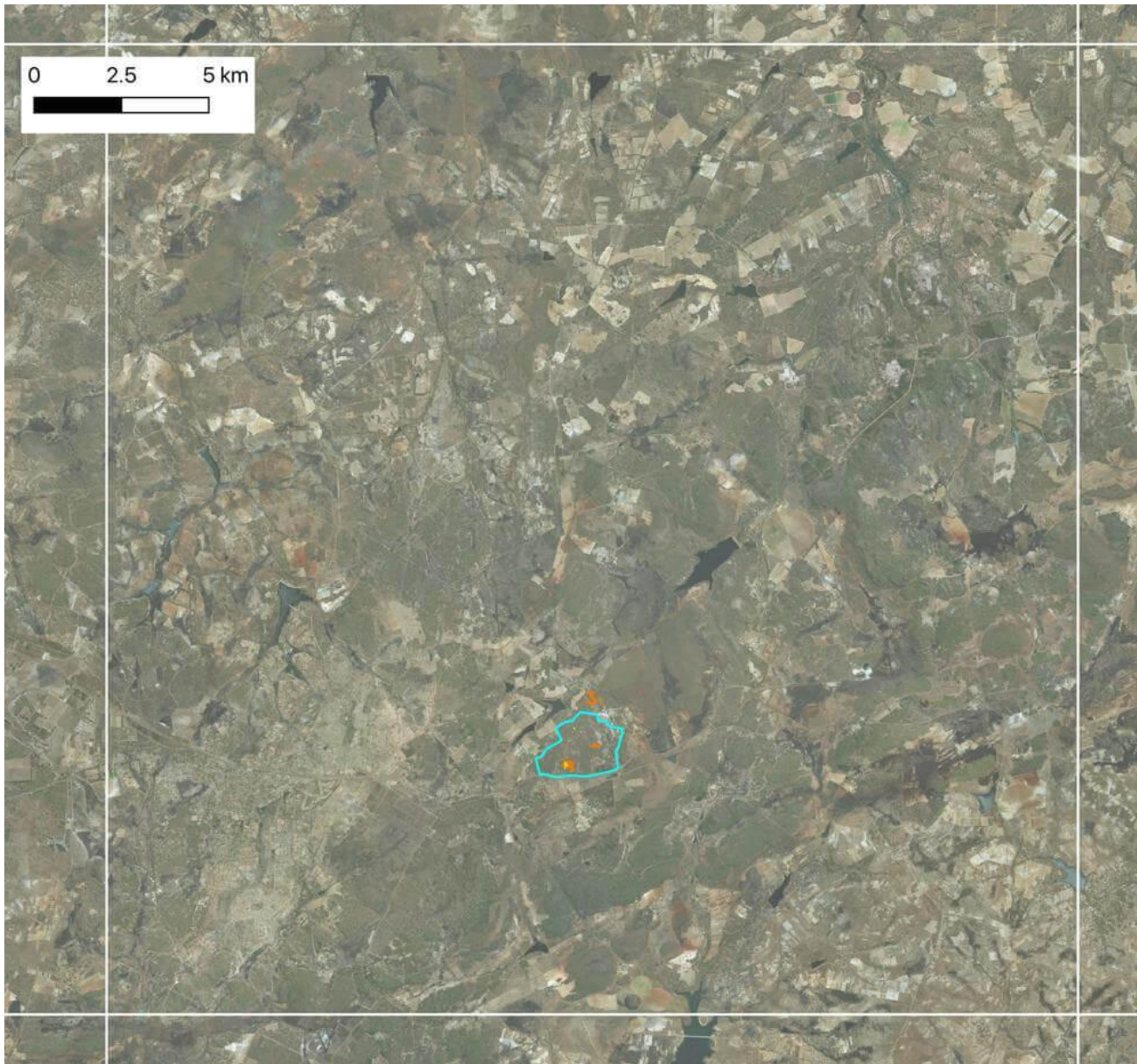


Figure 6. Bing satellite image of QDS 1831B1 (white outline) showing Goshu Park (blue) and the evergreen patches of forest (yellow) and thicket (orange).

(7) Some wooded vegetation-habitat-ecosystem types are naturally patchier and more localised than others

The patches of evergreen forest and thicket in Goshu Park, for example, are highly patchy and localised (Figure 5) and much more so than the miombo woodland. They are too small to delineate even when mapping the vegetation-habitats of a single QDS onto an A4 page (scale 1cm: 5km) (Figure 6). These forest and thicket patches are barely visible, illustrating the cartographical challenges in mapping them. Importantly, these patches of forest and thicket are *naturally* patchy and localised; that is, natural ecological processes – notably variation in topography and soil type – drive their patchy, localised distribution.

(8) There is a large group of species confined to wooded habitats which are naturally patchy and localised within landscapes

Anecdotal evidence from generations of Zimbabwean birdwatchers gives us a good idea of which species are the patchiest and localised within landscapes. The SABAP1 project also provides a large set of data that has been used to

identify these species (Cizek *in prep.*). The SABAP1 project mapped species distributions by QDS (each degree-square of latitude and longitude was split into sixteen cells with sides of approximately 25 km). A landscape can be defined at a number of different scales and levels of organisation, but the QDS provides a convenient, intuitive way to delineate landscapes, and ‘QDS-landscape’ is used for a *c.*25 x 25 km landscape. Each QDS covers a diversity of vegetation-habitat types, some of which are naturally much patchier and more localised than others. Given random sampling effort across a QDS – that is, the patchy, localised habitats were not preferentially birded by the person/ people who submitted the SABAP1 atlas card – one expects those species that require habitats which are patchy and localised to be recorded fewer times than the species inhabiting more widespread and/ or more extensive habitats. A reporting rate (RR) for each species recorded in a particular QDS can be calculated as follows:

$$RR = \frac{\text{No. of cards on which a species was reported}}{\text{Total no. of cards}}$$

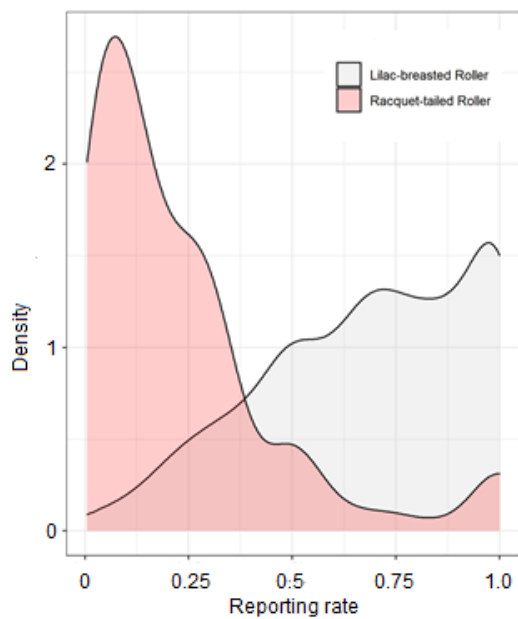


Figure 7. Smoothed density curves of the reporting rates per QDS for the Racquet-tailed and Lilac-breasted Rollers *Coracina spatulata* and *C. caudatus* during SABAP1.

As an example of how these data can be used the reporting rates for QDSs in which the Lilac-breasted *Coracias caudatus* and Racquet-tailed rollers *C. spatulatus* were recorded are shown in Figure 7. The Lilac-breasted Roller was much more likely to be recorded on a card submitted for a QDS in which it was recorded than the Racquet-tailed Roller. This is not unexpected given that the latter requires tall, well-developed woodland (Irwin 1981) which is expected to be patchier and more localised than the more open tree savannahs inhabited by the Lilac-breasted Roller (especially given transformation of landscapes by humans). There were a large number of cards submitted for a QDS in which the Racquet-tailed Roller occurs which did not record it, because the patchy, localised habitat it requires was less likely to have been sampled – simply because there is less of it, and the sampling team was less likely to encounter it in the QDS landscape.

The median can be used to estimate a species' reporting rate in a typical QDS-landscape it occupies, and species occupying habitats which were typically extensive and widespread across Zimbabwean QDS-landscapes are expected to have a higher median reporting rate than species of patchy, localised habitats. (The median reporting rates per QDS for the Lilac-breasted and Racquet-tailed rollers were 0.72 and 0.14 respectively.) A median reporting rate of < 0.2 seems appropriate to identify a patchy, localised species (i.e., the species was recorded on less than 1/5 of all cards submitted) for a typical QDS-landscape in which it occurred. Other factors besides the patchiness and area covered by a species' preferred habitat(s) influence the reporting rate. For example, many species are migratory, and the reporting rate was adjusted to allow for the shorter time period these species were present in a particular QDS. This was done by excluding cards submitted when the species was not present. There is a large group (Cizek in preparation) and Table 2 (at end of article) lists only those species with a median reporting rate ≤ 0.1 .

Excluding vagrant rarities, of all the species known from Zimbabwe, the Swee Waxbill *Coccyzygia melanotis* is the most uncommonly encountered in the QDS-landscapes in which it occurs. Some species are easier to record than others

because cryptic species skulk from view or are difficult to discriminate from other similarly-patterned species, so cryptic species are under-recorded, and their median QDS-landscape reporting rates under-estimated by atlas data. But, this was not the case with the Swee Waxbill, since it is not cryptic; it is easily identified, and even visits bird-baths in gardens (Hawkesley 2012). Rather, this shows how extraordinarily patchy and localised is its habitat within the Zimbabwean QDS-landscapes it occupies.

Most striking is the group of small passerines that were less frequently reported from the QDS-landscapes in which they occur than even some large raptors. For example, the median reporting rates for the Cinnamon-breasted Tit and Orange-winged Pytilia *Pytilia afra* were 0.035 and 0.057 respectively, while those for Ayres's Hawk Eagle *Hieraaetus ayresii* and Crowned Eagle *Stephanoaetus coronatus* were 0.055 and 0.107 respectively. It is possible that visibility plays a role since birds are more likely to record a Crowned Eagle calling in a display flight above a forest canopy than a Cinnamon-breasted Tit exploring the canopy of a patch of miombo woodland, but the smaller size of passerines also allows them to occupy habitats which are naturally patchier than the habitats of large raptors. Smaller body size allows the selection of distinctive habitats which occur at finer resolutions, leading to a naturally patchy distribution.

It might be assumed that shrub and tree savannahs usually naturally dominate the landscapes in which they occur, but there is a diversity of types required by bird habitat specialists which are patchy and localised either in generally more grassy or more heavily wooded landscapes. For example, while the Acacia Grey Tit *Melaniparus cinerascens* can have higher reporting rates in some QDSs in drier western parts of the country, considering its Zimbabwean range as a whole, its median reporting rate is low (0.07), indicating that it typically occurs in stands of acacia which are patchy and localised. These include stands along the central watershed which occur at the ecotone between open grassy landscapes and miombo woodland (which it avoids).

These are just some of the interesting groups of species with low median reporting rates because their habitats are typically patchy and localised within the QDS-landscapes they occupy (Cizek, in preparation). These examples illustrate not only the existence of specialists inhabiting distinctive, patchy, localised wooded habitats exist, but also that species with large ranges can occur patchily and locally within the landscapes in which they occur. This stimulates a wide range of questions and lines of enquiry. For example, what exactly is it about its habitat that makes the Swee Waxbill so patchy and localised? Also, the Acacia Grey Tit is one of the rarest species on the Central Watershed, rarely reported in *Honeyguide*, and finer resolution mapping of its occurrence within QDSs is required.

(9) Species of patchy, localised wooded habitats are at greater risk of local extirpation

Species requiring patchy, localised habitats are at greater risk from the deforestation crisis simply because their habitats cover much smaller parts of landscapes; that is, there is much less of them. In addition, these habitats are unusual and often preferentially targeted by humans. For example, subsistence farmers favour riverine habitats because they have better quality soils. Species of the more densely wooded habitats are at an especially higher risk since habitat utilisation by humans (e.g., for woodfuel) invariably leads to a thinning of the canopy.

What we need to find out

(1) Detailed modelling of the distributions of major types of wooded habitat

Despite calls for a national vegetation mapping campaign (Muller 1983; Timberlake and Muller 1994), the map of Wild & Barbosa (1967) remains the most comprehensive for the country as a whole. In the 1980s and 1990s, concerns over deforestation were centred on the communal lands, and vegetation mapping efforts focused on them and in parts of the conservation estate. As a result, very little of the Zimbabwean Plateau away from the Kalahari sands has ever been mapped (Timberlake 1999). The small areas that have been mapped have broad resolution, from reconnaissance mapping dating from the 1950s and 1960s. Therefore, not only is the classification of vegetation-habitats-ecosystems of the Zimbabwean Plateau much less developed than for the major river valleys and Kalahari sands, but it is simply not possible even to say where major wooded types occur. Wild & Barbosa (1967) mapped potential vegetation, and its complexity has only increased with losses and transformation resulting from human activities since.

Approaches using satellite remote sensing have been developed, and in the 1990s the Forestry Commission's Vegetation Resources Information System (VegRIS) project began producing land cover maps, with the obvious benefit that *actual* land cover is mapped. However, thicket (or thicket-with-emergents), a major structural type, was not included by the Forestry Commission as a cover class. Also, even more importantly, VegRIS land cover maps do not differentiate between major floristic types of woody cover. For example, they do not identify where miombo versus mopane woodlands occur. At present, techniques to model the composition of wooded African vegetation from satellite remote-sensed imagery are much less developed than for structure and functioning, but this is a rapidly developing field.

(2) How are bird species distributed within local landscapes?

As a result of BLZ projects in the 20th century in which a huge number of records was centralised, such as Field Cards, Recent Reports, SABAPI, we have a relatively good understanding of the ranges of Zimbabwean bird species. In contrast, we have much less understanding of how birds are distributed within local landscapes. We know some species are found only patchily and locally within QDS-landscapes (Table 2) and for most of these species, we don't know what it is about their habitats that determines their distributions. Furthermore, while there is anecdotal evidence suggesting why distributions are patchy and localised, point records are required to test the theories. For example, we know that the Western Violet-backed Sunbird occurs across the Mashonaland Plateau and Eastern Districts (Figure 3), but how is it distributed within the QDS-landscapes in which it occurs? Why is it so patchy and localised (median reporting rate = 0.06)? What is it about its selection of woody habitats that makes it so uncommon? Anecdotal evidence suggests it is restricted to the canopy of mature miombo woodland and associated *mujanje Uapaca* spp. woodland, and "may be particularly sensitive to the degradation of mature miombo" (Harrison *et al.* 1997). This needs to be tested, but, first, 'mature miombo woodland' needs to be defined, since the structure, composition and functioning of miombo varies greatly; i.e., there are a lot of different kinds of miombo. For example, how important is tree size, and does it breed in the naturally stunted dwarf miombo typical of higher

altitudes in the Eastern Districts? Tree height has been modelled across Africa at 30 m resolution (Hansen *et al.* 2016), allowing this particular question to be tested, at least in part. In general, the rapidly developing ability to model vegetation-habitat-ecosystem types at fine resolution needs to be matched by a similarly fine resolution bird distribution database. Point records are required, so we can identify how species are distributed within landscapes, and what it is about the wooded cover at particular sites that the species is selecting. This information is essential to identify which parts of Zimbabwe need to be added to the conservation estate.

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Table 1. Zimbabwean bird species with the most patchy, localised distributions ($RR \leq 0.1$) within QDS-landscapes, estimated using median reporting rate by QDS from the SABAP1 data.

| Species | Median RR | Habitat Structural Type | | Qualifier (Functional &/ or floristic characteristics) |
|---|-----------|-------------------------|-----------------------------|--|
| | | Type 1 | Type 2 | |
| Swee Waxbill <i>Coccygia melanotis</i> | 0.014 | Woodland-Forest | Forest edge | |
| Red-necked Falcon <i>Falco ruficollis</i> | 0.018 | Tree savannah | | Palm |
| Plain-backed Sunbird <i>Anthreptes reichenowi</i> | 0.027 | Forest | Thicket | |
| African Hobby Falcon <i>Falco cuvierii</i> | 0.032 | Tree savannah | Woodland | Mosaic? |
| Olive Woodpecker <i>Mesopicos griseocephalus</i> | 0.032 | Forest | | Riverine |
| Cinnamon-breasted Tit <i>Melaniparus rufiventris</i> | 0.035 | Woodland | | Miombo |
| White-backed Night Heron <i>Gorsachius leuconotus</i> | 0.036 | Forest | | Riverine |
| Scarce Swift <i>Schoutedenapus myoptilus</i> | 0.038 | Cliff | Forest | |
| Magpie Mannikin <i>Spermestes fringilloides</i> | 0.039 | Thicket | | Bamboo |
| Green-backed Honeybird <i>Prodotiscus zambesiae</i> | 0.040 | Woodland | | Miombo |
| Red-breasted Sparrowhawk <i>Accipiter rufiventris</i> | 0.040 | Forest | Grassland | Mosaic |
| Buff-spotted Flufftail <i>Sarothrura elegans</i> | 0.040 | Forest | | |
| African Cuckoo Hawk <i>Aviceda cuculoides</i> | 0.042 | Woodland | | |
| Copper Sunbird <i>Cinnyris cuprea</i> | 0.042 | Dambo | Woodland (edge/small patch) | Gardens |
| Cape Bunting <i>Emberiza capensis</i> | 0.043 | Woodland | Rock | |
| African Pitta <i>Pitta angolensis</i> | 0.043 | Forest | | Deciduous |
| Half-collared Kingfisher <i>Alcedo semitorquata</i> | 0.044 | Forest | | Riverine |
| Bushveld Pipit <i>Anthus caffer</i> | 0.045 | Tree savannah | Woodland mosaic | Bushveld |
| Sharp-billed Honeybird <i>Prodotiscus regulus</i> | 0.050 | Tree savannah | | Exotics |
| Bat Hawk <i>Macheiramphus alcinus</i> | 0.053 | Woodland | Forest | |
| Peregrine <i>Falco peregrinus</i> | 0.053 | Cliff | Woodland | |
| African Broadbill <i>Smithornis capensis</i> | 0.053 | Forest | Thicket-with-Emergents? | |
| Barred Wren-warbler <i>Calamonastes fasciolatus</i> | 0.054 | Savannah | | |
| Ayres's Hawk-eagle <i>Hieraetus ayresii</i> | 0.055 | Woodland | | |
| Red-headed Finch <i>Amadina erythrocephala</i> | 0.055 | Savannah | | |
| Orange-winged Pytilia <i>Pytilia afra</i> | 0.057 | Woodland | Thicket | |
| Western Violet-backed Sunbird <i>Anthreptes longuemarei</i> | 0.059 | Woodland | | Miombo |
| Black Sparrowhawk <i>Accipiter melanoleucus</i> | 0.059 | Forest | Woodland | |
| Yellow-throated Warbler <i>Seicercus ruficapillus</i> | 0.059 | Forest | | |
| Orange Thrush <i>Zoothera gurneyi</i> | 0.060 | Forest | | |
| African Finfoot <i>Podica senegalensis</i> | 0.062 | Forest | Thicket-with-Emergents | Riverine |
| Striped Pipit <i>Anthus lineiventris</i> | 0.063 | Woodland | Hilly | |
| Thick-billed Cuckoo <i>Pachycoccyx audeberti</i> | 0.063 | Forest | Woodland | Riverine |
| Blue-mantled Flycatcher <i>Trochocercus cyanomelas</i> | 0.067 | Forest | | |
| Bronze-winged Courser <i>Rhinoptilus chalcopterus</i> | 0.068 | Tree savannah | | |
| Collared Flycatcher <i>Ficedula albicollis</i> | 0.070 | Woodland | | Miombo |
| Cabanis's Bunting <i>Emberiza cabanisi</i> | 0.070 | Woodland | | Miombo |
| Purple-banded Sunbird <i>Cinnyris bifasciata</i> | 0.070 | Forest | Woodland | Riverine |
| Ovambo Sparrowhawk <i>Accipiter ovampensis</i> | 0.071 | Woodland | | Woodland-Grassland mosaic |
| Wood Pipit <i>Anthus nyassae</i> | 0.071 | Woodland | | Miombo |
| Acacia Grey Tit <i>Melaniparus cinerascens</i> | 0.071 | Tree savannah | | Acacia |
| Scaly-throated Honeyguide <i>Indicator variegatus</i> | 0.071 | Forest | Transition Woodland | |
| Red-faced Crombec <i>Sylvietta whytii</i> | 0.075 | Woodland | | Miombo |
| Great Spotted Cuckoo <i>Clamator glandarius</i> | 0.075 | Tree savannah | | |
| Brown Firefinch <i>Lagonosticta nitidula</i> | 0.076 | Thicket | | Riverine |

| Species | Median RR | Habitat Structural Type | | Qualifier (Functional &/ or floristic characteristics) |
|---|--------------|----------------------------|------------------------------|---|
| | | Type 1 | Type 2 | |
| Red-backed Mannikin <i>Spermestes bicolor</i> | 0.008 | Forest | Thicket | |
| Red-capped Robin-chat <i>Cossypha natalensis</i> | 0.080 | Forest | | |
| Gurney's Sugarbird <i>Promerops gurneyi</i> | 0.080 | Shrub savannah | | <i>Protea</i> spp. |
| Cape Penduline Tit <i>Anthoscopus minutus</i> | 0.082 | Tree savannah | | |
| Mashona Hyliota <i>Hyliota australis</i> | 0.083 | Woodland | | Miombo |
| Purple Indigobird <i>Vidua purpurascens</i> | 0.083 | Tree savannah | | |
| Fan-tailed Flycatcher <i>Myioparus plumbeus</i> | 0.083 | Thicket | Forest | Riverine |
| African Goshawk <i>Accipiter tachiro</i> | 0.083 | Forest | | |
| Gorgeous Bush-shrike <i>Telophorus quadricolor</i> | 0.086 | Forest | Thicket | |
| African Dusky Flycatcher <i>Muscicapa adusta</i> | 0.086 | Forest | Transition Woodland | |
| Black-throated Wattle-eye <i>Platysteira peltata</i> | 0.086 | Forest | | |
| Western Banded Snake-eagle <i>Circaetus cinerascens</i> | 0.088 | Forest | Thicket -with - Emergents | |
| Pearl-breasted Swallow <i>Hirundo dimidiata</i> | 0.089 | Woodland | | Edges |
| Miombo Rock-thrush <i>Monticola angolensis</i> | 0.089 | Woodland | | Miombo |
| Miombo Grey Tit <i>Melaniparus griseiventris</i> | 0.094 | Woodland | | Miombo |
| Olive Thrush <i>Turdus olivaceus</i> | 0.094 | Forest | | |
| Chirinda Apalis <i>Apalis chirindensis</i> | 0.095 | Forest | | Montane |
| Chestnut-fronted Helmet-shrike <i>Prionops scopifrons</i> | 0.095 | Forest | Transition Woodland | |
| Lesser Honeyguide <i>Indicator minor</i> | 0.100 | Woodland | Riparian Forest | |
| Grey Penduline Tit <i>Anthoscopus caroli</i> | 0.100 | Woodland | | |
| African Pygmy Kingfisher <i>Ispidina picta</i> | 0.100 | Woodland | | |
| Green-backed Woodpecker <i>Campethera cailliautii</i> | 0.100 | Transition Woodland | Forest edge | |
| Lesser Spotted Eagle <i>Clanga pomarina</i> | 0.100 | Tree savannah | | |
| Fawn-coloured Lark <i>Mirafra africanoides</i> | 0.100 | Tree savannah | Woodland edge | |
| Dickinson's Kestrel <i>Falco dickinsoni</i> | 0.100 | Tree savannah | | Palm |
| Broad-tailed Paradise Whydah <i>Vidua obtusa</i> | 0.100 | Tree savannah | | |
| Green Coucal <i>Ceuthmochares auereus</i> | 0.100 | Thicket-with- emergents | Forest | |
| Icterine Warbler <i>Hippolais icterina</i> | 0.100 | Savannah | | |
| Grey Cuckooshrike <i>Coracina caesia</i> | 0.100 | Forest | | |
| Lesser Cuckoo <i>Cuculus poliocephalus</i> | 0.100 | Forest | | |
| Barred Long-tailed Cuckoo <i>Cercococcyx montanus</i> | 0.100 | Forest | | |

More New and Interesting Records from Vilanculos and Mphingwe, Mozambique

Whilst compiling various bird lists for Mozambique I consulted some of my own records, particularly those from a trip to Vilanculos over 10-18 August 2001, comparing these records with those in Parker (1999) and the more recent records and additions from Cizek (2008). Records from Mphingwe in Sofala Province were compared with those in Parker (2005). Mozambique was not included in Harrison *et al.* (1997) whose bird atlas, referred to as SABAP1, was based on data collected from 1981-1998, and so to put these old records in a more recent context, comments on SABAP2 (2007 – present) are included.

It must be said that at the time of my Vilanculos trip, waders and seabirds were of greater personal interest, and it is of those that I made the most notes, whereas with hindsight it is the other bird records that are actually more valuable.

New records for QDS 2135C4, August 2001

Natal Spurfowl *Pternistis natalensis*

Seen on 10-18 August 2001 in QDS 2135C4, Margaruque Island. Parker gives an isolated record from 2135C1 with the closest records c.280 km to the west; not recorded in SABAP2.

Yellow-rumped Tinkerbird *Pogoniulus bilineatus*

A common resident of coastal and riverine woodland and forest, Parker recorded it in 2135C1/3 and also 2235A1/2. More recent atlassing in SABAP2 covers the Vilanculos area.

Yellow-fronted Tinkerbird *Pogoniulus chrysoconus*

Atlassed by Parker in 2135C1/3 and 2235A2 and in similar areas in SABAP2.

Red-capped Robin-chat *Cossypha natalensis*

Parker gives inland records in 2134D4 and further south in 2235C/D. SABAP2 has records from the Vilanculos area.

Yellow-breasted Apalis *Apalis flavida*

Parker recorded it nearby in surrounding QDSs, where it is a widespread common breeding resident of woodlands in southern Mozambique, so its occurrence in 2135C4 is expected.

Grey Penduline-tit *Anthoscopus caroli*

Atlassed by Parker in 2135C1/3 and in 2235A3.

Orange-breasted Bush-shrike *Telophorus sulfureopectus*

Parker shows this species in 2135C3 and SABAP2 just north of Vilanculos.

Maggie Mannikin *Spermestes fringilloides*

Parker's closest record is much further south in 2335C4 Inhambane but SABAP2 records cover the area.

Other species not recorded by Parker but subsequently atlassed in SABAP2 include **Little Swift** *Apus affinis*, **Brown-hooded Kingfisher** *Halcyon albiventris*, **Collared Sunbird** *Hedydipna collaris*, **Fork-tailed Drongo** *Dicrurus adsimilis* and **Green-winged Pytilia** *Pytilia melba*.

Some records from Mphingwe, Sofala Province

Yellow-throated Longclaw *Macronyx croceus*

Reported from QDS1735C3 on 24 November 2014 and 1835A1 on 29 November 2014. Both records are from the Zangue River floodplain where it is likely to be common, though under-recorded. It was recorded by Parker in 1735C3. There are additional records in SABAP2 from the Caia area on the Zambezi.

African Pipit *Anthus cinnamomeus*

A number of singing birds, two of which were photographed, in a short tree on the edge of the Zangue River floodplain were seen in QDS 1835A1 on 29 November 2014. The closest record in Parker (2005) is from the Zambezi some 45 km to the northeast. SABAP2 has a record in QDS 1835A3.

Banded Martin *Riparia cincta*

A small flock on the Zangue River floodplain QDS 1735C3) on 16 November 2014 represents the second record for Sofala Province. Parker (2005) has a record for 2034A2 in May 2003 in the marshes south of the Buzi River and comments 'It has not previously been reported in the region, though Clancey (1996) concluded that it "must occur" on the basis of records from neighbouring regions.'

Miombo Blue-eared Starling *Lamprotornis elisabeth*

QDS 1835A1, 2 December 2014; birds seen and heard calling in miombo woodland. There is a record for this QDS in Parker (2005), and SABAP2 updates its distribution in this area with additional coverage around Inhamitanga and north of intervening forest in 1832A2.

African Firefinch *Lagonosticta rubricata*

A small group was seen on the edge of a track with dense vegetation and woodland along its eastern side in QDS 1835A1, 29 November 2014; There is a record for this QDS in Parker (2005) and in SABAP2 in 1834B2, though it is sparse in the area.

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Additions to the Bird List at Rifa Educational Camp, Chirundu

In their list of birds recorded at the Rifa Camp, Chirundu, Maasdorp & Cotton (2019. *Honeyguide* 65:1-79) reported a number of species that had no supporting information or were only recorded on field cards, and were therefore listed as 'Unconfirmed Records.' However, during a visit from 29 October to 1 November 2021, three such species were recorded and confirmed, though none are unexpected.

Black Cuckoo *Cuculus clamosus*. A single bird was heard and then seen by our group in riverine woodland at 07h41 on 30 October, 610m SSE of the camp. There is a field card record from 30 November 1996 and it was recorded by the author downstream at Ruckomechi, Mana Pools National Park, from 1988 to 1996.

I.C. Riddell, Harare. ✉ gemsaf@mango.zw

African Wood-owl *Strix woodfordii*. A bird called loudly in the camp at 02h14 on 31 October. There are field card records for July 1994 and January 1995 and it is not uncommon in the Mana Pools sector (pers. obs.).

Eastern Saw-wing *Psalidoprocne orientalis*. Four birds were seen by our group 2.4 km downstream of the Chirundu border post at 09h07 on 31 October. There are previous sight records from this area, though often cited under the taxonomic lumping as Black Saw-wing *Psalidoprocne holomelas*, although these old records most likely refer to *orientalis*, which is considered a valid species retained on the Zimbabwe list.

Unusual Marabou Stork Behaviour

At about 07h00 on the morning of 19 July 2021, I noticed 30 Marabou Storks *Leptoptilos crumenifer* at the top dam on Kent Estate, Norton (1830 B1). This was not unusual as they had been on the farm for about a month prior to this.

What struck me as unusual on this particular morning, however, was that all but one of them were standing with their feet in the water of the dam. They all stood perfectly still and appeared to be sleeping. I do not know if they had roosted all night in this manner. As it was a very cold, frosty morning with a strong south-easterly wind it occurred to me they could

well be standing in the water in an attempt to keep their feet warm. While they have been on the farm these storks have fed in the shallows of the dam but this was the first time I had seen them resting or sleeping while standing in the water. No mention of such behaviour is contained in Hockey *et al.* (2005. *Roberts' birds of southern Africa*, 7th ed., p. 626), although they are known to feed in the shallows.

Thanks to Colin Baker for providing the *Roberts* reference and for his assistance with writing this note.

Gillian Thornycroft, Norton. ✉ gilly@thornycroft.net

Editor's note: Most of us have seen pictures or films of birds walking or perched on ice and snow and wondered how they keep their feet warm and avoid frostbite. In fact, their feet do get cold but rarely get frostbitten because their lower legs and toes have virtually no muscle (only tendons) or nerve tissue, and their cells have a low moisture content. The scales on their legs and feet also provide insulation.

They also have a remarkably efficient adaptation that prevents them from losing heat through their feet. The blood vessels that carry cold blood from the feet to the body form a

network around those that carry warm blood from the body to the feet. A counter-current mechanism ensures that the cold blood picks up heat from the warm blood so that it returns to the body at body temperature. The temperature gradient can range from 40°C in their bodies to just above freezing in their toes, but this system ensures that they lose very little heat.

I could find nothing to suggest that they can absorb heat through their feet but as the water in the dam was probably warmer the air it is possible that they might do so. We don't know everything about our birds!

A Leucistic Red-billed Teal

On 13 November 2021, here on Kent Estates Dam at about 4:30 p.m., I observed an unusual Red-billed Teal *Anas erythrorhyncha*. It was almost completely white, with a few dark feathers on its flank, back and breast. Its bill was the normal red colour and its eye dark, indicating that it was not an

albino, but leucistic [the product of a genetic mutation that results in the total or partial reduction of colour in the bird's plumage: editor]. It was in the company of about six other Red-billed Teal and a variety of other waterbirds.

Gilly Thornycroft, Norton. ✉ gilly@thornycroft.net



The leucistic Red-billed Teal in the company of a normal bird (and a Collared Pratincole). Photo © Gilly Thornycroft

Spur-winged Lapwings breed again at Lake Chivero

The first recorded breeding of Spur-winged Lapwings *Vanellus spinosus* in Zimbabwe occurred at Lake Chivero Bird Sanctuary in November-December 2019 (Riddell, 2020. *Honeyguide* 66: 87-88). The second attempt has regrettably been confined to that ephemeral medium, a local WhatsApp chat group, apart from a mention in the BLZ newsletter (Dixon,

2021. *The Babbler* No. 158), where two birds were recorded at the same locality on that date. P. Zwanikken (pers. comm.) noted two adults and two chicks on three occasions, with 'chicks ... already quite advanced' (c.3rd week) on 25 November. The breeding event was not monitored and it is not known if the chicks fledged.

I.C. Riddell, Harare. ✉ gemsaf@mango.zw

Kori Bustard drinking behaviour

On 7 October 2021, I was sitting at the pan in front of The Hide Safari Camp, Hwange National Park. I observed a single Kori Bustard *Ardeotis kori* walk tentatively up to the water and after indecision over which site to use, finally chose a drinking spot.

After about 5 minutes of watching it drinking in a repetitive and mechanical fashion like a Drinking Bird Toy, I decided to time the process. The bird had commenced drinking standing

up but after some 10 minutes it crouched down on its tarsi. It would bend forward to drink for some 7-10 seconds, then sit erect for 12-17 seconds before repeating the process. Interestingly, it continued in this fashion for some 40-45 minutes, from 10h00 to 10h45, occasionally searching the sky and surrounds for danger.

Finally, it stood up and proceeded to walk slowly down the Kennedy Vlei, feeding as it went.

John White, Harare

Speckled Mousebird stealing Variable Sunbird Nest Material

On 14 August 2021, I heard the alarm calls of Variable Sunbirds *Cinnyris venustus* outside my bedroom window, where they had built a nest in a large bush. I watched and looked carefully to try and see what they were concerned about, only seeing two Blue Waxbills *Uraeginthus angolensis* and a Speckled Mousebird *Colius striatus*. The sunbirds seemed to be concerned about the mousebird and I watched until the mousebird flew off, and the sunbirds calmed down. I wasn't sure why they were so concerned about a mousebird and thought perhaps it looked like a rat or mouse.

On the morning of the 15th I heard the sunbirds alarm-calling again. I checked and this time found the Speckled Mousebird hanging off the sunbird nest, plucking material from it. Eventually the mousebird left with some material. The distraught sunbird pair checked over their nest, with the female hopping in and out of the newly made hole in the upper side.

Jean-Michel Blake, Harare. ✉ frenchyjb@gmail.com

Editor's note: I found an article in a magazine of the American Federation of Aviculture (Davis, 1999. *Afa WATCHBIRD*, September/October 1999, pp. 10-13) which claimed that mousebirds have a tendency to steal nesting material from other birds to make their own nests and have

A few minutes later the mousebird had returned, and continued to pull the nest apart. The sunbirds tried to defend the nest, but to no avail, and this time the mousebird just about completely destroyed it. After the mousebird left, the sunbirds inspected their nest again, but this time the female couldn't enter the nest. The female sunbird left the scene, leaving the male alarm-calling at the site. The male continued to come back and check the bush for the rest of the day, perhaps still feeling protective over the site.

The mousebird returned on many occasions over the next couple of days, sometimes being met by the defensive sunbirds. By the 18th the sunbirds rarely returned, although the mousebird still came around to collect material occasionally.

I assumed that the mousebird was building a nest of its own, and found an easy source of material.

been known to eat small nestlings. This of course was recorded amongst birds in aviaries, so how often this behaviour occurs in wild birds is unknown but this note suggests it may be more frequent than we realise.

Cape Wagtails at Victoria Falls

At about 10h15 on the morning of 7 August, 2021, my wife Julia and I drove along the track that leads to the Lookout Café, Victoria Falls (1725 D4). We stopped where the road crosses a marshy seep (at S17.926 E25.846) to see if anything of interest was present. We noticed immediately a pair of wagtails walking together on the track just four or five metres from our vehicle. It was readily apparent they were not African Pied *Motacilla aguimp* or Mountain Wagtails *M. clara*, both of which are regularly encountered at Victoria Falls. Their brownish-grey upper parts and pale fawn chest and belly indicated they were Cape Wagtails *M. capensis*. What puzzled us however was the absence of the dark breast-band, although the bird I was mainly focussed on had just a hint of a greyish smudge on its chest. This bird's partner carried nesting material in its bill which partially obscured its chest.

We watched them for a couple of minutes until they flew off together towards the Rain Forest enclosure. The nesting material was still carried in the bill of one of them. This was our first Cape Wagtail record at Victoria Falls in over two years of residence here.

Colin Baker, Victoria Falls. ✉ pratincole306@hotmail.com

It was only after we had returned home that we realised they were of the subspecies *simplicissima* in which the breast-band is reduced to a centre spot or is entirely absent. This race is found in neighbouring Botswana and rarely encroaches into Zimbabwe on the floodplain above the Katombora Rapids (Irwin, 1981. *Birds of Zimbabwe*, p. 331-332). The pair in question was therefore much further downstream on the Zambezi than would be expected.

On the following morning we visited the Falls rain forest. Towards the end of the path in the open grassy area I noticed two wagtails in a bare tree. Their backs were towards me and were of the same brown-grey colouring as seen the previous day. However, they flew off almost immediately, before my wife or I could get a better look at them. They may well have been the same pair of Cape Wagtails as it was towards this area that they had flown the previous day.

Not only was this pair a considerable distance out of range, it is of some significance that one carried nesting material when the first sighting was made.

FIELD OBSERVATIONS

December 2020 to May 2021

C.T. Baker

The season's rainfall was generally good with many areas receiving above average seasonal totals. The Bumi-Tashinga area took a thorough soaking on 27-28 February when about 270 mm fell. A fall of 70 mm recorded at Seldomseen on the Vumba on the night of 5 March brought the season's total to 2572 mm, approximately 1000 mm more than the entire 2019-20 season. Little rain fell after the end of March until the nights of 30 April and 1 May when storms occurred countrywide. Hippo Pools reported 57 mm and Senuko in the Save Valley Conservancy 30 mm. Harare had an average season with from 820 mm to over 900 mm reported.

These country-wide rains enticed good numbers of migrant and resident waterfowl onto flooded vleis and pans. Some species were also encouraged to touch down in new areas, while others lingered here later than normal.

The level of the Zambezi at Victoria Falls peaked on 10 March with three times more water going over the Falls than at the same time the previous year (when the river level reached a 10-year high in April). Downstream, the level of Lake Kariba rose 390mm between 27 February and 1 March. By 10 March Lake Mutirikwe was 95% full and expected to spill, while Lake Chivero overflowed a day later.

Where mention is made in the text to the Atlas it refers to Harrison *et al.* 1997. *The atlas of southern African birds* and not to the current SABAP2 exercise. Records submitted by Ian Riddell from input to SABAP2 are identified with the observers' initials. Reports have also been obtained from BLZ's WhatsApp sites and other social media.

The symbol † denotes a Quarter Degree Square in which the relevant species was not recorded in the Atlas nor subsequently in *Honeyguide*.

Rarities

An **Eleonora's Falcon** *Falco eleonora* flying with hundreds of **Amur Falcons** *F. amurensis* was photographed at Bemba Farm, Marondera (1831 B1†), on 27 January (AD). A **Red-necked Falcon** *F. ruficollis* was first reported from Katiyo Estate, Honde Valley (1833 A3), in February 2020. The fourth and latest sighting of this individual was made on 7 February (KBw).

A scarce Hwange NP **Black-rumped Buttonquail** *Turnix hottentottus* record was an individual on a seasonal pan near Kennedy 1 (1827 C3†) on 27 February (JBw). The two **Spur-winged Lapwings** *Vanellus spinosus* reported from Lake Chivero (1730 D4) in November were seen for the last time on 22 December (IL). A pair of **Great Snipe** *Gallinago media* was on a marsh seep in the Mountain Home, Penhalonga area (1832 D3†), on 15 February (GD). A **Eurasian Curlew** *Numenius arquata* lingered on Lake Kariba from 12 January at Sanyati West (1628 D1) (PDe), to 31 January at Gordon's Bay (1628 D3†) (EB) and then on the mainland opposite Fothergill Island (1628 D1) on 6 February (LMcD).

A wandering **Lesser Cuckoo** *Cuculus poliocephalus* was in the Lake Chivero Game Park (1730 D4†) on 14 March (JoF). A juvenile **South African Cliff-swallow** *Petrochelidon*

spilodera photographed at Mutare (1932 B1†) on 18 January (GD) is an exceptional record. They are known in Zimbabwe only from the Headlands roost, apart from two sightings in October 2000 from south of Inyangani at Nyazengu (1832 B4) (Childes, 2001. *Blue Swallow: Status and Distribution in Zimbabwe. Interim Report August 2001*). An **Ant-eating Chat** *Myrmecocichla formicivora* was reported from Ranch House, Chishakwe, Save Valley Conservancy (2032 A1†), on 12 April (JC). The northern limit of the South African population lies to the south of 22°S, northwest of Louis Trichardt. This bird had presumably wandered from there, albeit a substantial distance. Irwin (1981. *The Birds of Zimbabwe*, page 269) contains two records of single birds, but from the northwest of the country. There have not been any confirmed records since then.

For the third consecutive year a **River Warbler** *Locustella fluviatilis* visited a Chisipite garden, Harare (1731 C3), where noted between 13 February and 18 March (TW). At least three were upstream of Victoria Falls in the Matetsi Lodge area (1725 D3†) on 29 March with two still present on the 31st (GD).

Waterbirds and allied species

Three **Great White Pelicans** *Pelecanus onocrotalus* circled over Lomagundi Lakeside, Kariba (1628 D2), on 18 February (JWh) and 24 were at Ngamo Pan, Hwange NP (1927 A2), on 10 May (CBr). Upstream of Victoria Falls (1725 D4) five **Pink-backed Pelicans** *P. rufescens* were seen on 20 December (DP). Up to 30 unidentified **Pelicans** flew over Lake Kariba between Sampakaruma and Long Island (1628 D1) on 18 January (SE).

Some 200 **Reed Cormorants** *Microcarbo africanus* with about four **African Darters** *Anhinga rufa* were nesting in acacias at Mazvikadei Crocodile Ponds (1730 A2) on 25 April. A welcome sight considering how scarce Darter's have become these days (IR).

A **Yellow-billed Egret** *Egretta intermedia* was an unexpected visitor to Honeydew Farm Dam, Greendale (1731 C3), on 13 April (JBA). **Black-crowned Night-herons** *Nycticorax nycticorax* in less usual places were an immature at a flooded gravel pit on Woodlands Road south of Victoria Falls (1825 B2†), on 23 January (CB), one on a private dam about 10 km along the Kwekwe-Umvuma road (1829 D4) on 15 February (UL) and four at Manjinji Pan, Malapati Communal Area (2231 A2), on 10 April (J-MB).

A **Little Bittern** *Ixobrychus minutus* was flushed from a reedbed on Phole Phole Farm, Umguza (1928 D3), on 10 January (JV) and two were at Borrowdale Brooke, Harare (1731 C1), on 11 January (DMacD). Single **Dwarf Bitterns** *I. sturmii* were at Bomani Lodge, Ngamo Forest (1927 A2), over Christmas (DDe), Greengrove Dam, Harare (1731 C3), on 17 January (DD), Hove Dairy Farm, Kadoma (1829 B4†), on 4 March (*The Babbler*), Malapati Communal Area (2231 A2†) on 10 April (J-MB) and on Elephant Hills Golf Course marsh, Victoria Falls, on 25 April (CJ). As happens in this species, a

sub-adult at Starvation Island, Lake Kariba (1628 C4), on 30 May (SE) had delayed its departure long after adult birds had migrated.

The only significant **White Stork** *Ciconia ciconia* flocks were c. 200 on Matobo Mission, Old Gwanda Road, Matopos (2028 B3), on 27 December (CW) and about 120 circling over Umguza Irrigation Scheme, north of Bulawayo (1928 D3), ahead of a storm on 9 January (JV). The first report of flocks heading north was of 25 and 40 over the Zambezi Valley at Nyakasanga (1529 C3) on 16 March (MH). The last stragglers noted in May were three in the Lion's Den area (1729 B4) on the 20th (JMk), two near the Bulawayo tollgate, Victoria Falls road, on the 22nd (JWh) and four nearby at Umguza on the 29th (AR). A **Black Stork** *C. nigra* flew over the Mazvikadei Dam wall, Banket (1730 A2), on 25 April (IR).

200 **Abdim's Storks** *C. abdimii* were with the 120 White Storks over Umguza on 9 January (JV). Departure occurred mainly during March, but over Lake Kariba in April a large flock flew north over Musango (1628 C4) on the 3rd (SE) and about 15 were over Rhino Camp, Matusadona (1628 C4) on the 22nd (PTE). Three were together at Victoria Falls sewage ponds on 5 April and 6 May (CB), two flew high over Mount Hampden (1730 D2) on 14 May (JWh), and singles at Mana Pools (1529 C2) on 24 May (BL) and Sable Farm, Chegutu (1830 A1), on 25 May (DK) were the last reported.

African Openbills *Anastomus lamelligerus* were occasional visitors to Aisleby (2028 B1) before that site's decline, and just north of there on the Umguza Irrigation Scheme (1928 D4†) some appeared for the first time in January (JV). In the same month three were unusual at Borrowdale Brooke (1731 C1†) (DMacD). A **Marabou Stork** *Leptoptilos crumenifera* record from Sango (2032 A1†) early in January (JBo) is an extension of range north of the main southeast lowveld population and follows a 2018 record from elsewhere on this ranch in the 2032 A2 square.

African Sacred Ibises *Threskiornis aethiopicus* are seldom noted along the eastern border but were found north of Mutare (1832 D3†) in February (OD). **Hadedda Ibises** *Bostrychia hagedash* were not recorded in the 2029 full degree square in the Atlas but were north of their known range at Lake Cunningham, Insiza (2029 A3†), in March (JBo). A flock of 106 at the Save-Runde confluence, Gonarezhou (2132 A4), on 25 April (GD) must be the largest assemblage ever reported in this country.

A **Greater Flamingo** *Phoenicopterus roseus* was seen at Palm Bay, Lake Kariba (1628 D3†), on 13 December (per IL) and again, with an immature, between 22-27 December (per JP). What is assumed to be the same two birds were at Changachireri, Matusadona (1628 C2†), on 31 December (JD). These are exceptionally scarce Lake Kariba records. About 30 flew upstream on the Runde River at Chipinda Pools, Gonarezhou (2131 B4), on 31 December (EvdW). 15 **Lesser Flamingos** *Phoeniconaias minor* flew past Musango on 20 December (SE).

Three **Fulvous Ducks** *Dendrocygna bicolor* were upstream of Victoria Falls near Kalunda Island (1725 D4) on 3 April (DS) and a short distance south of there a **Hottentot Teal** *Anas hottentota* was at Ursula's Homestead pan (1825 B2) on 10 March (CB). The itinerant **Yellow-billed Duck** *A. undulata* that occasionally visits Ballantyne Park, Harare (1731 C3), was seen on 20 January (GC). An **African Pygmy-goose** *Nettapus auritus* swam and dived on the Zambezi about 2 km upstream of Victoria Falls on 6 February (CB) and Mashonaland West

birders visiting Montana Farm near Chakari Mine (1829 B2†) for the first time found eight there on 15 May (*The Babbler*).

Raptors

Following a lion kill on the western edge of Victoria Falls town on the night of 10 December, two **Lappet-faced Vultures** *Torgos tracheliotos*, about 60 **White-backed Gyps** *affricanus* and two **Hooded Vultures** *Necrosyrtes monachus* circled the area the following morning (CB). A wandering **White-headed Vulture** *Trigonoceps occipitalis* on Mazuri Ranch, Kwekwe (1830 C4†), on 5 April (UL) was way out of range mid-way between the northern and south-eastern populations. A **Lappet-faced** was on Kent Estate, Norton (1830 B1), on 24 May (GT).

Yellow-billed Kite *Milvus aegyptius* records are contained in a separate article as usual, but worth noting are two seen near Bikita Centre (2031 B1†) in December (JVe), one of the few quarter degree squares in which this kite was not recorded in the Atlas. Single **Bat Hawks** *Macheiramphus alcinus* found in new or infrequently reported areas were at Chivilila Falls, Save River (2132 A3), on 24 January (CS) and Stapleford Farm, Mount Hampden (1730 D2†), on 2 March (JWh), while a pair was in the Lion's Den area (1729 B4) on 9 April (JMk).

Single **European Honey-buzzards** *Pernis apivorus* were at Mazvikadei on 11 December and in mid-January (BM), nearby on Pindi Park Farm, Banket (1730 A4†), on 2 March (DSm) and in Bulawayo suburbs (2028 B1) on 4 February (KS) and 18 March (AH). Individuals were in the Victoria Falls residential area on 20 January (JB), 29 January (CB) and 13 March, and near Ursula's Homestead (1825 B2) on 30 January (CB); around Harare in March at Christon Bank (1731 C1) on the 18th (PZ) and Selby Farm, Komani (1730 D2), on the 28th (J-MB); and at Wamba Dam, Aberfoyle (1832 B4), on 20 February (J-MB) and 17 April (GD).

Steppe Eagles *Aquila nipalensis* in unusual areas were at Masoka (1630 A1†) in the first week of December (BM) and at Juliasdale (1832 B3) in February (DKk). **Lesser Spotted Eagles** *Clanga pomarina* apparently breaking new ground were at Mana Pools (1529 C4†) on 11 and 12 December (J-MB) and on Chamabonda vleij, Victoria Falls NP (1725 D3†), in the second week of February (PMA).

A pale phase **Booted Eagle** *Hieraaetus pennatus* was over Mutare on 13 April (GD) and single **Ayres's Hawk-eagles** *H. ayresii* were over Luna Road, Umwinsdale (1731 C1†), on 6 February (BL) and on Redhill Farm, north of Banket (1730 A4†), on 8 February (DSm). There was an increase in **Long-crested Eagle** *Lophaetus occipitalis* activity around Newlands from April onwards with the highest number seen together being three displaying noisily on 13 April (IR).

An adult **Martial Eagle** *Polemaetus bellicosus* on a large Hatfield, Harare (1731 C3), property on 15 February (PT) follows a July 2018 record from there. Another was seen to the north of Rushinga on the north-eastern border (1632 A4†) in May (TD). An adult and juvenile **African Crowned Eagle** *Stephanoaetus coronatus* at Macheke (1831 B2†) on 20 February (MH) is interesting as one was recorded in the adjoining B1 Marondera QDS for the first time in November 2020. A record from east of Kwekwe on the Munyati River (1830 C4†) in April (DKk) is one of just a few sightings since 2015 in the 1830 full degree square where not noted during the Atlas years.

In the Zambezi Valley single **Western Banded Snake-eagles** *Circaetus cinerascens* were at Nyakasikana Gate (1629 A2) on 16 December (CM), Long Pool, Mana Pools (1529 C2),

on 5 February (CM), Nyamatusi Camp (1529 C2) on 9 March (SCh) and 10 km north of Mushumbi Pools (1630 B1†) on 30 May (TW). Other individuals were at Hippo Pools (1731 B2) on 11 December, 7 April and 29 May (TN) and on Redhill Farm, Banket, on 30 December (DSm). Four and three **Lizard Buzzards** *Kaupifalco monogrammicus* were heard at Newlands on 6 April and 19 May respectively. This buzzard is more prevalent around Harare these days (IR).

Western Marsh Harriers *Circus aeruginosus* were reported from the Gwebi River, Lake Manyame, on 20 December (AD) and at or near Marlborough vlei, Harare (1730 D2), on 20 January (J-MB), 25 January (RC) and 10 February (DA). A male **Pallid Harrier** *C. macrourus* was in the vlei near Wingate Golf Course, Harare (1731 C1), on 14 and 15 January (JBw) and a pair was at Deka Camp, Hwange NP (1825 D2), on 18 April (BN). Despite good rainfall no **African Marsh** *C. ranivorus* or **Montagu's Harriers** *C. pygargus* were reported.

Western Ospreys *Pandion haliaetus* reported from Lake Kariba were at Musango on 24 December (SE), Bumi Hills (1628 C4) on 14 March (PTE) and Starvation Island on 30 May (SE); ones and twos were seen regularly at Rhino Camp between 7 March and 22 May (PTE, J-MB) with another two at Mukadzapela Bay, Matusadona (1628 D3), on 24 May (J-MB). In Zambezi NP, Victoria Falls (1725 D4), one on 31 January dived five times in as many minutes without success (CB, JB) and another on 5 February wore a red ring marked 2T5, having been ringed as a nestling on 29 June 2020 in Latvia, some 8 500 km due north (CBr); in the same park, individuals were recorded by various observers between 3 April and 31 May, with two seen together on 25 May. Elsewhere an immature was on Kennedy vlei, Hwange NP (1827 C3†), on 16 December (SM), one and four were at Lake Manyame (1730 D3) on 3 March (DSm) and 7 March (BL) respectively, and another was at Mazvikadei on 7 March (BM).

A **Peregrine Falcon** *Falco peregrinus* flew through a garden in Newlands, Harare, on 2 April and a pair of **Lanner Falcons** *Falco biarmicus* at Msasa, Harare (1731 C3), on 11 December were no doubt the Blue Ribbon factory birds that appear at Mukuvisi Woodlands (IR). **Amur Falcons** *F. amurensis* found at Masoka (1630 A1†) early in December (JW) were further north in Mashonaland than usual and were probably still on their way south. Although some good flocks were in the Chegutu (1830 A1) area this season numbers overall were down on the last two years (DK).

Greater Kestrels *F. rupicoloides* are generally scarce dry season visitors to Mashonaland but exceptions to that rule occur occasionally as with one near Lake Chivero on 29 December (IL). **Lesser Kestrels** *F. naumanni* are seldom reported nowadays so one at Arcadia Dam, Shamva, on 27 February (DS) is of note. Single **Dickinson's Kestrels** *F. dickinsoni* were in Zambezi NP on 31 January and 18 May (JB, CB), at Rain Gauge Pan near Bomani, Hwange NP (1927 A2), on 7 March (RR), near Swimuwini Lodges, Gonarezhou (2131 C4), on 8 April (J-MB) and at Lake Kariba on the Matusadona shoreline on 30 May (DP).

Gamebirds, Rails and Cranes

A **Harlequin Quail** *Coturnix delegorguei* was on a dirt road near Gletwyn Dam, Mandara (1731 C3), on 11 January and two were at Rhino Camp on 12 May (J-MB). As many as three **Kurrichane Buttonquail** *Turnix sylvaticus* were on Monavale vlei on 12 January (IR). Two **Wattled Cranes** *Bugeranus carunculatus* at Bomani (1927 A2) on 30 January

(DW per JP) were in an area of Hwange NP where not often reported.

Single **Corn Crakes** *Crex crex* were in lucerne fields at Umguza (1928 D3) on 23 December and 6 January (JV), around Harare at Monavale vlei on 29 December (PZ), Haka Park on 25 February (BL) and Borrowdale Brooke on 4 March (DMacD), and in Lomagundi on Redhill Farm on 1 January and 8 February (DSm) and on a Chinhoyi farm with three sightings over a few days from 27 January (JMk).

At Monavale on 12 January an **African Crane** *Crecopis egregia* was flushed off a nest with 5 eggs (IR). It was a good season for **Striped Crakes** *Aenigmatolimnas marginalis* with individuals on Marlborough vlei on 29 December (RC), at Beatrice (1830 B4†) on 1 February (RW), at a seasonal pan near Kennedy 1 (1827 C3†) on 26 and 27 February (JBw), and on Monavale vlei on 10 March (TW). A late-departing individual at Kanga Pan on 14 April (CM) was the first April record for over twenty years.

A **Buff-spotted Flufftail** *Sarothrura elegans* at Chinhoyi (1730 A3) on 1 January (RB) was the only reported wanderer from the eastern districts this season. A **Streaky-breasted Flufftail** *S. boehmi* seen and another heard at Umguza (1928 D3†) on 10 January, and an estimated four calling over the next few days (JV), is an exceptional occurrence. This intra-African migrant normally arrives in the northeast of the country with the onset of good rains. Why these individuals should be found so far out of range in Matabeleland is not certain, although they were possibly driven westwards by the cyclone that swept inland from the Mozambique Channel at the end of December and early January. Whatever the reason, Umguza's short vegetation cover and above average rainfall provided ideal conditions for them. Wet conditions also encouraged this flufftail to turn up in other new areas. Some were on a saturated vlei on Redhill Farm, Banket (1730 A4†) on 30 January (DSm), two or more were heard on Bemba Farm, Marondera north (1831 B1†) between 31 January and 5 February (AD), and late departing birds were west of Lion's Den (1729 B4†) in the second week of April (JMk).

An **African Purple Swamphen** *Porphyrio madagascariensis* just north of Insiza (1929 D1†) in January (JL) was slightly out of range. Single **Allen's Gallinules** *P. alleni* were at Mazvikadei on 21 March (AMacD) and further east than normal at Hippo Pools (1731 B2†) on 26 May (TN). Individual **Lesser Moorhens** *Gallinula angulata* were at Greengrove Dam on 18 January (IL), Marlborough Ponds on 20 January (J-MB), and Makwa Pan (1827 C3) on 6 March (SH); one with two chicks was at Wild Dog Pan, Kanga (1529 C4†), on 22 March (SCh) and another adult and an immature were at Matetsi Lodge (1725 D3†) between 29 March and 4 April (GD). Three **African Finfoot** *Podica senegalensis* are seen regularly at Hippo Creek, Umfuli River, Chegutu (1830 A1), (JWh) and following the April 2020 record from the Pungwe River, Honde Valley, one was seen again on 30 April (MS).

A **Kori Bustard** *Ardeotis kori* with two chicks was at Cawston Block Wildlife Ranch (1928 C2) on 11 December (SN) and another with one chick was seen in Zambezi NP on the 15th (CBr); ten or more were on Chamabonda vlei on 11 April (MA). Single **Denham's Bustards** *Neotis denhami* were on the Victoria Falls airstrip (1725 D4) in the last week of February and on Chamabonda vlei on 1 April (CBr), while a female on Dete vlei (1826 D2†) on 15 April (RR) was in a new area. A pair of **Black-bellied Bustards** *Lissotis melanogaster* was on Marlborough vlei on 25 January (GC); one was on

Redhill Farm, Banket (1730 A4†) on 8 February (DSm), this possibly being an under-reported area during the Atlas years.

Waders, Gulls and Terns

Two **Lesser Jacanas** *Microparra capensis* at Bomani, Hwange NP (1927 A2†), on 10 April (SCu) were well out of range. A male **Greater Painted-snipe** *Rostratula benghalensis* was at Victoria Falls Crocodile Farm drainage ponds on 12 December (CB), two were on Marlborough vlei on 29 December and 3 January (RC), and a male was near Iganyana Tented Camp, Dete vlei (1826 D2), on 12 May (JV). At Mana Pools NP in May there were four at Kanga Pan (1529 C4) on the 24th (SCh) and eight at Kavinga Camp (1629 A2) on the 31st (DB).

Six **Common Ringed Plovers** *Charadrius hiaticula* were between A and B Camps, Chirundu, on 22-23 January (IL) and an out-of-range record came from MabuyuMabema, Hwange NP (1826 D3†), in mid-February (JBo). **White-fronted Plovers** *C. marginatus* were only reported from the south of the country with one on the Mwenezi River, Malapati Safari Area (2131 C4), on 8 April and two separate individuals on the Runde River in the Chinguli Campsite (2132 A3) area on the 12th (J-MB). A nice flock of about 100 **Kittlitz's Plovers** *C. pecuarius* was at Musango on 18 May (SE).

Two **Long-toed Lapwings** *Vanellus crassirostris* at Bomani Camp pan (1927 A2†) for about a week from 19 March (THu, JBo) were well out of range, and another two were at Victoria Falls sewage ponds between 25 March and 5 April (SCu, CB). A **Common Greenshank** *Tringa nebularia* at Mukadzapela Bay (1628 D3) on 24 May (J-MB) was probably over-wintering. Up to eight **African Snipe** *Gallinago nigripennis* were on Marlborough vlei on 29 December and 3 January (RC) but only two were at Haka Park, Harare (1731 C3), on 22 February (IL).

A **Black-tailed Godwit** *Limosa limosa* at the Kariba Bream Farm (1628 D2) on 15 January and two there on the 20th (CN) are scarce Lake Kariba records although there is a 1988 record from this farm (Hustler, 1989. *Honeyguide* 35: 63-68). 51 **Black-winged Stilts** *Himantopus himantopus* were counted at Whitehead Ponds, Chegutu (1830 A1), on 8 May (*The Babblers*).

Single **Bronze-winged Coursers** *Rhinoptilus chalcopterus* were at Banket (1730 A4†) on 9 December and 24 April (DSm), in the National Botanic Gardens, Harare (1731 C3), on 21 January (JBw), and near Kuimba Shiri, Lake Chivero (1730 D4), on 1 April (TC). About 200 **Collared Pratincoles** *Glareola pratincola* were in the Nyamatusi Camp area on 4 April (SCh), and as has occurred previously, thousands gathered at Musango on 25 April (SE).

A **Grey-headed Gull** *Chroicephalus cirrocephalus* was in Zambezi NP (1725 D4) on 26 March (CB) where infrequently found. Three **Caspian Terns** *Hydroprogne caspia* at Sanyati West on 19 December (CN) became only the fifth Lake Kariba record since 2010, none having appeared in the Atlas. About 30 **Whiskered Terns** *Chlidonias hybrida* were on Rain Gauge Pan near Bomani, Hwange NP (1927 A2), in January some of which were on nests (SM). One nest contained two chicks on 7 March when 15 terns were still present (RR). An adult was at Tambahata Pan, Gonarezhou (2132 A4), on 8 April (TM) and two at the Salt Pan, Hwange NP (1826 C1), on 11 April (BN).

About 33 **African Skimmers** *Rynchops flavirostris* were between A and B Camps, Chirundu, on 22-23 January (IL) and 60 or more in three flocks flew from the flooded Charara River,

Lake Kariba (1628 D2), on the evenings of 19 and 20 February (JWh).

Other non-Passerines

At least three pairs of **Speckled Pigeons** *Columba guinea* roost in tent roofs at Linkwasha Camp, Hwange NP (1927 A2) (CBr) so are well established now in the southeast of the park. One at Mazvikadei Dam wall on 25 April follows the October 2020 record from there (IR). **African Mourning Doves** *Streptopelia decipiens* returned to Phole Phole Farm, Umguza, on 27 May (AR) for the fourth consecutive dry season. Somewhat unusual was a pair of **Tambourine Doves** *Turtur tympanistria* on the drive of a Hogerty Hill, Borrowdale, property on 2 December (KvL). A **Lemon Dove** *C. larvata* was at La Rochelle, Penhalonga (1832 D3), on 21 March (PM); little is heard from this site these days.

On the Middle Zambezi, nine **Grey-headed Parrots** *Poicephalus fuscicollis* were near C Camp, Chirundu (1628 B2), on 22-23 January (IL) and a pair was at Nyakasanga (1529 C3) on 13 March (MH). At Victoria Falls one was at the Zambezi NP entrance gate on 22 February (JB) and two were active around a nest site on Zambezi Drive on 5 April (CB). Some flew over Iganyana Tented Camp (1826 D2) on 20 February and four were seen there on the 25th (JV); three flew through Hippo Pools Camp on 5 May (TN).

A few **Lilian's Lovebirds** *Agapornis lilianae* were 10 km north of Mushumbi Pools (1630 B1) on 30 May (TW). Two **Rose-ringed Parakeets** *Psittacula krameri* at Borrowdale Brooke on 25 February (DMacD) and one there the following day (BMcK) must surely be escaped birds.

Red-chested Cuckoos *Cuculus solitarius* had disappeared by mid-March although a young bird at Banket on 15 May was very late (DKk). Single **Thick-billed Cuckoos** *Pachycoccyx audeberti* were on Nyamuswa Ranch, Chinhoyi (1729 B4†), on 1 December (JmK) and at Masoka on 3 December (DS). A south-bound **African Emerald Cuckoo** *Chrysococcyx cupreus* near Gateway School (1731 C3†) on 11 December was an unusual Harare record (TC). Departing birds were at Christon Bank (1731 C1) on 20 March (J-MB) and Matetsi Lodge on 28 March (JV). Records obtained between 24 April and 24 May on the Vumba (1932 B1) (PM, KW) may well relate to over-wintering birds.

Highly unusual **Black Coucal** *Centropus grillii* records from Mana Pools NP comprised individuals at Nyamatusi Camp (1529 C2†) on 9 March (SCh) and Chikwenya (1529 D1†) on 30 April (RMacD). There were records from Rukomechi (1529 C3) between 1990-95 but none from the Valley subsequently. **White-browed Coucals** *C. superciliosus* now appear to be resident at Phole Phole Farm where first noted in January 2020 (AR), and a record from south of Chinhoyi (1730 A3†) in mid-February (DKk) represents a southward extension of range.

A **Barn Owl** *Tyto alba* at Masoka (1630 A1†) in December (JW) was midway between the Zambezi River and Mashonaland highveld populations. There was a surge in **African Wood-owl** *Strix woodfordii* activity in Newlands during April and May with six and eight records respectively (IR). An **African Barred Owlet** *Glaucidium capense* at Hatfield on 23 March (PT) is the latest of the Harare records that began in August 2019. **Freckled Nightjars** *Caprimulgus tristigma* heard regularly in the Philadelphia area, Harare (1731 C1), probably inhabit the many unfinished mansions that litter north Borrowdale (KvL).

Common Swifts *Apus apus* were found to the west of Mahenya (2132 A1†) in early December (DPT). A male **Narina Trogon** *Apaloderma narina* appeared in a well-treed Strathaven, Harare (1731 C3) garden on 16 December (PV). A record from east of Lion's Den on the Hunyani Range (1730 A1†) in March (J-MB) adds to old records from Dichwe Lemon Forest.

About 75 **Blue-cheeked Bee-eaters** *Merops persicus* in flocks of up to ten were in the Tiger Safaris area, Chirundu (1628 B2), on 22-23 January (IL). Some on the southern edge of Hwange NP (1927 A2†) in the first week of February (AT) were well out of range. Hundreds at Nyakasanga (1529 C3), on 16 March (MH) were probably on migration. Unspecified numbers were reported from the Matetsi Lodge area on 3 April (GD), flying north over Iganyana Tented Camp on 6 March (JV), Mana Pools on 7 April (NH) and Tambahata Pan on 12 April (TM). An adult **Southern Carmine Bee-eater** *M. nubicoides* with a recently-fledged chick at Umguza on 15 December confirm nesting occurred this season at the old Umguza River colony for the first time for many years (JV). Out-of-season **Swallow-tailed Bee-eaters** *M. hirundineus* were at Kennedy 1 on 25 February (KBw).

Surprising **Acacia Pied Barbet** *Tricholaema leucomelas* records were two on Chikurubi vlei (1731 C3†) on 16 March (PZ) and one the following day (J-MB). They are almost certainly the first Harare records since the Atlas years. A few pairs have been noted in the last couple of years in the Old Mutare area (1832 D3†) (GD) for the first time.

A **Brown-backed Honeybird** *Prodotiscus regulus* was east of Kwekwe on the Munyati River (1830 C4†) early in April (DKk); around Harare pairs were at the Mukuvisi Woodlands on 23 April (PZ) and at Newlands two days later (IR); one was in the Victoria Falls rain forest (1725 D4) on 11 May (CB). Single **Green-backed Honeybirds** *P. zambesiae* seen in Harare were in the Mukuvisi Woodlands on 3 January (RD) and on 10 and 12 May (PZ), on Monavale hill on 16 January (IR) and at Mandara on 3 April (PZ). Individuals in new areas in Lomagundi were on Redhill Farm (1730 A4†), on 27 February (DSm) and at Lomagundi College, Chinhoyi (1730 A3†), on 26 March (JMk). One was on Zambezi Drive, Victoria Falls, on 13 May (CB).

No less than three **Olive Woodpecker** *Dendropicos griseocephalus* sightings at Victoria Falls were reported. A pair was photographed on 20 December near the Boat Club (MR) and another was seen there on 12 April (DKk); the third sighting was obtained a little further upstream on Kandahar Island (1725 D4) on 30 May (MHk). Since Zimbabwe's first record in September 1979 (Irwin 1981, page 219) there has been speculation regarding its true status at and upstream of Victoria Falls. Few published records exist but information provided by GD and DT on the comparative regularity of their own sightings over a number of years (pers. comm.) suggests this woodpecker is less scarce along this stretch of the Zambezi than published data indicate and is resident along both banks of the river.

Passerines

An **African Broadbill** *Smithornis capensis* north of Mabalauta (2131 B4†) in January (EvdW) was some distance west of its southeast border range; one was at Masoka on 10 February (MZ) and individuals on the Makonde east range, north of Chinhoyi, were in the 1729 B4 and 1730 A1 squares on 23 March (JMk). An **African Pitta** *Pitta angolensis* was at the Sunde-Gache Gache confluence (1628 D4†) on 3 December

(MR). It seems this migrant has only appeared at Lake Kariba in the last year or two, and only in the eastern basin. Two were on the Mbera River near Ingwe Pan Camp, Mana Pools (1529 C4), on 4 December (J-MB); some were still present at Masoka on 10 February (MZ) and pairs nearby at Mkanga, Dande North (1630 A1), began calling again in mid-February thus raising the possibility of double brooding (TW).

The only south-bound **Dusky Lark** *Pinarocorys nigricans* noted was near Shumba Picnic Site, Hwange NP (1826 C4), on 5 December (PSn). Birds heading north were in the Dete vlei area (1826 D2) on the first few days of April (JV), at Matetsi (GD), Zambezi NP (RW) and Kennedy 1 Pan (SH) on 3 April, and in Malapati Communal Area (2231 A2†) on 10 April (J-MB). Ones and twos seen thereafter were at Victoria Falls sewage ponds on 30 April and in Zambezi NP (CB), Mukadzapela Bay, Matusadona (1628 D3) (J-MB) and Bumi Hills harbour (TT) on 18 May. The last stragglers were at Bumi Hills on 25 and 27 May (TT). **Chestnut-backed Sparrowlarks** *Eremopterix leucotis* in the Malapati Communal Area (2231 A2†) in April (J-MB) were slightly out of range or overlooked there previously.

Common House Martin *Delichon urbicum* departure dates are shown below but a very late individual was at Victoria Falls on 26 May (CB). Most **Brown-throated Martins** *Riparia paludicola* leave the Zambezi Valley during the wet season so four at Chirundu on 22-23 January (IL) were unusual, especially as excellent rain fell in the first half of the season.

Black Saw-wings *Psalidoprocne holomelaena* of the South African population mainly winter in Mozambique. A few also enter southern Zimbabwe as with one at Chipinda Pools on 5 May (GD). **Eastern Saw-wings** *P. orientalis* at Masoka (1630 A1†) early in December (JW) were far north of the main Mashonaland population, possibly having moved south from Zambia, while some at Elephant Point, Matusadona NP (1628 C4), in May (RB) provided a scarce Lake Kariba record.

Five **Cape Crows** *Corvus capensis* ten kilometres east of Bikita (2031 B1†) on 25 March (JC) were south of their known range. Despite appalling weather at Goshop Park, Marondera (1831 B1), on 23 May **Miombo Tits** *Melaniparus griseiventris* were common and widespread (IR). A pair of **Spotted Creepers** *Salpornis salvadori* at Mutare (1932 B1) on 10 March (GD) were unusual and had perhaps descended from the Vumba. Or perhaps Cecil Kop? Three were on Nyamuswa Ranch, Chinhoyi (1729 B4), on 17 March (JMk) and one was at Pindi Park, Banket (1730 A4), between 24-28 March (DS, J-MB); very few records have come from the Lomagundi area since the Atlas years.

Sombre Greenbul *Andropadus importunus* calls were heard in Emerald Hill, Harare (1730 D4†), from 6 February for a week or so. The calls all came from gardens in close proximity to the hill itself on which is a stand of miombo woodland (TS). They were first found at Hippo Pools in 2011 and these latest birds may well have continued along the Mazowe as far as Harare's northern fringes; an extraordinary occurrence nonetheless at this altitude.

An **Eastern Nicator** *Nicator gularis* on the edge of a patch of Mobola Plum *Parinari curatellifolia* at Haka Park, Harare (1731 C3), in January (TD) was unusual and follows a 2011 record from Highlands. Both these birds had probably wandered from the north. One at Nyamuswa, Chinhoyi (1729 B4†), on 12 and 24 March (JMk, J-MB) was a long way southeast of normal range. This species was apparently first noticed there a couple of years ago but went unreported.

A **Groundscraper Thrush** *Psophocichla litsitsirupa* in an Eastlea, Harare (1731 C3), garden on 21 February was the first noted there since 1982 (IL). A **Miombo Rock-thrush** *Monticola angolensis* record from just north of Troutbeck (1832 B2†) in December (SABAP2) follows incidences of range expansion in recent years in the neighbouring B3 (Juliasdale) and B4 (Nyangani) squares. A **Familiar Chat** *Oenanthe familiaris* was seen in Harare's Heavy Industrial Sites (1730 D4) on 2 December (IL). First recorded there about ten years ago, this small population is seldom reported. Following the first **Red-capped Robin-chat** *Cossypha natalensis* record at Hippo Pools in 2019, one seen again on 10 and 31 May (TN) strongly suggests they are attempting to establish this far upstream on the Mazowe. Two **White-throated Robin-chats** *C. humeralis* on Nyamuswa Farm (1729 B4) on 24 March (J-MB) were on the western edge of their Lomagundi range, and on 16 April one was at Pindi Park, Banket (1730 A4†) (DSm).

Collared Palm-thrush *Cichladusa arquata* records from Aberfoyle (1832 B4) in February (J-MB) were the first from that QDS for over 20 years. **Swynnerton's Robins** *Swynnertonia swynnertoni* were reported from Seldomseen (1932 B2) on 21 March (BMb). The Vumba remains an important sanctuary for this sparsely distributed near-endemic. Surprisingly few **Thrush Nightingales** *Luscinia luscinia* were reported in this wet year. Singles on Banket farms were at Pindi Park on 22 January and Redhill on 6-7 February (DSm), and two on the Zambezi at Matetsi Lodge (1725 D3†) on 27 March (GD) were downstream of their known range. Three **Boulder Chats** *Pinarornis plumosus* were found eight kilometres north of Mutorashanga (1730 B1†) on 9 March. Despite there being suitable habitat throughout Makonde this chat is infrequently seen (JMk).

Garden Warblers *Sylvia borin* are seldom reported in any number so at least 15 on Chikurubi vlei on 13 March (PZ) was exceptional, even for a migratory flock; two were still there on the 16th (J-MB). Two **Common Whitethroats** *S. communis* were at the Mukuvisi Woodlands on 16 December (J-MB), and thereafter singles were in the Lion's Den area (JMk) and on Komani vlei (1730 D2) on 24 February (PZ), at Borrowdale Brooke on 17 March (DMacD) and in the National Botanic Gardens on 10 April (*The Babblers*). They were similarly numerous on Chikurubi vlei with two on 25 February and 13 March (PZ), 20 or more moving through on 16 March (J-MB) and the last stragglers noted on 27 March (PZ).

A **Marsh Warbler** *Acrocephalus palustris* that appears annually at Newlands was only noted once this year, on 3 March (IR). Some were reported from Mazvikadei (1730 A2†) in late March and a couple of places around Malapati (2231 A2†) on 7 April (J-MB). Few records have come from the extreme southeast and, given the date, they were most likely moving north.

The **Chirinda Apalis** *Apalis chirindensis* is seldom reported from the Penhalonga area but was noted at La Rochelle (1832 D3) on 21 March (PM). A significant **Yellow-breasted Apalis** *Apalis flavida* breeding record from within Harare was a chick being fed at the Mukuvisi Woodlands on 2 May (RD).

A **Red-faced Crombec** *Sylvietta whytii* at Mazvikadei Crocodile Ponds on 25 April was rather out of habitat (IR). A **Burnt-necked Eremomela** *Eremomela usticollis* sighting at Elephant Point (1628 C4†) at the beginning of May (J-MB) was the first Lake Kariba record for many years. The distribution map in Irwin (1981, page 302) placed them

historically elsewhere at Sanyati West and the Sengwa estuary. **Grey-backed Camaropteras** *Camaroptera brevicaudata* were along the Mazowe River on the north-eastern border (1632 D1) in May (TD). A late-season **Pale-crowned Cisticola** *Cisticola cinnamomeus* was at Widgeon Pan, Felixburg (1930 B4), on 14 April (J-MB).

The **African Dusky Flycatcher** *Muscicapa adusta* has a fragmented pattern of occurrence and a record from just south of Gweru (1929 D1†) in January (JL) adds another isolated QDS to its range. At Goshu Park a male **Collared Flycatcher** *Ficedula albicollis* was reported five times between 7 and 21 March (AD, J-MB). In new areas one was at Banket (1730 A4†) on 21 January (DSm), a male at Mutare (1932 B1†) on 10 March (GD) and a male and two females were on Tom Hulley Road, Vumba (1932 B1†), on 15 March (TW). On farms in the Banket area (1730 A4†) **Grey Tit-flycatchers** *Myioparus plumbeus* were at Redhill on 28 February (DSm) and Pindi Park on 25 March (J-MB). Another was in the Malapati Safari Area (2231 A2) in the second week of April (J-MB).

A pair of **Mountain Wagtails** *Motacilla clara* in the Victoria Falls rain forest from March onwards had presumably moved up from the flooded gorges below. Streamlets in the saturated rain forest created good secondary conditions for them (GD, CB). Four **Rosy-throated Longclaws** *Macronyx ameliae* on Westwood vlei, Matetsi (1725 C4), on 10 May (JV) were the first reported from there for a good many years. A **Lesser Grey Shrike** *Lanius minor* record from northwest of Mahenya (2132 A1†) in December (DPt) was slightly east of where they might be expected.

Five **Wattled Starlings** *Creatophora cinerea* were in Zambezi NP (1725 D4) on 26 March (CB, JB). Another report of the relict **Red-billed Oxpecker** *Buphagus erythrorhynchus* population near Kwekwe was of 28 at Chinyika Ranch on cattle and buffalo in different paddocks on 28 April (UL). A pair of **Western Violet-backed Sunbirds** *Anthreptes longuemarei* was on Nyamuswa (1729 B4†) on 1 and 24 March (JMk, J-MB).

A **House Sparrow** *Passer domesticus* was found near the railway yards between the southern end of Enterprise Road and Braeside on 1 December (IR). They are probably now confined to Harare's dirtier areas. At Umguza in January a large number of juvenile male **Village Weavers** *Ploceus cucullatus* built nests in an acacia that was not over water. They engaged in nuptial displays when females were around although only one male was in semi-breeding plumage. No chicks were produced in what appeared to be a training exercise and most nests had fallen by mid-March (JV). **Golden Weavers** *P. xanthops* had not been reported from a wide band across the extreme south of the country until noted at Malapati (2231 A2†) in early April (J-MB). The provenance is unknown but movement across the Limpopo from Kruger NP is a possibility.

Cuckoo Finch *Anomalospiza imberbis* records of range expansion in the eastern districts came from Rukotso, north of Troutbeck (1832 B2†), in December (WG) and Katiyo (1833 A3†) in February (J-MB). The **White-winged Widowbird** *Euplectes albonotatus* is perhaps becoming an urban Harare resident. Some were still on the vleis at Monavale on 16 January and Newlands on 11 January and 6 February (IR).

Orange-winged Pytilias *Pytilia afra* were on Redhill Farm (1730 A4†) on 6-7 February (DSm) and west of Alaska Mine, Chinhoyi (1729 B4†), in March (J-MB), both records representing local movement. Similarly on Lake Kariba, they were found east of Elephant Point (1628 D3†) in May (RB). **Red-throated Twinspots** *Hypargos niveoguttatus* at Kuimba

Shiri, Lake Chivero, on 24 April were the first seen there for many years and were assumed to be moving through (TC). **Grey Waxbills** *Estrilda perreini* were at La Rochelle (1832 D3) on 21 March (PM). They are thin on the ground so always worth recording. **Magpie Mannikins** *Lonchura fringilloides* near Lion's Den (1730 A3†) in March (JMk, J-MB) seems to indicate an isolated population exists to the north of Chinhoyi.

Broad-tailed Paradise-whydahs *Vidua obtusa* recorded east of the Sebakwe Recreational Park (1830 C4†) in April (DKk) were south of their known range. A **Green Widowfinch** *V. codringtoni* was at Katiyo (1833 A3) on 19 February (J-MB) where sparsely recorded previously. As they require relatively undisturbed miombo woodland **Black-eared Seedeaters** *Crithagra mennelli* will be forced to concentrate more and more in protected places such as Goshu Park were noted on 10 March (J-MB).

Arrivals

African Crane 9 December Monavale vlei (JM); **Streaky-breasted Flufftail** 18 December Monavale vlei (RC, JM); **Black Coucal** 10 December Kuimba Shiri (TC), 18 December Monavale vlei (RC, JM); **Swallow-tailed Bee-eater** 11 April Save-Runde confluence (TM), 29 April Victoria Falls (CB), 3 May Harare (IR); **Great Reed-warbler** *Acrocephalus arundinaceus* 9 December Monavale vlei (JM); **Purple-banded Sunbird** *Cinnyris bifasciatus* 21 May Harare (IR).

Departures

Wahlberg's Eagle *Hieraetus wahlbergi* 28 March Marondera (AD); **Eurasian Hobby** *Falco subbuteo* 5 March Musango (SE), 15 March Chikurubi vlei (PZ), 18 March Chilo Lodge (CS), 19 March Honde Valley (MS); **Amur Falcon** 18 March Chegutu (DK), 19 March Elephant Walk, Karoi-Kariba road (c. 100) (SE), 21 March Mount Hampden (JWh), 24 March near Chinhoyi (J-MB), 25 March Harare (NN), 29 March Kennedy Pans (SH), 3 April Chamabonda vlei (5) (CB); **African Crane** 21 March Monavale vlei (*The Babbler*), 27 March Mount Hampden (JWh), 1 April Umguza (JV), 3 April Chamabonda vlei (CB), 4 April Matetsi Lodge (1725 D3) (GD), 27 April Mazuri Ranch (UL); **Common Sandpiper** *Actitis hypoleucos* 2 April Mazvikadei (AMacD), 3 April Marondera (AD), 6 April Matusadona (PTE), 7 April Victoria Falls (CB), 24 April Save-Runde confluence (GD); **Wood Sandpiper** *Tringa glareola* 13 April Victoria Falls (CB), 14 April Widgeon Pan (J-MB), 22 April Matusadona (PTE), 24 April Save-Runde confluence (GD), 8 May Whitehead Ponds (*The Babbler*); **Common Greenshank** 22 April Chipinda Pools (GD) and Matusadona (PTE); **Little Stint** *Calidris minuta* 13 April Salt Pan (CBr), 17 April Marlborough Ponds (LS); **Ruff** *Philomachus pugnax* 3 April Victoria Falls (DS), 17 April Marlborough Ponds (LS); **Rock Pratincole** *Glareola nuchalis* 31 January Victoria Falls (CB).

Common Cuckoo *Cuculus canorus* 14 March Lake Chivero (KBw), 19 March Honde Valley (MS); **African Cuckoo** *C. gularis* 14 March Lake Chivero (JoF); **Red-chested Cuckoo** 11 March Marondera (AD), 14 March Lake Chivero (JoF), 19 March Mazuri Ranch (UL); **Black Cuckoo** *Cuculus clamosus* 13 March Victoria Falls (CB); **Great Spotted Cuckoo** *Clamator glandarius* 22 April Chipinda Pools (GD), 23 May Dande North (TW), 30 May Matusadona (DP); **Levaillant's Cuckoo** *C. levaillantii* 7 April Bulawayo (PD), 11 April Salt Pan (BN), 22 April Mazvikadei (DKk), 24 April Save-Runde confluence (GD), 28 April Lilfordia School (JWh), 29 April Mana Pools (ESn) and Victoria Falls (JB), 3 May

Banket (DSm), 6 May Marondera (AD), 29 May Harare (TH); **Jacobin Cuckoo** *C. jacobinus* 20 March Harare (TW), 26 March Matusadona (PTE), 3 April Matetsi Lodge (GD), Zambezi NP (RW), 8 April Kavinga (LMcD), 11 April Save-Runde confluence (TM), 22 April Chipinda Pools (GD) and Chizarira (MA); **Klaas's Cuckoo** *Chrysococcyx klaas* 24 March Nyanga (SS), 11 April Malapati (2231 A2) (J-MB), 24 April Save-Runde confluence (GD); **Diderick Cuckoo** *C. caprius* 6 March Victoria Falls (CB), 23 March Umguza (JV), 31 March Chikurubi vlei (PZ); **Black Coucal** 21 March Mazvikadei (AMacD), 28 April Lilfordia School (JWh).

Rufous-cheeked Nightjar *Caprimulgus rufigena* 21 March Marondera (AD); **Pennant-winged Nightjar** *Macrodipteryx vexillarius* 23 March Harare (PT); **Common Swift** 3 April Marondera (AD); **White-rumped Swift** *Apus caffer* 27 April Mazvikadei (BM) and Victoria Falls (CB); **Woodland Kingfisher** *Halcyon senegalensis* 3 April Matetsi Lodge (GD), 5 April Mazuri Ranch (UL) and Save Valley Conservancy (DL), 11 April Save-Runde confluence (TM), 22 April Chipinda Pools (GD) and Matusadona (PTE); **Grey-headed Kingfisher** *H. leucocephala* 22 April Matusadona (PTE), 24 April Save-Runde confluence (GD); **European Bee-eater** *Merops apiaster* 3 April Marondera (AD), Vumba (SW), Banket (NN), Save Valley Conservancy (DL) and Dete vlei (JV), 5 April Victoria Falls (JB), 7 April Hippo Pools (TN), 8 April Mola area, Omay (1628 C4) (SE) and Harare (NN), 11 April Khumalo, Bulawayo (TF), 14 April Kanga Pan (CM), 17 April Mutare (JC); **Southern Carmine Bee-eater** 1 April Matusadona (PTE), 3 April Mazuri Ranch (UL), 4 April Dete vlei (JV); **European Roller** *Coracias garrulus* 22 March Kennedy 1 (SH); **Broad-billed Roller** *Eurystomus glaucurus* 15 March Kennedy 1 (SH), 26 March Matusadona (PTE).

Barn Swallow *Hirundo rustica* 3 April Dete vlei (JV) and Marondera (AD), 8 April Malapati (2231 A2) (J-MB), 10 April Umguza (JV), 17 April Honde Valley (c. 100) (GD), 2 May Matusadona (J-MB), 8 May Victoria Falls (CB); **Blue Swallow** *H. atrocaerulea* 16 April Connemara (KBw); **Red-breasted Swallow** *Cecropis semirufa* 22 February Zambezi NP (CB, JB), 14 March Enterprise, Harare-Shamva road (DS); **Common House Martin** 1 April Marondera (AD), 8 April Victoria Falls (CB), 10 April Bomani (SCu) and Umguza (JV), 24 April Save-Runde confluence (GD); **Banded Martin** *Riparia cincta* 19 April Victoria Falls (CB); **Black Cuckooshrike** *Campephaga flava* 25 May Victoria Falls (male) (CB); **African Golden Oriole** *Oriolus auratus* 8 May Matetsi (JV), 12 May Mana Pools (MA) and Dete vlei (JV), 17 May Mazvikadei (BM), 23 May Dande North (TW), 30 May Matusadona (DP) and Zambezi NP (MHk); **Garden Warbler** 13 March Aberfoyle (MS) and Marondera (JW), 16 March Harare (J-MB); **Great Reed-warbler** 22 March Burma Valley (PM), 1 April Umguza (JV); **African Reed-warbler** *Acrocephalus baeticatus* 4 April Harare (IR); **Marsh Warbler** 1 April Umguza (JV), 4 April Harare (IR), 6 April Marondera (AD), 7 April Malapati (J-MB); **Willow Warbler** *Phylloscopus trochilus* 29 March Marondera (AD), 7 April Malapati (J-MB), 10 April Umguza (JV), 11 April Harare (IR).

Spotted Flycatcher *Muscicapa striata* 21 March Goshu Park (AD), 24 March Umguza (JV), 27 March Harare (PZ); **African Paradise-flycatcher** *Terpsiphone viridis* 24 April Save-Runde confluence (GD), 25 April Mazvikadei (IR), 27 April Victoria Falls (CB), 28 April Rukomechi River (NN), 29 April Banket (DSm), 3 May Mana Pools (ESn), 17 May Dete vlei (JV), 24 May Bumi Hills (TT), 25 May Rifa (EB), 27 May Harare (DS), 29 May Hippo Pools (TN); **Tree Pipit** *Anthus*

trivialis 22 March Goshu Park (PZ); **Lesser Grey Shrike** 8 April Zambezi NP (CB), 9 April Kanga Camp (CM) and Save-Runde confluence (TM), 12 April Matusadona (Pte) and Hwange NP (AMacD); **Red-backed Shrike** *Lanius collurio* 24 March Umguza (JV) and Chinhoyi area (J-MB), 28 March Matetsi Lodge (JV), 29 March Kennedy 1 (SH), 3 April Marondera (AD) and Chamabonda vlei (CB), 6 April Matusadona (Pte), 8 April Kavinga (LMcD), 9 April Kanga Camp (CM), 10 April Harare (TW), 11 April Save-Runde confluence (TM); **Violet-backed Starling** *Cinnyricinclus leucogaster* 1 May Matusadona (J-MB), 2 May Penhalonga (c. 50) (GD), 18 May Mazvikadei (DKk), 27 May Harare (DS); **Purple-banded Sunbird** 12 December Harare (*The Babblers*).

Observers

Derek Adams (DA), Matt Austen (MA), Elspeth Baillie (EB), Rachel Bain (RB), Colin Baker (CB), Julia Baker (JB), James Ball (JBa), Jamin Bews (JBw), Keenan Bews (KBw), Jean-Michel Blake (J-MB), Jenna Booth (JBo), Charles Brightman (CBr), Dylan Browne (DB), Steve Chinhoi (Sch), Ronnie Chirimuta (RC), Jane Clegg (JC), Graham Cochrane (GC), Tracey Couto (TC), Stuart Cumming (SCu) David Dalziel (DD), Asher Dare (AD), John Dawson (JD), Dave Dell (DDe), Paula Dell (PDe), Richard Dennison (RD), Tom Dibb (TD), Peta Ditchburn (PD), Gary Douglas (GD), Onwell Dzobo (OD), Steve Edwards (SE), Terry Fenn (TF), Jonathan Francis (JoF), Wesley Gush (WG), Mark Hadingham (MH), Adam Herscovitz (AH), Sean Hind (SH), Nkululeko Hlongwane

(NH), Teig Howson (TH), Matt Hosack (MHk), Tyron Hurst (THu), Courtney Johnson (CJ), Doug Kew (DK), Doug Kok (DKk), Karl van Laeren (KvL), John Laing (JL), Daniel Landman (DL), Barry Launder (BL), Innes Louw (IL), Ursula Lowe (UL), Jim Mackie (JMk), Ali MacDonald (AMacD), Doug MacDonald (DMacD), Luke McDonald (LMcD), Roger MacDonald (RMacD), Bruce McKinlay (BMck), Peter Magosvongwe (PM), Paul Martin (PMA), Cliffy Mhandu (CM), Bev Morgan (BM), Sally Mucklow (SM), Buluwesi Murambiwa (BMb), Jimmy Muropa (JM), Thomas Mutombeni (TM), Neil Nativel (NN), Bhekizulu Ncube (BN), Tadius Ndadziira (TN), Carl Nicholson (CN), Sean Nicolle (SN), Dan Peel (DP), Julia Pierini (JP), Darren Pietersen (DPt), Ali Randell (AR), Rob Rees (RR), Ian Riddell (IR), Mitchell Riley (MR), Morgan Saineti (MS), Shingirai Sakarombe (SS), Doug Smith (DSm), Evan Solomon (ESn), Peter Solomon (PSn), Kylee Stevenage (KS), Clive Stockil (CS), Lowden Stoele (LS), Trevor Stoele (TS), Debbie Swales (DS), Tat Taingarufu (TT), Peter Taylor (PT), Peter Tetlow (Pte), Gilly Thornycroft (GT), Darryl Tiran (DT), Arnold Tshipa (AT), James Varden (JV), John Vekris (JVe), Peter Verbakel (PV), Duncan Watson (DW) Elsabe van der Westhuizen (EvdW), Johnny Whitfield (JWh), Carl Wilson (CW), Rogan Wolhuter (RW), Jan Wood (JW), Tony Wood (TW), Ken Worsley (KW), Sue Worsley (SW), MacKenzie Zirota (MZ), Piet Zwanniken (PZ).

SABAP2 – Contributor unidentified

The Babblers – Newsletter of BirdLife Zimbabwe

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Records of Yellow-billed Kites 20 December 2020 – 31 March 2021

C.T. Baker

Yellow-billed Kite *Milvus aegyptius* records submitted for inclusion in Field Observations and sightings drawn from elsewhere are shown separately here. No **Black Kites** *Milvus migrans* were reported.

Apart from one record of a large feeding flock in Hwange NP in December, kites were sparsely reported. Numbers visiting this season may well have been down on previous years. Most had left Victoria Falls by 20 February and no records were submitted after 14 March.

The sightings shown below are of single birds except when noted otherwise.

Yellow-billed Kite *Milvus aegyptius*

3 December Victoria Falls Airport (1825 B2) CB
5 December Two near Bikita Centre (2031 B1) JVe
21 December Hundreds fed on termite alates between Kennedy and Ngweshla Pans (1827 C3, 1927 A1) JW
26 December At the 6 km and 7 km pegs Victoria Falls-Kazungula road (1725 D4) CB
1 January One pursued by an African Hawk-eagle near the Big Tree, Victoria Falls (1725 D4) CJ
24 February Mid-way between Chirundu and Marongora (1629 A1) PA
27 February Chinhoyi (1730 A3) JMk

Lupane (1827 D4) SH
28 February Umguza Irrigation Scheme (1928 D3) DS
Six or more on the Kariba-Makuti road GT
1 March Glenview, Harare (1730 D4) RC
44 km along Victoria Falls-Hwange road (1825 B2) BN
2 March Four between Gwanda and Bulawayo on road kills SN
A few at Red-billed Quelea nesting colonies in the Bubye Valley Conservancy NF
8 March Victoria Falls (1725 D4) JB
9 March The Hide, Hwange NP (1827 C3) SH
10 March Nyamandhlovu Pan, Hwange NP (1826 D4) GC
14 March Heading south-southeast over Umguza Irrigation Scheme (1928 D3) JV

Observers

Phil Archenoul (PA), Colin Baker (CB), Julia Baker (JB), Gary Cante (GC), Ronnie Chirimuta (RC), Neil Fairlie (NF), Sean Hind (SH), Courtney Johnson (CJ), Jim Mackie (JMk), Bhekizulu Ncube (BN), Sean Nicolle (SN), Dane Simmonds (DS), Gillian Thornycroft (GT), James Varden (JV), John Vekris (JVe), Johnny Whitfield (JW).

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Alex Masterson, 1936-2021

Alexander Norman Bernhard Masterson died in June 2021 after a long illness but will be remembered for his lifelong involvement with BirdLife Zimbabwe and its predecessors, the Rhodesian Ornithological Society and the Ornithological Association of Zimbabwe.

Alex was born in Gwanda where his father worked for what is now the Ministry of Internal Affairs, and he grew up in the rural areas of Mashonaland. He was educated first at Bindura School but became a boarder at St. George's College in Harare from Standard 4, leaving school in 1953 after completing Form 6, and then went to the University of Cape Town to read law. Whilst there, he apparently tutored in Shona in the Languages Department, having learnt the language as a child. Such was his fluency in the language that he acted as an examiner for cadets and district officers in Internal Affairs, and many a law court interpreter was caught out by him during cross-examinations.

He became a much respected and leading member of the legal fraternity, having worked for many years as a partner in the law firm, Coghlan, Welsh and Guest. He also served as its senior partner and, latterly, as a consultant. Alex worked long hours researching and putting together legal papers and advice using his long years of experience as a legal practitioner to assist farmers, both individually and collectively during those early days of land reform. When in court he had very many successful cases, many of which set valuable and important precedents, which will still form the basis of law for many years to come.

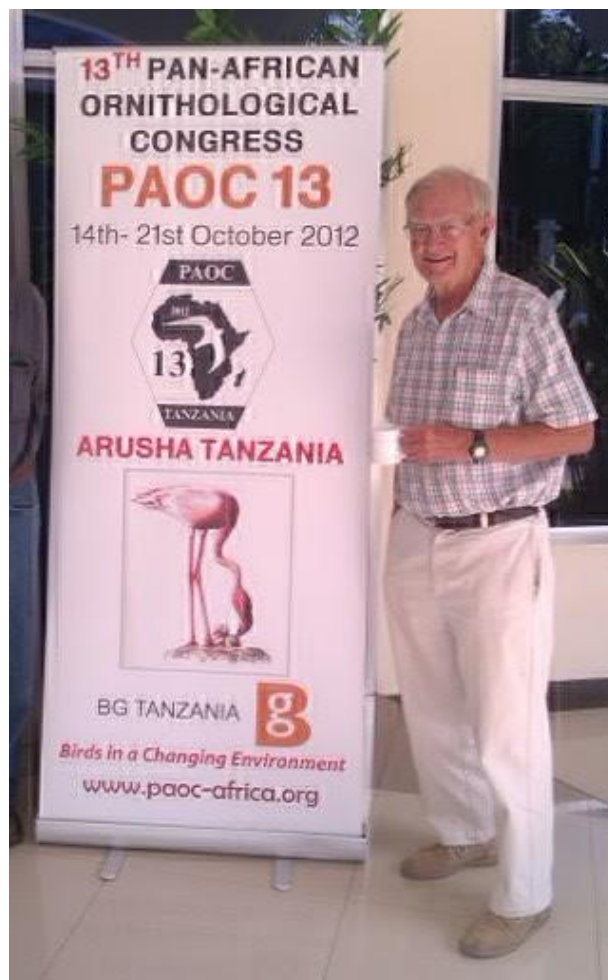
It seems that he may have inherited his interest in natural history from his father, who became a member of the newly-formed Rhodesian Ornithological Society in 1951, when he was then stationed at Goromonzi. He collected some bat specimens in the Chikupo Caves near Bindura that were sent to the Transvaal Museum, and Austin Roberts described two new species from this collection. One of them was named Masterson's Free-tailed Bat *Tadarida mastersoni* (now doubtfully synonymised with the Madagascar Free-tailed Bat *T. fulminans*).

With this background, and living in rural areas, it is not surprising that Alex became interested in birds. Like many youngsters at that time, he collected birds' eggs, but unlike most of them he amassed a major collection of some 700 clutches, meticulously documented and curated. His first mention in Zimbabwean ornithological literature was an acknowledgment of 10 nest record cards, submitted to the newly-established Nest Record Card scheme in 1952. It would be interesting to know how many cards he submitted over the years – he must surely have been a major contributor to this project.

In the 1980s he also took over the egg collections of Richard Guy Arkell and Stan Fourie, as well as a few miscellaneous collections from other collectors at other times. To safeguard these records he willingly agreed that his journals be scanned and expressed a wish that the collection remain in Zimbabwe.

Although he was an acknowledged expert on grassland birds his ornithological interests were much wider, as shown by

over 100 *Honeyguide* contributions. These included all sorts of species – owls, bulbuls, nightjars, coucals and others – doing all sorts of things – distraction displays, avocado eating, nest piracy and more. He even published the first description of the nest and eggs of Archer's Ground Robin, which he found during a visit to the Rwenzori Mountains in 1959 (*Scopus* 5: 33-34, 1981).



Alex at the 13th Pan-African Ornithological Congress, 2012.
Photo © Tony Wood

He also served the ornithological community as a long-standing member of the Council, including terms as its President. His service included acting as an honorary legal advisor when the Rhodesian Ornithological Society broke away from the South African Ornithological Society, to become the Ornithological Association of Zimbabwe and finally BirdLife Zimbabwe.

Those of us who went on his annual vlei surveys in the Marlborough-Monavale area will always remember his remarkable ability to identify small brown birds. His commitment, interest and enthusiasm will be sorely missed.

Brian Marshall

Alex Masterson: An Appreciation

Alex Masterson gave us the *squelch zone*. In a landmark 16-year ecological study of the family Rallidae in Harare's vleis, or dambos, he showed that: "Despite their superficial uniformity, only limited areas [of grassland] appeal to the crakes...The short grass that [they] like occurs on the lower slopes of vleis. Such...areas are often referred to as 'flooded' or 'inundated', but...it is seepage from higher ground that maintains the wet conditions during...drier spells. The clay soils which bring the seepage to the surface are subject to considerable expansion and contraction according to how wet they are. The result is a rather uneven microtopography and, once the ground is wet, one squelches through the numerous shallow puddles 2–3 cm deep..." (Hopkinson & Masterson 1984).

The Streaky-breasted Flufftail, Striped Crake and African Crake all require the squelch zone, along with the Pink-throated Longclaw, Pale-crowned Cisticola and Yellow-mantled Widowbird. How to place the achievement of being the first to identify and describe a habitat which supports a whole suite of bird species? It's like being the first to identify the (forest) understorey.



Alex Masterson stalking a Lesser Jacana nest, Dakati Pan, Save Valley, c.1968 Photo © Rolf Chenaux-Repond.

Ecologists look for habitats, and he was a master at finding bird habitats. The first walk with him in Harare's dambos was a seminal moment, because he showed how to interpret the landscape, how to *see it*. Who knew there was so much going on in what, only hours before, was a monotonous vista of green grass? Wet grassland, here; there, dry; short; tall; not too tall. Look for tuft grasses, as the runners impede the ground-dwellers' progress. Denser, forby growth on termite mounds to which they can retreat, and nest. So many different kinds of grassy habitat in one site, each supporting a different species of secretive ground-dweller. African, Baillon's, Corn, Spotted and Striped crakes, Streaky-breasted and White-winged flufftails, African Blue and Harlequin Quails, Lesser Moorhen, and Black-rumped and Kurrichane Buttonquails, all divvying up a vlei in Harare.

He developed an encyclopaedic knowledge of the calls and behaviour of Zimbabwean birds, publishing much novel information, including, for example, the first description of the Black-rumped Buttonquail's call (Masterson 1969). He was also a nests-and-eggs man, and the first to find and describe the

nest of the African Pitta (Masterson 1987). His major contributions to the hugely popular *The Complete Book of Southern African Birds* (1989) and *Little Brown Jobs Made Easier* (1999) brought regional renown, and it was he who birders from beyond Zimbabwe's borders sought for advice, and he shared his knowledge and time freely. And it was he who the editors of the *Atlas of Southern African Birds* (1997) turned to for the accounts of eastern Zimbabwe's trickiest to find habitat specialists.

Despite being the specialist of the habitat specialists, back at camp after a morning's walk in Gosho Park during the 2012 Cinnamon-breasted Tit survey, he referred to a field-guide. Humility, and an awareness that, even after a life-time exploring Mashonaland, there is something to learn about Zimbabwe's birds? Or, a deliberate gesture for the next generations of birders and 'citizen scientists' assembled nearby? Either way, surely the actions of a purist, who knew that the only records of value are carefully considered, if not wrestled with and hard-won.

He grew up in the commercial farming district of Bindura, learning Shona from the friends he explored Mashonaland's landscapes with. He became one of Zimbabwe's most prominent lawyers, and – with a concern not just with finding the habitat specialists but conserving their habitats – he did much *pro bono* work to challenge the indiscriminate development of Harare's vleis. His proposed solutions to counter the dwindling of the Haroni-Rusitu forests (Masterson 1992) show the commitment, pragmatism, creativity and hope which characterised the new nation of Zimbabwe.

With no formal biological training, he was part of the tradition of the amateur enthusiast. Bird-dogs, which he trained to flush and point, were important players in the quest to get beneath the surface of Africa's dambo ecosystems. On one occasion, a Striped Crake made its escape by diving into a pool, remaining submerged, breathing with its bill protruding just above the surface. Is it possible to top this natural history experience?

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Alex Masterson – A Personal Note

Alex was a close personal friend of mine for nearly sixty years and I feel that all I can do is to touch on some of our shared experiences. These included our frequent visits to Chiota Pan and to the Masembura Communal Lands where he introduced me to my first Mackinder's Eagle-owl, a subspecies of the Cape Eagle-owl, nesting in a hollow of the vertical face of a *dwala*. I accompanied him to Dakati Pan in the SE lowveld (probably in the late 60s), and to what was once known as Lake Alice near Nkayi not more than 10 years ago. On our last field trip together, Alex took off his socks and shoes and waded into the knee-deep waters in to middle of the lily-covered pan. Were there any crocodiles in it?? He also showed me the nest of a Streaky-breasted Flufftail in Monavale, of which I obtained some pleasing photos.

Many were our visits to the vleis in the N/W area of Harare, sometimes accompanied by his friend Hoppy, also a *Cisticola* fan of note. And not more than 50 yards from the edge of Quendon Road, near the little culvert over the Marimba stream, Alex showed me the active nest of a Grass Owl in the 70s.

Maia and I enjoyed relaxing visits to the Masterson's shack (as they affectionately called it) in the Vumba, right next to an extensive patch of montane forest. Alex was instrumental in saving a considerable chunk of the Bvumba Forest from being sold off commercially in the eighties, when the Company growing coffee on the property it formed part, of closed down. He managed to collect sufficient \$1 000 interest-free loans/donations to put in a successful bid for the forested slope when the property was auctioned and then persuaded National Parks to purchase it as an extension of the existing forest reserve. We all received our loans back in due course.

Less than 10 years ago, Alex joined other overseas birders on a 14-day tour in equatorial West Africa where he managed to see some magnificent hornbills, in addition to other species not found in Southern Africa.

Rolf Chenaux-Repond

Carl Vernon, 1938 – 2021

Carl Vernon was a significant figure in Zimbabwean ornithology until 1975, when he left to become the Ringing Organiser of the National Bird Ringing Unit at the Percy FitzPatrick Institute for African Ornithology, University of Cape Town. In 1977, he was appointed as the Ornithologist at East London Museum, where he remained until his retirement in 2003.

Born in England, his family came to the then Southern Rhodesia in 1947 and he went to boarding school in Mutare. His father worked as a farm manager in various parts of Mashonaland and it was on these farms that Carl developed an interest in natural history, and birds in particular. After leaving school, he briefly worked in a bank, then joined the Federal Department of Meteorology in 1958 and was posted to Kasama in north-eastern Zambia. During this time, he met C.W. (Con) Benson, then the leading ornithologist north of the Zambezi, who mentored him and took him on collecting expeditions to various parts of the country. Benson also insisted that he wrote up the results, and taught him how to do it – an essential skill for any scientist.

He became a student at the Teachers Training College, Bulawayo, in 1962–1964, and taught at Marondera High

I sat on the ROS/OAZ Council with Alex for many years, he mostly as President. Our meetings on a Sunday morning in Alex and Rose's lovely Avondale home usually carried on towards the evening which caused Rose, who always provided a magnificent lunch, to comment quite rightly that the commonly held male view that women never stopped talking was nothing but a screen, put up to hide men's own considerable skills in this area.

And then those Council meetings when Rud Boulton drove us down to Que Que, halfway between Bulawayo and Harare, where we spent endless hours trying to prove that the confidence placed on us by the membership was entirely justified. Another such occasion arose when it was decided to amend, actually virtually re-write, the ROS Constitution after Zimbabwe obtained independence. The venue was Atlantica Ecological Research Station, off the Bulawayo Road, where the Boultons lived. Alex and I were present, together with all other Council members. The plan had been to conclude business by midnight at the latest, but the sun had risen before the last "t" was crossed and the last comma placed, just in time for us to accept Louise's invitation to a sumptuous breakfast.

Cisticolas, flufftails, crakes and rails, and other grassland birds were his main interest, and a well-trained dog able to point invariably accompanied him on his vlei walks. I accompanied him on many of his frequent and regular visits to Rainham Dam where he seemed to know just about every bird "personally". Two of the highlights I remember were the yearly arrival of a flock of Grey Crowned Cranes, and the putting up of no less than 16 roosting Marsh Owls when walking about in the area below the main dam wall.

Alex was a gifted, knowledgeable, unassuming, supportive, helpful, considerate and level-headed man – a friend for all seasons.

School in 1965 before enrolling as a student at the University of Natal, Pietermaritzburg. He completed a BSc in 1968 and an Honours degree in Wildlife Management at the University of Pretoria in 1969. In 1970 he was appointed to the newly-created post of Ornithologist in the Department of National Parks and Wild Life Management. He was initially based at Great Zimbabwe, but moved to Lake McIlwaine (now Lake Chivero) in 1974, remaining there until he left the department in 1975.

Carl contributed 72 items to *Honeyguide* and its predecessor (*Bulletin of the Rhodesian Ornithological Society*) between 1961 and 2016, and published extensively in other journals, such as *Ostrich*. These papers covered a wide range of topics, and one of the most interesting was his discovery that the Black Coucal is polyandrous, with only males carrying out nesting duties. Sadly, this work was carried out on the Marimba vlei, Harare, where the national stadium now stands and it is unlikely that these coucals occur there nowadays. This reflects the environmental changes that have occurred in Zimbabwe and the various checklists that Carl produced (e.g., Bulawayo, Matopos, Great Zimbabwe) will assist those wishing to monitor their impact on our bird populations.

Perhaps the most important of these is his census of the birds of Marondera, carried out while teaching at the high school, three co-authored papers on the birds of the (now mostly destroyed) Haroni-Lusitu forest, and his survey of birds in miombo woodlands at Lake Kyle. He also carried out a four-year investigation of the breeding seasons of birds of deciduous woodland at Great Zimbabwe. This paper is likely to become an important reference in future because we know that the breeding seasons of birds are being altered as a result of climate change. This work will provide baseline data against which to determine changes to the breeding seasons of our birds.

However, his most significant contribution to Zimbabwean ornithology may have been his role in developing the Black Eagle survey and persuading Val Gargett to take it over when he left Bulawayo at the end of 1964. He produced the first

report of the survey and wrote a gracious tribute to her achievements after her death. Although struggling now, this survey has continued for over 50 years and is one of the most important long-term studies of any eagle species.

I first met Carl in 1962, when he led an ornithological group on the Rhodesian Schools Exploration Society's expedition to the Gonarezhou. We spent a wonderful two weeks birding along the Runde River and down at the Save-Runde junction. At that time there was still a beautiful riverine fringe along the river and extensive reedbeds (now heavily damaged by elephants and hippos) and I was introduced to many new and exciting species. People still lived in the area then and their millet fields supported large numbers of seed-eating birds. One of our objectives was to collect the recently-described Lemon-breasted Canary, then only known from Mozambique – which we did.



Carl Vernon (with binoculars) and the ornithology group, Gonarezhou expedition, May 1962. The current editor of *Honeyguide* is on the far right.

I came into contact with him again in 1974-75 when he was transferred to the McIlwaine Research Centre near Harare, where I was a fisheries officer. I am not sure that he welcomed its proximity to Head Office as he had been fairly independent down at Great Zimbabwe!

We frequently discussed birds and I was impressed by his wide interests and depth of knowledge. I was astonished by his ability to locate bird's nests and the only times I have ever seen cisticola nests was when he showed them to me. He told me that the only local species that defeated him was the African Stonechat as he had never been able to find its nest. He also described his outstanding work on helmet-shrike breeding and behaviour which he did at Great Zimbabwe. He intended to submit this to the University of Cape Town for a doctorate but regrettably he never did so, apparently because of personal clashes with his supervisor. He continued his interest in communal-breeding birds at McIlwaine, doing similar work on Arrow-marked Babblers (as far as I know never published) and the Green-capped Eremomela.

My thanks to Richard Dean for allowing me to extract personal data from his obituary published in *Ostrich* (2021), which gives more details of Carl's post-Zimbabwe activities.

Brian Marshall

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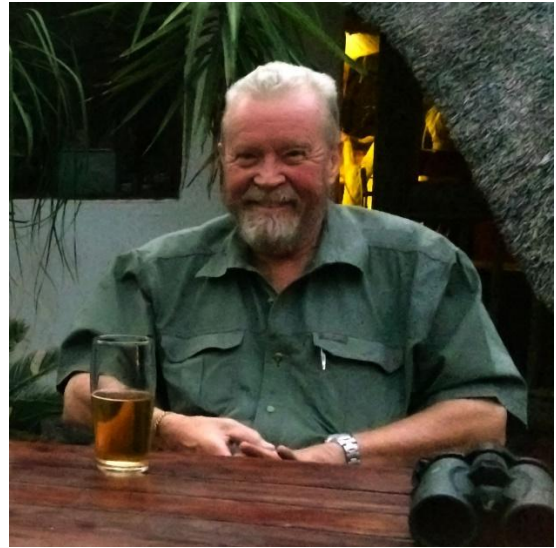
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Tony Wood

Tony Wood, who died on 12 September 2021, was involved with BirdLife Zimbabwe for many years and had many friends in all spheres. In the tough years post-2012, following the departure of a previous director who left BLZ crippled with debt, Tony supported and participated in all our fundraising efforts and was a pillar of strength as we slowly got back on our feet. Tony was there when we needed him most for which we will always be grateful.

Tony was a steady contributor to *Honeyguide* with 23 articles or notes between 1993 and 2020. Some of his notable records included Ayres's Hawk-eagles apparently living on African Sacred Ibis and Cattle Egret chicks at the breeding colony on Adaire Road in Chisipite (Harare), a possible Pectoral Sandpiper at Mana Pools, and the first authentic sighting of a Red-throated Wryneck in Zimbabwe. Other 'firsts' from Tony included an almost certain breeding record of Böhm's Bee-eater, the first from southern Africa, and a Pied Wheatear spotted at Victoria Falls. He also recorded Eleonora's Falcon (twice) and Gull-billed Tern (his beautiful photograph of this bird graced the cover of *Honeyguide* 64, 2018), both rarities in Zimbabwe. He was also a regular contributor to Colin Baker's Field Observations, right up to this issue and perhaps even the next.

As a former President of Birdlife Zimbabwe, and an enthusiastic birder, his contributions will be sorely missed.



Tony Wood. Photo from *Babbler*

Brian Marshall



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