

A re-assessment of the avifauna of the Mountain Zebra National Park

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Based on all published records, together with the original data for the southern African bird atlas, the current Birds in Reserves Project and our records on field trips, 257 bird species have been reliably recorded from MZNP. We have assessed the current status of all species, in relation to the recent expansion of the park and other changes which may be a consequence of management practices. No birds of national conservation concern are breeding residents in the park, and some species are periodic or irregular visitors. Nevertheless, the park is important for the conservation of representatives of the Karoo avifauna, and the diversity of birdlife present should be highlighted to attract visitors with a special interest in birding.

Key words: avifauna, Karoo Biome, bird check list, Mountain Zebra National Park.

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Introduction

The Mountain Zebra National Park (MZNP) was founded in 1937 to protect the endangered Cape mountain zebra *Equus zebra*. Initially, it included only the farm 'Babylonstoren' but by the time of the first bird survey in 1962–1964, additional land had doubled the original size of the park (Skead 1965). Additions to Skead's check list for the park were summarised in the journal *Koedoe* (Penzhorn & Bronkhorst 1976; Penzhorn 1977; Grobler & Bronkhorst 1981). Between 1980 and 1983, Hans Grobler, an ornithologist with a special interest in birds of prey, was resident in the park. He published several papers dealing with breeding in this group of birds (Grobler 1981, 1982; Steyn & Grobler 1981, 1985). He also co-authored a guide to the park, which included a check list of the birds (Grobler & Hall-Martin 1982). In the same year, Joan Collett, a long-term birder resident at Fish River (north of Cradock), published an account of the birds of the Cradock district that included many references to the park (Collett 1982). During the period of the Southern African Bird Atlas Project (SABAP) from 1987–1991, observations for the park and adjacent areas were

collected and summarised in the published atlas (Harrison *et al.* 1997).

Since the completion of the atlas project, the Avian Demography Unit (ADU) at the University of Cape Town has launched the 'Birds in Reserves Project' (BIRP), which is intended to provide accurate data on the avifauna of protected areas in South Africa. The size of the Mountain Zebra National Park has also increased significantly through the acquisition of additional land to the north of the original park, and the final projected size may be 24 000 ha. Starting in 2001, Honours students in Zoology from Rhodes University enrolled for a new course on African vertebrate diversity. They have visited the park three times a year (late summer or autumn, winter and spring) on field courses. During these visits, the small mammals and birds of both the original park, and of some newly-acquired areas, have been surveyed by observation and the capture, marking and release of live animals.

Visitors to the park were previously provided with an undated check list of the birds, largely a transcript of the list published in the 1982 guide to the park, but with some species omitted, and some additions (Appendix 1). This list was marked as 'revised by Dr Gor-

don Maclean', who last visited the park prior to the commencement of the bird atlas project (G.L. Maclean *pers. comm.*). The printed list included some exceptional records, and gave no indication of which species were present regularly and which were migrants or vagrants, although such codes had appeared in the original park guide (Grobler & Hall-Martin 1982). Then in 2003, a new check list was produced by South African National Parks, with simple codes to indicate which species the visitor is most likely to encounter. Unfortunately this list has incorporated some doubtful records from the past, while some species are unjustifiably categorised as 'regular' or 'common'; some of these problems may be simple proof-reading errors, as neither AJFKC nor the staff also credited with providing data saw a draft of this sheet. Therefore it seemed appropriate to review all bird records for the park, and comment on the status of species, noting in par-

ticular any changes which may have occurred over time, and whether these can be related to changes in habitat and management practices. Management of the park originally focused on species conservation of the mountain zebra, but now aims to conserve the overall biodiversity of the region. This should benefit all birds, as a wider range of habitat types will be promoted.

Study area, methods and sources

When proclaimed, the park covered only 3500 ha. This increased to 6536 ha with the addition of the farms Zebrahoek, Pretoriuskraal, Wildepaardnek, Sneeuberg and part of Doornhoek in 1964, and then to 18 000 ha with the post-1990 acquisition of the farms Ingleside, Welgedacht, De Rust, the remaining part of Doornhoek, Ebenhaeser, Jurisdam and Zeekoeigat (Fig. 1). Further consolidation is planned on the western border of the park. The main veld types were reviewed by Skead (1965) using Acocks (1953) classification. In terms of biomes, MZNP falls in the Nama-Karoo biome adjoining the Grassland biome (Rutherford & Westfall 1986, Low & Rebelo 1996). The most recent plant check list for the park, including some of the recently-added farms, contains 680 species (Pond *et al* 2002).

We have collated all published bird records for the park since 1965. In addition, we have obtained the original bird atlas data (SABAP) for the 'quarter degree map squares' (equivalent to 1:50 000 maps) which include most of the park area (Post Chalmers 3225AB and Swaershoek 3225AD). The most recent additions to the park all fall within the Post Chalmers map; the areas to the east of this on the Cradock map (3225BA) are negligible, and are not easily accessible (Fig. 1). We used the most recent summary lists from BIRP, which include our observations as well as those of other visitors. The earlier atlas records have been incorporated into the BIRP data base, thus species appearing on both lists may represent 'pseudo-replication'. We assumed that this was the case where both SABAP and BIRP reflect a single record in the same month.

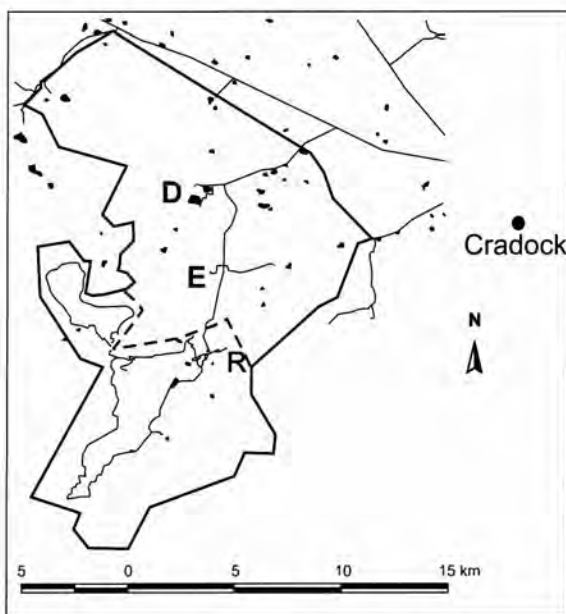


Fig. 1. Mountain Zebra National Park, showing the original (pre-1990) park area south of the dotted line, the current northern boundaries, the public roads, and dams. R = rest-camp; D = Doornhoek farmhouse; E = Ebenhaeser farmhouse.

Table 1
Summary of the avifauna of the Mountain Zebra Park to January 2005

	Resident	Visitor	Migrant	Rejected	Total reported
No species	112	112	33	13	270
%	41.5	41.5	12	5	100

During visits to the park by the Rhodes University team, we set mist-nets for extended periods at sites both inside and outside the original park boundaries (Fig. 1), and also recorded on a daily basis all birds seen or heard while driving or on foot in these sectors. All the major tourist roads were covered at least once. The frequency with which species have been reported in different seasons over this period has formed the basis for an assessment of their current status in the park. Our surveys to date cover the original park area (6856 ha), Ebenhaeser (2000 ha) and parts of Doornhoek (4027 ha). The results of the ringing activities have on some visits provided the only records of particular species, but to date just one species, the African Reed-Warbler, has been recorded solely on the basis of a bird captured in a net and not seen or heard otherwise by any observer.

Results and discussion

A complete list of all bird species reported from MZNP by different sources is to be found in Appendix 1, which includes scientific names. There are now 257 bird species for which we consider the records from MZNP acceptable; those species which we reject at this time are shown in bold in Appendix 1. Some of these are improbable on distributional or ecological grounds, or may represent errors in identification. We have adopted the conservative view that species incorrectly excluded will be confirmed in time, while species incorrectly included in a check list tend to remain as false information. In addition, we suggest that 13 bird species with no confirmed records since 1987 (i.e. the start of SABAP observations) should be excluded from any 'working check list' for the park. The data from Appendix 1 are summarised in Table 1, where the species are categorised according to relative frequency of occurrence. Apparent changes in the avifauna and details for

individual species are discussed below. Note that birds reported by Skead (1965), Penzhorn & Bronkhorst (1976) or Grobler & Bronkhorst (1981) may have been included in the park guide, then in the undated park check list, and even in the 2003 park list, although they represent only single original records.

It is notable that visitors and migrants together outnumber the resident species, which might be expected in an arid area, where conditions can fluctuate dramatically.

Rejected species

Forest Buzzard:

this bird appears only on the undated park list, and the basis for its inclusion is unknown. There is no suitable habitat in the park. Collett (1982) commented that there were unconfirmed reports of this species from the southernmost part of the Cradock district, including the MZNP. Forest Buzzards are often very difficult to separate from the highly variable Steppe Buzzard.

Red-necked Falcon:

this species also appears only on the undated park list, with no provenance given. During the SABAP period, there were no records south of the Orange River, and this inclusion is probably an error.

Burchell's Courser:

Skead (1965) reported both Temminck's and Double-banded Courser from the park, and suggested that Burchell's Courser might occur occasionally. Grobler & Hall-Martin (1982) listed the former two species, but the undated check

list has apparently substituted Burchell's for Temminck's (omitted from that list). This could be a transcription error; coursers are now very rare in this region (Vernon 1982).

Emerald-spotted Wood-Dove:

this species is widespread in the Eastern Cape, and in many areas is found alongside Tambourine Dove, for which there are confirmed records for the park. However, the songs can be very similar, and with no other records for adjacent areas, we prefer to regard this as a possible misidentification. Neither species was included in Collett's (1982) list for the Cradock district.

Sand Martin:

the undated check list omits Brown-throated Martin (formerly known as African Sand Martin), but includes this European migrant. It is likely that this is another transcription error.

Cape Bulbul and Dark-capped Bulbul:

all three *Pycnonotus* species occur within the Eastern Cape, and they are locally sympatric and hybridise (Lloyd *et al.* 1991). Hybrids typically show intermediate characters, while juveniles may not show the eye-ring colours typical of the adults. Cape, Dark-capped and African Red-eyed Bulbuls are all present at times in Addo Elephant National Park, and near Somerset East. However, MZNP is not typical habitat of either Cape or Dark-capped Bulbuls, and these records are not accepted. Young African Red-eyed Bulbuls, and hybrids, can have eye-rings resembling those of other species.

Terrestrial Brownbul:

there is no suitable habitat in the park, and this single report must be treated as doubtful.

Wing-snapping Cisticola:

this is typically a coastal and eastern species, while Cloud Cisticola and other short-tailed species are present in the park; unconfirmed at this stage.

Brubru:

a single report, far out of range, and most improbable. Possibly a transcription error (for Boubou?), or a misidentification (Puffback?).

Orange-breasted Bush Shrike:

a single, unconfirmed report. This species occurs irregularly within 50 km of the coast in the Eastern Cape, but is unlikely so far inland.

Sociable Weaver:

a single record, with no previous records south of the Orange River in the east. Highly unlikely.

Spectacled Weaver:

while common in the coastal regions, very unlikely in this habitat. Its call could be confused with other species in the park.

Rare vagrants and single, unusual records

Goliath Heron:

a single bird seen on 11 February 1980 (Grobler & Bronkhorst 1981); no other records. However, in recent years Goliath Herons have become quite regular at estuaries on the Eastern Cape coast.

Green-backed Heron:

a single bird present for several months during 1979 (Grobler & Bronkhorst 1981).

Cape Teal:

apparently recorded once during the atlas (SABAP) but not before or since. Collett (1982) categorized this species as a scarce visitor to the Cradock district.

White-backed Duck:

a single bird in September 1979, the only record (Grobler & Bronkhorst 1981).

Cape Shoveller:

recorded once during the atlas (SABAP), this species was noted as a visitor to dams in the region, staying for short periods only (Collett 1982).

Tawny Eagle:

sighted over Rooiplaat in December

1973 (Penzhorn & Bronkhorst 1976), and again once since 1987 (SABAP); these are apparently the only records for the park.

European Hobby:

recorded only once, in February 1981 (Grobler & Bronkhorst 1981). However, there are recent records for Shamwari Game Reserve (33°25'S, 26°05'E) (Antony Collett *pers. comm.*).

Kurriehane Button-quail:

recorded in September 1981 (Grobler & Bronkhorst 1981), and in the same year elsewhere in the district in July and August (Collett 1982). This species may be an irregular visitor to the Eastern Cape (Skead 1967), and there are recent records from Kwandwe Game Reserve (33°10', 26°30'E) in 2003 (M. Galpin, *pers. comm.*).

Common Moorhen:

a bird was present for a few days in September 1975 (Penzhorn & Bronkhorst 1976). Collett (1982) noted that it was dependent on rush and reed cover on dams.

Little Stint:

recorded once only, during the atlas period (SABAP), but may be present for short periods as a migrant in transit, as elsewhere in the region (Collett 1982).

Black Cuckoo:

both male and female calls heard in the Wilgerboom River valley on 5 December 2003 (AJFKC); this is the first record for the park. Collett (1982) had one record for her farm, apparently a bird on passage.

Klaas's Cuckoo:

a bird calling on 24 March 2004 at Ebenhaeser (AJFKC), the sole record for the park. Collett (1982) did not list it for the Cradock district, but we have recorded it to the east of the town.

Burchell's Coucal:

a single bird was seen near the swimming pool in the rest camp on 15 April 2003 by

N. Human (Rhodes University). This is to date the only record for the park, and Collett (1982) had no confirmed records, although she suggested that it might occur in the southern part of the Cradock district.

Horus Swift:

one record during the atlas period, but this species could be present more frequently in mixed flocks of swifts. The European Swift is also likely to be overlooked, owing to the difficulty in separating it from the African Black Swifts under most viewing conditions.

Scaly-throated Honeyguide:

one undated record (Grobler & Bronkhorst 1981). Primarily a forest bird, and unlikely to occur regularly.

Knysna Woodpecker:

a record based on calls heard by P. Hulley (Rhodes University) while mist-netting near Doornhoek Dam on 16 January 2003. A first report for the park, but there are SABAP records just east of Cradock (Harrison *et al.* 1997).

Sabota Lark:

typical of bushveld areas to the north, and not reported from the Cradock district by Collett (1982), who is familiar with the larks. However the atlas shows a distinct population in this region (Harrison *et al.* 1997). Positively identified on Ebenhaeser in September 2004 (AJFKC, PEH).

Karoo Lark:

a single recent report from the park, which lies within the eastern limit of the atlas distribution (Harrison *et al.* 1997). Collett (1982) had no confirmed records for the Cradock district.

Lesser Striped Swallow:

in montane areas, Greater Striped Swallows predominate, whereas both species occur at lower altitudes. There is only one record of Lesser Striped Swallows within the park, from the atlas period; Collett (1982) reported one nest site

which had been used from 1937-1944, but no more recent records.

Black Cuckooshrike:

recorded once since 1994; this bird is widespread in the coastal Eastern Cape, but irregular in occurrence, and often overlooked. Collett (1982) did not include any records for the Cradock district.

White-browed Scrub-Robin:

a well-known species in the Eastern Cape, but not recorded from the Cradock district, except for a single report during the atlas period.

Capped Wheatear:

a nomadic species of the dry west, with occasional records south to Grahamstown (Galpin & Craig 2003). Surprisingly, the first record for the park was a sighting of a single bird on old farmlands near Doornhoek in the newly-acquired section of the park, on 11 January 2005 (AJFKC, DP and other observers).

Desert Cisticola:

recorded once during the atlas period; a cisticola more typical of lowland areas (Collett 1982), rather than the high grasslands of the park.

Black-chested Prinia:

recorded in May 1992. There was an apparent influx into the Karoo in that year, with records as far south as Addo Elephant National Park.

Tawny-flanked Prinia:

birds were recorded by experienced observers in November 1976 and September 1977 (Martin 1976; Martin *et al.* 1977), who noted that this

Table 2
Summary of birds ringed at Mountain Zebra NP as at 15 January 2005

Species	No. ringed	No recaptured	Intervals since ringing
Red-eyed Dove	5	0	
Cape Turtle Dove	6	0	
Laughing Dove	2	1	1 day
Speckled Mousebird	17	2	2 days
White-backed Mousebird	15	0	
Red-faced Mousebird	8	1	2 days
Malachite Kingfisher	1	0	
Brown-hooded Kingfisher	11	3	2 days - 12 months
African Hoopoe	1	0	
Acacia Pied Barbet	19	3	3 months
Cardinal Woodpecker	1	0	
Red-fronted Tinkerbird	4	0	
Red-throated Wryneck	1	0	
Lesser Honeyguide	4	0	
Greater Honeyguide	3	0	
Greater Striped Swallow	1	0	
Pearl-breasted Swallow	1	0	
Fork-tailed Drongo	3	0	
Grey Tit	2	0	
African Red-eyed Bulbul	28	0	
Sombre Greenbul	5	1	1 day
Karoo Thrush	5	1	3 days
Cape Robin	38	3	2 days - 21 months
Familiar Chat	4	0	
Karoo Scrub-Robin	8	2	1-3 days
Willow Warbler	7	0	
Yellow-bellied Eremomela	1	0	
African Reed-Warbler	1	0	
Bar-throated Apalis	11	3	1 day - 9 months
Karoo Prinia	9	1	3 months
Neddicky	30	8	2 days
Levaillant's Cisticola	2	0	
Long-billed Crombec	6	0	
Namaqua Warbler	1	0	
Chestnut-vented Titbabbler	19	6	1 day - 21 months
Layard's Tit-Babbler	1	0	
Spotted Flycatcher	1	0	
Fiscal Flycatcher	3	0	
Chin-spot Batis	1	0	
Fairy Flycatcher	3	0	
African Paradise Flycatcher	4	0	
Cape Wagtail	5	0	
Long-billed Pipit	1	0	
Common Fiscal	13	2	2 days - 12 months
Southern Boubou	7	1	2 days
Southern Tchagra	4	0	
Red-winged Starling	3	0	
Pied Starling	4	0	
Malachite Sunbird	18	1	1 day
Southern De Sunbird	12	0	
Cape White-eye	28	2	1 day- 12 months
White-br Sparrow-Weaver	50	17	3 days - 26 months
Cape Sparrow	22	0	
S. Grey-headed Sparrow	29	0	
Yellow-throated Petronia	1	0	
Scaly-feathered Finch	17	2	3 months

Table 2 (continued)

Species	No ringed	No recaptured	Intervals since ringing
Cape Weaver	8	0	
Southern Masked Weaver	19	1	12 months
Red Bishop	1	0	
Red-billed Quelea	36	0	
African Firefinch	7	2	12 months
Red-billed Firefinch	22	2	3 days; 3 months
Swee Waxbill	1	0	
Common Waxbill	2	0	
Pin-tailed Whydah	1	0	
Black-throated Canary	20	0	
Yellow Canary	1	0	
Brimstone Canary	5	0	
Streaky-headed Seedeater	1	0	
Cape Bunting	9	1	2 days
Golden-breasted Bunting	4	0	
Lark-like Bunting	2	0	
Totals	645	61	

species was not listed as occurring in the park. There have been no other records, so perhaps these birds were vagrants during a wet period.

African Reed-Warbler:

a common migrant in this area (Collett 1982), but suitable habitat is probably lacking at MZNP in most years. One bird captured and ringed at Ebenhaeser dam on 15 January 2003 (AJFKC).

Yellow Bishop:

first seen in the old park in January 2002 (Alan Collett *pers. comm.*), and again in the same area in January 2005 (DP and others).

Bird ringing

To date (January 2005), we have ringed 645 birds of 72 species (Table 2). This represents the only bird ringing done within the park boundaries. Since our primary trapping method is mist-netting, the sample is biased towards passerines, and other birds smaller than a Speckled Pigeon, which fly at the appropriate height. The African Reed-

Warbler has so far been recorded only as a mist-net capture. Walk-in traps at the camp site have targeted White-browed Sparrow-weavers, and 41 have been colour-ringed for behavioural observations (posters in the reception area summarise our research on this species). All recaptures have been at the ringing site, except for a Southern Masked Weaver, which had moved between two netting sites about 2 km apart as the bird flies. Hopefully this project will, in time, provide information on both movements and survival of resident species and those categorised as migrants and visitors.

Seasonal movements

Monthly records (SABAP, BIRP and Rhodes University) showed the expected seasonal arrivals and departures of migrant species such as White Storks, Lesser Kestrels, swifts, European Bee-eaters, swallows and martins, cuckoos and Willow Warblers. Three other species showed obvious seasonality: Reed Cormorants appeared in December and left in February or March; Cape Penduline-Tits, though rare, were only recorded from March to May or June; and Black-headed Canaries were present November to April, and in July. Reed Cormorants, according to Harrison *et al.* (1997), are subject to local movements that might account for this pattern. Cape Penduline-Tits are said to move locally in response to rainfall, but that would result in erratic rather than seasonal movements in this area. Black-throated Canaries are somewhat seasonal in the Eastern Cape and their presence is consistent with the reporting pattern shown in the atlas. Dean (1997) used the bird atlas data to examine nomadism in Karoo birds, and he suggested that the main nomadic species were chiefly granivores, whereas the local nomads included more insectivorous species. Of the species occurring in MZNP,

his primary nomadic list included Namaqua Sandgrouse, Red-capped Lark, Chestnut-backed and Grey-backed Sparrowlarks, Scaly-feathered Finch, Black-headed Canary and Lark-like Bunting (all granivores) and the insectivorous Wattled Starling. The local nomads comprise a mixed bag in terms of diet: the omnivorous Ludwig's Bustard; insectivorous Ant-eating Chat, Yellow-bellied Eremomela and Fairy Flycatcher; nectar-feeding sunbirds (which also take insects); seedeaters like the Namaqua Dove, and several canary species. Milton *et al.* (1999) characterise Blue Crane, Namaqua Sandgrouse and Ludwig's Bustard as species which show seasonal, rain-related movements in the Karoo, whereas finch-larks and Black-headed Canaries display irregular movements. Wattled Starlings and Lark-like Buntings show irruptive behaviour, concentrating periodically in large numbers. We hope that our long-term study will clarify the occurrence of these species in the park in relation to environmental conditions, and reveal whether there is any periodicity in their visits.

Bird-mammal interactions

From both MZNP and Namibia there are reports of Pale-winged Starlings removing ticks from mountain zebras (Penzhorn & Horak 1989). In other parts of Africa, both Pale-winged and Red-winged Starlings groom klipspringers *Oreotragus oreotragus* (Feare & Craig 1998), and this behaviour merits closer study, since both bird species and their hosts occur in MZNP.

Changes in the avifauna

Some waterbirds seem to have been more regular in earlier years. Grobler & Bronkhorst (1981) refer to Southern Pochards as common summer visitors in flocks of up to 14, and also mentioned both Pied Avocet and Black-winged Stilts as regular summer visitors. Pochards were not recorded during the atlas period (1987) and have not been seen since, while avocets and stilts have not been reported since 1994.

Couriers favour bare, often burnt or overgrazed areas. They have not been recorded in the park in recent years, and it is notable that Skead (1965), who found them common, noted that many parts of the park were heavily overgrazed at that time. So better veld management with more grazing may make the habitat unsuitable for this group of birds. Skead (1965) also reported Olive Bush Shrikes 'on most visits' to MZNP. It is certainly much less common now; we heard this very vocal species for the first time in September 2004.

For many species, the absence of earlier records cannot be taken as a clear indication of a change in distribution. The data may simply reflect long-term fluctuations rather than any novel situation. The Tractrac Chat was first reported in 1994, yet Collett (1982) stated 'Reports of this species by visitors to the MZNP require confirmation' so its omission from earlier lists may be due to chance. The same may be true of the Melodious Lark, although Collett (1982) did not record it from the Cradock district. The Red-billed Firefinch, not uncommon now, may also have been overlooked previously, though Collett (1982) noted that this species disappeared during dry years. Its brood parasite, the Village Indigobird has been recorded rarely, but may be more common than the records indicate. Collett (1982) did not include the Village Indigobird in her discussion, but it has since been recorded on the farm where she lived, and elsewhere in the Cradock area. The Dusky Indigobird was also not reported in the earlier MZNP lists, while its host (the African Firefinch) was recorded. According to Collett (1982) the Dusky Indigobird is an irregular visitor to the Cradock district. The Black-throated Canary was first included on the undated park check list, but has been seen regularly since 1987. Collett (1982) found it to be common in the northern part of the Cradock District after 1950.

One obvious change since the most recent additions to the park is that Ostriches have moved down into the newly acquired sec-

tion, where they were first noted in the summer of 2003.

In 2001, on the former farm Ebenhaeser, there were extensive stands of weeds on fallow land, frequented by very large flocks of seed-eaters such as Cape and Southern Grey-headed Sparrow, Common Waxbills and Black-throated Canaries. By the following year the weeds were virtually absent, and these seed-eaters much less common. On our visits to date, Scaly-feathered Finches, Black-throated Canaries and Yellow Canaries have been recorded only from the new areas, and not within the original park.

The Eastern Cape population of White-browed Sparrow-weavers is apparently isolated from those to the north, and it is not clear how much interchange occurs. Skead (1966) reported colonies north of Cradock and no birds in MZNP. By the early 1980s there was a colony just inside the entrance gate (not the current park entrance), and it was only later that the campsite was colonised by the birds. There are currently > 50 colonies within the park (Human 2003), and research on dispersal between them is in progress.

It is interesting to compare our records from MZNP with those for the farm 'Rietvlei' (32°17'S 26°01'E), in similar habitat to the east of Cradock. During visits from 1983-1993, primarily to observe Red-winged and Pale-winged Starlings (Craig *et al.* 1989, 1991), we recorded 136 bird species on this farm. Of these, four have not been recorded from MZNP: Rameron Pigeon *Columba arquatrix*, European Marsh Warbler *Acrocephalus palustris*, Black Flycatcher *Melaenornis pammelaina* and Black-backed Puffback *Dryoscopus cubla*. Of these, the warbler is possible in MZNP at least as a passage migrant, while the flycatcher and the Black-backed Puffback could occur as vagrants—perhaps the single report of a Brubru in the BIRP database is an error for Black-backed Puffback? Since wild olives, a favourite food of the Rameron Pigeon are common in MZNP, it is quite likely that this

Table 3
Bird species as listed in Fishpool & Evans (2001) recorded from the Karoo Nature Reserve (KNR), Karoo National Park (BWNP) and Mountain Zebra National Park (MZNP)

Species	KNR	BWNP	MZNP
A1: species of global conservation concern (numerous, or breeding)			
Lesser Kestrel	X	X	X
Blue Crane	X		X
Blue Korhaan			X
Ground Woodpecker	X	X	X
Drakensberg Rockjumper			X
A12: Namib-Karoo biome-restricted species			
Ludwig's Bustard	X	X	X
Karoo Korhaan	X	X	X
Karoo Long-billed Lark		X	X
Karoo Lark		X	X
Slater's Lark		X	
Black-eared Sparrowlark		X	
Tractrac Chat		X	X
Sickle-winged Chat	X	X	X
Karoo Chat	X	X	X
Layard's Tit-Babbler	X	X	X
Karoo Eremomela		X	
Cinnamon-breasted Warbler		X	
Namaqua Warbler	X	X	X
Pale-winged Starling	X	X	X
Black-headed Canary	X	X	X

species may be a sporadic visitor when the olive trees are in fruit. Most of these trees are in kloofs away from the main access roads, so birds feeding there are likely to be overlooked.

Conservation significance

Four categories have been used for classifying the conservation status of birds in our region: Critical, Endangered, Vulnerable and Near-threatened (Barnes 2000). No birds in the first two categories have been recorded in MZNP. Of the Vulnerable species, Cape Vulture, Tawny Eagle, Denham's and Ludwig's Bustards are currently rare vagrants; Martial Eagle is seen more frequently, and Lesser Kestrel is a regular migrant to the area, but

only Blue Cranes are likely to breed within the park. Near-threatened species are the Black Stork, Secretarybird, Black Harrier, Peregrine Falcon, Lanner Falcon, Blue Korhaan and Knysna Woodpecker. Most of these are irregular visitors, although the Black Harrier was formerly considered a resident in the park, and there is certainly suitable breeding habitat for both Peregrine and Lanner Falcons, and for the Secretarybird.

The MZNP was not included in the earlier compilation of Important Bird Areas in South Africa (Barnes 1998), and has thus not been singled out as a significant reserve for the protection of endangered or regionally endemic bird species. Two reserves with a similar avifauna, the Karoo Nature Reserve at Graaff-Reinet and the Karoo National Park at Beaufort West were included in both the regional IBA compilation (Barnes 1998), and in the later publication listing IBAs for all African countries (Fishpool & Evans 2001). Table 3 shows that MZNP compares very favourably with these sites, and complements them as a reserve further west where the Namib-Karoo Biome overlaps to some degree with the Afrotropical Highlands Biome. In all three cases the globally threatened Lesser Kestrel has a large roost in the nearby town (Cradock, in the case of the MZNP) and forages within the protected area, in particular over the plains of the northern extension of this park.

The Karoo avifauna

In a preliminary account of the birds of the Karoo Biome, Vernon (1986) noted that the essential character of birds in the Karoo is their opportunism. This implies that the distribution of many species will be unpredictable at any given time. Vernon (1999) divided the birds occurring in the Karoo Biome into several categories: endemics (seven species, of which only the Karoo Korhaan and Namaqua Warbler are likely residents in the park); birds shared with Desert and Savanna Biomes (26 species, 16 in MZNP); birds shared with the Fynbos Biome (20 species, 14 in MZNP); birds

shared with the Grassland Biome (31 species, 24 in MZNP); and birds shared with the Forest Biome (three species). The forest species are the Cape White-eye, Southern Double-collared Sunbird and Olive Thrush *Turdus olivaceus*—however, this latter species has now been split into Olive Thrush and the Karoo Thrush *T. smithi* and the latter is certainly the taxon represented in the park (Bowie *et al.* 2003; Bonnevie *et al.* 2004). Additional categories used by Vernon (1999) included widespread species, passage migrants, waterbirds, and birds associated with homesteads and settlements or those now found in the Karoo as a result of agriculture. Perhaps the park does bear the scars of past anthropogenic activity even today, since all 27 species which Vernon (1999) includes in this 'human-influence' category are on our list. So too are almost all the waterbirds (21 of 24) and the bulk of the widespread species (38 of 42). Thus the MZNP clearly protects a good representation of the Karoo avifauna, and merits consideration as an IBA in South Africa.

Conclusion

The park represents an area of overlap for many species typical of the coastal region of the Eastern Cape (e.g., Sombre Greenbul, Red-fronted Tinkerbird, Red-winged Starling and Cape Weaver) and birds of the arid interior such as the African Red-eyed Bulbul, Acacia Pied Barbet, Pale-winged Starling and Southern Masked Weaver. All of these can be seen readily around the camp and picnic areas. At least five lark species are likely on Rooiplaat in summer, and there is an excellent selection of birds of prey which can often be viewed soaring overhead. However, many of the smaller birds including warblers and seed-eaters are less likely to be encountered by the car-bound visitor. Some specials such as the Drakensberg Rock-jumper will only be encountered on the hiking trail in the highest parts of the park. A bird-oriented tourist, wishing to make the most of their time in the park, would need to spend more time on foot. We believe that

many visitors to our national parks, both South Africans and foreign naturalists, have a special interest in the birdlife. Guided birding trails would surely be a popular feature, and despite the presence of buffalo and black rhino, these could certainly be arranged without undue risk to the participants. BirdLife South Africa (formerly the Southern African Ornithological Society), in partnership with commercial sponsors, now offers training courses specifically for bird guides. This would both provide additional employment opportunities for local people, and enhance the attractiveness of this park as a tourist destination.

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Appendix 1: pp 106–113.

Species (Hockey <i>et al.</i> in press)	Skead 1965	Penzhorn & Bronkhorst 1976	Park Guide 1982	Park Checklist Undated	Atlas 1987- 1991	BIRP		2003 List	Status	Breeding
						1994- 2002	2001- 2005			
Common Ostrich <i>Struthio camelus</i>	X		X	X	X	X	X	X	Common resident	B
Little Grebe <i>Tachybaptus ruficollis</i>	X		X	X	X	X	X	X	Occasional visitor	
White-breasted Cormorant <i>Phalacrocorax carbo</i>		X	X	X	X	X	X	X	Regular visitor	
Reed Cormorant <i>Phalacrocorax africanus</i>		X	X	X	X	X	X	X	Occasional visitor	B
African Darter <i>Anhinga melanogaster</i>		X	X	X	X	X	X	X	Regular visitor	
Grey Heron <i>Ardea cinerea</i>	X		X	X	X	X	X	X	Uncommon resident	B
Black-headed Heron <i>Ardea melanocephala</i>	X		X	X	X	X	X	X	Rare visitor	
Goliath Heron <i>Ardea goliath</i>		X	X	X	X	X	X	X	Occasional visitor	
Cattle Egret <i>Bubulcus ibis</i>		X	X	X	X	X	X	X	Rare visitor	
Green-backed Heron <i>Bufoides striatus</i>		X	X	X	X	X	X	X	Occasional visitor	
Black-crowned Night-Heron <i>Nycticorax nycticorax</i>		X	X	X	X	X	X	X	Occasional visitor	
Hamerkop <i>Scopus umbretta</i>	X		X	X	X	X	X	X	Rare migrant	
White Stork <i>Ciconia ciconia</i>	X		X	X	X	X	X	X	Rare visitor	
Black Stork <i>Ciconia nigra</i>	X	X	X	X	X	X	X	X	Uncommon resident	B
Hadada Ibis <i>Bostrychia hagedash</i>	X		X	X	X	X	X	X	Occasional visitor	
African Sacred Ibis <i>Threskiornis aethiopicus</i>	X		X	X	X	X	X	X	Occasional visitor	B
African Spoonbill <i>Platalea alba</i>		X	X	X	X	X	X	X	Rare visitor	
Spur-winged Goose <i>Plectropterus gambensis</i>		X	X	X	X	X	X	X	Regular visitor	B
Egyptian Goose <i>Alopochen aegyptiaca</i>	X		X	X	X	X	X	X	Regular visitor	B
South African Shelduck <i>Tadorna cana</i>	X		X	X	X	X	X	X	Regular visitor	
Yellow-billed Duck <i>Anas undulata</i>		X	X	X	X	X	X	X	Uncommon resident	
African Black Duck <i>Anas sparsa</i>		X	X	X	X	X	X	X	Rare visitor	
Red-billed Teal <i>Anas erythrorhynchos</i>	X		X	X	X	X	X	X	Rare visitor	
Cape Teal <i>Anas capensis</i>		X	X	X	X	X	X	X	Rare visitor	
Southern Pochard <i>Netta erythrophthalma</i>		X	X	X	X	X	X	X	Rare visitor	
White-backed Duck <i>Thalassornis leucotis</i>		X	X	X	X	X	X	X	Rare visitor	
Cape Shoveler <i>Anas smithi</i>		X	X	X	X	X	X	X	Rare visitor	
Cape Vulture <i>Gyps coprotheres</i>		X	X	X	X	X	X	X	Rare visitor	B
Martial Eagle <i>Polemaetus bellicosus</i>	X		X	X	X	X	X	X	Common resident	B
Verreaux's Eagle <i>Aquila verreauxi</i>	X		X	X	X	X	X	X	Rare visitor	
Tawny Eagle <i>Aquila rapax</i>		X	X	X	X	X	X	X	Uncommon resident	B
Booted Eagle <i>Aquila pennatus</i>		X	X	X	X	X	X	X	Regular visitor	
African Fish-Eagle <i>Haliaeetus vocifer</i>		X	X	X	X	X	X	X	Possible error	
Forest Buzzard <i>Buteo trizonatus</i>		X	X	X	X	X	X	X	Regular migrant	B
Steppe Buzzard <i>Buteo buteo vulpinus</i>	X		X	X	X	X	X	X	Uncommon resident	
Jackal Buzzard <i>Buteo rufifasciatus</i>	X		X	X	X	X	X	X	Uncommon resident	
Rufous-chested Sparrowhawk <i>Accipiter rufiventris</i>		X	X	X	X	X	X	X	Rare visitor	
Little Sparrowhawk <i>Accipiter minullus</i>		X	X	X	X	X	X	X	Occasional visitor	B
African Goshawk <i>Accipiter tachiro</i>		X	X	X	X	X	X	X	Rare resident?	
Gabar Goshawk <i>Melierax gabar</i>		X	X	X	X	X	X	X		

Species (Hooley et al. in press)	Skead		Peuzhorns & Park		Park		Park		Atlas		BIRP		RU List		2003		Status	Breeding
	1965	1976	1982	1982	1987	1991	1994	2001	1991	2002	2001	2001	2001	2003	List	List		
Southern Pale Chanting Goshawk <i>Melierax canorus</i>	X				X	X	X		X	X	X		X				Uncommon resident	B
Peregrine Falcon <i>Falco peregrinus</i>																	Rare visitor	
Lanner Falcon <i>Falco biarmicus</i>																	Occasional visitor	
European Hobby <i>Falco subbuteo</i>																	Rare migrant	
Red-necked Falcon <i>Falco tinnunculus</i>																	Possible error	
Eastern Red-footed Kestrel <i>Falco amurensis</i>																	Rare migrant	
Rock Kestrel <i>Falco rupicolus</i>	X				X	X	X		X	X	X		X				Uncommon resident	B
Lesser Kestrel <i>Falco naumanni</i>	X				X	X	X		X	X	X		X				Regular migrant	
Greater Kestrel <i>Falco rupicoloides</i>																	Rare visitor	
Black-shouldered Kite <i>Elanus caeruleus</i>																	Occasional visitor	
Black Kite <i>Mitras migrans</i>																	Rare migrant	
Black Harrier <i>Circus maurus</i>																	Occasional visitor	B
African Harrier-hawk <i>Polyboroides typus</i>	X				X	X	X		X	X	X		X				Uncommon resident	B
Secretarybird <i>Sagittarius serpentarius</i>	X				X	X	X		X	X	X		X				Occasional visitor	
Grey-winged Francolin <i>Scolopax africana</i>																	Common resident	B
Red-winged Francolin <i>Scolopax leucomelas</i>																	Rare visitor	
Common Quail <i>Caprimulgus vociferans</i>	X				X	X	X		X	X	X		X				Rare migrant	B
Helmeted Guineafowl <i>Numida meleagris</i>	X				X	X	X		X	X	X		X				Common resident	
Kurriehane Buttonquail <i>Turnix sylvaticus</i>																	Rare migrant	
Dentham's Bustard <i>Neotis denhami</i>	X				X	X	X		X	X	X		X				Rare visitor	
Ludwig's Bustard <i>Neotis ludwigi</i>	X				X	X	X		X	X	X		X				Rare visitor	
Northern Black Korhaan <i>Afrotis afroaoides</i>																	Common resident	
Karoo Korhaan <i>Eupodotis vigorsii</i>																	Rare migrant	
Blue Korhaan <i>Eupodotis caerulea</i>																	Rare visitor	
Blue Crane <i>Anhropodites paradisea</i>																	Rare visitor	
Common Moorhen <i>Gallinula chloropus</i>	X				X	X	X		X	X	X		X				Rare visitor	
Red-knobbed Coot <i>Fulica cristata</i>																	Regular visitor	
Three-banded Plover <i>Charadrius tricollaris</i>	X				X	X	X		X	X	X		X				Rare visitor	B
Crowned Lapwing <i>Vanellus coronatus</i>	X				X	X	X		X	X	X		X				Regular visitor	B
Blacksmith Lapwing <i>Vanellus armatus</i>																	Common resident	
Common Sandpiper <i>Actitis hypoleucos</i>																	Regular visitor	B
Common Greenshank <i>Tringa glareola</i>																	Rare migrant	
Little Stint <i>Calidris minuta</i>																	Rare migrant	
Avocet <i>Recurvirostra avosetta</i>																	Rare migrant	
Black-winged Stilt <i>Himantopus himantopus</i>																	Rare visitor	
Spotted Thick-knee <i>Burhinus capensis</i>	X				X	X	X		X	X	X		X				Common resident	B
Tenninck's Courser <i>Cursorius tenninckii</i>	X				X	X	X		X	X	X		X				Rare visitor	
Burchell's Courser <i>Cursorius burchelli</i>																	Possible error	
Double-banded Courser <i>Rhinoptilus africanus</i>	X				X	X	X		X	X	X		X				Rare visitor	
White-winged Tern <i>Chlidonias leucopterus</i>																	Rare visitor	
Namaqua Sandgrouse <i>Pterocles namaqua</i>	X				X	X	X		X	X	X		X				Rare visitor	

Species (Hockey <i>et al.</i> in press)	Skead 1965	Penzhorn & Bronkhorst 1976	Park Guide 1982	Park Checklist Undated	Atlas 1987- 1994	BIRP 1994- 2002	RU List		Status	Breeding
							2001-	2005		
Rock Pigeon <i>Columba livia</i>					X	X		X	Rare visitor	
Speckled Pigeon <i>Columba guinea</i>	X		X	X	X	X	X	X	Common resident	B
Red-eyed Dove <i>Streptopelia semitorquata</i>	X		X	X	X	X	X	X	Common resident	B
Cape Turtle-dove <i>Streptopelia capicola</i>			X	X	X	X	X	X	Common resident	B
Laughing Dove <i>Streptopelia senegalensis</i>	X		X	X	X	X	X	X	Common resident	B
Namaqua Dove <i>Oena capensis</i>	X		X	X	X	X	X	X	Occasional visitor	B
Emerald-spotted Wood-dove <i>Turtur chalcospilos</i>					X	X			Unconfirmed	
Tambourine Dove <i>Turtur tympanistris</i>		X	X	X					Rare visitor	
Burchell's Coucal <i>Centropus burchelli</i>			X	X	X				Rare visitor	
Red-chested Cuckoo <i>Cuculus solitarius</i>	X								Uncommon migrant	
Black Cuckoo <i>Cuculus clamosus</i>					X				Rare migrant	
Didienk Cuckoo <i>Chrysococcyx caprius</i>	X		X	X	X				Common migrant	B
Klaas's Cuckoo <i>Chrysococcyx laevis</i>			X	X					Rare migrant	
Jacobin Cuckoo <i>Clamator jacobinus</i>	X		X	X					Rare migrant	
Great Spotted Cuckoo <i>Clamator glandarius</i>		X	X	X	X				Rare migrant	
Barn Owl <i>Tyto alba</i>		X	X	X	X				Rare resident?	
Cape Eagle-owl <i>Bubo capensis</i>		X	X	X	X				Uncommon resident	B
Spotted Eagle-owl <i>Bubo africanus</i>		X	X	X	X				Uncommon resident	B
Fiery-necked Nightjar <i>Caprimulgus pectoralis</i>		X	X	X	X				Occasional visitor	
Common Swift <i>Apus apus</i>			X	X	X				Rare migrant	
African Black Swift <i>Apus barbatus</i>	X		X	X	X				Occasional visitor	
White-rumped Swift <i>Apus caffer</i>	X		X	X	X				Common migrant	
Horus Swift <i>Apus horus</i>					X				Rare visitor	
Little Swift <i>Apus affinis</i>		X	X	X	X				Occasional visitor	B
Alpine Swift <i>Tachymarptis melba</i>			X	X	X				Occasional visitor	
Speckled Mousebird <i>Colius striatus</i>	X		X	X	X				Common resident	B
White-backed Mousebird <i>Colius colius</i>	X		X	X	X				Common resident	B
Red-faced Mousebird <i>Urocolius indicus</i>	X		X	X	X				Common resident	B
Pied Kingfisher <i>Ceryle rudis</i>					X				Rare visitor	
Giant Kingfisher <i>Ceryle maxima</i>		X	X	X	X				Occasional visitor	
Malachite Kingfisher <i>Alcedo cristata</i>		X	X	X	X				Rare visitor	
Brown-hooded Kingfisher <i>Halcyon albiventris</i>	X		X	X	X				Uncommon resident	B
European Bee-eater <i>Merops apiaster</i>	X		X	X	X				Rare migrant	
African Hoopoe <i>Upupa africana</i>			X	X	X				Common resident	
Green Wood-hoopoe <i>Phoeniculus purpureus</i>	X		X	X	X				Rare visitor	
Crowned Hornbill <i>Tockus albobrunneus</i>					X				Rare visitor	
Black-collared Barbet <i>Lybius torquatus</i>					X				Rare visitor	
Acacia Pied Barbet <i>Tricholaema leucomelas</i>	X		X	X	X				Common resident	B
Red-fronted Tinkerbird <i>Pogonius pusillus</i>		X	X	X	X				Uncommon resident	B
Greater Honeyguide <i>Indicator indicator</i>	X		X	X	X				Uncommon resident	B
Scaly-throated Honeyguide <i>Indicator variegata</i>		X	X	X	X				Rare visitor	

Species (Hockey <i>et al.</i> in press)	Skead 1965	Penzhorn & Bronkhorst 1976	Park Guide 1982	Park Checklist Undated	Atlas 1987- 1991	BI/RP		2003 List	Status	Breeding
						1987- 1991	2002 2005			
Lesser Honeyguide <i>Indicator minor</i>	X		X	X	X	X	X	X	Uncommon resident	B
Ground Woodpecker <i>Geocolaptes olivaceus</i>	X		X	X	X	X	X	X	Uncommon resident	B
Cardinal Woodpecker <i>Dendropicus fuscescens</i>	X		X	X	X	X	X	X	Uncommon resident	B
Kinysna Woodpecker <i>Campephera notata</i>								X	Rare visitor	
Red-throated Wryneck <i>Jynx ruficollis</i>	X		X	X				X	Rare visitor?	
Melodious Lark <i>Mirafra ohlwanana</i>				X	X			X	Rare migrant	B
Rufous-naped Lark <i>Mirafra africana</i>				X	X			X	Probably resident	
Eastern Clapper Lark <i>Mirafra fasciolata</i>	X		X	X	X			X	Common resident	B
Red-capped Lark <i>Calandrella cinerea</i>	X		X	X	X			X	Occasional visitor	
Sabota Lark <i>Calendulanda sabota</i>					X			X	Rare visitor	
Karoo Lark <i>Certhilanda albescens</i>					X			X	Rare visitor	
Karoo Long-billed Lark <i>Certhilanda subcoronata</i>	X		X	X	X			X	Uncommon resident	B
Spike-heeled Lark <i>Chersomanes albifasciata</i>		X	X	X	X			X	Common resident	B
Large-billed Lark <i>Galerida maginotris</i>	X		X	X	X			X	Regular visitor	
Chestnut-backed Sparrowlark <i>Eremopterix leucotis</i>								X	Rare visitor	B
Grey-backed Sparrowlark <i>Eremopterix verticalis</i>		X	X	X	X			X	Occasional visitor	B
Barn Swallow <i>Hirundo rustica</i>	X		X	X	X			X	Regular migrant	
White-throated Swallow <i>Hirundo albicollis</i>	X		X	X	X			X	Rare migrant	
Pearl-breasted Swallow <i>Hirundo dimidiata</i>	X		X	X	X			X	Regular migrant	B
Greater Striped Swallow <i>Hirundo cucullata</i>	X		X	X	X			X	Regular migrant	B
Lesser Striped Swallow <i>Hirundo abyssinica</i>				X	X			X	Rare migrant	
Rock Martin <i>Hirundo fuligula</i>	X		X	X	X			X	Common resident	B
Common House-Martin <i>Delichon urbica</i>		X	X	X	X			X	Rare migrant	
Sand Martin <i>Riparia riparia</i>				X				X	Possible error	
Brown-throated Martin <i>Riparia pallidicollis</i>	X		X	X	X			X	Occasional visitor	B
Black Cuckoo-shrike <i>Campephaga flava</i>					X			X	Rare visitor	
Fork-tailed Drongo <i>Dicrurus adsimilis</i>		X	X	X	X			X	Common resident	B
Black-headed Oriole <i>Oriolus larvatus</i>				X	X			X	Occasional visitor	
Cape Crow <i>Corvus capensis</i>	X		X	X	X			X	Occasional visitor	
Pied Crow <i>Corvus alba</i>	X		X	X	X			X	Common resident	B
White-necked Raven <i>Corvus albicollis</i>				X	X			X	Common resident	B
Southern Black Tit <i>Parus niger</i>	X		X	X	X			X	Uncommon resident	
Grey Tit <i>Parus afer</i>	X		X	X	X			X	Uncommon resident	
Cape Penduline-Tit <i>Anthiscoscopus minutus</i>	X		X	X	X			X	Occasional visitor	
Cape Bulbul <i>Pycnonotus capensis</i>					X			X	Unconfirmed	
Dark-capped Bulbul <i>Pycnonotus barbatus</i>	X		X	X	X			X	Unconfirmed	B
African Red-eyed Bulbul <i>Pycnonotus nigricans</i>					X			X	Common resident	
Terrestrial Brownbul <i>Phyllastreptus terrestris</i>					X			X	Unconfirmed	
Sombre Greenbul <i>Andropadus imperatorius</i>	X		X	X	X			X	Uncommon resident	B
Karoo Thrush <i>Turdus smithi</i>	X		X	X	X			X	Uncommon resident	B
Semineel Rock-Thrush <i>Monticola explorator</i>		X	X	X	X			X	Rare resident?	

Species (Hockey <i>et al.</i> in press)	Skead 1965	Penzhorn & Bronkhorst		Park Guide 1982	Park Checklist Undated	Atlas 1987- 1991	BIRP		RU List 2001- 2005	2003 List	Status	Breeding
		1976	1994- 2002									
Cape Rock-Thrush <i>Monticola rupestris</i>		X	X	X	X	X	X	X	X	X	Uncommon resident	B
Capped Wheatear <i>Oenanthe pileolata</i>											Rare visitor	
Mountain Wheatear <i>Oenanthe monticola</i>	X			X	X	X	X	X	X	X	Uncommon resident	B
Buff-breasted Chat <i>Oenanthe bifasciata</i>		X		X	X	X	X	X	X	X	Rare visitor	
Familiar Chat <i>Cercomela familiaris</i>	X			X	X	X	X	X	X	X	Common resident	B
Sickle-winged Chat <i>Cercomela sinuata</i>	X			X	X	X	X	X	X	X	Uncommon resident	B
Tractrac Chat <i>Cercomela tractrac</i>							X	X	X	X	Occasional visitor	B
Karoo Chat <i>Cercomela schlegelii</i>						X	X	X	X	X	Rare visitor	
Mocking Cliff-Chat <i>Thamnomolaea cinamomeiventris</i>		X		X	X	X	X	X	X	X	Rare resident?	
Ant-eating Chat <i>Myrmecocichla formicivora</i>	X			X	X	X	X	X	X	X	Uncommon resident	B
African Stonechat <i>Saxicola torquatus</i>	X			X	X	X	X	X	X	X	Common resident	B
Cape Robyn-Chat <i>Cossypha caffra</i>	X			X	X	X	X	X	X	X	Common resident	B
Drakensberg Rockjumper <i>Chalcops aurantius</i>						X	X	X	X	X	Rare resident?	B
White-browed Robin <i>Cercotrichas leucophrys</i>						X	X	X	X	X	Rare visitor	
Karoo Scrub-Robin <i>Cercotrichas coryphaeus</i>	X			X	X	X	X	X	X	X	Common resident	B
Chestnut-vented Tit-Babbler <i>Parusoma rufiventer</i>	X			X	X	X	X	X	X	X	Common resident	B
Layard's Tit-Babbler <i>Parusoma layardi</i>	X			X	X	X	X	X	X	X	Uncommon resident	B
Garden Warbler <i>Sylvia borin</i>	X			X	X	X	X	X	X	X	Rare migrant	
Willow Warbler <i>Phylloscopus trochilus</i>	X			X	X	X	X	X	X	X	Common migrant	
African Reed-Warbler <i>Acrocephalus boetticatus</i>											Rare migrant	
Bar-throated Apalis <i>Apalis thoracica</i>	X			X	X	X	X	X	X	X	Common resident	B
Yellow-bellied Eremonella <i>Eremonella icteropygialis</i>	X			X	X	X	X	X	X	X	Uncommon resident?	
Long-billed Crombec <i>Sylvietta rufescens</i>	X			X	X	X	X	X	X	X	Common resident	B
Fan-tailed Cisticola <i>Cisticola juncidis</i>		X		X	X	X	X	X	X	X	Rare visitor	
Desert Cisticola <i>Cisticola aridula</i>							X	X	X	X	Rare visitor	
Wing-snapping Cisticola <i>Cisticola eyresii</i>							X	X	X	X	Unconfirmed	
Cloud Cisticola <i>Cisticola tesatrix</i>						X	X	X	X	X	Rare resident?	B
Grey-backed Cisticola <i>Cisticola subflavipilla</i>	X			X	X	X	X	X	X	X	Common resident	B
Wailing Cisticola <i>Cisticola lais</i>		X		X	X	X	X	X	X	X	Uncommon resident	B
Levaillant's Cisticola <i>Cisticola tinniens</i>		X		X	X	X	X	X	X	X	Uncommon resident	B
Neddikey Cisticola <i>fulvicapilla</i>				X	X	X	X	X	X	X	Uncommon resident	B
Black-chested Prinia <i>Prinia flavicans</i>	X			X	X	X	X	X	X	X	Common resident	B
Tawny-flanked Prinia <i>Prinia subflava</i>							X	X	X	X	Rare visitor	
Karoo Prinia <i>Prinia maculosa</i>	X			X	X	X	X	X	X	X	Rare visitor	
Namaqua Warbler <i>Phragmocyta substriata</i>	X			X	X	X	X	X	X	X	Common resident	B
Rufous-eared Warbler <i>Malcorus pectoralis</i>	X			X	X	X	X	X	X	X	Common resident	B
Spotted Flycatcher <i>Muscicapa striata</i>				X	X	X	X	X	X	X	Uncommon migrant	
Dusky Flycatcher <i>Muscicapa adusta</i>	X			X	X	X	X	X	X	X	Rare visitor	B
Chat Flycatcher <i>Bradornis infuscans</i>	X			X	X	X	X	X	X	X	Rare visitor	
Fiscal Flycatcher <i>Melocorypha silens</i>	X			X	X	X	X	X	X	X	Common resident	B
Cape Bats <i>Batis capensis</i>						X	X	X	X	X	Uncommon resident	

Species (Hockey <i>et al.</i> in press)	Skead 1965	Penzhorn & Brookhorst 1976	Park Guide 1982	Park Checklist Undated	Atlas 1987- 1991	BIRP			2003 List	Status	Breeding
						1994- 2002	2001- 2005	2005			
Chinstrap Bat <i>Batis molitor</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Print Bat <i>Batis priri</i>					X	X	X	X	X	Rare visitor	
Fairy Flycatcher <i>Stenostira scita</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
African Paradise Flycatcher <i>Terpsiphone viridis</i>	X		X	X	X	X	X	X	X	Uncommon migrant	B
Cape Wagtail <i>Motacilla capensis</i>	X		X	X	X	X	X	X	X	Common resident	B
African Pipit <i>Anthus cinnamomeus</i>	X		X	X	X	X	X	X	X	Common resident	B
Long-billed Pipit <i>Anthus similis</i>			X	X	X	X	X	X	X	Common resident	B
Plain-backed Pipit <i>Anthus leucophrys</i>			X	X	X	X	X	X	X	Occasional visitor	
Buffy Pipit <i>Anthus valetensis</i>			X	X	X	X	X	X	X	Occasional visitor	
African Rock Pipit <i>Anthus crenatus</i>	X		X	X	X	X	X	X	X	Common resident	B
Cape Longclaw <i>Macronyx capensis</i>	X		X	X	X	X	X	X	X	Common resident	B
Common Fiscal <i>Lanius collaris</i>	X		X	X	X	X	X	X	X	Common resident	B
Red-backed Shrike <i>Lanius collurio</i>					X	X	X	X	X	Uncommon migrant	
Southern Boubou <i>Laniarius ferrugineus</i>					X	X	X	X	X	Common resident	B
Brubru <i>Nilaus afer</i>					X	X	X	X	X	Unconfirmed	
Southern Tchagra <i>Tchagra tchagra</i>	X		X	X	X	X	X	X	X	Common resident	B
Bokmakierie <i>Telophorus zeplonus</i>	X		X	X	X	X	X	X	X	Common resident	B
Orange-breasted Bush Shrike <i>Telophorus sulfuropectus</i>											
Olive Bush Shrike <i>Telophorus olivaceus</i>	X		X	X	X	X	X	X	X	Occasional visitor	
Common Starling <i>Sturnus vulgaris</i>			X	X	X	X	X	X	X	Occasional visitor	
Pied Starling <i>Spreo bicolor</i>	X		X	X	X	X	X	X	X	Common resident	B
Wattled Starling <i>Creatophora cinerea</i>					X	X	X	X	X	Occasional visitor	
Cape Glossy Starling <i>Lamprolanius nitens</i>					X	X	X	X	X	Common resident	B
Red-winged Starling <i>Orychognathus morio</i>	X		X	X	X	X	X	X	X	Uncommon resident	
Pale-winged Starling <i>Orychognathus nabouroup</i>	X		X	X	X	X	X	X	X	Common resident	B
Malachite Sunbird <i>Nectarinia famosa</i>	X		X	X	X	X	X	X	X	Common visitor	B
Southern Double-collared Sunbird <i>Cinnyris chalybeatus</i>	X		X	X	X	X	X	X	X	Common resident	B
Greater Double-collared Sunbird <i>Cinnyris afer</i>					X	X	X	X	X	Rare visitor	
Dusky Sunbird <i>Cinnyris fusca</i>	X		X	X	X	X	X	X	X	Rare visitor	
Amethyst Sunbird <i>Chalcomitra amethystina</i>	X		X	X	X	X	X	X	X	Rare visitor	
Cape White-eye <i>Zosterops capensis</i>	X		X	X	X	X	X	X	X	Common resident	B
White-browed Sparrow-weaver <i>Plocepasser mahali</i>	X		X	X	X	X	X	X	X	Common resident	B
Social Weaver <i>Philetairus socius</i>					X	X	X	X	X	Common resident	B
House Sparrow <i>Passer domesticus</i>					X	X	X	X	X	Unconfirmed	
Cape Sparrow <i>Passer melanurus</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Grey-headed Sparrow <i>Passer diffusus</i>			X	X	X	X	X	X	X	Common resident	B
Yellow-throated Petronia <i>Petronia superciliosa</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Scaly-feathered Finch <i>Sporopipes squamifrons</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Spectacled Weaver <i>Ploceus ocularis</i>					X	X	X	X	X	Unconfirmed	
Cape Weaver <i>Ploceus capensis</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Southern Masked-Weaver <i>Ploceus velatus</i>	X		X	X	X	X	X	X	X	Common resident	B

Appendix 1 (continued)

Species (Hockey et al. in press)	Skead 1965	Penzhorne & Brookhorst		Park Checklist		Atlas 1987	BIRP		RU List 2003 List	Status	Breeding
		1976	1982	Undated	1991		1994	2002			
Southern Red Bishop <i>Euplectes orix</i>		X	X	X	X	X	X	X	X	Occasional visitor	B
Yellow-crowned Bishop <i>Euplectes afer</i>						X	X	X	X	Rare visitor	
Yellow Bishop <i>Euplectes capensis</i>	X		X	X	X	X	X	X	X	Rare visitor	
Red-billed Qualea <i>Qualea quelea</i>	X		X	X	X	X	X	X	X	Occasional visitor	
Red-headed Finch <i>Amadina erythrocephala</i>		X	X	X	X	X	X	X	X	Occasional visitor	B
African Firefinch <i>Lagonosticta rubricata</i>			X	X	X	X	X	X	X	Uncommon resident	B
Red-billed Firefinch <i>Lagonosticta senegala</i>			X	X	X	X	X	X	X	Uncommon resident	B
Common Waxbill <i>Estrilda astrild</i>	X		X	X	X	X	X	X	X	Uncommon resident	
Sweet Waxbill <i>Coccyzina melanotis</i>	X		X	X	X	X	X	X	X	Uncommon resident	
African Quailfinch <i>Oryzopsis atricollis</i>	X		X	X	X	X	X	X	X	Uncommon resident	
Pin-tailed Whydah <i>Vidua macroura</i>	X		X	X	X	X	X	X	X	Uncommon resident	
Dusky Indigobird <i>Vidua funerea</i>			X	X	X	X	X	X	X	Occasional visitor	
Village Indigobird <i>Vidua chalybeata</i>						X	X	X	X	Rare visitor	
Black-headed Canary <i>Serinus alario</i>	X		X	X	X	X	X	X	X	Rare visitor	B
Cape Canary <i>Serinus canicollis</i>	X		X	X	X	X	X	X	X	Occasional visitor	B
Yellow-fronted Canary <i>Crithagra mozambicus</i>		X	X	X	X	X	X	X	X	Occasional visitor	
Black-throated Canary <i>Crithagra atrogularis</i>			X	X	X	X	X	X	X	Occasional visitor	
Brimstone Canary <i>Crithagra sulphuratus</i>	X		X	X	X	X	X	X	X	Uncommon resident	
Yellow Canary <i>Crithagra flaviventris</i>			X	X	X	X	X	X	X	Uncommon resident	
White-throated Canary <i>Crithagra albogularis</i>	X		X	X	X	X	X	X	X	Occasional visitor	
Streaky-headed Seedeater <i>Crithagra gularis</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Golden-breasted Bunting <i>Emberiza flaviventris</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Cape Bunting <i>Emberiza capensis</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Cinnamon-breasted Bunting <i>Emberiza thalassini</i>	X		X	X	X	X	X	X	X	Uncommon resident	B
Lark-like Bunting <i>Emberiza impetuana</i>	X		X	X	X	X	X	X	X	Occasional visitor	
TOTAL	149	56	207	219	220	237	200	235	270		118