

# The Southern African subspecies of the Desert Cisticola *Cisticola aridula* Witherby, 1900

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## Summary

Clancey, P.A. 1991. The southern African subspecies of the Desert Cisticola *Cisticola aridula* Witherby, 1900. *Durban Mus. Novit.* 16: 31-34. The three southern races of the Desert Cisticola *Cisticola aridula* are reviewed in the light of postbreeding dry season movements. The relationships of the three subspecies with Angolan and south-central African populations of *C. aridula* are discussed.

KEYWORDS: *Cisticola aridula*, Southern Africa, subspecies, taxonomy, postbreeding movement.

## Introduction

When Lynes (1930) revised the Cisticolidae, he placed all the Southern African Subregion populations of the Desert Cisticola *Cisticola aridula* Witherby, 1900, in *C. a. kalahari* Ogilvie-Grant 1910: Molopo River, northern Cape/Botswana border. This arrangement was generally adopted until Clancey (1955), following comment by Roberts (1940), described *C. a. caligina* from the coastal lowlands of northeastern Zululand, considered to be part of *C. a. lobito* Lynes, 1930: Lobito Bay, Benguela, Angola, by Roberts. Traylor (1986) recognised both *kalahari* and *caligina* from the subregion, but in a footnote to p.118 refers to the description of a third subspecies: *C. a. eremica* Clancey, 1984, from southwest of Kamanjab, Kaokoland, northwestern Namibia.

Investigation of the ranges and ecology of the two South West Arid Zone races: *kalahari* and *eremica*, has revealed that the subspecifically relevant variation is more complex than previously recognised, affecting the colouration of the upperparts and the density of the dark shaft streaking as seen in newly assumed nonbreeding dress specimens obtained between April and June/July. On the other hand, the contour plumage of birds in breeding dress (assumed from October) is soon so grass-eroded and sun-bleached as to limit their use in research into subspeciation.

Use of freshly moulted material and an appreciation of

the postbreeding vagility of the interior populations permit the recognition of three subspecies in the southern parts of the species' range. The populations of *C. aridula* in the South West Arid zone comport in their variation with many other small polytypic birds in both its manifestation and disposition: deeply coloured and heavily marked in the south and lighter with often finer markings in the north. Correlations can be demonstrated between these extremes and rainfall, edaphic conditions and vegetational composition. However, interpretation is complicated by the lack of knowledge of postbreeding movements. Like other desert breeders exposed to periodic droughts, low and erratic rainfall and spells of intense cold during winter, the desertic populations are prone to migration to the east and north of their breeding range.

Material of this species, when arranged in a south to north sequence, reveals characters covariant with those of the similarly distributed Rattling Cisticola *Cisticola chiniana*, populations of which affect separate plant communities (Table 1). Comparable stratified patterns of dorsal variation in other *Cisticola* species, but perhaps less sharply etched, occur in the Tinkling Cisticola *C. rufilata* and the Neddicky *C. fulvicapilla* and other unrelated passerines in the same mosaic of environments and substrates. The variation exhibited by the low altitude and southeastern terminal *caligina* is seen as occasioned by

TABLE 1 – Dorsal colour covariation in ecologically dissimilar sympatric *Cisticola aridula* (arid grassland) and *C. chiniana* (savanna scrub) along a south-north distribution sequence.

S-N distribution	<i>C. aridula</i> subsp	<i>C. chiniana</i> subsp
(a) dark and reddest above	<i>caligina</i>	<i>campestris</i>
(b) paler and more ochreous	<i>kalahari</i>	<i>chiniana</i> and <i>frater</i>
(c) lightest with blackest stripes	<i>eremica</i>	<i>smithersi</i> (including <i>huilensis</i> ) and <i>bensoni</i>
(d) dark but not reddish	<i>lobito</i>	—
(e) darker and more saturated	<i>traylori</i> , <i>perplexa</i>	<i>fortis</i>

both low altitude (coastal) and mesic environmental factors. Otherwise, variation in birds of the desertic and steppe-like interior plateau and west of the Subregion correlates in dorsal colouration with the colour of the substrate of the breeding grounds: sandy or ochreous in *kalahari* of red Kalahari sands, and the more pallid and relatively creamy colouration of the less xeric *eremica*. This latter form is a phenotype centred on the saline pan system from the Etosha National Park of northern Namibia, east to central and northeastern Botswana. Actual rainfall levels seem to have little immediate bearing on the characters of the desertic elements, as the breeding terrain of *kalahari* receives ca 250-500 mm annually, and that of *eremica* between 500 and 1000 mm.

While extensively distributed in the north and east of the South West Arid Zone, *C. aridula* is localized, frequenting the more open types of dry grassland with few acacias or other trees present. It may occur sympatrically with other *Cisticolas*, such as *C. juncidis terrestris* and *C. brunescens egregia*, but is not infrequently the only 'cloud-scraper' in a single locality. The extent of competition with these congeners is undetermined, but as *aridula* shows a preference for drier grassland types, this is presumably minimal.

### Postbreeding movements

Irwin (1981) has suggested the 'possibility that there may be some seasonal or other movement,' and Maclean (1985) notes that there are 'some local nomadic movements'. Comment by Irwin (1981) suggests that in Zimbabwe, it readily colonizes new environments created by human activity, such as agricultural projects in the Sabi valley of the southeast. Its presence in the Kariba basin on mats of *Panicum repens* is, after studying material from Bumi at 17° 00'S, 28° 05'E, clearly a seasonal occurrence of nonbreeding *eremica* and a Zambian population (but see Irwin 1982).

Both desertic races of *aridula* are apparently subject to postbreeding and climatically induced movements. In *kalahari*, postbreeding movement following moult results in its seasonal presence well to the north of the breeding range to occur within that of *eremica*, as on the Ikuma River, Owamboland (11 June) and to the east of this at Drotsky's Cave, Dcuia, Botswana, at 20°S, 21° 15'E (September) and in the Kalahari to Kaotwe (22° 40'S, 23° 16'E), Tierputs (22°S, 21° 15'E) and elsewhere. In *eremica*, movement is to the east, with this relatively creamy and less rufescent race present seasonally in southeastern Botswana as far south as ca 24°S, well within the breeding range of *kalahari*, with its distinctive claycoloured rump. This pattern indicates that some *kalahari* move north after breeding to occur alongside *eremica*, which, in turn, also reveals an eastward but less well defined seasonal shift. The collection of the National Natural History Museum of Zimbabwe includes two subspecifically composite samples: one from Kazuma Pan, at 18° 22'S, 25° 31'E and the second from 37 km to the southwest of Bumi, Zambezi valley at 17° 00'S, 28° 05'E. The Kazuma Pan sample comprises seven freshly moulted birds taken between 8 and 13 June 1971, four of which are well-marked examples of *kalahari* (National Museum Nos. 74533, 74534, 74537 and 74539); the wings of three males measure 51-52,5 mm and of one female 48 mm. The other three specimens are referable to *eremica* (Nos 74527, 74528 & 74538), the male with a wing length of 50 mm and the two females with wing lengths of 48,5 and 49 mm. This shows that the two subspecies occur alongside

one another during the nonbreeding season in some localities.

In the smaller sample collected in late August 1970 to the southeast of Bumi in the Zambezi valley, a male with a wing of 50 mm and a female (wing length 46,5 mm) are examples of *eremica*, whereas a second male (wing length 51 mm and tail in full moult), National Museum No. 72246, appears applicable to an undescribed form allied to the two saturated races of northern Zambia and eastern Angola, namely, *C. a. perplexa* and *C. a. traylori*, differing in being less deeply coloured, with browner, less blackish and sharply defined, shaft-streaking to both the vertex and mantle. It probably emanated from the population breeding in the Eastern Province wrongly referred to *kalahari* by Benson *et al.* (1971). The races, *perplexa* (eastern) and *traylori* (western), are not clearly differentiated, the latter perhaps rather more finely streaked and less saturated over the upperside than its eastern counterpart.

*Eremica* is probably only a nonbreeding visitor to the now largely flooded Kariba basin. Irwin (1981) only admitted *caligina* for Zimbabwe, but later (Irwin 1982) recognised two races. *Eremica* (described in 1984) was not available when Irwin (1982) revised the status of this species in Zimbabwe. It is concluded that the Zimbabwean breeding population comprises the rather darker eastern stage of the variational spectrum of *eremica*, with *kalahari* occurring in the arid west as a nonbreeding visitor. If true *caligina* occurs in Zimbabwe, it can only do so marginally. The darker coloured birds found locally in areas of high rainfall in the east of Zimbabwe are in need of further consideration.

Apart from drought and intense cold which materially affect the availability of grassland insects, heavy grazing of suitable grassveld by concentrations of herbivorous ungulates must sometimes alter the potential of this cisticola's specialized habitat, necessitating temporary dispersal.

### The southern African subspecies

The *kalahari* of Lynes (1930) and Sclater (1930) is here viewed as a southern complex mainly centred on the grassland savanna steppe of the South West Arid Zone, but largely avoiding karoo country, the populations being now arranged in three subspecies following Clancey (1984). The characters and distributions of the three southern races of the Desert Cisticola will now stand as follows:

- (a) *Cisticola aridula caligina* Clancey  
*Cisticola aridula caligina* Clancey *Bull. Brit. Orn. Club* 75, 9, 1955, p. 127: Maputa, northeastern Zululand.

Nonbreeding dress: Upperparts with broad dark shaft-streaking (about saturated Prout's Brown (Ridgway 1912)), edged with Buckthorn Brown. Ventral surfaces white, moderately washed over the breast and sides with warm buff. The most saturated of the subspecies.

In breeding dress, birds have the pileum plainer and darker and the dorsal surfaces less reddish, but with shaftstreaking often more sharply etched. Through moult, the tail is shorter than in the nonbreeding plumage (40 mm).

The mean wing length of males is 50 mm (sd 0,88; 49-52; n=11) and of females is 47,3 mm (sd 1,37; 46-49; n=11).

*Material examined:* 26 specimens (*Natal:* Weenen, Ivuna

River (Hluhluwe), Otobotini, Manaba, Lake Bangazi (St Lucia), Maputa; *Swaziland*: Ranches Ltd; *eastern Transvaal*: Barberton, Pietersburg, Klein Letaba. A single skin from Nyanga district, eastern Zimbabwe, in the British Museum at Tring appears attributable to *caligina*.

*Range:*

Fig. 1. Natal from the Tugela River drainage (from Weenen), eastern Swaziland, eastern Transvaal, Mozambique south of the Save River and southeastern Zimbabwe, and possibly from Nyanga district.

*Remarks:*

An old record from East Griqualand, Natal, referred to the Somali subspecies: *C. a. lavendulae* Ogilvie-Grant and Reid, 1901: Aroharlaise, Somalia, is equivocal, and was probably based on a migrant or a faulty determination. The specimen has not been traced.

(b) *Cisticola aridula kalahari* Ogilvie-Grant

*Cisticola kalahari* Ogilvie-Grant, *Bull. Brit. Orn. Club* 25, 1910, p.121: Molopo River, northern Cape/Botswana border.

*Tachydyla kalahariae* Roberts, *Ann. Transv. Mus.* 8, 1922, p.240. Unwarranted emendation.

Nonbreeding dress: Compared with *caligina* differs in having narrower and less blackish streaking to the upperparts, the feathers edged with yellowish Tawny-Olive, and much less reddish; rump clear Clay Color. Size ranging slightly larger.

The mean wing length of males is 52, 0 mm (sd 1,03; 52-54; n=26) and of females is 48,3 mm (sd 0,91; 47-50; n=19).

*Material examined:* 90 specimens (*Lesotho*: Mamathe's; *Orange Free State*: Excelsior, near Bloemfontein; *Transvaal*: Pretoria, Rustenburg, Sekukuneland, Northam, Settlers, Wolmaransstad, Warmbad, Sebasa (Soutpansberg), Makwassie; *northern Cape*: Vryburg, Kwang (Nossop River), Kuruman, Kimberley; *Cape south of the Orange River*: Aberdeen, Somerset East, Fish River station; *Botswana*: Ramatlabama (25° 40'S, 25° 35'E), 93 km E of Kalkia, Kukong (24° 27'S, 23° 03'E), Kaotwe Pan, Kuke Pan (23° 22'S, 24° 28'E), Letlhakeng, Tierputs, Dcuia (SE of Kai Kai), Drotsky's Cave; *Zimbabwe*: Kazuma Pan; *Namibia*: Kalkrand (24° 03'S, 17° 03'E), Windhoek, Omuhamba, Okahandja, Neudamm Government Farm, Erongo Mtns, Ikuma River (Owamboland).

*Range:*

Fig. 1. Western Orange Free State, the Transvaal plateau and lowlands of northern Lesotho, eastern and northern Cape (south to ca 32° 30'S), the Kalahari of southern and western Botswana and central Namibia from about Kalkrand, north to Damaraland as far as Windhoek, Okahandja and the Erongo Mountains.

Postbreeding movement takes this subspecies north to Owamboland, northern Botswana and western Zimbabwe, when present mainly May-September.

*Remarks:*

The colour illustrations of *kalahari* in Lynes (1930) emphasize the diagnostic Clay Color rump of this subspecies well.

(c) *Cisticola aridula eremica* Clancey

*Cisticola aridula eremica* Clancey *Bull. Brit. Orn. Club* 104, 3, 1984, p.87: 53,1 km SW of Kamanjab, Kaokoland, northwestern Namibia, at 19° 48'S, 14° 39'E.

Nonbreeding dress: Differs from *kalahari* in being less sandy or ochreous over the upperparts, the shaft streaking blacker and the light interstices over the pileum and the hindneck whiter, the whole more contrastingly black and white; edging to mantle feathers Warm Buff, the rump greyish buff and not Clay Color. Tail darker, greyer and less sandy. Generally whiter below. Size the same.

The mean wing length of males is 51,8 mm (sd 1,22; 50-54; n=26) and of females is 48,0 mm (sd 1,11; 46,5-50 (48,0); n=22).

*Material examined:* 79 specimens (*Namibia*: Rooibank (Namib), Ovatikumba (72,5 km SE of Ohopoho), Sanitatas, Ohopoho, Orupembe, 53 km SW of Kamanjab, Ondonga, Otjiwarongo, Etosha National Park, Windhoek district, Andara, Linyanti (Caprivi); *Botswana*: Mash-i-a-Potsani (Kukong district), Toromoja (21° 24'S), Nata River, Nthane (21° 16'S, 26° 10'E), Nkate (Nekate) (20° 08'S, 26° 03'E), Mumpswe (20° 14'S, 20° 52'E), Musu (21° 12'S, 25° 59'E), Pandamatenga (18° 32'S, 25° 41'E), Mababe Flats, Gemsbok Pan, Maun, 161 km E of Maun, Tatin River, Mandabuza Pan, Chobe River, 'Four Rivers' (Okavango); *Zimbabwe*: Kazuma Pan, Bumi (Zambezi Valley), Victoria Falls, Sengwa (Chizarira Game Reserve), Umvuma; *Zambia*: Nangweshi, Senanga (16° 22'S, 23° 18'E), Mash-i-a-Potsani (Senanga district), Monze).

*Range:*

Fig. 1. Southwestern Angola south of *lobito* and east south of the miombo savannas to Kaokoland, Owamboland, the Etosha National Park and southeast of it, east to Caprivi and northern and eastern Botswana (generally north of 22°S, but see Remarks below), including the Makgadikgadi Pan, Lake Dow and the Nata River drainage, the plateau of Zimbabwe and southern Zambia to ca 29°E.

Subject to postbreeding movements. Occurs seasonally in atypical habitat in the Kariba basin of the Zambezi Valley and as far south in Botswana as 16 km west of Lephepe (23° 22'S, 25° 30'E) on 14 May and 38,6 km from Letlhakeng on 5 May, these latter examples of the darker elements of *eremica* breeding in Zimbabwe and adjacent parts of the range.

*Remarks:*

The black dorsal streaking tends to increase in intensity in the east of the range, but recognition in taxonomic terms is undesirable owing to the difficulty of defining a satisfactory range for it.

### Comment on *C. a. lobito* Lynes, 1930

When Roberts (1940) drew attention to a second race of the Desert Cisticola in South Africa, he placed the southeastern littoral population as *C. a. lobito* Lynes, 1930: Lobito Bay, Benguela, Angola, from which it is spatially remote. Examination of a series in the Natural History Museum at Tring from localities along the Angolan seaboard, including Ambrizete, Luanda (St Paul de Loanda), Lobito, Benguela, Huxe (Uchi) and Mossamedes reveals that while *lobito* is dark over the upperparts, it is less rufescent in fresh dress than birds occurring in the humid southeast of southern Africa. It is also smaller, the mean wing length of males being 48,3 mm (sd 0,86; 47-50; n=21) and of females is 44,3 mm (sd 0,95; 43-46; n=11). In *caligina* of southeastern Africa, the mean wing length of males is 50 mm and of females 47,3 mm, the size difference better marked in the latter. *Lobito* differs sharply in colour and size from the subspecies oc-

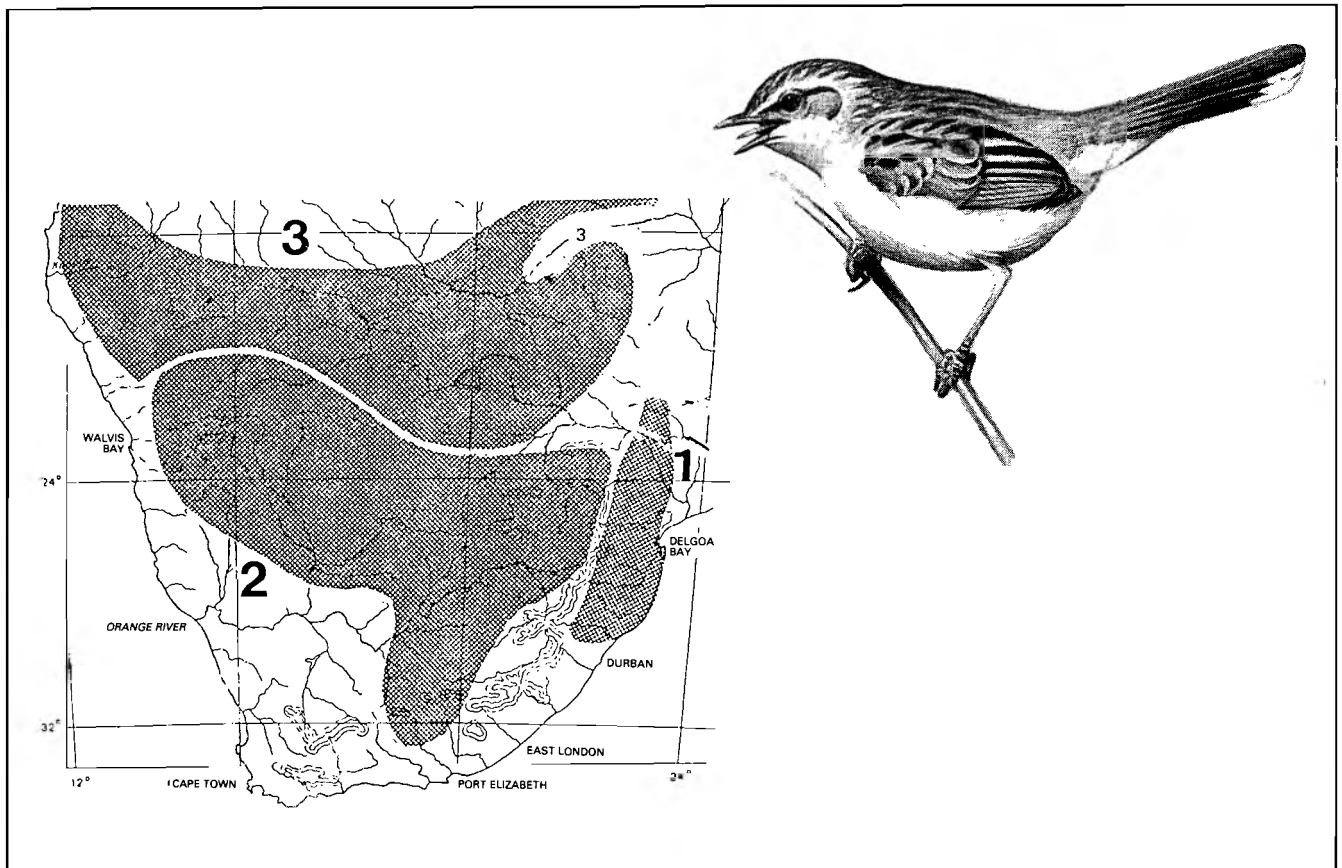


FIG. 1 – Distribution of the three southern subspecies of the Desert Cisticola *Cisticola aridula* Witherby: *C. a. caligina* (1), *C. a. kalahari* (2) and *C. a. eremica* (3).

curring south of it: *eremica*, in which males have the wing length 51,8 mm and females 48 mm. In *perplexa* White, 1947: Lake Chaya, Bangweulu Swamp, Zambia, size appears to be comparable with that of *lobito*, wings in two males measuring 48 and 50 mm. In *traylori* Benson & Irwin, 1966: Mucussuege, Moxico, eastern Angola, at 11° 06'S, 21° 56'E, the mean wing length of males is 50,6 mm (49,5-51,5; n=4) and the wing lengths of two females is 46,5 and 47,5 mm, which is larger than the coastal *lobito* lying to the west.

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