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The bird was normal in every way except for the bill in which the lower mandible was approximately 22 millimetres shorter than the upper, that is to say it was about half as long (see photograph). This appeared to be a congenital condition as there was no indication that the lower mandible



had ever been damaged in any way. The tip of this mandible was quite blunt and perfectly rounded. Apart from being slightly oiled under one wing the bird was in perfect condition, and was seen to catch fish, so that the bill deformity appeared to have no detrimental effect. I have not come across any previous records of bill deformities in this species.

I am not aware of any discussion on the genetics responsible for the occurrence of what may be termed "short lower bill" in birds, but Harrison & Kear (1962) report the similar condition of "short upper beak" in wildfowl embryos that had failed to hatch, and in which it was sometimes associated with acrania or meningocoele. The condition of "short upper beak" is well known in poultry and in at least one instance has been traced to a recessive gene.

References:

Harrison, Jeffery G. and Kear, Janet (1962) "Some Congenital Abnormalities in the Beaks and Skulls of Wildfowl". *Veterinary Record* 74, pp. 632-633.

Systematic notes on austral African sandgrouse

by P. A. CLANCEY

Received 22nd February, 1967

Of the four species of sandgrouse occurring in the South African Sub-Region, all of which are variably polytypic, three are represented by two or more races in the area. Recent studies of the variation in these three

species of *Pterocles*, namely *P. bicinctus* Temminck, *P. burchelli* Sclater and *P. namaqua* (Gmelin), carried out in the Durban Museum are reported upon below. For the loan of additional material to augment that already in our collection, I am grateful to the Directors of the South African Museum, Cape Town (through Professor J. M. Winterbottom), the East London Museum (through Mr. C. D. Quickelberge), the Transvaal Museum, Pretoria, (through Mr. O. P. M. Prozesky) the State Museum, Windhoek (through Mr. P. J. Buys) and the National Museum, Bulawayo (through Mr. M. P. S. Irwin).

1 *Pterocles bicinctus* Temminck

The variation in the Double-banded Sandgrouse has been dealt with by various workers in the course of the compilation of standard works and check-lists, and in recent years notably by Benson (1947), McLachlan and Liversidge (1957), Mackworth-Praed and Grant (1962), Clancey (1965) and White (1965), but the only detailed study of the variation in the species appears to be Macdonald's report of 1954. In studying the variations in this and other sandgrouse, care must be exercised over soil staining in many populations and the colour leaching effected by the rays of the sun, particularly the former. Seasonal movements of some populations also require to be considered in arriving at decisions on races.

Variation in *P. bicinctus* affects general size, populations of small-sized birds occurring in the extreme north-west of the range and in the extreme north-east, as well as coloration. Broadly speaking, desertic and sub-desertic populations are pale, while those from the moist and more densely vegetated east of the range are darker and more saturated, showing a considerable development of chestnut over the upperparts and wings. I find five races may be satisfactorily admitted.

In his 1954 report, Macdonald proposed *Pterocles bicinctus elizabethae* from Spitzkopje, north-western South-West Africa, on the basis of two specimens. This race was described as being paler and larger than the nominate race of *P. bicinctus* Temminck, 1815, Great Fish R., Great Namaqualand, South-West Africa, restricted to Gibeon by Macdonald. Much doubt still surrounds the validity of *P.b. elizabethae*, but a recent study of the entire Transvaal Museum series of this sandgrouse, which includes a good sample from the Namib edge of north-western South-West Africa, from near whence *P.b. elizabethae* was described, as well as specimens from as far south as Ariamsvlei, just a little to the north of the Orange R., to the west of Upington, confirms that the taxon is a straight synonym of the nominate race. Specimens from over most of South-West Africa are more or less indistinguishable from one another on the basis of colour, and north-western birds are not paler than the southern, topotypical, ones. Nor do I find much size difference, and the specimen chosen by Macdonald as the Type of *P.b. elizabethae* is actually beyond the normal size-range of South-West African Double-banded Sandgrouse, 186.5 mm. being the longest wing measured by me, though birds with wings of up to 190 mm. and over occur further east on the plateau, in the Caprivi Strip and northern Botswana.

In northern Damaraland a shift to a darker dorsal facies in both sexes is to be seen in the assembled material, and the populations of northern South-West Africa from Etosha and Ovamboland eastwards to the Caprivi Strip, northern and north-western Botswana, south-western Zambia, and,

presumably, adjacent southern Angola from south-eastern Huila eastwards, can be conveniently arranged in a subspecies which is well differentiated from *P.b. bicinctus*. The differences shown are probably associated with the higher rainfall enjoyed by these regions, but the tendency to a strongly black and white appearance to the dorsal surfaces, especially in females, suggests a reaction to the calcareous and saline substrata on which these populations are largely resident. This form, for which the name *P.b. chobiensis* (Roberts) 1932: Kabulabula, Chobe R., is available, is best marked in the female, which is much less sandy than *P.b. bicinctus*, the dorsal feathering barred and streaked with jet black rather than brown, the black well developed over the scapulars and tertials, and with larger and more numerous white apical spots to the feathers of these surfaces. Below, the form is greyer over the mid- and lower-breast, the barring finer. The male is also darker, the mantle, scapular and tertial feathering more greyish-brown and often barred with black, less Hair Brown (Ridgway, 1912), and with the white spots larger and more chalky in appearance. On the underside the black transverse barring is coarser and the ground colour duller. *P.b. chobiensis* also ranges somewhat larger than *P.b. bicinctus*. The race has had a checkered existence ever since it was proposed in 1932, presumably resulting from the fact that in the western extremity of its range it reaches to Ovamboland, the Etosha Pan region and northern Damaraland. It is well marked, however, and requires to be admitted in our formal arrangement of the populations into subspecific taxa.

P.b. ansorgei (Benson), 1947: Huxe (=Uchi), Benguela, Angola, is generally credited with being paler than *P.b. bicinctus*, but this is barely perceptible over the upperparts of the material available to me, but the form is maintainable on the basis of smaller size, and the fact that in the male the barring over the middle and lower ventral surface is finer and often somewhat scale-like. The race concerned is confined to the arid coastal strip of Moçamedes and Benguela, in Angola.

To the east of the range of the three dry country races of the Double-banded Sandgrouse, *P.b. bicinctus*, *P.b. ansorgei* and *P.b. chobiensis*, are to be found populations of very reddish birds, which are on the whole more heavily barred above, the pale interspaces deep Sayal Brown in colour. This complex of populations is divisible into two races on the basis of size, the birds of the hot eastern lowlands being separable as *P.b. usheri* (Benson), 1947: Tambara, lower Zambesi R., Moçambique, those of the elevated and temperate plateau as *P.b. multicolor* Hartert, 1908: Rustenburg, western Transvaal. *P.b. multicolor* may range further to the north-west than at present understood, because a specimen from Swartbooi's Drift, on the Cunene R., on the southern Angola/northern South West African border is applicable to it, though its presence so far west may only indicate marked random dispersal of some birds in the non-breeding season.

The characters and ranges of the five races of the Double-banded Sandgrouse as defined in this recent study are as follows:

(a) *Pterocles bicinctus bicinctus* Temminck, 1815: Gibeon, Great Fish R., South-West Africa.

(Synonyms: *P.b. pallidior* Forbes and Robinson, 1900: Otjimbingwe,

Swakop R., South-West Africa, and *P.b. elizabethae* Macdonald, 1954: Spitzkopje, Swakopmund district, South-West Africa).

Male with mantle, scapulars and tertials about Drab, the feathers variably marked with whitish apical spots and incompletely barred with Pinkish Cinnamon. Below, with lower breast and adjacent surfaces buffy-white, finely barred with blackish-brown. Female with mantle, scapulars and tertials Cinnamon-Buff, terminally spotted with off-white, and barred and zoned with blackish-brown. Wings of 10 ♂♂ 172–186.5 (180.9), of 10 ♀♀ 171–185 (177.1) mm.

Range: North-western Cape Province from the lower Orange R., and the northern Cape in Gordonia, to Great Namaqualand, the Damaraland highlands and the Kaokoveld, in South-West Africa. Grades into *P.b. chobiensis* and *P.b. ansorgei* to the north of its range.

(b) *Pterocles bicinctus ansorgei* (Benson), 1947: Uchi, Benguela, Angola.

Similar to *P.b. bicinctus*, but smaller in size. Males averaging a paler drab above, and on the underside less heavily barred, the dark cross bars smaller, and somewhat granular or scale-like.

Wings of 3 ♂♂ 164.5–171 (168.0), of 2 ♀♀ 162.5–164 mm. Benson (1947) gives wings of 13 ♂♂ as 157–168, 9 ♀♀ 158–165 mm.

Range: The arid coastal strip of Angola in Moçamedes and Benguela.

(c) *Pterocles bicinctus chobiensis* (Roberts), 1932: Kabulabula, Chobe R., Botswana.

Compared with *P.b. bicinctus* male is darker, the mantle, scapulars and tertials more cold greyish-brown and often barred with black, less plain Hair Brown or Drab, and with the apical spots larger and more chalky white in appearance. Below, often colder over the throat and upper breast, and black transverse barring coarser and on a greyer ground. Female much less sandy coloured than *P.b. bicinctus*, the dorsal feathering barred and streaked with jet black rather than brown, the black well developed over the scapulars and tertials; light interstices pale vinaceous, less sandy, and apical spots larger, purer white, and more copious. Below, with black transverse barring finer on a colder grey ground. Ranging a little larger in size. Wings of 10 ♂♂ 176–191 (183.2), of 10 ♀♀ 174–187 (180.6) mm. Roberts (1935) gives the wings of the paratypical series as 11 ♂♂ 171–188, 11 ♀♀ 169–183 mm.

Range: Northern Damaraland in the Etosha Pan area and Ovambo-land, eastwards to the Caprivi Strip, Ngamiland and northern and north-eastern Botswana, and perhaps reaching seasonally to extreme western Matabeleland, Rhodesia, as material from Sentinel Ranch, near Beit Bridge, is of this form; also southern Angola and south-western Zambia.

Note: An adult ♀ from Nata, north-eastern Botswana, dated 11th August, 1966, in the National Museum, Bulawayo, collection is a symmetrical partial albino, with a narrow white band across the mid-breast, and the bastard-wing and primary-coverts largely pure white. White feathers are also present in the inner primary and secondary series. Otherwise, the specimen is a typical *P.b. chobiensis*.

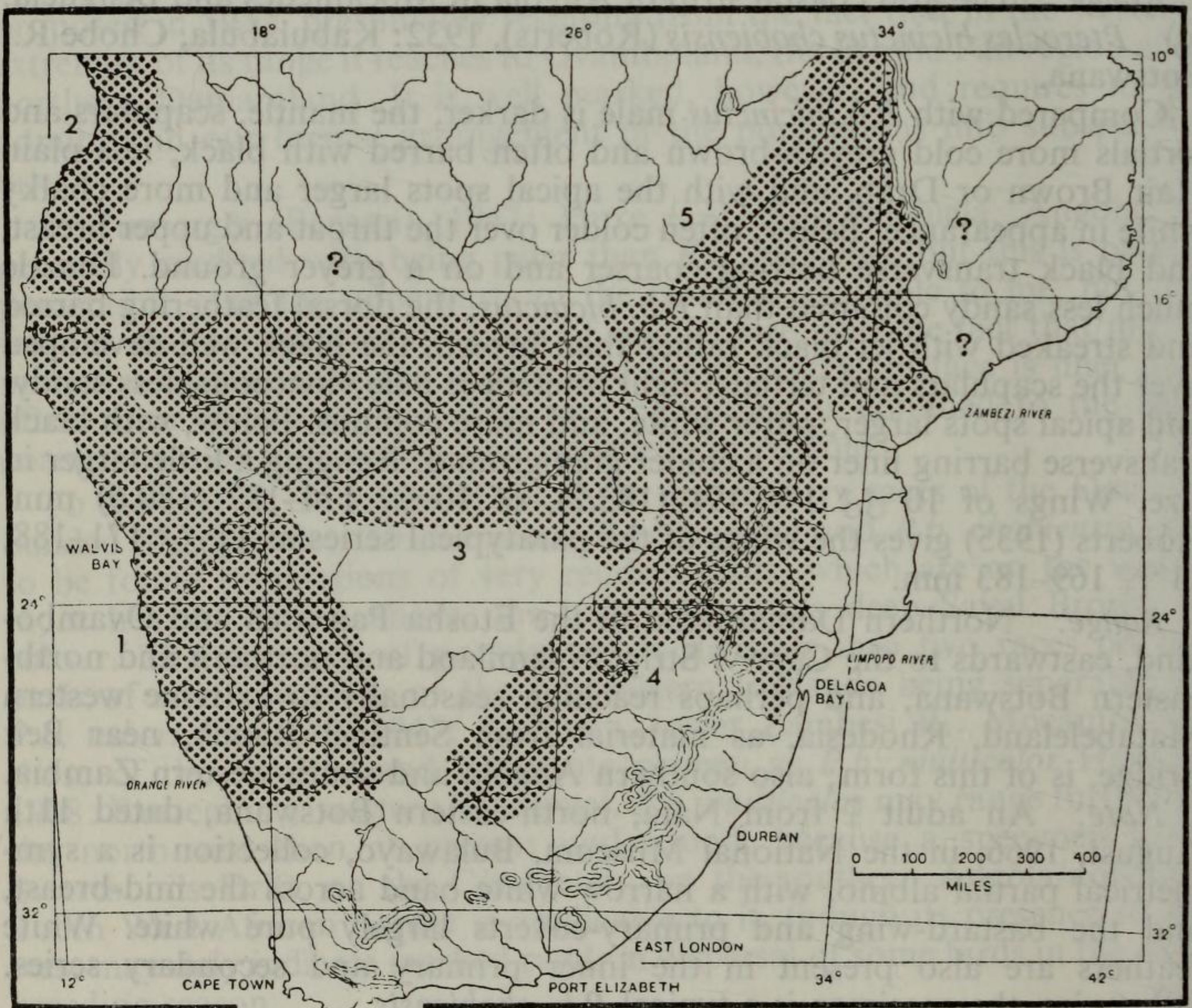
(b) *Pterocles bicinctus multicolor* Hartert, 1908: Rustenburg, western Transvaal.

Male differs sharply from *P.b. chobiensis* in being much more heavily transversely barred with blackish-brown above, the pale interstices deep Sayal Brown or dark cinnamon in colour, the white tipping to the mantle,

scapular and tertial feathering reduced. Below, with the breast somewhat ruddier, and with the dark barring much blacker and coarser. Female more saturated and redder than *P.b. chobiensis*, the dorsal barring heavier, but the solid black areas reduced, the pale interstices redder, being cinnamon or deep vinous-cinnamon, less pale vinaceous, and with the white apical spotting and edging suppressed. Below, more rusty-buff over throat and breast, and black transverse barring heavier and deeper in colour. Size the same as *P.b. bicinctus*. Wings of 10 ♂♂ 173.5–182.5 (178.8), 10 ♀♀ 173–180 (176.3) mm.

Range: Northern Cape Province in districts of Kuruman and Kimberley, and apparently the western Orange Free State, eastern Botswana, western, northern and eastern Transvaal, Rhodesia and adjacent Moçambique. In north of range reaching to the middle Zambesi R. valley to the west of Chirundu (Benson and Irwin, in press). A specimen taken by the Carp Expedition of 1951 at Swartbooï's Drift, Cunene R., on 24th June is applicable to this race, indicating seasonal movement (see other comments above).

(e) *Pterocles bicinctus usheri* (Benson), 1947: Tambara, lower Zambesi R., Moçambique.



Pterocles bicinctus Temminck

The distribution of the Double-banded Sandgrouse and the ranges of its five component races.

- | | |
|---|---|
| 1. <i>Pterocles bicinctus bicinctus</i> Temminck. | 4. <i>Pterocles bicinctus multicolor</i> Hartert. |
| 2. <i>Pterocles bicinctus ansorgei</i> (Benson). | 5. <i>Pterocles bicinctus usheri</i> (Benson). |
| 3. <i>Pterocles bicinctus chobiensis</i> (Roberts). | |

Similar in coloration to *P.b. multicolor*, but ranging smaller in size. Wings of 13 ♂♂ 161–171 (165.0), of 10 ♀♀ 157–168 (161.3) mm.

Range: Rhodesia in the Zambesi R. valley to the east of Chirundu, and Moçambique in the districts of Tete and Manica e Sofala, extending north to the Luangwa R. valley and adjacent south-eastern Zambia, and in southern Malawi in the Moçambique border country.

2 *Pterocles burchelli* Sclater

Variation in the Spotted Sandgrouse is relatively slight and was first demonstrated by Roberts (1932), when he separated *P.b. makarikari* from Nkate, north-eastern Botswana, from nominate *P. burchelli* Sclater, 1922: near Griquatown, northern Cape Province. Most recent authors have followed Roberts in admitting two races in this sandgrouse, with the exception of White (1965), who reverted to the use of a binomial. Winterbottom (1965), on the other hand, in his detailed study of this species, recognised no less than three races, namely, *P.b. burchelli*, *P.b. makarikari*, and *P.b. delabati* Winterbottom, the last proposed as a new race from the Etosha Pan region of northern South-West Africa.

In his study, Winterbottom recognised two races with somewhat circumscribed ranges (*P.b. makarikari* and *P.b. delabati*), and a third, the nominate, with a more extensive distribution. Most authors have restricted *P.b. makarikari* to the Makarikari Salt Pan and peripheral areas of north-eastern Botswana, with the exception of Macdonald (1957) and Mackworth-Praed and Grant (1962), who either placed or suggested placing the South-West African and northern Botswanan populations in *P.b. makarikari*, thereby restricting the nominate race to the south-east and east.

Until recently the material of typotypical *P.b. makarikari* available to workers consisted solely of that assembled by the Vernay-Lang Kalahari Expedition, of 1930. I have been able to examine some of this material, and find it all relatively worn and sun affected, the specimens having been obtained in mid-August. Recent specimens from Makarikari collected for the National Museum of Rhodesia later in the year (November) are in moult and largely fresh condition, and do not agree with the Vernay-Lang Expedition paratypes of *P.b. makarikari*, being fresher and more strongly coloured in appearance. The recent material corresponds more or less perfectly with Winterbottom's diagnosis of his *P.b. delabati* and with freshly moulted specimens from northern Damaraland and the Etosha region available to me. The impression formed from a careful scrutiny of the assembled specimens is that some of the pallor of the Makarikari birds is not of genetic import. Much of the paleness in the *P.b. makarikari* topotypes is very evidently induced by a harsh, glaring and desiccating environment acting in a relatively short space of time on unstable pigments. This observation is lent support by the fact that freshly moulted Makarikari specimens, as opposed to others taken in worn dress, are not subspecifically different to those from further west in northern Botswana, and in northern South-West Africa, as noted some years ago by Macdonald.

My findings support the arrangement of the populations proposed in Mackworth-Praed and Grant (1962), apart from the precise ranges to be accorded the two taxa, which require to be adjusted somewhat. As Etosha birds cannot be satisfactorily separated from those of Makarikari,

the recently proposed *P.b. delabati* will, unfortunately, have to be considered a synonym of *P.b. makarikari*.

The revised characters and ranges of the two races of Spotted Sandgrouse are as follows:

(a) *Pterocles burchelli burchelli* Sclater, 1922: near Griquatown, northern Cape Province.

Adult male with the top of the head dark olive-brown, the feathers edged with Ochraceous-Buff; mantle, scapulars and tertials olive-brown, the feathers tipped with Orange-Citrine, dotted with white. Below, breast cinnamon with an ochraceous overlay, the feathers sub-apically spotted with white. Female as male above, but face, chin and upper forehead with ground yellowish-buff; lower throat and upper breast Pinkish Cinnamon with ochraceous overlay, spotted with white; lower breast and sides buffy-white with some brown barring and dusky speckling.

Range: Northern Cape Province and South-West Africa north to the highlands of Damaraland, southern and eastern Botswana, the western Orange Free State, and western and northern Transvaal.

(b) *Pterocles burchelli makarikari* (Roberts), 1932: Nkate, northern Botswana.

(Synonym: *P.b. delabati* Winterbottom, 1964 (1965): Onguma, Etosha Pan, northern South-West Africa)

Male with edging to head-top feathers paler; mantle, scapular and tertial feathers paler, the tipping less reddish bronzy (about Old Gold), the white spotting starker; blue over head brighter and clearer. Below, breast more vinaceous, less cinnamon. Female shows same dorsal differences as male; yellowish-buff ground of head paler. Below, upper breast lighter and more vinaceous, less inclined to Tawny-Olive; lower breast and belly whiter and less strongly barred.

Range: Northern South-West Africa from Etosha Pan and southern Ovamboland, eastwards to Ngamiland and northern Botswana (in east reaching the Makarikari Salt Pan and the Nata R.). Seasonally to north-western Rhodesia (Wankie).

3 *Pterocles namaqua* (Gmelin)

Variation in the Namaqua Sandgrouse was first demonstrated by de Schauensee (1931), but this author's findings were disallowed by White (1951 and 1965). The most recent detailed revision of the species is the report by Clancey (1959), in which two races were admitted, these being *P.n. namaqua* (Gmelin), 1789: lower Orange R., north-western Cape Province, and *P.n. furva* Clancey, 1959: Van Wyks Vlei, north-central Cape Province. Recently, both Smithers (1964) and Clancey (1965) admitted as valid a third form, *P.n. ngami* de Schauensee, 1931: 25 miles N.W. of Lake Ngami, north-western Botswana, about which taxon there has been much doubt ever since it was proposed well over thirty years ago.

Subspecific variation in *P. namaqua* is best shown in the male, in which sex there is a fair degree of difference in the coloration of the upperparts and the degree to which the mantle, scapulars and tertials, and the adjacent wing-coverts, are tipped with silvery spots. Ventral coloration also varies, some populations showing developments of sepia or brownish-black over the medio-ventral plane, which is lacking in others. Variation is less well marked in females, and seems entirely confined to the colour of the upperparts, though northern birds appear to have more extensive

white panels to the inner vanes of the primaries. Some of the populations, especially those breeding in the Karoo, are more truly migratory than in the other sandgrouse species considered in this study, which factor requires to be borne in mind in assessing the true nature of the sub-specific variation and arranging the populations into acceptable taxa.

As the variation of *P. namaqua* was fully discussed by me in 1959, there is no need to cover the ground again, despite the fact I have recently examined a large volume of new material brought together by South African museums since then, as this new material confirms earlier findings as far as they went. However, as I am now prepared to recognise *P.n. ngami*, some comments on this form seem desirable. De Schauensee separated *P.n. ngami* from what he took to be *P.n. namaqua*, but was actually *P.n. furva*, on the basis of paler coloration, and gave its range as the region of Lake Ngami. There is now known to be no resident population of the Namaqua Sandgrouse in the region of Lake Ngami, nor, apparently, in either the Mababe Depression or at the Makarikari Salt Lake, according to Mr. M. P. S. Irwin *in litt.* Populations to which I attach the name *P.n. ngami* breed in northern South-West Africa from the Kaokoveld and the Etosha Pan region, eastwards to Ghanzi and the northern edge of the Kalahari, in north-western Botswana, and are apparently only seasonal visitors further east. The south-western Angolan population is also presumably referable to this taxon, but unfortunately I have not been able to examine any specimens in order to verify this.

In the populations now attributed to *P.n. ngami*, males are not actually paler than in *P.n. namaqua*, but duller and colder above, less yellowish or sandy, and the hind and side surfaces of the neck are rather greener. Below they show better characters, being darker rusty Clay Color over the chin and upper fore-throat, and have a slightly darker, more vinaceous, less sandy, upper breast, and under the white and chocolate brown breast cincture they are heavily overlaid with Vinaceous-Gray in fresh condition, as against almost clear Sayal Brown in *P.n. namaqua*. The brown lower portion of the double breast cincture is darker. Abrasion through contact with gravels and soils results in a loss of much of the characteristic grey-ness of this race in worn dress. Females show no constant differences, though one or two Namib coast females are very pale and whitish mottled over the wings.

P.n. ngami is subject to some post-breeding dispersal, probably due to the drying up of watering points on the breeding grounds, which lie largely in regions distantly removed from streams of any kind, in the dry winter months. Specimens attributable to this form have been examined by me from localities to the east and south of the breeding range. According to Smithers, the Ghanzi population of *P.n. ngami* breeds in the early part of the dry season (during April and May), whereas in the Karoo at the other end of the species' distribution, *P.n. furva* is a summer breeder from September–January.

Three races of *P. namaqua* require to be admitted, the characters and ranges of which are as set out below:

(a) *Pterocles namaqua namaqua* (Gmelin), 1789: lower Orange R., north-western Cape Province.

Male with top of head Buffy Olive, the hind and side surfaces of the neck Olive Lake; lower mantle, scapulars and tertials Brownish Olive, the

feathers with the apical third Chamois, the apex with a metallic silvery blue spot, this surrounded with dark brown. Below, chin and upper fore-throat Antimony Yellow; upper breast Avellaneous, bordered posteriorly by a double band of white and Auburn; remainder of breast and lateral surfaces Sayal Brown, the medio-ventral plane with slight dusky tipping or overlay. Female with ground to hind and side surfaces of neck Chamois; head-top, mantle, scapulars and tertials deep Tawny-Olive with wavy cross-bars and shaftstreaks of blackish-brown, and the long scapulars and tertials with buff apical spots.

Range: Arid western coastal strip of the Cape Province north from the Berg R., and the north-western Cape in Bushmanland, Kenhardt and Brandvlei districts, to South-West Africa (north to the highlands of Damaraland and the southern Kaokoveld), the northern Cape, southern Botswana, dry western Orange Free State (Modder R.), and the western Transvaal. Apparently largely resident within these limits.

(b) *Pterocles namaqua furva* Clancey, 1959: 10 miles N.E. of Van Wyks Vlei, north-central Cape Province.

Male differs from last in being darker and more saturated above, and strongly ochraceous tinged in newly moulted condition, the silvery blue spotting more profuse. Below, with the chin and upper fore-throat rustier (about Clay Color); upper breast darker (Drab as against Avellaneous); lower portion of double breast band darker; lower breast and medio-ventral surface dark greyish Vinaceous-Brown rather than Sayal Brown, the middle of the lower breast and abdomen quite blackish. Female more strongly coloured over the yellowish head surfaces, and dorsal surfaces of body and wings redder and more saturated. Below, the transverse barring to the lower breast and adjacent surfaces tends to be coarser, and the pale interstices are more yellowish, less white.

Range: Winter rainfall region of the south-western Cape and the Karoo districts, east to the eastern Cape (locally north-east to Griqualand East), the Orange Free State (except extreme west), the lowlands of Lesotho, Upper Natal (irregular, but has bred), and the southern Transvaal highveld (north to Pretoria). Many populations are migratory, wintering (from about March) north and north-east of the breeding range (specimens examined from South-West Africa, the northern Cape, and Botswana [Gemsbok Pan]).

(c) *Pterocles namaqua ngami* de Schauensee, 1931: 25 miles N.W. of Lake Ngami, north-western Botswana.

Male not quite so dark and richly coloured above as *P.n. furva*, but duller and darker and more greenish, less yellow, over the neck than *P.n. namaqua*. Chin and upper fore-throat rusty as in *P.n. furva*, and upper breast Drab as in that race; lower breast and medio-ventral surface completely overlaid with pale Vinaceous-Gray in freshly moulted condition, as against Sayal Brown in *P.n. namaqua* and dark vinaceous-brown in *P.n. furva*, and also without the heavy black abdominal overlay of the latter. Female as in *P.n. namaqua*, but perhaps ranging paler, the wings often more spangled with white over the coverts and tertials, and the white linings and tipping to the primaries broader and without the dusky graining of southern birds (as noted in northern Namib specimens).

Range: Northern South-West Africa from the Kaokoveld and Etosha Pan region, east to Ghanzi and the northern edge of the Kalahari,

in Botswana. The south-western Angola population also probably belongs here. Occurs east and south of the breeding range in the off season, having been collected near Lake Ngami, in the Mababe Depression, at the Makarikari Salt Pan, in the Gemsbok National Park, and elsewhere.

References:

- Benson, C. W. 1947. *Bull. Brit. Orn. Club*, vol. lxxvii, pp. 79, 80.
 Clancey, P. A. 1959. *Durban Mus. Novit.*, vol. v, 18, pp. 231–237.
 — 1965. "A Catalogue of Birds of the South African Sub-Region", part ii, *Durban Mus. Novit.*, vol. vii, 10, pp. 318–320.
 Macdonald, J. D. 1954. *Bull. Brit. Orn. Club*, vol. lxxiv, 1, pp. 6–8.
 — 1957. *Contr. Ornith. Western South Africa*, p. 71.
 Mackworth-Praed, C. W. and Grant, C. H. B. 1962. *Birds Southern Third Africa*, vol. i, pp. 373–377.
 McLachlan, G. R. and Liversidge, R. 1957. *Roberts' Birds of South Africa*, p. 165.
 Ridgway, R. 1912. *Color Standards and Color Nomenclature*, Washington.
 Roberts, A. 1932. *Ann. Transv. Mus.*, vol. xv, 1, p. 24.
 — , 1935. *Ann. Transv. Mus.*, vol. xvi, 1, p. 81.
 de Schauensee, R. M. 1931. *Proc. Acad. Nat. Sci. Philad.*, vol. lxxxiii, p. 441.
 Smithers, R. H. N. 1964. *Check List Birds Bechuanaland Protectorate*, p. 88.
 White, C. M. N. 1951. *Ibis*, vol. xciii, 3, pp. 462, 463.
 — 1965. *Revised Check List African Non-Passerine Birds*, pp. 147, 148, 150, 151.
 Winterbottom, J. M. 1965. *Cimbebasia*, Windhoek, No. 9, pp. 30–43 (dated 1964, but published in 1965).

Notes on some African species of *Serinus*

by C. M. N. WHITE

Received 4th February, 1967

The following notes are intended to supplement and amend the account of the genus *Serinus* as published in my *Check List* of 1963.

Serinus flaviventris (Swainson)

The populations which I included under the nominate form must be divided into three subspecies:—

S. f. flaviventris (Swainson)

Upper side dull and dark; under side comparatively pale yellow with olive sides of breast extending across breast as a band. South-west Cape Province from Olifants river to Cape Peninsula and Bredasdorp.

S. f. hesperus Winterbottom (1963, *Bull. B.O.C.* 83, p. 138. Port Nolloth).

Differs from nominate in lack of the breast band and in much yellower upper tail-coverts contrasting with back. Western coast of Cape Province from Orange river mouth to Olifants river.

S. f. quintoni Winterbottom

Under side richer golden yellow than *hesperus* which it resembles in lack of breast band; upper side with brighter olive more in contrast with dark feather centres than the foregoing two. This occurs in the balance of the range which I had ascribed to the nominate form.

Serinus scotops (Sundevall)

The nominate form of my *Check List* must be subdivided by recognising *S. s. umbrosus* Clancey, 1964, *Durban Mus. Nov.* 7, p. 184. Caledon. It is duller green above than the nominate form and darker below with heavier black streaking. South-west Cape Province from Caledon to Knysna and Plettenberg Bay.

I am indebted to Professor Winterbottom for the facilities to examine material of these species.