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MISCELLANEOUS TAXONOMIC NOTES ON AFRICAN BIRDS XIV

by

P. A. CLANCEY

(Director, Durban Museum, Durban)

1. GEOGRAPHICAL VARIATION IN THE NAMAQUA SAND- GROUSE *PTEROCLES NAMAQUA* (GMELIN)

The Namaqua Sandgrouse *Pterocles namaqua* (Gmelin), 1789: Namaqua country, is a locally common, gregarious species of the desertic regions of south-western Africa. While in the main resident, the populations in many parts of the species' range are given to movement in the non-breeding season, the full nature of which is still not known. The American systematist Rudolphe Mayer de Schauensee, *Proceedings of the Academy of Natural Sciences of Philadelphia*, vol. lxxxiii, 1931, p. 441, was the first worker to demonstrate the existence of subspecific variation in the species, when he arranged the populations into two races (*P.n.namaqua* and *P.n.ngami* de Schauensee, 1931: 25 miles north-west of Lake Ngami, northern Bechuanaland Protectorate) on the basis of a study of the totally inadequate material of five skins (*sic!*). The recommendations of de Schauensee have not been widely accepted, and following the opinion of White, *Ibis*, vol. 93, 3, 1951, p. 462,

P.namaqua is treated as a monotypic species in most recent authoritative works, and a similar view was adopted by the S.A.O.S. List Committee (*vide Ostrich*, vol. xxvii, 4, 1956, p. 176).

Writing in the *Durban Museum Novitates*, vol. v, 16, 1959, pp. 209-211, I once again raised the question of subspecific variation in the Namaqua Sandgrouse, stating that "material recently assembled from the collections of the South African, East London and Durban Museums shows that at least two races of *P.namaqua* should be admitted in our formal arrangement of the populations, as demonstrated in the first instance by de Schauensee." Since the preparation of the note just referred to I have further investigated the problem of geographical variation in this sandgrouse, utilizing a series of just under eighty skins, many of which have been kindly placed at my disposal by the Directors of the South African Museum, Cape Town (through the good offices of Dr. J. M. Winterbottom), East London Museum, Transvaal Museum, Pretoria (through Mr. O. P. M. Prozesky), and the National Museum of Southern Rhodesia (through Mr. M. P. Stuart Irwin). This reasonably representative material substantiates the arrangement of the populations into two races, but confirms that the names *P.n.namaqua* (1789) and *P.n.ngami* (1931) belong to the same racial group of populations, as long believed by several workers. The dark southern birds considered by de Schauensee to constitute the race *P.n.namaqua* correspond to the recently described *P.n.furva* Clancey, 1959: 10 miles north-east of Van Wyk's Vlei, north-central Cape Province.

In the cryptic Namaqua Sandgrouse the demonstrable geographical variation is simple and entirely orthodox: dark populations living on dark coloured soils and gravels in southern and south-eastern districts enjoying reasonable annual rainfall (*P.n.furva*), and pale birds inhabiting much drier regions and living in association with the lighter coloured sands and gravels of our western deserts and sub-deserts (*P.n.namaqua*). Being entirely terrestrial and a species of open country with scattered and stunted scrub and thin grass, the species is subject to insidious soil staining and actinic bleaching, while contact with saline incrustations on the ground at watering points doubtless accounts for the discolouration of the ventral surface in some instances. Bearing these observations in mind, I have based the racial characters solely on freshly moulted material.

The populations to which the name *P.n.namaqua* is applicable are distinguished by pale dorsal and ventral colouration. In the

adult male the crown and back are slightly greyer than Buffy Brown (*vide* Ridgway, *Color Standards and Color Nomenclature*, 1912, pl. xl), while the pale sub-terminal spots to the feathers of the lower back, scapulars, wing-coverts and tertials are from between Cartridge Buff and Cream Buff (pl. xxx), shading to Pinkish Cinnamon (pl. xxix) where contiguous with the metallic silvered apices. The chin and throat are about Antimony Yellow (pl. xv), the breast Avellaneous (pl. xl), and the lower breast and abdomen Wood Brown (pl. xl) with an overlay of Buffy Brown. In about 50 per cent. of cases the abdomen exhibits variable quantities of fuscous admixture. Females are much more cryptically coloured than males, those of the nominate race showing much Cartridge Buff or whitish mottling over the lower back, scapulars and wing-coverts. Populations consisting of birds with the diagnostic characters just defined range from Little Namaqualand, Bushmanland and the Brandvlei and Kenhardt districts, north-western Cape Province, and the western districts of the northern Cape, to most of the Bechuanaland Protectorate, South-West Africa and south-western Angola.

The small samples available reveal that the component populations of *P.n.namaqua* exhibit a not inconsiderable range of local micro-racial variation, the full range of which has not yet been determined. I have already, *loc. cit.*, drawn attention to the existence of odd male specimens in the Damaraland populations in which the chin and throat are near the Clay Color of *P.n.furva*, the lower breast vinaceous grey, and the upper-parts strongly vinaceous tinged. I have now examined very similar specimens from the western districts of the northern Cape (Noeniput) and the Bechuanaland Protectorate (Mababe Flats; N'kate; Tsabong). The single adult male from N'kate, near the northern edge of the Great Makarikari Salt Lake in the Bechuanaland Protectorate (10th August, 1930), is the palest and greyest of all. The chin and throat are a bleached isabelline, and the lower breast and abdomen a Light Grayish Olive (pl. xlvi). It may be that there is a distinctive population confined to the area of the Great Makarikari Salt Lake—an area already noted for several distinctively pale endemic forms of birds—though such is unlikely in the case of such a vagous species as the Namaqua Sandgrouse. In my note on this species, *loc. cit.*, I inferred that such grey-bellied birds might represent the form named *P.n.ngami* by de Schauensee. With the much more satisfactory material now before me, I do not feel that we can satisfactorily separate such birds from the nominotypical race—certainly on the basis of existing material and knowledge—owing to the

irregular disposition of the grey-bellied variant; an irregularity which I do not believe can be explained by nomadic movements of populations. It is true, of course, that population movements are believed to account for the occurrence of *P.n.furva* deep within the breeding range of the nominate race, and *vice versa*. However, rather than split *P.n.namaqua* into two rather unsatisfactory races, I prefer to record that in this race the eastern populations are not infrequently greyer over the lower breast than is usual in topotypical examples from Namaqualand. The Kaokoveld populations, on the other hand, tend to average slightly darker and duller than the norm of *P.n.namaqua*, the abdominal surface (in males) being usually washed with Sayal Brown (pl. xxix). The existence of these local variations or micro-races within the taxonomic unit *P.n.namaqua* suggest that the species is potentially highly plastic, but that subspecies formation is curtailed as a result of genetic swamping, resulting from nomadism and the presumed free interchange of individuals between the desertic populations.

As long ago as 1931 de Schauensee demonstrated that Cape *P.namaqua* (specimens from Zak River) were darker than those of northern Bechuanaland and South-West Africa. As pointed out above, he erroneously believed such dark austral birds to represent the nominotypical race, and resulting from this understandable mistake renamed *P.n.namaqua*. The dark southern and south-eastern populations remained unrecognised by name until this year, when I provided them with the cognomen *P.n.furva*.

P.n.furva differs in series from *P.n.namaqua* in being quite appreciably darker on the upper-parts in freshly moulted adult male dress. The crown and back are a saturated Olive-Brown with an overlay of olive, against the greyish Buffy Brown of *P.n.namaqua*, while the sub-terminal spots to the feathers of the lower back, scapulars, wing-coverts and tertials are Pinkish Buff (pl. xxx), shading to Cinnamon (same pl.) where contiguous with the silvered apices. On the under-parts, the male of *P.n.furva* is darker, the chin and throat being about Clay Color (pl. xxix), as against Antimony Yellow, the upper breast Wood Brown, and the lower breast Drab (pl. xlvi) (against Wood Brown) with a heavy overlay of Fuscous (pl. xlvi), which colour with some black admixture also extends over the entire abdominal surface. The adult female of *P.n.furva* is a more yellowish or reddish, saturated bird than its counterpart in *P.n.namaqua*. There seems to be no valid size distinction between the two races of the Namaqua Sandgrouse.

P.n.furva ranges from the south-western winter rainfall area of the Cape Province, eastwards through the karroo districts to the eastern Cape (as far east as Matatiele), Griqualand West, Orange Free State and the southern Transvaal. It is probably this race which has occurred in Natal. The northern limits of the range of *P.n.furva* cannot be definitively assessed at the present time, as most of the material available for study was taken in the southern winter months, during which period of the year a northward movement of some of the populations seems to take place. At this season of the year *P.n.furva* occurs well within the established breeding range of the nominate race, as revealed by well-marked examples of the race concerned from Gemsbok Pan, western Kalahari, Bechuanaland Protectorate (27th April, 1930), 40 miles north-west of Molepolole, Bechuanaland Protectorate (3rd May, 1958), and Noeniput, 100 miles north of Upington, northern Cape Province (19th March, 1958). That this movement of populations is not confined to *P.n.furva* is confirmed by a series of the nominate race taken on the Modder River, Orange Free State (undated), and now in the collection of the South African Museum.

The situation obtaining in the north-western Cape Province is interesting and deserving of further study. Specimens from Brandvlei in the collection of the East London Museum show that both races occur in that area, though the material suggests that they may not occur on the same ground at the same time, as the specimens attributable to *P.n.namaqua* were collected in one year and those of *P.n.furva* in another. It is situations of this nature that mislead the unwary into much polemical argument on the validity of subspecies, the formation of faulty conclusions, and the synonymizing of perfectly discrete and nomenclatorially recognisable forms. Specimens from the southern parts of Little Namaqualand show the two races of the Namaqua Sandgrouse meet there and intergrade, such intergrades usually exhibiting the pale upper-parts of the nominate race and the dark belly of *P.n.furva*. Unfortunately, the size of the population samples of *P.n.furva* has been small in all instances, so that it has not been possible to determine trends in variation within the race. The material studied suggests, however, that *P.n.furva* is a more stable taxon than the nominotypical race.

The populations of the Namaqua Sandgrouse *Pterocles namaqua* (Gmelin) can be arranged in two subspecies on the basis of the colouration of the plumage, and the characters and ranges of these are as follows:

(a) **Pterocles namaqua namaqua** (Gmelin)

Tetrao namaqua Gmelin, *Systema Naturae*, vol. i, part 2, 1789, p. 754: Namaqua country. Here restricted to the lower Orange River, north-western Cape Province, South Africa.

Synonym: *Pterocles namaqua ngami* de Schauensee, *Proceedings of the Academy of Natural Sciences of Philadelphia*, vol. lxxxiii, 1931, p. 441: 25 miles north-west of Lake Ngami, northern Bechuanaland Protectorate.

Adult male: Head-top and back greyer than Buffy Brown; hind neck lighter than Dark Olive-Buff (pl. xl); sub-terminal spots to feathers of lower back, scapulars, wing-coverts and tertials Cartridge Buff or Cream Buff, shading to Pinkish Cinnamon where abutting on metallic bluish silver apices. Under-parts: chin and centre of throat Antimony Yellow, shading to buffish olive on lower throat and Avellaneous on the upper breast; lower breast cincture Russet (pl. xv); lower breast and abdomen Wood Brown with overlay of Buffy Brown, the latter surface not infrequently with a variable admixture of fuscous. *Female* cryptically mottled and barred above with black, rufous brown, cinnamon buff and Cartridge Buff or whitish.

Material: 53. South-West Africa (Kaokoveld: Orupembe, 3 ♂♂; Kavaris (Kovares), 3 ♂♂; Ohopoho, 1 ♂; Warmquelle, 1 ♀; Sesfontein, 1 ♀; Sanitatas, 1 ♂, 1 ♀. Damaraland: Otjiwarongo, 1 ♂; Farm Quickborn, Okahandja, 1 ♂; Farm Elizabethhill, Okahandja, 3 ♂♂, 1 ♀; Windhoek, 1 ♀; Farm Hoffnung, Windhoek, 2 ♂♂, 2 ♀♀; Kobos, near Rehoboth, 1 ♂.) Bechuanaland Protectorate (Mababe Flats, 1 ♂, 1 ♀; N'kate, 1 ♂; Tsabong, 1 ♂, 1 ♀). Cape Province (Henkries, Bushmanland, 2 ♀♀; Olyvenhout's Drift, Orange R., 1 ♀; Bitterfontein, 1 ♂; Brandvlei, 1 ♂, 4 ♀♀; Kamieskroon, 1 ♀; Springbok, 1 ♀; Garies, 1 ♀ (intergrade), Calvinia, 1 ♀ (integrate); De Bosch, Calvinia, 1 ♀ (integrate); Kliprand, 50 miles north of Vanrhynsdorp, 1 ♂, 1 ♀ (intergrades); Noeniput, 100 miles north of Upington, 1 ♂ (grey-bellied example); Riverton (rail), 25 miles north of Kimberley, 1 ♂). Orange Free State (Modder River, 5 ♂♂, 2 ♀♀).

Type: None in existence.

Range: Little Namaqualand, Bushmanland and the Brandvlei and Kenhardt districts of the north-western Cape Province, northern Cape (except south-eastern districts in the valley of the Vaal River), Bechuanaland Protectorate, South-West Africa and southern and south-western Angola. The populations given to some nomadic movement, and the present race has been recorded from the western Orange Free State (Modder River).

(b) **Pterocles namaqua furva** Clancey

Pterocles namaqua furva Clancey, *Durban Museum Novitates*, vol. v, 16, 1959, p. 209: 10 miles north-east of Van Wyk's Vlei, north-central Cape Province, South Africa.

Adult male: Darker and browner on head-top and back than *P.n.namaqua*, being a saturated Olive-Brown with an overlay of warm olive; hind neck Buffy Citrine (pl. xvi); pale sub-terminal spots to feathers of the lower back, scapulars, wing-coverts and tertials darker, being Pinkish Buff, shading to Cinnamon apically; metallic bluish silver apices to dorsal and wing feathers usually more numerous than in *P.n.namaqua*. Ventral surface: chin and throat centre darker and about Clay Color, as against Antimony Yellow; upper breast Wood Brown; lower breast cincture usually darker; lower breast Drab, as against Wood Brown in nominate race, usually with a heavy overlay of Fuscous, which colour with an admixture of black covers the entire abdominal surface; caudad fringe of fuscous abdominal patch Sayal Brown. *Adult female* darker and more saturated and yellowish or reddish tinged on upper-parts, wings, tail, throat and breast.

Material: 26. Cape Province (Touws River, 1 ♂; Kersfontein, Berg River, 1 ♂, 1 ♀; Garies, 1 ♂; Ooghrabies, 1 ♀; Perdegravlei, Fraserburg, 1 ♂; Brandvlei, 2 ♂♂, 1 ♀; Van Wyk's Vlei, 2 ♂♂; Olyvenhout's Drift, Orange River, 1 ♂; Riverton (rail), 25 miles north of Kimberley, 1 ♂; Noeniput, 100 miles north of Upington, 2 ♂♂, 1 ♀; Upington, 1 ♂; "Cape", 2 ♂♂). Orange Free State (Vredefort, 1 ♂). Transvaal (Irene, 2 ♂♂, 1 ♀). Bechuanaland Protectorate (40 miles north-west of Molepolole, 1 ♂; Gembok Pan, 1 ♂; 7 miles south of Lephepe, 1 ♂ (slightly intermediate)).

Type: In the Durban Museum, Durban, South Africa.

Range: South-western Cape Province, eastwards through the interior karroo districts to the eastern Cape (east to Matatiele), Griqualand West (northern Cape), Orange Free State and the southern Transvaal. Intergradation between *P.n.furva* and *P.n.namaqua* occurs in the southern parts of Little Namaqualand and doubtless elsewhere where the ranges are in contact. There is a northern and north-western movement of some populations of *P.n.furva* from the Karroo breeding grounds during the cold southern winter months. It is probably this race which has occurred at Mooi River, Natal.