

**The relationship of *Passer griseus* (Vieillot)
and *Passer diffusus* (Smith),
with the description of a new race of the latter**

by MR. C. W. BENSON

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During a tour of the Luangwa Valley, Mpika district, Northern Rhodesia, in June 1954, I collected a series of Grey-headed Sparrows which were immediately distinguishable from the sparrows with which I was already familiar, associated with villages at Kasama and elsewhere in the plateau country to the north-westward. In particular, these Luangwa sparrows had much smaller bills than the plateau birds, and the mantle greyer, less rufous in tone, the rufous on the shoulder therefore showing up in contrast. The difference in the size of the bill was noticed even in the field, before any specimens had been collected. They were only found in the *Mopane* woodland, the predominant vegetation type in the Luangwa. It was also particularly interesting that, later in the same tour, large-billed birds like those of the plateau country were seen and collected in the same area as the small-billed birds, but in native villages, not in the *Mopane*.

My experience in the Luangwa has led me to an examination of all the specimens of Grey-headed Sparrow in southern Africa from Angola, Northern Rhodesia, Nyasaland and Portuguese East Africa southward in the British Museum. Time did not permit a general examination of material from any further north, in this or any other museum. Mr. R. H. N. Smithers, the Director, also very kindly loaned all the specimens in the National Museum of Southern Rhodesia, Bulawayo—some ninety from Northern and Southern Rhodesia, and a few from Nyasaland, Portuguese East Africa and Bechuanaland. Colonel R. Meinertzhagen has allowed me to examine several specimens in his collection. I must also thank Dr. J. M. Winterbottom for the loan of nine specimens in the South African Museum, collected by Dr. F. O. Stoehr. In all, over two hundred specimens have been available.

Differences analogous to those in the Luangwa were at once apparent in specimens in the British Museum from western Angola, a series from Benguella, Catumbella and Ndalla Tando being large-billed, with mantle rufous, but others, from Huxe, Loanda and Dondo small-billed, with mantle greyer, and the rufous on the shoulder showing up in contrast. As in the Luangwa, there is a geographical overlap.

On the evidence of the Luangwa and western Angola specimens, it seems wise to recognise two species in southern Africa, *Passer griseus* and *Passer diffusus*. Where they occur together, *P. griseus* is probably confined to the vicinity of human habitations, *P. diffusus* to virgin woodland. Considering their distributions as a whole, *P. diffusus* seems to frequent drier country than does *P. griseus*. In the Luangwa, conditions are certainly more arid than they are on the neighbouring plateau country to the west and the east. This is a further instance of a relatively dry country species apparently having the limit of its north-eastern distribution in the Luangwa Valley. Other examples are the sandgrouse *Eremialector bicinctus* and the warbler *Eremomela usticollis*. Conditions are also relatively dry where *P. diffusus* occurs in western Angola: see Serle, "Ibis", 1955, p. 425.

Passer griseus and *P. diffusus* have usually been regarded as conspecific, see for example Sclater, Syst. Av. Aethiop., 2, 1930, p. 725. But there is nothing very novel about my proposal. Thus Chapin (1954) is "led to wonder whether *diffusus* and *georgicus* are rightly referred to *griseus*". And Mackworth-Praed and Grant (1955) recognise *P. griseus* and two very similar species further north in Africa.

It must be emphasised that the situation may not everywhere be so straightforward as it appears to be in western Angola and in the Mpika section of the Luangwa Valley. The two species are no doubt derived from a common stock. *P. griseus* was perhaps evolved in relatively high rainfall country in western Africa, *P. diffusus* in the drier conditions of southern Africa. They have now met in a few places, and, as in the Mpika section of the Luangwa Valley, where the human population is sparse, not yet started to fuse. But as the human population increases, and more and more of the original woodland is destroyed, this may be expected to occur.

In arranging the various forms set out below, it should be remembered that colour-differences are only easily discernible in adult specimens in fresh dress. Badly worn adults are placed where they appear to belong on size of bill or on geographical grounds, while juveniles are ignored. All culmen measurements are from base of skull. Measurements are only separated by sexes where it seems certain that there has been no mis-sexing.

1a. *Passer diffusus diffusus* (Smith).

Pyrgita diffusa A. Smith, Rep. Exped. C.Afr., p.50, 1836: north of the Orange River. Mantle greyish brown. Small-billed, culmen 11–13 mm. Wing 75–87 mm.

Range and material examined: Northern Cape Province, 1; Transvaal, 6; Bechuanaland, 4; Southern Rhodesia, 23; south-western Northern Rhodesia north to Mongu and north-east to Mazabuka, 10; Portuguese East Africa between Tambara, Tete and Chicowa, 10; Fort Johnston, Nyasaland (?), 1.

Remarks: Three of the Bechuanaland specimens are from Gaberones and Mahalapye, in the east of the territory. The fourth is from Maun, 20° S., 23° 25' E., further west. Although it is best placed with *P. d. diffusus*, *P. d. georgicus* Reichenow may extend into western Bechuanaland. Some Northern Rhodesian specimens are rather markedly pure grey, less brown, on the mantle, but without further material it is not possible to decide whether the difference is constant enough to warrant their separation by name. The Fort Johnston bird is in the British Museum, reg. no. 1946. 5.827. It is an adult male in rather worn dress: wing 81, culmen 12, bill black. It does not differ in colour from other adults in worn dress of *P. d. diffusus*. But the situation at Fort Johnston, where *P. griseus* certainly occurs, requires further study. Conditions are not dissimilar to those in the Luangwa Valley. *Mopane* woodland is found to some extent.

1b. *Passer diffusus stygiceps* Clancey.

Passer griseus stygiceps Clancey, Durban Mus. Novit., 4 (9), 1954, p.116: Umzinyati Falls, Inanda, near Durban. Differs from *P. d. diffusus* in being darker on the crown, mantle and rump, and by the duller grey of the breast and flanks, which are suffused with buffish.

Range and material examined: Natal, 4.

Remarks: One specimen is merely labelled "Natal". The others are

from Ingagana River, near Newcastle; Weenen; and Mooi River. This latter, in the Meinertzhagen collection, in fresh dress, is in fact as pale on the mantle as in *P. d. georgicus*. None of these specimens are topotypical of *P. d. stygiceps*, and I am not therefore in a position to comment on this race.

1c. *Passer diffusus georgicus* Reichenow.

Passer griseus georgicus Reichenow, Vög. Afr., 3, 1904, p.231: Damara-land. Differs from *P. d. diffusus* in being paler on the mantle.

Range and material examined: South-West Africa, 7; western Angola, 6.

Remarks: Specimens examined from Otyimbingwe; Omaruru; Elephant Vlei; Huxe, 12° 40' S., 13° 23' E.; Dondo, 9° 45' S., 14° 30' E.; Loanda, 8° 50' S., 30° 13' E. The six from Angola, collected by Dr. W. J. Ansorge and Mr. W. P. Lowe in 1905–11, are rather small, having wing 73–81, culmen 11.5–13 mm., compared to wing 79–86, culmen 12.5–13 mm. in the Damaraland specimens.

1d. *Passer diffusus luangwae*, new race.

Differs from *P. d. diffusus* in being warmer brown on the mantle, with a clearer division from the grey of the crown and nape. Measurements also rather smaller.

Range: Only definitely known from the Luangwa Valley, to the west of the Luangwa River, in the Mpika district, Northern Rhodesia, between 11° 45' S. and 12° 37' S.

Type: In the British Museum. Adult ♂. Mupamadzi River, Luangwa Valley, Mpika district, Northern Rhodesia: 12° 37' S., 32° 07' E. 21st June 1954. Collected by Mr. C. W. Benson. Collector's No. NR 3397. Brit. Mus. Reg. No. 1955.41.3.

Measurements of type: Wing 77, tail 59, culmen 11, tarsus 18 mm.

Remarks: Seven ♂ have wing 74–82, average 77.5 mm.; culmen 10.5–11.5 mm.: seven ♀, wing 72–79, average 75.5 mm.; culmen 10–12 mm. A specimen collected for Major W. E. Poles, sexed as a ♀, wing 83, culmen 11.5 mm., is probably a ♂. Twelve specimens collected by me in June showed no gonad activity. Nor is there any evidence of activity in Poles' bird, dated 29th July. But a ♀ collected by Dr. S. A. Neave on 11th March was captured on its nest. This specimen and another collected by Neave on 14th March have bills black. But all the others have it pale fleshy, the culmen tending to sepia. Probably in *P. diffusus* as a whole the bill is only black during the breeding season, but the large series of *P. griseus ugandae* which I have examined suggests that there is no seasonal change, though young birds have the bill sepia, usually darker than in young or non-breeding *P. diffusus*. In *P. d. luangwae* it is noticeably paler than in any specimen of *P. g. ugandae*. Neave's two specimens of *P. d. luangwae* are labelled "Upper Luangwa", and are so recorded "Ibis", 1910, p. 242. It is impossible to determine where exactly they were collected. A specimen from Kankomba, Lundazi district, 11° 40' S., 32° 30' E., not included above, is also apparently this form, even although it has culmen as long as 12.5 mm.

2a. *Passer griseus ugandae* Reichenow.

Passer griseus ugandae Reichenow, Vög. Afr., 3, 1904, p. 231: Uganda. Differs from the species *Passer diffusus* as a whole by its larger bill, culmen usually 13–15.5 mm., and mantle rufous rather than grey in tone, the

rufous on the shoulder therefore not showing up in contrast. In areas of overlap with that species, wing also rather longer; and probably associated with human dwellings in all such areas rather than virgin woodland.

Range and material examined: Western Angola (Benguella Town, Catumbella and Ndalla Tando), 16; Middle Zambesi (Chicowa-Zumbo—Victoria Falls) and Lower Luangwa to as far north as $14^{\circ} 32' \text{ S.}$, 10; Kafue River (railway crossing), 2; Luangwa Valley, Mpika district (alongside *P. d. luangwae*), 4; north-eastern Northern Rhodesia (Mpika north to Kawambwa, Abercorn and the Belgian Congo boundary), 35; eastern Northern Rhodesia (Fort Jameson and Lundazi), 4; Nyasaland, 17. According to Chapin (1954) and Mackworth-Praed and Grant (1955), who I follow in assigning all this material to *P. g. ugandae*, this form extends north to the Sudan and the Gold Coast.

Remarks: Ten ♂ from western Angola, collected by Dr. W. J. Ansorge in 1905–8, have wing 80–87, average 83.6 mm., culmen 13.5–15 mm.; five ♀ wing 79–83, average 81.0 mm., culmen 13–15 mm. These are evidently the form described by Gyldenstolpe, Bull. B.O.C., 43, 1922, p. 33 as *P. g. zedlitzi*. He gives the wing as 80–86 mm., so that they cannot be referable to *P. diffusus* from that area. They seem in fact identical with material from further east. Ten ♂ from north-eastern Northern Rhodesia personally sexed by me have wing 80–87, average 84.2 mm., culmen 14–15 mm.; likewise nine ♀, wing 79–83, average 80.2 mm., culmen 13–14.5 mm. Specimens collected by me between late December and mid-May were in breeding condition. Three ♂ from alongside *P. d. luangwae* have wing 80, 85, 86, culmen 15, 15.5 (two) mm.; one ♀, wing 81, culmen 15 mm. Specimens from eastern Northern Rhodesia and Nyasaland have wing 77–90, culmen 13–16 mm. Those from the Middle Zambesi and lower Luangwa are not easily separated from the Portuguese East Africa series, assigned above to *P. d. diffusus*. However, on the average the former are rufous rather than grey on the mantle. Comparative measurements of the two series are: *P. g. ugandae*, wing 79–86, average 82.4 mm.; culmen 12–14, average 12.9 mm.; *P. d. diffusus*, wing 78.5–86.5, average 81.6 mm.; culmen 12–13, average 12.5 mm. There is thus very little difference in measurements. It may be that in this area some fusion between the two species has occurred. The situation is well worthy of further investigation. The two specimens from the Kafue River, in the Meinertzhagen collection, are typical *P. g. ugandae* in colour, and both with culmen 14 mm. Due to the courtesy of Dr. H. Schouteden, I have been able to examine some ninety specimens from widespread localities in the southern Belgian Congo, south of 5° S. , in the Congo Museum, Tervuren. There were no *P. diffusus* among them, and all appeared to be *P. g. ugandae*. And Dr. R. Verheyen has kindly allowed me to examine the series recorded by him (1953) as *P. griseus diffusus*, from the Upemba National Park. Certainly none of these either are *P. diffusus*, and allowing for age and wear I consider that they also are *P. g. ugandae*.

2b. *Passer griseus mosambicus* van Someren.

Passer griseus mosambicus van Someren, Bull. B.O.C., 41, 1921, p. 114: Lumbo, northern Portuguese East Africa. Differs from *P. g. ugandae* in being darker above, especially on the mantle, which is more brown, less rufous. Rather darker grey below.

Range: Sea-littoral of northern Portuguese East Africa, and according to Chapin (1954), north to the Pangani River.

Remarks: Five specimens examined, from the Lurio River mouth and Netia. Two in fresh dress from the former locality show the characters given for this race quite well. In the absence of more extensive material, I think it should be recognised.

Mention must also be made of *Passer suahelicus* Reichenow, regarded by Mackworth-Praed and Grant (1955) as a monotypic species; see also Bull. B.O.C., 64, 1944, p. 36. This is very like *P. d. diffusus* in the colour of the upperside, but with less contrast between the grey of the crown and nape, and the greyish brown of the mantle. It has a heavier bill, not distinguishable by measurements from *P. griseus ugandae*. Mackworth-Praed and Grant (1955) record it from Northern Rhodesia and Portuguese East Africa, but with the further material now available it is clear that the specimens on which this is based are *P. d. diffusus*. I have examined four specimens of *P. suahelicus* from the Rukwa area (where Mr. D. Vesey-FitzGerald has collected both this and *P. griseus ugandae*), two from Iringa, and one each from Nou in the Mbulu district, Shinyanga and the Loita Plains in south-western Kenya. Like *P. diffusus*, it seems on the whole to be confined to drier country than *P. griseus*. On colour it might well be treated as conspecific with *P. diffusus*.

I am indebted to the following for advice:— Captain C. H. B. Grant, Mrs. B. P. Hall, Miss G. M. Rhodes, and Mr. C. M. N. White, M.B.E. The latter made valuable suggestions in regard to the origin of the two species.

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A Case of Avian Tuberculosis in a Wild Wigeon

by DR. KEITH RANDALL AND DR. JEFFERY G. HARRISON

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In searching the literature, we were surprised to find so few references to tuberculosis in free-living wild duck. There is, in fact only one confirmed case, in an American Wigeon, *Anas americana* Gmelin, which was shot at Cowichan Bay, British Columbia, and reported by Cowan¹. It was an advanced case with involvement of most of the viscera, but no details are given regarding typing. The only other reference we can trace is of a case of presumed tuberculosis in a Grey Teal, *Anas gibberifrons* (Müller) from the Culleval Lake, New South Wales, Australia in May 1952². This bird had lesions in the liver, spleen, intestines and mesentery in which numerous acid-fast bacilli were demonstrated, but unfortunately no culture could be made as the organs were received in formalin by the author. Our own case therefore is the first in a free-living wild duck in Britain or Europe.

The bird was an adult drake in perfect, normally coloured full plumage and was found by Mrs. Marion Jones, wife of the Secretary of the Kent Wildfowlers' Association, beside a loch on South Ronaldsay in the



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