

Additions and corrections to the avifauna of Zaïre (4)

by M. Louette

Received 6 April 1989

These comments are a follow up of 3 earlier parts (Louette 1987, 1988) and are based on study of specimens in Koninklijk Museum voor Midden-Afrika (KMMA) and on field observations by R. F. V. Maes, between 1956 and 1978, near Bwamanda (03°10'N, 19°15'E), which only recently became available.

Milvus migrans

It is noteworthy that Maes found this species to be a common breeding bird in the general area of Bwamanda: nestbuilding begins November–December, young are in the nest in March (one left the nest 15 May). The species is absent there from (19) June till (3) September.

Micronisus gabar

Breeding was recorded by Maes at Bwamanda on an isolated *Fagara macrophylla* tree, from 1 May to 9 June 1961, when 2 young left the nest. Breeding was attempted again the following year during the same period, but was foiled by destruction of the tree. This record was incorrectly given under *Aviceda cuculoides* by Schouteden (1962). It is the first record of this species in northern Zaïre, but there are a few other records close to the forest region.

Falco ardosiaceus and *F. dickinsoni*

The distribution map in Snow (1978) shows their parapatry in Shaba (see Map in Louette 1986: 130), both species occurring together at Kasaji (10°23'S, 23°28'E): 2 *ardosiaceus* specimens (dated 7 March 1949 and 19 February 1951) and one *dickinsoni* (dated 12 May 1950) from that locality are in KMMA. The southeasternmost record in Snow (1978) of *ardosiaceus*, if based on a KMMA-specimen from Katofio (11°03'S, 28°02'E), is in error for the other species.

The KMMA has 3 specimens from Tembwe (06°31'S, 29°26'E): No. 12476 is a normal *ardosiaceus*, taken in 1923, but the other 2, taken by Schouteden in February 1926, are aberrant. No. 14963 is close to *ardosiaceus*, but much paler ventrally than any of the other 50 specimens in the KMMA collection and its lower abdomen is tinged rufous. It is an adult, completing moult of primaries and rectrices. No. 14965 is definitely intermediate between both species in plumage characteristics. Dorsally, it looks somewhat like *dickinsoni*, but its mantle is paler, resulting in less contrast with the pale head; its rump is too dark for that species and the tail is grey as in *ardosiaceus*, with only some indication of barring. Ventrally, it is distinctly barred whitish, from the breast downwards, thus even more extensively than is usual in *dickinsoni*, and its undertail is intermediate in pattern between the 2 species. In measurements (Table 1), No. 12476 agrees completely with *ardosiaceus* and No. 14963 likewise

TABLE 1
Measurements (mm) of *Falco ardosiaceus* and *F. dickinsoni* from Zaïre

	\bar{x}	Wing range	\bar{x}	Tail range	\bar{x}	Tarsus range
<i>ardosiaceus</i>						
10♂♀	233.9	224.0–248.0	152.0	141.5–160.5	40.3	38.5–42.0
<i>dickinsoni</i>						
10♂♀	224.1	215.0–232.0	137.2	131.0–141.0	36.3	34.0–39.0
Tembwe specimens:						
12476	243.0		156.0		40.0	
14963	237.0		151.5		37.5	
14965	222.0		135.0		37.0	

(except for the shorter tarsus); but No. 14965 agrees with *dickinsoni*. I consider at least this last one to be a hybrid.

Falco tinnunculus

While it is true that the nominate race, a migrant from the Palaearctic, occurs widely, some comments are needed as to the status of the resident birds. Lippens & Wille (1976) mention "niche assez communément au Zaïre, en dehors de la grande forêt. . ." but show a picture of a nest with parent and young of the nominate race. No doubt exists that the race *rufescens* breeds in northeastern Zaïre, but their mentioning of *rupicolus* doing so was most likely based on Verheyen (1953), who took 3 nestlings in the Upemba Park (Shaba) and attributed them to "*rhodesi*" (= *rupicolus*). Verheyen did not take the adult, so the determination is doubtful, especially since *rupicolus* is a southern race and not known to breed in the neighbouring areas of Zambia (Benson *et al.* 1971) or Angola (Pinto 1983). From southern Zaïre, there are only 2 old specimens in KMMA: "region of Boma, Lower Zaire", acquired in 1939 and "Kabeça, S. Moero, Katanga", taken in 1899, and both these are *rufescens*; but the specimen mentioned by Schouteden (1971) from Kasapa is in fact *F. naumanni*. The real identity of the kestrels in southern Zaïre remains to be studied and proof is also awaited before *rupicolus* is accepted on the Zaïre list.

From notes by Maes, it appears that the *rufescens* specimen he took on 18 December 1959 at Bwamanda, was with another, which was apparently feeding young in a nest situated in a tree, a position unusual for the African forms of this species.

Pachycoccyx audeberti

According to Irwin (1988), this cuckoo ignores *Prionops plumatus* as a possible host. However, the KMMA has a nestling of the cuckoo, taken at Gangala-na-Bodio (03°41'N, 29°08'E) on 12 January 1955, in the nest of that helmet shrike, which resembles its foster parents so closely in plumage colour and pattern, that it was in fact mistakenly identified as such, both by the collector Ch. Cornet d'Elzius and by H. Schouteden. At the same locality, a fledgling of *P. audeberti* was taken by the same collector on 6 March 1956. *Prionops plumatus* is the only helmet shrike occurring in the general area of Gangala-na-Bodio (= the Garamba Park) (Chapin 1954),

where from the KMMA has a series of specimens, including fledglings. In the absence of *P. retzii* here, it would surprise me if *P. plumatus* were not the usual host.

Caprimulgus batesi

The voice of this species is not yet recorded (Chappuis 1981), but Chappuis supposed that the bird belongs vocally in the group emitting short notes or series of short notes. Indeed, Maes, who heard *C. batesi* often near Bwamanda, describes it as a rapid "hohohohohoho", repeated several times, which is exactly the sound that Chapin (1939) supposed to belong with this nightjar.

Nilaus afer

Hall & Moreau (1970) consider the whole of southern Zaïre to be occupied by the race *nigrotemporalis* (type locality: Ngome, Tanzania), characterized by a short eye-stripe and by chestnut markings on the underparts. This is not so: a pair from Mount Kabobo (05°06'S, 29°01'E) has no chestnut markings at all and it does not differ from the race *affinis*, described from Caconda, Angola. In fact, Hall & Moreau mapped 3 intermediates between these 2 races: one from Mwinilunga, northwestern Zambia (White 1949) and 2 others in central Angola, suspecting even then that more would appear from the intervening area. Careful examination of Shaba adults in KMMA (excluding those from Mount Kabobo) shows that while 8 birds do not have traces of chestnut markings, 8 others show them clearly and 15 specimens are intermediate in this respect.

One further specimen, from Kisenda (c.11°S, 26°E), even has a long eye-stripe, a characteristic of other, far-away races. It is clear that this is an intergradation area (Fig. 1). It is surprising therefore that all 14 adults

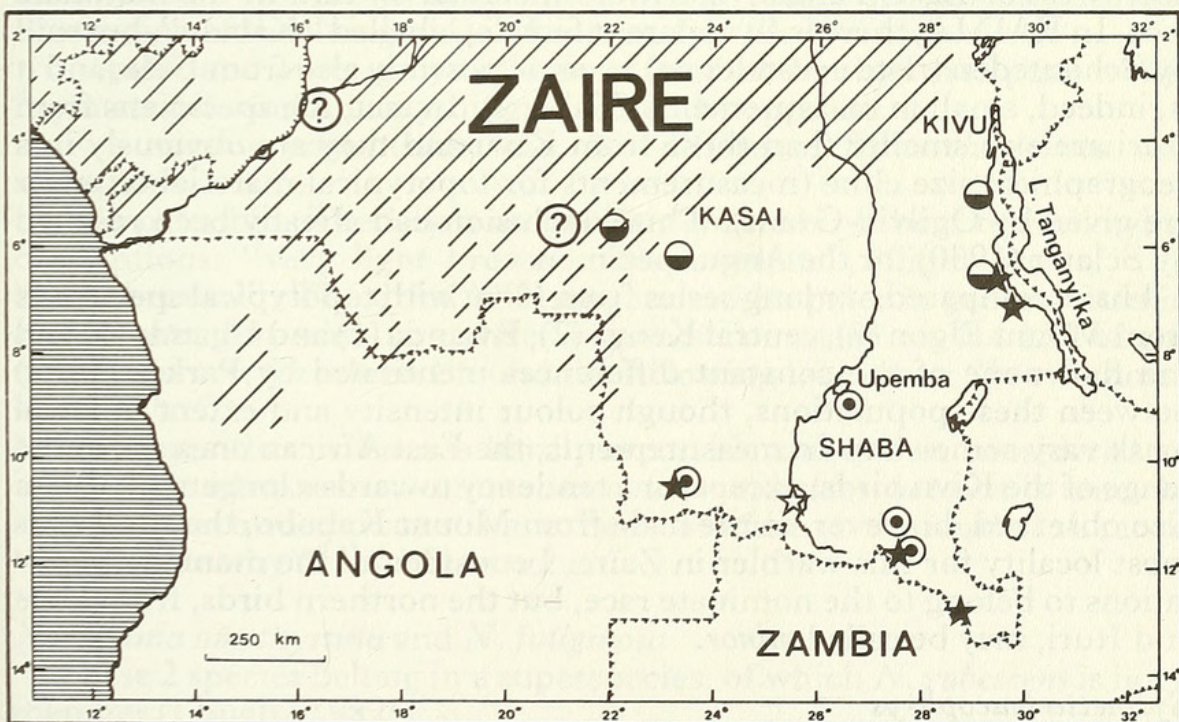


Figure 1. Phenotypes of *Nilaus afer* in southern Zaïre. ●: *affinis*; ⊙: *nigrotemporalis*; ★: intermediates; ☆: intermediates, including one with a long superciliary stripe; ? : immatures, race unknown.

TABLE 2
Measurements (mm) of *Apalis jacksoni* from Zaïre

Region		Wing		Tail	
		\bar{x}	range	\bar{x}	range
50.0–53.0					
	4♀	49.0	47.5–50.5	46.3	45.0–47.5
Uele?	♀?	47.0			45.0
Kivu	10♂	53.9	51.5–56.5	57.9	52.0–62.0
	10♀	51.5	50.0–53.5	51.3	48.0–54.5
Mount Kabobo	♂	56.0		65.5	
Kenya (incl. Mt. Elgon)	6♂	54.9	52.0–58.0	60.2	56.0–65.0
	2♀	51.0, 51.5			53.5, 57.0

collected by Verheyen (1953) in the Upemba Park, which I re-examined, do possess the chestnut markings and must indeed be considered as *nigro-temporalis*. In southwestern Zaïre, the race is *affinis*: of 3 specimens from Tshibungu and 3 from Merode, 3 do not show chestnut marking, the others faint traces only. The specimens mentioned by Schouteden (1956) from Kabambaie and Kwamouth are in fact immatures (marked ? on Fig. 1).

Apalis jacksoni

Ogilvie-Grant (1917) introduced *minor* for the population from low-land Cameroon. Chapin (1953) accepted this name as well (but only reluctantly), for the bird collected in northern Zaïre on the Uele river at Angu, because its measurements were smaller than the nominate race (type from Mount Elgon, on the Kenya-Uganda border), whereas the other populations in Zaïre (from easternmost Ituri south to the area northwest of Lake Tanganyika) were included by him in the nominate race. In KMMA, there is an apparent female, labelled “Kabalo”, but said by Schouteden (note in catalogue) to come possibly also from Uele, and it is, indeed, small in measurements (Table 2). In fact, the specimens from Ituri are also smaller than those from Kivu and they are obviously in a geographical size cline (measurements for topotypical material of *minor* are given by Ogilvie-Grant). This conclusion had already been reached by Sclater (1930) for the Angu specimen.

I have compared our long series from Kivu with topotypical specimens from Mount Elgon (7), central Kenya (2), Rwanda (1) and Uganda (1) and can find none of the constant differences mentioned by Parkes (1987) between these populations, though colour intensity and extent of facial mask vary somewhat. In measurements, the East African ones are in the range of the Kivu birds, except for a tendency towards a longer tail; this is also observed, however, in the male from Mount Kabobo, the southernmost locality for this warbler in Zaïre. I consider all the montane populations to belong to the nominate race, but the northern birds, from Uele and Ituri, may be called *minor*.

Sylvietta leucophrys

Parkes (1987) described recently a new subspecies, *arileuca*, from Mpanga Forest near Mount Ruwenzori, on the Zaïre-Uganda border. Until then, the birds from Ruwenzori were considered to belong to the

nominate race (type locality: Mount Elgon), the only population of this race in Zaïre. The race *chloronota* was described from near Baraka, southern Kivu. In Zaïre, the Lendu Plateau, Mount Ruwenzori and the Kivu Highlands are separate entities if one uses the 1500 m altitude as the lower level of montane forest. The KMMA has 9 specimens from Ruwenzori, the only 3 specimens known of the race (or "species") *chapini* from the Lendu Plateau, 4 specimens of the nominate race from Kenya and 79 specimens from Kivu.

As Chapin (1953) has stated, *chapini* differs only in its lacking the white band above the lores and eyes, and I accept his suggestion that this is merely a race of the species *leucophrys*. Immatures of *chloronota* lack the white superciliary stripe of the adult or only show a faint indication of it, their mantle is heavily washed rusty and they are much darker underneath than adults; but without doubt the *chapini* specimens are adults, their crowns being decidedly chestnut and they have a rather pale ventral side, with the bill colour given on the labels as "brownish", "greyish pink" and "flesh, darker above". This bird may well be extirpated now, as the forest on the Lendu Plateau is gone, although Vrijdagh (1949) collected one of them in a *Eucalyptus* tree near a hotel. Adults of *chloronota* differ from the nominate race in lacking the brownish wash dorsally. As Chapin noticed, this difference is slight and Parkes himself considers some birds from northern Kivu as intergrades.

I checked the characteristics mentioned by Parkes that allegedly separate *arileuca* firmly from either nominate *leucophrys* or *chloronota*, *arileuca* exhibiting:

- a broader superciliary line, purer white and extending farther posteriorly. Present in the Ruwenzori specimens, but a few from Kivu match them. This is only apparent in well-prepared specimens—see also illustration of the living bird in Lippens & Wille (1976).

- paler and purer grey underparts, mid-abdominal area pure white. My material would, if anything, indicate the opposite.

- a narrow post-ocular line. No difference from *chloronota* was apparent.

- a paler bill. The labels on the Ruwenzori birds bear the following descriptions: "very light brown", "flesh colour", "light brown" (2), "horn brown?". The dried bills may indeed be paler in general than in *chloronota*, but some are alike. I cannot comment on the bill of the nominate race, for which I found the following label note: "brown horn, lower paler".

It appears that *arileuca* is hardly separable and is best considered an intermediate between nominate *leucophrys* and *chloronota*. It is remarkable that this bird appears to have the most white on the head of all races, whereas "nearby" *chapini* has none.

Nectarinia amethystina and *N. fuliginosa*

These 2 species belong in a superspecies, of which *N. rubescens* is not a member (Louette 1982).

The male in breeding plumage of *N. amethystina* is blackish-brown rather than bitter-chocolate in general colour and the metallic forehead reflects greenish, not purple as in *N. fuliginosa*; also *amethystina* lacks the

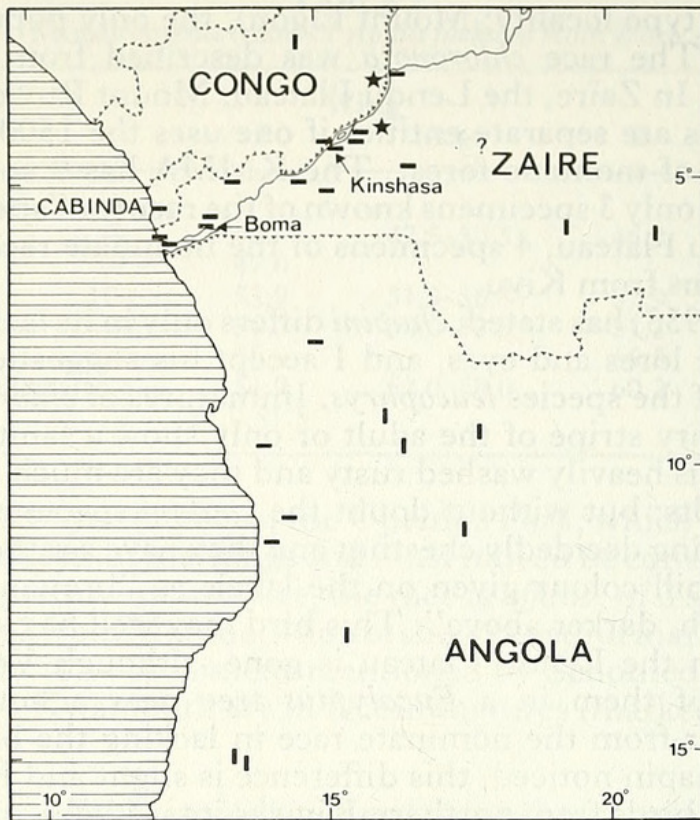


Figure 2. Occurrence of *Nectarinia amethystina* and *N. fuliginosa* in the western part of Zaïre and selected records in neighbouring countries. Vertical traits: *amethystina*; horizontal traits: *fuliginosa*; stars: hybrids.

yellow pectoral tufts. It must be stressed, however, that the 2 species are quite alike, especially in their females; in series *amethystina* displays a more olivaceous hue over the mantle.

N. amethystina occurs outside the forest belt, in southern Zaïre, the westernmost collecting-locality there being Gungu ($05^{\circ}44'S$, $19^{\circ}19'E$ —in Kwilu); there is only one record of the species more to the northwest, namely the male from Djambala in Congo, mentioned by Rand *et al.* (1959) (Fig. 2). Hall & Moreau (1970) have shown its range adequately, but they overlooked the occurrence of *N. fuliginosa* both in western Zaïre and Angola, although it was described from Malimba in the Cabinda enclave. This was corrected later by Hall (unpublished additions to the *Atlas*). In Congo, at N'gabe ($03^{\circ}08'S$, $16^{\circ}10'E$), Malbrant & Maclatchy (1949) collected a hybrid, also examined by Chapin (1954). On the opposite side of the river Zaïre from N'gabe, a female (supposedly) of *N. fuliginosa* was collected years ago for the KMMA (Schouteden 1956), and we have recently obtained a male, moulting towards breeding plumage, from "Kuangó", which I presume to be situated at $04^{\circ}45'S$, $16^{\circ}36'E$. There is also an immature from Kuilu-Ngongo at $04^{\circ}24'S$, $17^{\circ}42'E$ in our collection, which could belong to either species.

Much earlier, Oustalet (1893) had described the race *fuliginosa nigrescens*, from Brazzaville, on account of the male's dark mantle, of the same colour as the rest of the plumage, whereas in nominate birds, from farther north and west, the upper mantle is distinctly paler and contrasts with the general plumage. Malbrant & Maclatchy (1949) and especially

TABLE 3
Measurements (mm) of *Nectarinia amethystina* and *N. fuliginosa* from Zaïre

Region		Wing		Culmen		Tail	
		\bar{x}	range	\bar{x}	range	\bar{x}	range
<i>fuliginosa</i>							
coast	15♂	68.6	66.0–70.5	24.2	23.0–25.5	43.6	40.5–46.5
Kinshasa	15♂	70.5	68.5–73.5	25.7	25.0–26.5	43.0	40.5–46.0
<i>amethystina</i>							
South-Central	15♂	68.7	66.0–70.0	26.6	25.0–28.0	40.8	38.0–43.5
hybrid							
Nkiene	♂	70.0		26.5		45.0	

Bouet (1944) accepted *nigrescens*, but Chapin (1954) did not, because he found a specimen from Boma (close to Cabinda) did not differ from birds from Leopoldville (= Kinshasa), which is opposite Brazzaville on the Zaïre river. (The race *fuliginosa aurea*, with a decidedly pale upper mantle represents the species further west.)

N. fuliginosa, which is a coastal species elsewhere in its range, must be a common bird along the lower Zaïre river, judging from the number of museum specimens. In the following discussion only males in breeding plumage will be considered. From the general area of Boma (coast) the KMMA has 23 specimens with a rather pale mantle and 3 with a dark one, whereas from around Kinshasa, there are 11 ‘pale’ birds and 17 ‘dark’ ones; but it must be admitted that many of them are difficult to place, as this characteristic is rather poor, with intermediates present. In measurements (Table 3), the coastal birds appear to have a shorter culmen than those farther east, who seemingly approach a sample of westernmost *amethystina*, taken at Gungu, in Kasai and Kamina in westernmost Shaba (Fig. 2). It seems that in colour as well as in bill-length there is a trend from west to east, suggesting introgression of *amethystina* in *fuliginosa*: topotypical nominate *fuliginosa* and especially *nigrescens* seem affected.

From Nkiene (04°10’S, 15°55’E), just east of Kinshasa, there is a specimen in KMMA, which is almost certainly a (second) hybrid: it has pectoral tufts, but its plumage is rather blackish and its frontal metallic patch is greenish-blue, intermediate between the 2 species. These characteristics are also mentioned by Chapin (1954) for the other supposed hybrid from N’gabe (see above), which I have not been able to examine. As mentioned above, *amethystina* is known only from Gungu, 400 km away eastwards, except for the single Congo record to the northwest, which may be a vagrant or, more likely, in view of the existence of hybrids in the general area, a member of a relict population.

From the Field Museum of Natural History, Chicago, I have received on loan 9 males of *amethystina*, all from above the escarpment in Angola, the closest locality to Kinshasa being “NE of Duque de Bragança (= c. 08°40’S, 16°15’E), 450 km distant. None of those examined is showing traces of hybridization, nor are the 2 males of *fuliginosa* from below the escarpment, near Muxima (09°30’S, 13°55’E) and near Gabela (c. 11°S, 14°20’E); both possess a dark chocolate mantle and the one with an intact bill (26.0 mm long) is in the range of the measurements from near

Kinshasa. Traylor (1963) mentions *fuliginosa* also from Canzele, more to the northeast in Angola, but I have not seen this specimen.

Because there is no indication of a hybridization zone in Angola and since hybrids are only occasional near Kinshasa, in the range of *fuliginosa*, both taxa must provisionally still be considered as distinct species, notwithstanding an apparent introgression in the local population of *fuliginosa*. This species may be in a process of expanding its range inland.

It is preferable to use the subspecific name *nigrescens* for the population of *fuliginosa* from Angola and Zaïre, keeping in mind that the nominate race is geographically close.

Acknowledgements

I am grateful to V. Maes for the communication of his field observations and to D. Willard, A. Prigogine and J. Fairon for permission to examine specimens in their care.

References:

- Benson, C. W., Brooke, R. K., Dowsett, R. J. & Irwin, M. P. S. 1971. *The Birds of Zambia*. Collins.
- Bouet, G. 1944. Révision des collections d'oiseaux recueillis au Congo et dans l'Oubangui par la mission J. Dybowski. *Oiseau et R. F. O.* 14 (nouv. sér.): 44–88.
- Chapin, J. P. 1939, 1953, 1954. The Birds of the Belgian Congo. Parts II, III & IV. *Bull. Am. Mus. Nat. Hist.* 75, 75A, 75B.
- Chappuis, C. 1981. Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone Ethiopienne (Suite). *Alauda* 49: 35–58.
- Hall, B. P. & Moreau, R. E. 1970. *An Atlas of Speciation in African Passerine Birds*. Trustees of the British Museum (Natural History).
- Irwin, M. P. S. 1988. *Cuculiformes*. In: C. H. Fry, S. Keith & E. K. Urban (Eds). *The Birds of Africa*. Vol. 3. Academic Press.
- Lippens, L. & Wille, H. 1976. *Les Oiseaux du Zaïre*. Lannoo, Tielt.
- Louette, M. 1982. Allopatric species of birds approaching in western Cameroon: the *Nectarinia adelberti*, *N. rubescens* example. *Bonn. Zool. Beitr.* 33: 303–312.
- Louette, M. 1986. Geographical contacts between the taxa of *Centropus* in Zaïre, with the description of a new race. *Bull. Brit. Orn. Cl.* 106(3): 126–133.
- Louette, M. 1987, 1988. Additions and corrections to the avifauna of Zaïre (1) *Bull. Brit. Orn. Cl.* 107: 137–143. (2). 108: 43–50. (3). 108: 112–120.
- Malbrant, R. & Maclatchy, A. 1949. *Faune de l'Equateur Africain Français. Tome 1. Oiseaux*. Lechevalier, Paris.
- Ogilvie-Grant, W. R. 1917. Remarks on some recent collections of birds made by Mr G. L. Bates in Cameroon. *Ibis* Ser 10(5): 2–90.
- Oustalet, E. 1893. Notice préliminaire sur les collections zoologiques recueillies par M. Jean Dybowski dans son expédition à travers le Congo et la région de l'Oubangui. *Naturaliste (sér. 2)* 7: 125–129.
- Parkes, K. C. 1987. Taxonomic notes on some African warblers (Aves: Sylviinae). *Ann. Carn. Mus.* 56: 231–243.
- Pinto, A. A. da Rosa 1983. *Ornitologia de Angola*. Vol. 1. (non-Passerés). Instituto de Investigação Científica Tropical, Lisboa.
- Rand, A. L., Friedmann, H. & Traylor, M. A. 1959. Birds from Gabon and Moyen Congo. *Fieldiana: Zool.* 41: 221–411.
- Schouteden, H. 1956. De Vogels van Belgisch Congo en van Ruanda-Urundi. Vol. IV (3). *Ann. Mus. R. Congo Belge C. Zool. Sér. IV. Vol. V* (1): 1–236.
- Schouteden, H. 1962. La faune ornithologique des districts de la Mongala et le l'Ubangi. *Doc. Zool. Mus. Afr. Centr.* 3: 1–144.
- Schouteden, H. 1971. La faune ornithologique de la Province du Katanga. *Doc. Zool. Mus. Afr. Centr.* 17: 1–248.
- Sclater, W. L. 1930. *Systema Avium Aethiopicarum*. Part 2. Taylor & Francis.
- Snow, D. W. (Ed.) 1978. *An Atlas of Speciation in African Non-Passerine Birds*. Trustees of the British Museum (Natural History).
- Traylor, M. A. 1963. *Checklist of Angolan Birds*. Museo do Dundo, Lisboa.
- Verheyen, R. K. 1953. Oiseaux. in: Exploration du Parc national de l'Upemba. Mission G. F. de Witte (1946–1949). *Inst. Parcs Nat. Congo Belge* 19: 1–687.

- Vrijdag, J. M. 1949. Observations ornithologiques en region occidentale du Lac Albert et principalement de la plaine d'Ishwa. *Gerfaut* 39: 1-115.
- White, C. M. N. 1949. Systematic notes on African Birds. *Ibis* 91: 280-287.

Address: Dr M. Louette, Koninklijk Museum voor Midden-Afrika, B-1980 Tervuren, Belgium.

© British Ornithologists' Club 1989

The status of *Streptopelia capicola onguati* Macdonald, 1957

by P. A. Clancey

Received 13 April 1989

Streptopelia capicola (Sundevall) is the commonest of the ring-necked savanna woodland doves occurring in southern and eastern Africa, the southern subspecies being reviewed by Clancey (1960) and later adopted in the *S.A.O.S. Checklist* (Clancey 1980). Of the 5 subspecies recognized, one, *S. c. onguati* Macdonald, 1957, was described on 2 specimens, one taken on the property "Onguati" in the Kamanjab district of north-western Namibia (at 19°48'S, 14°39'E) being the type-specimen. The second example, on loan from the Übersee-Museum, Bremen, West Germany, had been collected on Eckenberg Farm in the same general area of Namibia in 1952. As part of his comparative material, Macdonald had, on loan from the Übersee-Museum, the *type* of *S. c. damarensis* (Hartlaub & Finsch), 1870, a mid-1800s C. J. Andersson skin from Otjimbingwe at 22°22'S, 16°08'E in the Namib. Macdonald did not further augment his material in order to define a plausible range for *onguati* and at the same time delimit that of the earlier *damarensis*. As will be appreciated, the type-localities of the 2 taxa do not lie particularly far apart.

Recent opinion (see Morel *et al.* 1986) is that *S. c. onguati* represents the desert (Namib) population, and *S. c. damarensis* that of the Namibian plateau and dry subcontinental interior. Such a view, however, overlooks the obvious taxonomic complication so raised; *onguati* of 1957 is in fact based on a plateau sample and *damarensis* of 1870 on a desertic one. The interpretation as in Morel *et al.* (1986) appears to have as its basis the findings of Traylor (1960), who commented to the effect that a series in the collection of the American Museum of Natural History, taken on the arid coast of southwestern Angola, conformed to the description of *onguati* in being paler than in the case of a putative sample of *damarensis* from Okahandja, north of Windhoek, in the Chicago Natural History Museum.

With the *type* of *damarensis* before him, Macdonald described *onguati* as being paler, with the dorsal sepia reduced to a light wash on the mantle and adjacent wing-coverts, and with the forehead pale bluish grey. Ventrally, the throat was described as white and the breast lilac-grey. The wing of the *type* was given as 155 mm.



Louette, Michel. 1989. "ADDITIONS AND CORRECTIONS TO THE AVIFAUNA OF ZAIRE 4." *Bulletin of the British Ornithologists' Club* 109, 217–225.

View This Item Online: <https://www.biodiversitylibrary.org/item/123708>

Permalink: <https://www.biodiversitylibrary.org/partpdf/76698>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In Copyright. Digitized with the permission of the rights holder

Rights Holder: British Ornithologists' Club

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.