

Black-chinned Weaver *Ploceus nigrimentus* in Angola, and its nest

Michael S. L. Mills^{a,b} and H. Dieter Oschadleus^c

O tecelão-de-mento-preto *Ploceus nigrimentus* em Angola, e o seu ninho. O tecelão-de-mento-preto *Ploceus nigrimentus* é um residente pouco comum de pradarias abertas com poucas árvores, ocorrendo de forma irregular do sudeste do Gabão até à região centro-sul de Angola. A população de Angola é conhecida de sete espécimes, incluindo os dois tipos, dos planaltos do Bailundo nas províncias do Kwanza Sul e do Huambo, com o último registo datando de 1966. O ninho da espécie nunca foi descrito. Em abril / maio de 2011 MSLM observou uma fêmea e mais tarde um par de tecelões-de-mento-preto na região de Capaia na província de Lunda Norte, nordeste de Angola, a cerca de 700 km a nordeste dos registos prévios para Angola e a cerca de 600 km a sul do registo mais próximo que se conhece na República Democrática do Congo. MSLM recolheu também um ninho de tecelão atípico no local de observação da espécie, numa colónia de 10 ninhos numa árvore alta numa pradaria aberta. O ninho era idêntico a um ninho encontrado em 2006 em Lékoni, Gabão, onde um outro tecelão-de-mento-preto foi observado. Comparamos este ninho com os ninhos de outros tecelões do género *Ploceus* que ocorrem na província de Lunda Norte, mostrando que é maior e tem uma estrutura diferente, com a entrada mais para o topo do ninho. O ninho apresenta semelhanças com o do tecelão-de-Baglafecht *P. baglafecht*, uma espécie próxima. Consideramos por isso que este é um ninho de tecelão-de-mento-preto e apresentamos a primeira descrição. O ninho está depositado no Museu de História Natural, Tring, Reino Unido.

Summary. Black-chinned Weaver *Ploceus nigrimentus* is a scarce resident of open grassland with scattered trees, occurring patchily from south-east Gabon to south-central Angola. The Angolan population is known from seven specimens, including the two types, from the Bailundo Highlands of Kwanza Sul and Huambo provinces, with the last record in 1966. The species' nest is undescribed. In April / May 2011 MSLM observed a female and a pair of Black-chinned Weavers in the Capaia area of Lunda Norte province, north-east Angola, c.700 km north-east of the previous Angolan records and c.600 km south of the nearest known record in the Democratic Republic of Congo. He also collected an unusual weaver nest where one of these sightings was made, from a colony of ten nests on a tall tree in open grassland, identical to a nest found at Lékoni, Gabon, in 2006, where another Black-chinned Weaver was observed, and similar to the Black-chinned Weaver nest in the collection of the Royal Museum for Central Africa, Belgium. We compare the nest to that of other *Ploceus* weavers in Lunda Norte province, demonstrating that it is larger and has a different structure with the entrance towards the top of the nest. It is most similar to that of Baglafecht Weaver *P. baglafecht*. We provide the first description of the nest of Black-chinned Weaver and have deposited the nest in the Natural History Museum, Tring, UK.

Black-chinned Weaver *Ploceus nigrimentus* is a scarce, localised resident of open grasslands with scattered trees in south-east Gabon, central Congo-Brazzaville and adjacent western Democratic Republic of Congo (DRC; Craig 2004). There is also an outlying population in the Bailundo highlands of central Angola, in the provinces of Huambo and southern Kwanza Sul (Traylor 1963, Dean 2000). The type specimens (two females) are from this population and were collected by J. Anchieta at Galanga (12°04'S 15°08'E; 1,580 m) in Huambo province (Bocage 1894a,b, Reichenow 1904) some time prior to 1894. Based on these specimens, Bocage (1894a,b) described a new species *Hyphantornis reichenowii*.

However, the name *reichenowii* was preoccupied by another weaver *Sycobrotus reichenowii* (now Baglafecht Weaver *P. baglafecht reichenowii*), so Reichenow (1904) renamed Black-chinned Weaver to *Ploceus nigrimentus* (the correct name, however, according to rules of gender agreement is *P. nigrimentus*: David & Gosselin 2002). The whereabouts of these two specimens is uncertain, but they were probably destroyed by the fire in the Museu Nacional de História Natural, Lisbon (Roselaar 2003).

There are few other Angolan records of Black-chinned Weaver. Dean (2000) lists two additional specimens: one collected at Mombolo (11°55'S 14°51'E; 1,790 m) housed in the American

Museum of Natural History, New York (AMNH) and the other from Huambo town (previously Nova Lisboa; 12°48'S, 15°45'E; 1,720 m) at the Los Angeles County Museum, Los Angeles (LACM; see Table 1). The AMNH has three other specimens, all collected at Mombolo. The Global Biodiversity Information Facility (<http://www.gbif.org/>) also lists two specimens from Angola: one collected at Huambo town which corresponds to the second specimen listed by Dean (2000), and one from Chipepe (12°00'S 14°56'E; 1,720 m) in the Museum of Comparative Zoology, Harvard (MCZ). Finally, there are another two specimens in the Lubango Bird Skin Collection, Lubango (LBSC) taken in the vicinity of Huambo town (Mills *et al.* 2011). The Angolan population appears to be known solely from these ten specimens (Table 1) all collected within a relatively small geographical and altitudinal range (1,580–1,790 m). Since 1966, there have been no confirmed records of the species in Angola despite attempts to relocate it in the Huambo / Kwanza Sul highlands (MSLM pers. obs.). A single report from the Gabela area was made (in the wrong habitat) by an inexperienced observer, who was unable to provide further information, meaning that it is treated as unconfirmed (Mills & Dean 2007).

Besides being localised and scarce, the species' breeding biology is virtually unknown. The only information given by Craig (2004, 2010), based on reports by P. Christy (A. Craig *in litt.* 2012),

is that the species is semi-colonial. The nest is undescribed, although P. Christy reports that in south-east Gabon they nest on the highest trees in the landscape, mainly in *Albizia* trees, placing their nests at the tips of branches. He reports that the nests are very large for weavers, are attached to branches at the top of the nest, and that the entrance is at the base the nest. He has recorded up to ten nests in a single tree (P. Christy *in litt.* 2011).

On 7 October 2006, while leading an African Bird Club / Birding Africa tour to Gabon, MSLM found a Black-chinned Weaver near Lékoni (01°36'N 14°15'E) and at the same locality noted an unusual weaver nest, which J. Caddick photographed (Fig. 1). Besides being large and woven from coarse material, the position of the entrance was rather unusual, being located on the side but near the top of the nest, rather than on the side but near or at the base of the nest, as it is in most weavers (Zimmerman *et al.* 1996, Borrow & Demey 2002, Craig 2004). The nest appeared similar in structure to that illustrated for Baglafaecht Weaver. However, MSLM collected no additional information on this nest.

In April / May 2011 MSLM joined a multidisciplinary biodiversity expedition to the north-eastern Angolan province of Lunda Norte, to conduct surveys in the Lagoa Carumbo area (07°48'S 19°57'E; Mills & Dean *in press*). On 28 April, while travelling to the study area from Lucapa (08°27'S 20°43'E), the team traversed

Table 1. Specimens of Black-chinned Weaver *Ploceus nigrimentus* collected in Angola.

AMNH = American Museum of Natural History, New York; LACM = Los Angeles County Museum of Natural History, Los Angeles; LBSC = Lubango Bird Skin Collection; MCZ = Museum of Comparative Zoology, Harvard.

Tabela 1. Exemplos de tecelão-de-mento-preto *Ploceus nigrimentus* colhidos em Angola.

AMNH = Museu Americano de História Natural, Nova Iorque; LACM = Museu de História Natural do Condado de Los Angeles, Los Angeles; LBSC = Coleção de Peles de Aves do Lubango; MCZ = Museu de Zoologia Comparada, Harvard.

Year	Month	Locality	Collector	Museum (+ specimen no.)	Sex
<1894	-	Galanga	J. Anchieta	probably held in Lisbon (see text)	F
<1894	-	Galanga	J. Anchieta	probably held in Lisbon (see text)	F
1925	Aug	Mombolo	R. Boulton	AMNH	M
1927	May	Mombolo	H & C Chapman	AMNH (264791)	F
1927	May	Mombolo	H & C Chapman	AMNH (264792)	M
1927	Jun	Mombolo	H & C Chapman	AMNH (264793)	F
1928	Jun	Chipepe	P. Koester	MCZ (165976)	M
1960	Aug	Huambo	A. M. Costa	LACM (63857)	M
1966	Mar	Huambo	A. R. Pereira	LBSC (21301)	F
1966	Mar	Huambo	A. R. Pereira	LBSC (21302)	M

large areas of open grasslands between *c.*50 km south of Capaia (08°20'S 20°13'E) and 60 km north of Capaia. Although there was little time to make observations in this habitat, a random roadside stop produced a female Black-chinned Weaver *c.*20 km south of Capaia (08°31'16.4"S 20°13'22.7"E; 1,010 m). The bird was perched in low scrub within open grassland, and was identified by its bright black-and-yellow plumage, black head and back with yellow half-collar, and black wings with yellow feather fringes.

Shortly before observing the bird MSLM had noted some unusual weaver nests in a nearby tree. On 5 May, while passing this site again, MSLM climbed the tree (Fig. 2), to examine the nests more closely, collecting one for subsequent identification and description (Fig. 3).

In addition to the first sighting of Black-chinned Weaver, on 2 May, MSLM & P. Vaz Pinto found an adult male and female Black-chinned Weaver *c.*48 km north-northwest of Capaia at 07°55'56.5"S 20°03'28.3"E (990 m) on the road to Lagoa Carumbo. They were feeding in a low bush in open grassland with scattered trees. These records indicate the presence of a (presumably) small and previously unknown population of the species in north-east Angola, and that it may occur continuously in suitable habitat between Congo and the Angolan highlands. These sightings are *c.*700 km north-east of the known range in Angola (and well below the species' previous altitude range in country) as well as *c.*600 km south of the single record in DRC.

During the review process, our attention was drawn to a nest of Black-chinned Weaver held in the Royal Museum for Central Africa, Belgium (RMCA), for which details appear in the Appendix.

Notes on weaver nest / colony

The nests observed in Angola appear to be identical to that photographed by J. Caddick in Gabon and very similar to the nest in RMCA (Figs. 4–5). Because Black-chinned Weaver was seen at both sites, the observed nests are distinctive and the surrounding habitat appeared unsuitable for most other weaver species, we are confident that they belong to Black-chinned Weaver. As further evidence that the Angolan nests belong to Black-chinned Weaver, we compared the structure of the collected nest to that in the RMCA and those of

Legend to figures on opposite page

Figure 1. Nest presumably of Black-chinned Weaver *Ploceus nigrimentus*, near Lekoni, Gabon, 7 October 2006; note the position of the entrance on the side of the nest towards the top (J. Caddick)

Ninho presumivelmente de tecelão-de-mento-preto *Ploceus nigrimentus*, próximo de Lekoni, Gabão, 7 de outubro de 2006; note-se a posição da entrada lateral do ninho em direcção ao topo (J. Caddick)

Figure 2. Colony of ten Black-chinned Weaver *Ploceus nigrimentus* nests found near Capaia, north-east Angola, 28 April 2010, sited in a tall False Mopane *Guibourtia coleosperma* tree in open grassland with scattered bushes and trees, on deep, sandy Kalahari soils (F. P. D. Cotterill)

Colónia de dez ninhos de tecelão-de-mento-preto *Ploceus nigrimentus* encontrados próximo de Capaia, nordeste de Angola, 28 de abril de 2012, situados numa árvore de Falso Mutiáti *Guibourtia coleosperma* em pastagem aberta com arbustos e árvores dispersos, em solos de areias profundas do Calaári (F. P. D. Cotterill)

Figure 3. Black-chinned Weaver *Ploceus nigrimentus* nest, near Capaia, north-east Angola, 5 May 2010; note the identical structure to the nest photographed in Gabon and that collected in Congo-Brazzaville (M. S. L. Mills)

Ninho de tecelão-de-mento-preto *Ploceus nigrimentus*, próximo de Capaia, nordeste de Angola, 5 de maio de 2010; note-se a estrutura idêntica à do ninho fotografado no Gabão e do que foi colhido no Congo-Brazzaville (M. S. L. Mills)

Figures 4–5. Black-chinned Weaver *Ploceus nigrimentus* nest collected in Congo-Brazzaville, 16 December 1990, by R. Demey and held at the Royal Museum for Central Africa, Belgium (A. Reygel)

Ninho de tecelão-de-mento-preto *Ploceus nigrimentus* colhido no Congo-Brazzaville, 16 de dezembro de 1990, por R. Demey e mantido no Museu Real para a África Central, Bélgica (A. Reygel)

Figure 6. The weaver nest collected near Capaia was constructed of coarse grass and lined with finer grass (M. S. L. Mills)

O ninho de tecelão colhido próximo de Capaia foi construído com capim grosseiro e cosido com ervas mais finas (M. S. L. Mills)

the nine other *Ploceus* species recorded in Lunda Norte, namely Black-necked Weaver *P. nigricollis*, Spectacled Weaver *P. ocularis*, Bocage's Weaver *P. temporalis*, Holub's Golden Weaver *P. xanthops*, Southern Masked Weaver *P. velatus*, Vieillot's Black Weaver *P. nigerrimus*, Village Weaver *P. cucullatus*, Dark-backed Weaver *P. bicolor* and Compact Weaver *P. superciliosus* (Dean 2000),



based on measurements provided by Collias & Collias (1964), Tarboton (2001) and Craig (2004; see Table 2). We also present details of Black-chinned Weaver's hypothesised closest relatives, Baglafaecht Weaver and Bertram's Weaver *P. bertrandi*, these three forming the *P. baglafaecht* superspecies (Fry & Keith 2004).

Table 2. Nest dimensions (mm) of the collected nest, the nine other species of *Ploceus* weaver recorded in Lunda Norte province, Angola, and Black-chinned Weaver's *P. nigrimentus* two closest relatives—Baglafaecht Weaver *Ploceus baglafaecht* and Bertram's Weaver *P. bertrandi*. Outer dimensions are given for the length of the longest axis and of the second-longest axis. The range of entrance diameters given are from the narrowest diameter of the smallest entrance to the widest diameter of the largest entrance. Nests are ordered from largest to smallest, based on max. outer diameter.

Tabela 2. Dimensões (mm) do ninho colhido, das outras nove espécies de tecelões *Ploceus* registadas na província da Lunda Norte, Angola, e das duas espécies mais próximas do tecelão-de-mento-preto *P. nigrimentus*—tecelão-de-Baglafaecht *Ploceus baglafaecht* e tecelão-de-Bertram *P. bertrandi*. As dimensões exteriores são dadas para o comprimento do eixo mais comprido e para o segundo eixo mais comprido. A variação dos diâmetros de entrada dados são desde o diâmetro mais estreito da entrada menor, ao diâmetro mais aberto da entrada maior. Os ninhos estão ordenados do maior ao menor, baseado nos diâmetros máximos exteriores.

Species	Outer dimensions		Entrance diameter	Tube length	Source
	Longest	Second			
Collected nest	210	170	49–58	0	this study
Baglafaecht Weaver <i>Ploceus baglafaecht</i>	175–205	165–180	45–70	0	Craig 2004
Holub's Golden Weaver <i>P. xanthops</i>	170–190	120–140	60–70	0	Collias & Collias 1964
Bocage's Weaver <i>P. temporalis</i>	170	140	50	30–60	Craig 2004
Village Weaver <i>P. cucullatus</i>	140–170	110–130	35–50	30–80	Craig 2004, Tarboton 2001
Dark-backed Weaver <i>P. bicolor</i>	165	125	-	80–100+	Tarboton 2001
Spectacled Weaver <i>P. ocularis</i>	120–160	125–150	40–70	20–250+	Collias & Collias 1964, Tarboton 2001
Vieillot's Black Weaver <i>P. nigerrimus</i>	125–150	95–115	40–45	0	Craig 2004
Southern Masked Weaver <i>P. velatus</i>	135–150	110–140	30–35	10–25	Tarboton 2001
Black-necked Weaver <i>P. nigricollis</i>	135	105–125	45–50	100–110	Collias & Collias 1964
Compact Weaver <i>P. superciliosus</i>	120	120	-	0	Craig 2004
Bertram's Weaver <i>P. bertrandi</i>	-	-	-	0	Craig 2004

Description of nest

Following the nomenclature of Simon & Pacheco (2005), the nest can be described (as is true of all *Ploceus*) as 'closed / ovoid / pensile', being a closed nest with height greater than diameter, and suspended, although from the fork of a branch. Following Collias & Collias (1964, see Fig. 14) it is a 'hooded nest' with a lateral entrance.

Location.—The ten nests, of which one was collected, were placed in the upper and outer branches of a c.12 m-tall False Mopane *Guibourtia coleosperma* tree (Fig. 2). The tree was one of the tallest in the landscape, in open grassland with scattered bushes and trees, on deep, sandy Kalahari soils. The nest collected was placed in the fork of a branch 15 mm in diameter, and located 32 cm from its tip. All ten nests were in good condition, suggesting that all had been built during the previous breeding season.

Materials.—The nest was woven mostly from coarse grass, with a slightly 'untidy' appearance. It was lined with finer grass, which still possessed a slightly greenish tinge when the nest was collected (Fig. 6). The nest appears to have a ceiling—a layer of grass placed against the roof inside the main structure; this occurs in several weaver nests, to shed rain on the outside of the nest (Collias & Collias 1964).

Dimensions and structure.—External: longest axis (top to bottom) = 210 mm, width at entrance = 170 mm, third axis = 170 mm. Entrance: internal height = 58 mm, internal width = 49 mm. Nest chamber: height = 140 mm, width = 80 mm, depth = 80 mm. The circular entrance was placed on the side of the nest (laterally), near the top.

Comparison.—The materials used and dimensions and structure of the nest are very similar to those of the Black-chinned Weaver nest at RMCA (see Appendix). The collected nest is exceptionally large, and the largest of all weaver nests to which it was compared (Table 2). The only other species with a nest larger than 200 mm (max. outer diameter) is Baglafaecht Weaver. Its general structure differs markedly from nests of Spectacled Weaver and Dark-backed Weaver, both of which usually possess long entrance tunnels, and those species nest solitarily. Most striking, however, was the position of the entrance on the side (lateral) near the top of the nest and furthest from the ground, whereas the nests of all comparison species have ventral or lateral entrances placed near the base of the nest, closest to and often facing the ground. Further differences are: Holub's Golden Weaver nests usually possess a 'veranda' of seed-heads

protruding from an entrance on the underside; Bocage's Weaver nests are suspended over water, or along a river; Village Weaver and Vieillot's Black Weaver construct typical kidney-shaped nests, and usually breed in large colonies; Dark-backed Weaver nests are constructed of tendrils; Southern Masked Weaver builds a typical *Ploceus* kidney-shaped nest; Compact Weaver nests are globular with a side entrance, attached to grass stems and do not breed colonially; and Black-necked Weaver nests are retort-shaped with an entrance tunnel of up to 20 cm.

Based on its structural distinctness, and the fact that two identical nests were found in different countries at sites where Black-chinned Weavers were present, we consider ours to be the first nest description for the species. The collected nest has been deposited in the Natural History Museum, Tring, UK (NHM N/2012.1.1).

Acknowledgements

The field trip to Lunda Norte was organised by Brian Huntley, supported logistically by De Beers Angola Prospecting, funded by the National Geographic Society, and approved by the Ministry of the Environment of the Angolan government. The following individuals provided information: Michel Louette, Adrian Craig, Nik Borrow, Kimball Garrett from the LACM, Paul Sweet of the AMNH and John Caddick. Woody Cotterill and Jorge Palmeirim assisted in collecting the nest. Martim Melo and Pedro Vaz Pinto kindly translated the summary and legends into Portuguese. Ron Demey, Michel Louette and Adrian Craig reviewed the manuscript and improved its contents.

References

- Barboza du Bocage, J. V. 1894a. Oiseaux nouveaux d'Angola. *J. Sci. Math. Phys. Nat. Lisboa* 2/III: 153–154.
- Barboza du Bocage, J. V. 1894b. Aves da Galanga. *J. Sci. Math. Phys. Nat. Lisboa* 2/III: 155–166.
- Borrow, N. & Demey, R. 2001. *Birds of Western Africa*. London, UK: Christopher Helm.
- Collias, N. E. & Collias, E. C. 1964. Evolution of nest building in weaverbirds (Ploceidae). *Univ. Calif. Pub. Zool.* 73: 1–239.
- Craig, A. J. F. K. 2004. *Ploceus nigrimentus*. In Fry, C. H. & Keith, S. (eds.) *The Birds of Africa*. Vol. 7. London, UK: Christopher Helm.
- Craig, A. J. F. K. 2010. Family Ploceidae (weavers). In del Hoyo, J., Elliott, A. & Christie, D. A.

- (eds.) *Handbook of the Birds of the World*. Vol. 15. Barcelona: Lynx Edicions.
- David, N. & Gosselin, M. 2002. Gender agreement of avian species names. *Bull. Br. Ornithol. Cl.* 122: 14–49.
- Dean, W. R. J. 2000. *The Birds of Angola: An Annotated Checklist*. BOU Checklist No. 18. Tring: British Ornithologists' Union.
- Fry, C. H. & Keith, S. (eds.) 2004. *The Birds of Africa*. Vol. 7. London, UK: Christopher Helm.
- Mills, M. S. L. & Dean, W. R. J. 2007. Notes on Angolan birds: new country records, range extensions and taxonomic questions. *Ostrich* 78: 55–63.
- Mills, M. S. L. & Dean, W. R. J. 2007. In press. The avifauna of the Lagoa Carumbo area, north-east Angola. *Malimbus*.
- Mills, M. S. L., Franke, U., Joseph, G., Maiato, F., Milton, S., Monadjem, A., Oschadleus, D. & Dean, W. R. J. 2011. Cataloguing the Lubango bird skin collection: towards an atlas of Angolan bird distributions. *Bull. ABC* 17: 43–53.
- Reichenow, A. 1904. *Die Vögel Afrikas*. Bd. 3. Neudamm: Neumann.
- Roselaar, C. S. 2003. An inventory of major European bird collections. *Bull. Br. Ornithol. Cl.* 123A: 253–337.
- Simon, J. E. & Pacheco, S. 2005. On the standardization of nest descriptions of neotropical birds. *Rev. Bras. Orn.* 13: 143–154.
- Tarboton, W. 2001. *A Guide to the Nests & Eggs of Southern African Birds*. Cape Town: Struik.
- Traylor, M. A. 1963. Check-list of Angolan birds. *Publ. Cult. Companhia de Diamantes de Angola* 61: 1–250.
- Zimmerman, D. A., Turner, D. A. & Pearson, D. J. 1996. *Birds of Kenya and Northern Tanzania*. London, UK: Christopher Helm.
- ^a A. P. Leventis Ornithological Research Institute, University of Jos, PO Box 13404, Jos, Plateau State, Nigeria. E-mail: michael@birdingafrica.com
- ^b DST/NRF Centre of Excellence at the Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7701, South Africa.
- ^c Animal Demography Unit, Dept. of Zoology, University of Cape Town, Rondebosch 7701, South Africa. E-mail: Dieter.Oschadleus@uct.ac.za
- Received 2 March 2012; revision accepted 2 November 2012.



Appendix. Description of Black-chinned Weaver *Ploceus nigrimentus* nest collected by R. Demey on the Batéké Plateau, along the main road from Brazzaville northwards, Congo-Brazzaville, on 16 December 1990 (RMCA no. B2-40-A-1) and measured by M. Louette in 2012.

Apêndice. Descrição do ninho de tecelão-de-mento-preto *Ploceus nigrimentus* colhido por R. Demey no Planalto de Batéké, ao longo da estrada principal para norte de Brazzaville, Congo-Brazzaville, a 16 de dezembro de 1990 (RMCA no. B2-40-A-1) e medido por M. Louette em 2012.

Nest materials.—Nest woven from coarse grass, possessing a slightly 'untidy' look. Lined with finer grass. Appears to have a ceiling: a layer of grass placed against the roof inside the main structure.

Dimensions and structure.—External: longest axis (top to bottom) = 225 mm, width at entrance = 160 mm, third axis = 150 mm. Nest chamber: height = 110 mm, width = 90 mm, depth = 90 mm. Entrance on side of nest (laterally), near the top rather than the base.

