Rediscovery of the Lake Lufira Weaver *Ploceus ruweti*

Michel Louette[a] and Michel Hasson[b]

Redécouverte du Tisserin de Ruwet *Ploceus ruweti*. Le Tisserin de Ruwet *Ploceus ruweti*, précédemment connu uniquement de l'holotype récolté en 1960 au lac de barrage sur la Lufira (Lac Tshangalele) au Katanga, République Démocratique du Congo (=Congo-Kinshasa), a été retrouvé comme nicheur en nombre à la même localité en février–mars 2009. L'espèce est décrite sur la base de photos; un individu a été mesuré et comparé à l'holotype ; le chant a été enregistré.

Summary. The Lake Lufira Weaver *Ploceus ruweti*, known previously solely from the holotype collected at Lake Lufira (= Lake Tshangalele) in Katanga, south-eastern Democratic Republic of Congo (Congo-Kinshasa), in 1960, was rediscovered nesting at the same locality in February–March 2009.

In 1926 a dam was constructed on the upper Lufira River, Katanga, south-east Democratic Republic of Congo (DRC; Congo-Kinshasa) (Ruwet 1962, 1963, 1965), at *c.*11°S 27°E, downstream of a vast marsh. At maximum capacity, the lake covered 410 km^2 and the mean depth was 2.6 m. A map presented by Ruwet (1963) shows the different vegetation zones of the area and many villages. The lake and its shores have changed since then. The water level has been low for many years, resulting in much of the area silting up and encroachment by riverine vegetation. The area near the shore is dominated by marshy vegetation, which gives way to a zone of water lilies; only the central part, 3–4 km from land, is open water (Fig. 1). During dry spells, the lake is almost completely dry, with aquatic and semi-aquatic vegetation overtaking large surfaces. This has occurred frequently in recent years, creating excellent habitat for aquatic birds. Although the area is not easily accessed, it is regularly visited by fishermen in canoes.

In this habitat, Ruwet (1962, 1965) found a 'yellow, rufous and black' weaver, which he identified as '*Textor* (= *Ploceus*) *melanocephalus* ssp.', to be common. However, the local taxon of the Yellow-backed Weaver is *P. m. duboisi*, of which the breeding male is yellow and black only, lacking any rufous. The sole specimen, collected by Ruwet at Kinsamba (10°50'S 27°03'E) in 1960, was examined by several specialists, but no consensus as to its identity was reached. Eventually, it was described as a new species, *Ploceus ruweti*, by Louette & Benson (1982).

Ruwet was the first and, until now, also the last to observe *P. ruweti*, or Lake Lufira Weaver, in the field. It has not been found in neighbouring Zambia (Dowsett *et al.* 2008) or Angola (Dean 2000). Louette (1984) demonstrated that those weavers collected in Angola near the lakes of Dilolo and Cameia (possibly as non-breeding visitors) can probably be referred to Southern Masked Weaver *P. velatus*. *P. ruweti* is currently listed as Data Deficient by BirdLife International (2009).

Following ML's suggestion, MH visited Lake Lufira on 20–22 February and 20–22 March 2009, specifically to find this weaver, and observed Lake Lufira Weaver colonies in the centre of the lake, close to the ancient riverbed. The birds frequented 'Ambatch' *Aeschynomene elaphroxylon* trees and also the reed *Phragmites mauritianus* and the grass *Vossia cuspidate* (Fig. 2). The species proved to be not at all rare in this habitat and was seen at many places. The position of three colonies was marked using GPS, at 10°52'51"S 27°03'29"E (1,126 m), 10°53'14"S 27°01'32"E (1,127 m) and 10°52'53"S 27°02'23"E (1,125 m), respectively. During a subsequent visit, on 2 May 2009, the colonies were deserted and only a few Lake Lufira Weavers were seen. Local inhabitants claim that the birds are observed away from the lake in the latter half of the dry season, in July–October.

The Katanga marsh weaver 'archipelago'

There are four taxa of isolated marsh weavers in the Katanga lakes region (see Fig. 3, from Louette 1987; also Fry & Keith 2004, Cotterill 2006). (1) Tanganyika Masked Weaver *P. reichardi* from Lake Tanganyika to Lake Rukwa, and also in

Ruaha National Park, Tanzania (Britton 1980). (2) Katanga Masked Weaver *P.* (*k.*) *katangae* in the Moero / Luapula / Bangweulu drainage. Birds from Kafubu (11°45'S 27°34'E) and Kimilolo (11°43'S 27°26'E) in non-breeding plumage probably also refer to this taxon, and Benson (1955) mentioned a bird in non-breeding plumage from Sumbu, Lake Tanganyika (08°30'S 30°30'E). (3) Lake Upemba Masked Weaver *P.* (*k.*) *upembae*, which is known from three localities, Bukama, Mabwe and Kadia, in the Upemba marshes, but four non-breeding specimens, from Kiambi (07°15'S 28°00'E) and one from Manono (07°18'S 27°25'E) in the Royal Belgian Institute of Natural Sciences, Brussels, Belgium also correspond to this taxon. The birds from Kiambi and Manono, localities outside the marsh region, most probably refer to local migrants. (4) Lake Lufira Weaver, which until now was known solely from the holotype collected at Lake Lufira (or Tshangalele).

Taxonomy

Species-level taxonomy within the genus *Ploceus* is much debated. Since its description, Lake Lufira Weaver has been considered part of the *P. velatus* complex or 'superspecies' (Louette 1987, Craig 2004). In the Sahel belt and in East Africa this complex is represented by Vitelline Masked Weaver *P. vitellinus*, a dry-savanna species that ranges no further south than Uganda and central Tanzania. In southern Africa, the superspecies is represented by several accepted races, in a cline of decreasing size from the Cape towards coastal Angola and central Zambia. This southern African group, Southern Masked Weaver *P. velatus*, occurs in savanna, with the race *tahatali* and its close geographical neighbour *shelleyi*, which occupy the northern part of this range, being *Acacia* woodland birds.

Lake Lufira Weaver to a certain extent resembles, and is sometimes regarded as, a subspecies of Tanganyika Masked Weaver (Dowsett & Dowsett-Lemaire 1993). Because *upembae* has a stouter bill than *katangae*, whilst males are greenish, not yellowish on the neck, and females and birds in eclipse plumage are decidedly washed olive dorsally, lacking the warm brownish hue on the mantle of *katangae* (*cf.* Louette & Benson 1982), Louette (1987) concluded that it was inconsistent to regard *upembae* as a race of *P. katangae* (as originally proposed by Verheyen 1953) whilst treating the other two Katanga marsh weavers as different species. Benson (1955) examined two breeding-plumaged female *reichardi* and found them 'distinctly greener above than ... *katangae*, in fact very like ... *upembae* in this respect'. Except for this resemblance to *upembae*, *reichardi* is close to *katangae*, differing mainly in the strong chestnut wash to the ventral surface in the male's breeding plumage. The latter two taxa might belong to a single species (*reichardi*), but as yet no intermediates are known, although Benson (1955) mentioned two males from Mweru Marsh (on the border of DRC and Zambia) (*katangae*) with a chestnut crown. There is also a male *reichardi* from the Rukwa Valley in Tanzania (BMNH 1954.38.3, held in the Natural History Museum, Tring, UK) with only chestnut, no black, above the bill. Louette (1987) considered all four taxa to be specifically distinct.

The systematics of these weavers should be clarified once the results of a molecular phylogeny being prepared by ML become available. Preliminary results reveal that Lake Lufira Weaver is indeed a member of the *velatus* complex, to which Golden-backed Weaver *P. jacksoni* is also related; it is far from unlikely that Katanga Masked Weaver and Upemba Masked Weaver will prove to be different species.

Identification problems

In the field, Lake Lufira Weaver could be confused with Katanga Masked Weaver, but the latter lacks such completely rufous underparts, and with Tanganyika Masked Weaver, which does not possess a black crown, whilst neither of these confusion species is presently known to occur near Lake Lufira. Golden-backed Weaver is also very similar, but the black of the head reaches onto the nape, the black and rufous on the breast appear more clearly demarcated, whilst the brown on the breast seems also to be a shade darker. Its bill is slightly heavier than in the two specimens (the holotype and a new one, see below) of Lake Lufira Weaver. Golden-backed Weaver also does not occur in Katanga.

Description

MH was able to take many photographs, and a dead bird was brought to him. The adult male in breeding plumage (Figs. 4–5) is orange-chestnut below; this colour covers the whole ventral surface (more so than in the illustration in Fry & Keith

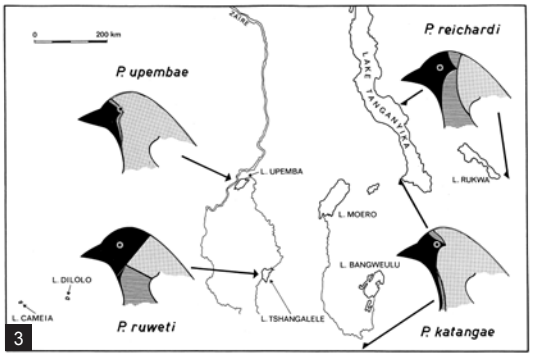

Figure 1. View of Lake Lufira, Katanga, DRC (Congo-Kinshasa), 21 March 2009 (Michel Hasson)

Vue sur le Lac Lufira, Katanga, RDC (Congo-Kinshasa), 21 mars 2009 (Michel Hasson)

Figure 2. Nests in habitat of Lake Lufira Weaver *Ploceus ruweti*, Lake Lufira, DRC (Congo-Kinshasa), 21 February 2009 (Michel Hasson)

Nids et habitat du Tisserin de Ruwet *Ploceus ruweti*, Lac Lufira, RDC (Congo-Kinshasa), 21 mars 2009 (Michel Hasson)

Figure 3. Distribution of the Katanga marsh weaver group. Drawing by Alain Reygel.

Distribution du groupe de tisserins des marais du Katanga. Dessin par Alain Reygel.

Figures 4–5. Adult male Lake Lufira Weaver *Ploceus ruweti* in breeding plumage, Lake Lufira, DRC (Congo-Kinshasa), 22 March 2009 (Michel Hasson)

Tisserin de Ruwet *Ploceus ruweti* mâle adulte en plumage nuptial, Lac Lufira, RDC (Congo-Kinshasa), 22 mars 2009 (Michel Hasson)

Figure 6. Adult female Lake Lufira Weaver *Ploceus ruweti* in breeding plumage, Lake Lufira, DRC (Congo-Kinshasa), 21 March 2009 (Michel Hasson)

Tisserin de Ruwet *Ploceus ruweti* femelle adulte en plumage nuptial, Lac Lufira, RDC (Congo-Kinshasa), 22 mars 2009 (Michel Hasson)

Figure 7. Adult female Lake Lufira Weaver *Ploceus ruweti* in breeding plumage near its nest, Lake Lufira, DRC (Congo-Kinshasa), 7 April 2009 (Michel Hasson)

Tisserin de Ruwet *Ploceus ruweti* femelle adulte en plumage nuptial auprès de son nid, Lac Lufira, RDC (Congo-Kinshasa), 22 mars 2009 (Michel Hasson)

Figure 8. Fledgling Lake Lufira Weaver *Ploceus ruweti*, Lake Lufira, DRC (Congo-Kinshasa), 22 March 2009 (Michel Hasson)

Jeune Tisserin de Ruwet *Ploceus ruweti*, Lac Lufira, DRC (Congo-Kinshasa), 22 mars 2009 (Michel Hasson)

Captions continue on page 172

2004), except that on photographs the central belly of some birds is yellow, washed orange-chestnut over the surrounding feathers. The black on the head does not reach the nape. The back is deep yellow, streaked greenish in some. The undertail-coverts are washed rufous. The irides seem dark red at a distance, and one bird in the hand was compared with the paint catalogue DYNA COAT of Sikkens, where colour 413, A6 was closest. Compared to Munsell (1960), this dark red colour matches almost Hue 2.5YR 7/10. The bill is black; the legs are greyish-beige. On 2 May 2009, a bird was photographed that could still be recognised as a Lake Lufira Weaver (probably a male) based on size, iris colour and belly colour, but which had a yellow throat and a greenish top of the head (without black): it was apparently moulting into non-breeding plumage.

The female (Figs. 6–7) has no black and almost no rufous in its plumage, except for a brownish wash to the underparts in some individuals. The general colour is more greenish than that of the male. Two wingbars are apparent: a distinct upper one on the median coverts and an indistinct lower one on the greater coverts. The eye is dark and the bill greyish.

Table 1. Measurements of two breeding male specimens of Lake Lufira Weaver *Ploceus ruweti* (taken by ML using callipers and ruler; in mm, to the nearest 0.5 mm).

Tableau 1. Mensurations de deux spécimens mâles en plumage nuptial du Tisserin de Ruwet *Ploceus ruweti* (prises par ML avec un compas et une règle ; en mm, à 0,5 mm près).

	Wing-chord	Tail	Tarsus	Culmen
Holotype (RMCA N°113379)	71.0	45.0	20.5	16.0
Dead bird from 2009	68.5	45.5	21.0	16.0

The fledgling has the nondescript plumage common to all small weavers (Fig. 8). An apparent immature was seen on 2 May 2009. Once, a male was observed feeding a dependent fledgling (Fig. 9). Craig (2004) mentions that male Southern Masked Weavers rarely feed their fledged young.

Vocalisations

Lake Lufira Weaver is rarely silent, emitting a short call from anywhere within its territory. One male made a separate call, ending in a trill, which was probably a territorial vocalisation. This male was starting to build several nests in the same tree; two hours later the territory was (temporarily?) vacant and no nest was in place yet.

The voice of one male in territorial dispute with a neighbour was sound-recorded. This is a typical weaver sound. D. Oschadleus (*in litt.* 2009) remarked: 'the song sounds very similar to that of *Ploceus velatus*, maybe not even easily distinguishable, since *velatus* has so much variation in many attributes (but song differences have not yet been explored for different *velatus* populations). A sonogram analysis of the *velatus* and *ruweti* songs may yield differences', whilst A. Craig (*in litt.* 2009) commented 'certainly the song is of Masked Weaver *Ploceus velatus* type; I wouldn't rate it as highly distinctive'.

Breeding

The breeding period given by Ruwet (1965) was confirmed by MH's observations: February–March (rains). In February most nests were still under construction; by March a small spout was present on some of them. Only a few nests were placed together; e.g. in a small colony of 4–6 nests (some unfinished), placed at the end or in the middle part of the spiky branches of *Aeschynomene elaphroxylon*, which trees attain 4 m height. The

Captions to figures on page 171

Figure 9. Adult male in breeding plumage and fledgling Lake Lufira Weaver *Ploceus ruweti*, Lake Lufira, DRC (Congo-Kinshasa), 7 April 2009 (Michel Hasson)

Tisserin de Ruwet *Ploceus ruweti* mâle adulte en plumage nuptial avec un jeune, Lac Lufira, RDC (Congo-Kinshasa), 22 mars 2009 (Michel Hasson)

Figure 10. Adult male Lake Lufira Weaver *Ploceus ruweti* nest building, Lake Lufira, DRC (Congo-Kinshasa), 21 March 2009 (Michel Hasson)

Tisserin de Ruwet *Ploceus ruweti* mâle adulte construisant un nid, Lac Lufira, RDC (Congo-Kinshasa), 21 mars 2009 (Michel Hasson)

Figure 11. Eggs of Lake Lufira Weaver *Ploceus ruweti*, Lake Lufira, DRC (Congo-Kinshasa), 21 March 2009 (Michel Hasson)

Œufs du Tisserin de Ruwet *Ploceus ruweti*, Lac Lufira, RDC (Congo-Kinshasa), 21 mars 2009 (Michel Hasson)

Figure 12. Nest of Lake Lufira Weaver *Ploceus ruweti*, Lake Lufira, DRC (Congo-Kinshasa), 21 March 2009 (Michel Hasson)

Nid du Tisserin de Ruwet *Ploceus ruweti*, Lac Lufira, RDC (Congo-Kinshasa), 21 mars 2009 (Michel Hasson)

nests were initially 1–2 m above the water surface (February), but due to heavy rain, they were only *c*.0.5–1.5 m above the water by March. At least two colonies were sited close to a wasp nest (*Ropalidia* sp., probably *cincta*; locally known as 'Matembo') (Fig. 7).

Males were engaged in nest weaving at the time of MH's second visit, although the fledgling and the juvenile were also seen then (Fig. 10). As mentioned, several nests were constructed in close proximity, although one of them was already occupied by a breeding female. This nest contained two eggs; their colour was very pale green with many brown spots, more concentrated at the larger end (Fig. 11). One egg measured was 19.4 × 13.9 mm.

The nest measured 10.5 × 7.5 cm, with a spoutless opening of 2.3 cm placed 1.5 cm from the top (Fig. 12). However,the photographs reveal that there is variation in the form and size of the nests. A small layer of unattached vegetable origin appears to be present on the 'floor'. A male also visited this nest, but the bouts of time spent by the female were longer.

Any small bird approaching the colony (even a female weaver) was met aggressively. When the female eventually entered the nest she was accompanied by the male. When another male weaver came close to collect nest material, the territorial male chased it, and made a short display with trembling wings spread and uttering the territorial call. During the 2 May visit, the territories of the Lake Lufira Weaver were vacant and apparently taken over by Spectacled Weaver *Ploceus ocularis*.

Acknowledgements

Alain Reygel examined all of the specimens and photographs together with ML. Robert Prŷs-Jones of the Natural History Museum, Tring, UK, facilitated study of weaver specimens by ML. Dieter Oschadleus and Adrian Craig commented on the sound-recording (the latter also on the text) and Marc De Meyer identified the wasp from a photograph.

References

Benson, C. W. 1955. The masked weaver *Textor velatus* in the south-eastern Belgian Congo and north-eastern Northern Rhodesia. *Rev. Zool. Bot. Afr*. 52: 177–180.

BirdLife International. 2009. Species factsheet: Lake Lufira Weaver *Ploceus ruweti*. www.birdlife.org/datazone (accessed 15 April 2009).

Britton, P. L. (ed.) 1980 *Birds of East Africa*. Nairobi: East Afr. Nat. Hist. Soc.

Cotterill, F. P. D. 2006. Taxonomic status and conservation importance of the avifauna of Katanga (south-east Congo Basin) and its environs. *Ostrich* 77: 1–21.

Craig, A. J. F. K. 2004. *Ploceus ruweti*. In Fry, C. H. & Keith, S. (eds.) *The Birds of Africa*. Vol. 7. London, UK: Christopher Helm.

Dean, W. R. J. 2000. *The Birds of Angola: An Annotated Checklist*. BOU Checklist No. 18. Tring: British Ornithologists' Union.

Dowsett, R. J. & Dowsett-Lemaire, F. 1993. Comments on the taxonomy of some Afrotropical bird species. *Tauraco Res. Rep*. 5: 323–389.

Dowsett, R. J., Aspinwall, D. R. & Dowsett-Lemaire, F. 2008. *The Birds of Zambia. An Atlas and Handbook*. Liège: Tauraco Press & Aves.

Fry, C. H. & Keith, S. (eds.) 2004. *The Birds of Africa*. Vol. 7. London, UK: Christopher Helm.

Louette, M. 1984. The identity of swamp-dwelling weavers in northeast Angola. *Bull. Br. Ornithol. Cl.* 104: 22–24.

Louette, M. 1987. Morphological differentiation of archipelago components in birds. *Rev. Zool. Afr*. 101: 171–182.

Louette, M. & Benson, C. W. 1982. Swamp-dwelling weavers of the *Ploceus velatus / vitellinus* complex, with the description of a new species. *Bull. Br. Ornithol. Cl.* 102: 24–31.

Munsell Book of Color. 1960. *Pocket edition*. Baltimore, MA: Munsell Color Co.

Ruwet, J.-C. 1962. Aspects de la vie ornithologique au Lac de Retenue de la Lufira (Katanga). *Gerfaut* 52: 448–456.

Ruwet, J.-C. 1963. Notes zoologiques et éthologiques sur les oiseaux des plaines de la Lufira Supérieure (Katanga). *Rev. Zool. Bot. Afr*. 68: 49–55.

Ruwet, J.-C. 1965. *Les oiseaux des Plaines et du Lac-Barrage de la Lufira Supérieure (Katanga Méridional). Reconnaissance écologique et éthologique*. Liège: FULREAC.

Verheyen, R. 1953. *Exploration du Parc national de l'Upemba - Exploratie van het Nationaal Upemba Park*. Vol. 19. Brussels: Institut des Parcs nationaux du Congo belge.

[a] *Royal Museum for Central Africa, B-3080, Tervuren, Belgium. E-mail: michel.louette@africamuseum.be.*

[b] *Biodiversité au Katanga, 359 avenue Usoke, Quartier industriel, Commune Kampemba, Lubumbashi, République Démocratique du Congo.*

Received 17 April 2009; revision accepted 11 June 2009.