

Nominate Lesser Black-backed Gulls (*Larus fuscus fuscus*) winter in the Congo basin

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After observing several nominate Lesser Black-backed Gulls (*Larus fuscus fuscus*) on Lake Tumba, Democratic Republic of the Congo, literature and museum studies were reviewed to compile observations of the species in the Congo basin. The Congo basin appears to be an important wintering area for these birds that are dispersed widely but thinly throughout the large network of rivers. Clearly, difficulties in performing fieldwork in the basin have, thus far, left this wintering area unrecognized. We suggest that the main wintering area for *L. f. fuscus* covers an area from the Rift Valley lakes westward into the Congo basin and, contrary to the mainstream literature, only a small proportion of the population winter on the East African coast.



1. Introduction

While initiating a water quality monitoring programme in the Equateur Province, Democratic Republic of the Congo (DRC), the author (HK) observed several Lesser Black-backed Gull (*Larus fuscus*) individuals in the eastern part of Lake Tumba between Bwalanga and Bikoro during 4–6 March 2009. These observations contradict recent field guides and reference works on African birds and gulls. According to both Britton (1986) and Sinclair & Ryan (2003), Lesser Black-backed Gulls should be common during the Fennoscandian winter months in the Rift Valley lakes, including the easternmost DRC, but should other-

wise be essentially absent from the Congo basin. The same impression is delivered by other reference works (Cramp & Simmons 1983, Malling Olsen & Larsson 2004). This discrepancy may indicate that the actual wintering area of Lesser Black-backed Gulls is not well understood. Hence we reviewed literature and unpublished records of Lesser Black-backed Gulls in the Congo basin.

2. Material and methods

Field observations were carried out with binoculars and telescopes from the shore at Ntondo (0°50' S, 18°06' E) and with binoculars from a

pirogue on Lake Tumba and rivers in the adjacent flooded forests from Bwalanga (0°54' S, 18°08' E) to Bikoro (0°43' S, 18°07' E). In addition, three local fishermen, who by chance visited our camp, were interviewed with the assistance of a translator.

To confirm the field observations and statements during the interviews, we studied skins, literature and notebooks at the Belgian Royal Museum for Central Africa (RCMA), and the recoveries of Lesser Black-backed Gulls ringed in their breeding areas. Swedish ringing data until 2005 were obtained from the Internet (Swedish Museum of Natural History 2009), and Tomas Wenninger, the Swedish Bird Ringing Centre, checked for later ring recoveries. Also Finnish ringing data up to 2003 were obtained from the Internet (Finnish Museum of Natural History 2009) and additional data were provided by William Velmala, the Finnish Bird Ringing Centre. One German ring (Schüz 1934, 1935) was also included in the analysis of the distribution in Africa.

3. Results

The data from all sources, i.e., published and unpublished observations, ring recoveries and museum specimens, are summarized in Fig. 1. All recovered rings from the area covered by the map are indicated, while other types of records are shown for DRC only. Areas with high densities of documented records are shaded. These include the areas suggested by Britton (1986) as representing the “normal” African distribution range in the Rift Valley and along the coast of Cameroon, the areas in the DRC with several ring recoveries or other observations being in close proximity. In addition to the rings recovered in the area covered by the map, two rings had been recovered in Namibia.

3.1. Field observations

Lesser Black-backed Gulls occurred at Lake Tumba singly or in small groups of up to five individuals. Most birds were seen on the open lake, but two were seen in the surrounding flooded forest. Of these two, one was seen perched on a horizontal branch from which it occasionally dived head first, in a kingfisher-like manner, to catch fish at the wa-

ter surface. At least 15 individuals could be recognized based on differences in age and moult. More than 70% were adults identified in the field as representing *L. f. fuscus*, an identification that was later on confirmed from photographs by Anders Blomdahl and other experts in Sweden, Finland and Denmark. Lesser Black-backed Gulls were also seen on the Congo River off Mbandaka (7 March 2009; 4 individuals) and Kinshasa (8 March 2009; 3 individuals). These were also identified in the field as being *L. f. fuscus*, but these identifications could not be corroborated fully with photographs due to local security restrictions.

3.2. Other records

As with the field observations, museum specimens, ring recoveries, and old published observations of Lesser Black-backed Gulls in the Congo basin also contradicted the recent reference literature (Fig. 1). Rings or skins had been recovered from all over the Congo basin, both on the main river and in the watersheds of the Ubangi (Oubangui), Sangha, and Kasai Rivers, three major tributaries to the Congo/Lualaba, and in areas adjacent to the basin.

In Africa south of the Sahara, most recoveries of Lesser Black-backed Gulls ringed in Finland and Sweden have been recovered in the lakes of the Albertine Rift (the westernmost branch of the East African Rift Valley system), at Lake Victoria and in Ethiopia. However, of the *L. f. fuscus* individuals ringed as nestlings, considerably more recoveries occur west of the Albertine Rift than in the area east of Lake Victoria and along the eastern coastline (the main wintering area; e.g., Britton 1986, Malling Olsen & Larsson 2004). Furthermore, the collections of the Royal Museum for Central Africa, Tervuren, Belgium, house 13 skins from the DRC and Rwanda, of which at least six are from areas where the species should not occur regularly (e.g., Britton 1986, Malling Olsen & Larsson 2004). Three recoveries are from Léopoldville (now Kinshasa) and one is from the neighbouring Stanley-Pool, all in the west of the country. Furthermore, one recovery is from Kisangani, along the middle course of the Congo River, and another exists from Inkongo, along the upper Sankuru River in the central part of the

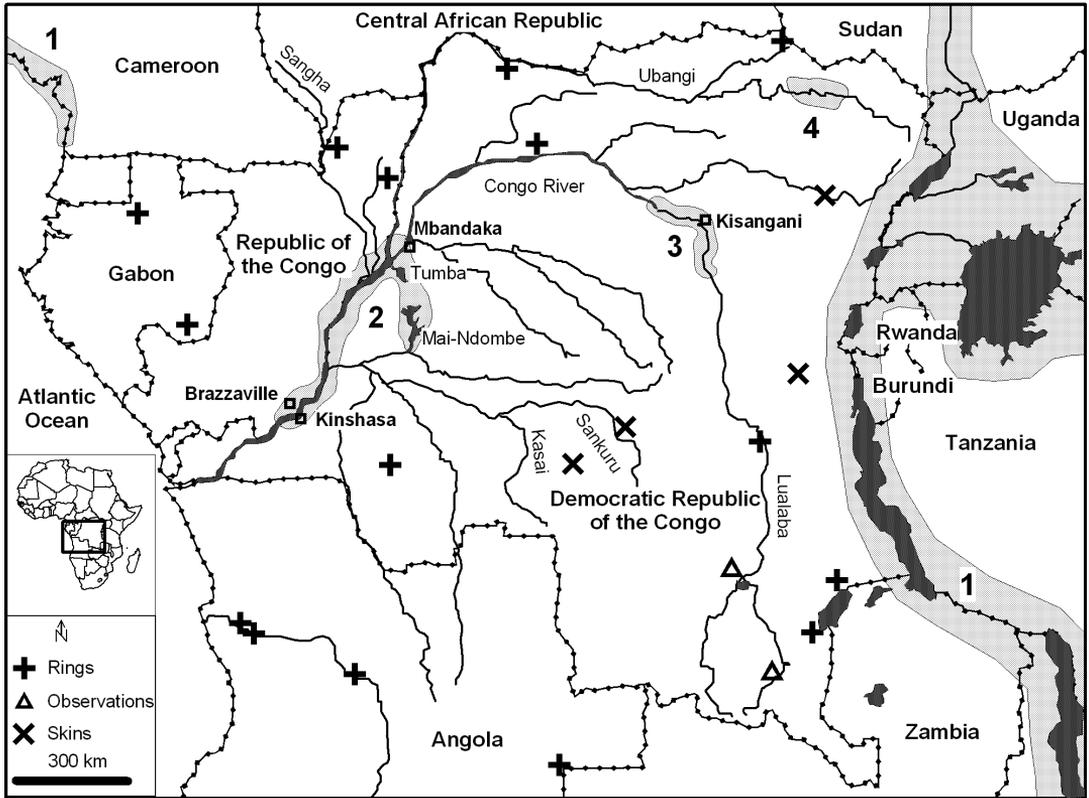


Fig. 1. The occurrence of Lesser Black-backed Gulls in the Congo basin and adjacent areas. The shaded areas indicate high densities of observations and recoveries of rings and skins. 1 = distribution according to Britton (1986); 2 = field observations (Chapin 1939, Schouteden 1961, 1962, Lippens & Wille 1976, the present paper), seven recovered rings and four skins; 3 = field observations (Chapin 1939), three recovered rings and three skins; 4 = field observations (Chapin 1939, Guissart 1976), four recovered rings and two skins. Documented occurrence outside of the shaded areas: Δ = observations (Verheyen 1953, Ruwet 1965, the present paper), + = Finnish and Swedish ring recoveries, and \times = skins deposited in RMCA and AMNH.

country. Of the remaining seven skins, two are from Lake Albert, one is from the Semliki River, one is from the Rutshuru River, and two are from Lake Kivu (including one from Rwanda), all within the Albertine Rift. Information about the collecting site of one skin appears confusing. In this case, the collecting site was given as Kamituga, eastern South-Kivu Province, about 100 km due west from the Ruzizi river (part of the Albertine Rift); however, Kamituga is along the Elila River, which is part of the Congo drainage basin.

Schüz (1934, 1935) mentioned a recovery of an immature, ringed in Germany, at Gombe/Coquilhatville (= Mbandaka) in 1932, and a Finnish ring recovery at Lukolela in 1933. Glutz von

Blotzheim & Bauer (1982) summarized the then known recoveries of ring recoveries from Danish, Finnish, and Swedish *L. f. fuscus*. All are either on or to the west of the Rift Valley lakes. Chapin (1939) recorded the presence of *L. fuscus* along the Congo River at Leopoldville and Stanleyville (= Kisangani) and its "northern tributaries" (probably Ubangi) during July–November, but noted that it was "not a common bird". Chapin collected three skins from immature birds within the Congo Basin in the Ituri and Uele Provinces, and C.R. Stegall collected one adult on Lake Mukamba in the Kasai; these four are stored in the collections of the American Museum of Natural History (AMNH). Verheyen (1953) observed one or two *L. fuscus* accompanying groups of White-winged

Terns in the Upemba National Park (upper Congo River [Lualaba], Katanga province) on three occasions in November and December 1948, and Ruwet (1965) reported two observations in March and April in 1960 further south at the Lufira dam. Schouteden (1961, 1962) reported Lesser Black-backed Gulls to be “sometimes found along the Congo River” in Equateur Province, while Lippens & Wille (1976) reported groups of more than 50, both juveniles and adults, on the Zaire [Congo] River and Lake Mai-Ndombe in June and July 1973, and Guissart (1976) made “numerous observations” on the Ubangi River in January 1975.

Among unpublished observations, the notebooks of the late Paul Herroelen include (i) three immatures in Kinshasa, 9–10 April 1950, (ii) one adult in Mbandaka, 14–15 December 1957, (iii) one immature in Mbandaka, 19 August 1958, (iv) six individuals at Mbandaka, 19 January 1959, and (v) two immatures at Gombe (30 km downstream from Mbandaka), 16 January 1960. In addition, Michel Hasson (pers. comm.) photographed an adult Lesser Black-backed Gull together with many White-winged terns (*Chlidonias leucopterus*) on Lake Tshangalele (11°01'53.36" S, 27°00'17.89" E) in Katanga on 23 March 2008. Michel Louette observed three individuals at the same lake on 28 January 2010 and an adult at Lake Kisale (near Kinkondja, Katanga; 8°15' S, 26°30' E) on 5 February 2010.

3.3. Interviews

Three local fishermen that visited our camp without prior arrangement confirmed that Lesser Black-backed Gulls have “always” been common and widespread on Lake Tumba. Lesser Black-backed Gulls were said to be present year-round but perhaps in higher numbers from October to April than between May and September. The fishermen also informed us that Lesser Black-backed Gulls were sometimes used locally for human consumption and occasionally in the bush-meat trade. Some birds died in fishermen’s nets, especially in those set in the flooded forest, and some were shot. Whether the primary reason for shooting the birds was to obtain food or to remove competitors for the fish remained unclear.

When the fishermen were shown the plates in Sinclair & Ryan (2003), they clearly identified Lesser Black-backed Gulls as different from Grey-headed Gulls (*L. cirrocephalus*) that they said occur on the lake irregularly in low numbers, and from terns that were said to occur mostly from October to April. The terns could not be identified to species by the fishermen, but the genus *Chlidonias* was indicated.

4. Discussion

4.1. Occurrence in the Congo Basin

Lesser Black-backed Gulls migrate from their breeding areas in Northern and Western Europe to over-winter in Africa and South-western Europe (Britton 1986, Cramp & Simmons 1983, Malling Olsen & Larsson 2004). The subspecies *L. f. fuscus*, nesting around the Baltic Sea and in Northern Norway, is said to winter chiefly inland, e.g., in the Rift Valley lakes, and also along the coast of East Africa. For example Malling Olsen & Larsson (2004) state for *L. f. fuscus* that: “Main wintering area E Africa, where common Oct–Apr along coast and in W Rift Valley lakes”. Although these authors acknowledge some finds further west in Africa, the Congo basin is neglected as a major wintering area. In contrast to the nominate *fuscus*, Lesser Black-backed Gulls nesting in Western Scandinavia, around the North Sea and the British Isles (*L. f. intermedius* and *L. f. graellsii*) spend the winter chiefly in South-western Europe and West Africa, but usually further north than DRC (Malling Olsen & Larsson 2004).

Field observations and other documentation, reviewed here, reveal that the distribution of the Lesser Black-backed Gull in Africa is incompletely understood in the reference literature, and at least for *L. f. fuscus* appears partly erroneous. Wintering Lesser Black-backed Gulls are well documented in the Alberinte Rift, but the species is obviously also widespread throughout the Congo basin and may sometimes be common on lakes and larger rivers of this area. It is noteworthy that only one ring has been recovered in the lakes of the Eastern Rift Valley and only three ring recoveries exist along the coast of East Africa where the species is supposedly common (Malling Olsen &

Larson 2004), while 23 have been recovered in the Congo basin (31 if adjacent areas west of the Albertine Rift are included). This notwithstanding that the lakes of the Eastern Rift are well-known bird lakes, and both these and the East African coast are ornithologically better known and characterised; the likelihood of rings being recovered in East Africa is, therefore, much higher. Indeed, the somewhat patchy documentation of Lesser Black-backed Gulls in DRC mostly reflects areas that have been most frequently visited by ornithologists. The largest numbers recorded for DRC, i.e., flocks of more than 50 (Lippens & Wille 1976), were reported during the breeding season when most adult birds should have already migrated north. Even larger flocks could presumably occur during the northern winter, at least before the onset of the ongoing population decline of *L. f. fuscus*.

The number of observations in the DRC may be confounded by the flooded forests. The Congo River passes a wide depression between Kisangani and Kinshasa, the *cuvette centrale congolaise*, with only 115 m decrease in altitude over a distance of 1,740 km. A large part of the *cuvette*, 69,000 km² in the Republic of the Congo and 120,000 km² in the DRC, is covered with permanently or seasonally flooded forests or other swamps (Campbell 2005). Lesser Black-backed Gulls were seen not only on open water, but also in the flooded forest adjacent to Lake Tumba. It was unexpected that gulls should venture into dense forest, and it is presently impossible to say how frequently they do so. The driving force for doing so may be the abundance of fish in the flooded forest. Most of the fish reproduction takes place in the flooded forest (Marlier 1958) as the water here, because of the large amounts of detritus, is richer in nutrients than in the open lakes. Flooded forests are difficult to traverse and birds are difficult to observe there, and few ornithologists venture into these forests except along the main channels.

4.2. Occurrence in areas adjacent to the Congo Basin

Some literature about birds south of the Congo basin contradicts the standard reference works. Donnelly (1974) suggested that Lesser Black-backed Gulls occur more often than realised in southern

and central Africa, sometimes misidentified as being Kelp Gulls (*L. dominicanus*). Moreover, for Zambia, Dowsett *et al.* (2008) stated that Lesser Black-backed Gulls are “regular only in the area between Lakes Tanganyika and Mweru”, but nevertheless fill in 22 additional squares of their atlas where it is “rarely reported”. Dean (2000) mentioned for Angola that the Lesser Black-backed Gull is “not uncommon Palearctic migrant, Aug–May, along the coast and in estuaries” and occurs “inland at Huambo and Lumbala”.

The taxonomy and field identification of gulls have developed substantially during the past couple of decades (Malling Olsen & Larson 2004). During this period, much of the DRC has been essentially impossible to visit because of various conflicts, which is why only a few well-documented studies of birds in the Congo basin have been made. The understanding of the non-breeding distribution of Lesser Black-backed Gulls may have been confounded by the presence of Heuglin’s Gull (*L. [fuscus] heuglini*) along the East African coast. This species breeds in Northern Russia and is relatively similar to the Lesser Black-backed Gull. Although individuals of *L. f. fuscus* clearly reach the East African coast, some Heuglin’s Gulls may have been reported as Lesser Black-backed Gulls, particularly earlier when they had not yet been taxonomically distinguished to (sub-) specific levels. Clearly, further investigations are necessary to understand the distribution of these two taxa along the East African coast.

4.3. Assigning subspecies

The present study shows that the nominate *L. f. fuscus* is regular in the Congo basin. The presence of other subspecies remains unclear. Six skins in the RMCA and one in the AMNH are from adult birds. In so far as these specimens at the time of collection were assigned to subspecies, they were identified as *L. f. fuscus*. A preliminary re-examination of the skins seems to confirm this, but the use of colour hue for subspecific identification of skins that have been in collections for decades may be difficult. Assigning subspecies to *L. f. fuscus* based on mantle colouration only, appears difficult (Noeske 2008). Ajonina *et al.* (2007) suggested that both *L. f. fuscus* and *L. f. graellsii* may appear

along the coast of Cameroon, and Günther & Feiler (1986) tentatively identified both subspecies off Angola. Lippens & Wille (1976) suggested that three subspecies (*fuscus*, *graellsii* and *intermedius*) occur on the Zaïre River and Lake Mai-Ndombe, but they provided no evidence. Presently, no firm evidence is available of the presence of any other subspecies than *fuscus* in the Congo basin. The presence of other subspecies off the Atlantic coast does not necessarily mean that they will also be present in the Congo basin, as the migratory pathways may be different: *L. f. fuscus* normally uses a more easterly flyway than the two other subspecies (Malling Olsen & Larsson 2004). Migration of Lesser Black-backed Gulls past the Sahara is commonly assumed to take place along the coastlines or the Nile Valley. However, Schmaljohann *et al.* (2008) observed Lesser Black-backed Gulls migrating inland over the Sahara at high elevation where the temperature and winds are presumably favourable. Therefore, some individuals may indeed reach the Congo basin via the Central African Republic after a direct passage over the Sahara.

4.4. An evaluation of recovery frequencies

The frequency of ring recoveries over different geographic regions appears difficult to evaluate for several reasons. The frequency may depend on the relationship between bird and human population densities, but also e.g. education level and traditions within the former colonial administrations. Of these, one factor that can be compared between the acknowledged eastern wintering area (around the Great Lakes and in East Africa) and the Congo Basin and adjacent areas (the western area) is the number of ring recoveries in relation to human population density, assuming there is a linear relationship. Of all the recovery records of *L. f. fuscus* individuals ringed in Finland, Sweden and Germany, 54 were in the eastern area and 37 were in the western area, while the human population density in the eastern area is 10–100 times higher (depending on the area in question) than in the western area (United Nations Environmental Programme 2010).

A straight comparison would, therefore, indicate that historically more than ten times as many

L. f. fuscus could have wintered in the western than in the eastern area. Taking into account the size of the western area (3,700,000 km², roughly twice that of the eastern area of 1,800,000 km²), the total population density of *L. f. fuscus* could be five times higher in the western than in the eastern area. However, these calculations must be interpreted with caution, and a full understanding of wintering areas is contingent on detailed studies on the actual population densities of *L. f. fuscus* in different parts of the wintering areas, e.g., based on the distribution of different types of wetlands frequented by the birds.

4.5. Interview interpretations, and conclusions

The interviews with local fishermen provided further evidence that Lesser Black-backed Gulls are widespread and at least locally and seasonally common at the Congo Basin. Although our interviews should be interpreted with caution, the information obtained from the local fishermen seems reliable and points in the same direction as other evidence presented here. The information provided by the fishermen also suggests certain conservation aspects. Gulls, as with almost any type of wildlife, are used as protein sources among the local inhabitants; indiscriminate hunting might theoretically have exacerbated the Lesser Black-backed Gull population during the times of war when other protein sources can become scarce. Although impossible to say with certainty based on our rudimentary inquiry, hunting in non-breeding areas may have contributed to the rapid population decline of *L. f. fuscus* during the last two decades (Malling Olsen & Larsson 2004). To really evaluate the significance of hunting in the wintering areas, the necessary first step is to correctly identify where the different subspecies winter.

In this study we focused on the occurrence of Lesser Black-backed Gulls in the Congo Basin and found that the understanding of the occurrence of this species south of the Sahara is incompletely understood, and much available information has been neglected by authors of reference works. We will, therefore, proceed with an evaluation of ring recoveries and skins collected from all of Africa south of the Sahara.

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Silltrutar övervintrar i Kongobäckenet

Vid miljökemiskt fältarbete i Tumbasjön i Demokratiska Republiken Kongo observerades flera silltrutar (*Larus fuscus fuscus*) trots att denna art enligt referenslitteraturen inte ska finnas där. Vi gick därför igenom äldre litteratur om fåglar i Kongo, återfynd av ringmärkta fåglar samt skinn och opublicerade fältanteckningar i det Kungliga museet för Centralafrika i Belgien. I detta material finns åtskilliga rapporter om silltrut i Kongo, bl.a. flockar om mer än 50 individer, både juvenila och adulta, som stannat kvar i övervintringsområdet över häckningssäsongen.

Återfynd av fåglar ringmärkta i Finland och Sverige har i västra Afrika gjorts så långt söderut som i Namibia. De flesta återfynden i Afrika har gjorts i Etiopien, i Victoriasjön och i sjöarna i den västligaste Riftdalen. Utanför detta område är antalet ringåterfynd avsevärt större i Kongobäckenet och angränsande områden väster om Riftdalen än längs den afrikanska östkusten. Detta trots att silltruten enligt dominerande engelskspråkig litteratur ska övervintra längs östkusten men inte väster om Riftdalen. Detta ska även ses i ljuset av att krig och usla kommunikationer gör att sannolikheten för att återfynd rapporteras från Kongobäckenet troligen är mycket mindre än att de rapporteras från östkusten.

Den enda möjliga slutsatsen är att silltruten i huvudsak övervintrar i sjöar i Riftdalen och västerut i Kongobäckenet, medan relativt få övervintrar längs med östkusten. Dessutom är det uppenbart att en del individer stannar kvar även över sommaren. Möjligen är observationer av de trutar längs östkusten vilka bestäms som silltrutar ofta i själva verket tundratrutar (*L. [fuscus] heuglini*). En faktor som kan påverka bevarandearbetet för silltrut i Östersjön är att lokala fiskare uppgav att man åter silltrut i den mån man lyckas skjuta dem eller få dem som bifångst i näten.

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