

## Migration routes and wintering zones hitherto unknown

Wahlberg's Eagle *Aquila wahlbergi* is a species frequently met with in many parts of Africa, yet there have been very few returns of rings and its migratory behaviour remains virtually a mystery. In Central Africa it disappears after the breeding season to a destination unknown.

The first satellite tracking of a Wahlberg's Eagle, between February and November 1994, gave proof of transequatorial migration within Africa. This adult female, after nesting in north Namibia, was tracked by satellite for a total distance of 8,816 km. At the end of the breeding season it flew northwards, visiting northern Cameroon, northeastern Nigeria and western Chad. The distance between its breeding territory and its sojourn outside the breeding season was 3,520 km. The northward migration took one month and the return southward took two weeks longer.

Since 1995 13 GSEs from Poland have been tracked by satellite. They visited at least five countries where they had never, or hardly ever, been previously observed by ornithologists (Chad, Central African Republic, Tanzania, Zambia, Malawi). Two males wintered in Zambia, around 1,500 km beyond the most southern wintering zones hitherto known for this species (Kenya and Uganda). The first male wintered in Zambia in 1996-97 and again in 1997-98, giving us proof that it spent these two consecutive winters in exactly the same region. During its first winter it remained there for two and a half months (26 December to 9 March 1997) in the northeast of the South Luangwa National Park, where it provided 114 Doppler locations. The following winter it returned to exactly the same winter quarters, where it was located 22 times. It remained in an area of only 22.75 km<sup>2</sup> (6.5 x 3.5 km). A second male wintered in this same region and was accordingly included in the list of Zambian birds, probably the first time that a species has been accepted in this way without having in fact been observed.

## Fidelity to wintering sites

Most birds of prey remain faithful to their nest sites and return there each year. Very little was known regarding this so far as wintering was concerned. For all the species tracked over a number of years we established that the adults generally returned to the same winter quarters. This was proved in particular for an adult female GSE tracked from 1999 on and still sending locations in April 2008 (see Tracker News Vol. 6, Issue 2, p. 4). It spent eight consecutive winters since we started to track it in the Göksu Delta in Turkey north of Cyprus where in two years it was possible both to observe and to photograph it. This bird obviously holds the world record for long-term tracking with a single PTT.

Whereas the majority of species have winter quarters relatively limited in area, the LSEs and Black Kites behave nomadically and often wander several thousands of kilometres during their winter in Southern and West Africa. We could however confirm that they too visit the same regions in most cases. Thus a female adult LSE born in 2000 always winters in northern Namibia and northwestern Botswana since 2004 when it was fitted with a GPS PTT (see Fig. 2).

One Black Kite spent several consecutive years in southern Mauritania and northern Mali but was also located one year in Senegal and even the Ivory Coast. A Red Kite, which also wintered in southern Spain for two years, spent the third winter in the north of Spain.

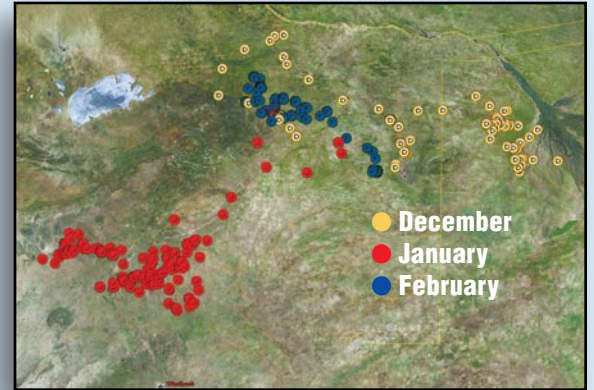


Fig. 2: Satellite photo with 963 GPS fixes of a female Lesser Spotted Eagle (with PTT 41861) during its wintering from 9 December 2004 – 20 February 2005 in an area 76,000 km<sup>2</sup> in Namibia and Botswana between the Okavango Delta (on the right in the photo), the Etosha Pan (top left) and Windhoek (bottom left). It wintered in the same general area in all consecutive years.

## The question of Steppe Eagles' migration routes between Asia and Africa answered

During the past 35 years raptor migrations to the Near East have been studied in detail by making counts at concentration points, and the migration of Steppe Eagles posed a few riddles. The greater number of migrating eagles at Eilat and Suez north of the Red Sea in spring than in autumn was a puzzling phenomenon. Indeed, one would have expected the opposite result in view of the increased mortality of young and immature birds as well as their longer-lasting stay in the wintering zones. Light was shed on this mystery thanks to satellite telemetry.

From 1993-1997 we fitted 16 Steppe Eagles in autumn in Arabia with PTTs, the last five transmitters fitted in 1996 and 1997 were solar powered. Seven of the birds flew to Africa via the Bab-el-Mandeb Straits in south Yemen, with others spending the winter on the Arabian peninsula.

Having wintered in Africa the spring migration of all these eagles led them to fly north of the Red Sea via Suez and Eilat, revealing the existence of a circular route around the Red Sea (see Fig. 3 & 4). The existence of this migration loop explains the differences noted by observers and answers the questions raised on this subject in the literature.



Fig. 3: General conclusions about Steppe Eagle autumn migration routes between Eurasia and Africa, excluding individuals wintering in Arabia. Conclusions are based on our data from 16 satellite-tracked Steppe Eagles and other studies.

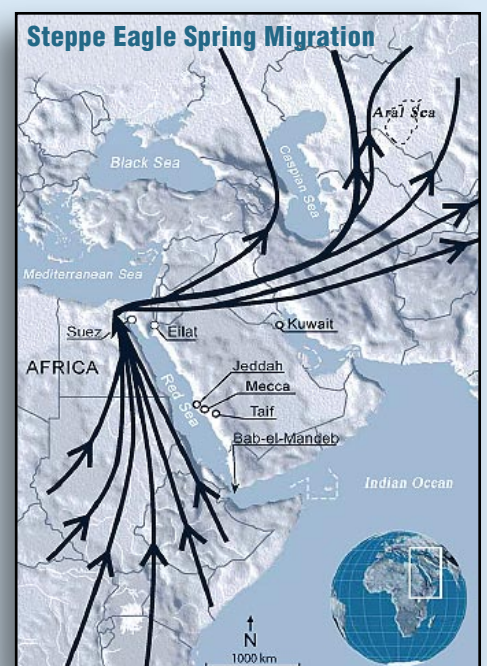


Fig. 4: General conclusions about Steppe Eagle spring migration routes between Africa and Eurasia, excluding individuals wintering in Arabia. Conclusions are based on our data from 16 satellite-tracked Steppe Eagles and other studies.