10 Years Tracking Montagu's Harriers, a Story About Science, Travels and People

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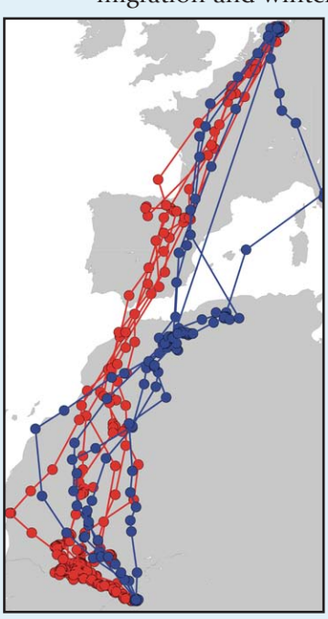
Our story starts in 2005, when we tagged the first two Montagu's Harriers in the Netherlands. In spring 2005 we learnt that MTI had succeeded in producing a satellite transmitter small enough to be used on Montagu's Harriers. We were keen to track this elegant migratory raptor to learn more about its life outside the breeding period. We are a small NGO protecting farmland biodiversity in the Netherlands, where the Montagu's Harrier acts as a 'flagship species', and we realized that we need to protect migratory birds year-round. All the millions of euros spent on improving the conditions during the breeding season are wasted if the species faces more serious problems during migration or in Africa.

Photo by Theo van Kooten

'Franz' a male Montagu's Harrier that we tracked for six autumn and five spring journeys.

The first birds we tracked opened our eyes about the power of tracking individual birds. We could, for example, directly falsify two ideas about the migration and winter ecology that had been persisting in literature for a long time. First we could show that Montagu's Harriers do not use an anti-clockwise loop migration pattern, as had been concluded from field observations and analyses of ring recoveries, but instead the birds travel via a narrow clockwise loop! Secondly, we could debunk the idea that the harriers are nomadic during the winter, tracking locust outbreaks. Instead the birds have a limited number of wintering sites to which they return year after year.



Tracks of 'Franz'. Autumn migration in red, spring migration in blue.

It was a great adventure to track 'our' harriers on their travels to the western Sahel. However, we also realized that the tracking results would be even more valuable if we could compare with eastern populations. By collaborating with harrier specialists in Denmark, Germany, Poland and even in Belarus, we could track Montagu's Harriers from the whole northern breeding range, resulting in one of the finest examples of migratory connectivity in the Palaearctic-African migration system (Proc R Soc London B. 2014; 281: 20132897). In 2014, we significantly expanded our range by tagging harriers further to the west (UK) and further to the east (eastern Belarus) than ever before. This is a huge project involving many birds (58 birds in total, still counting) and it was truly fascinating to visit all these harrier places in Europe, meeting many interesting people.

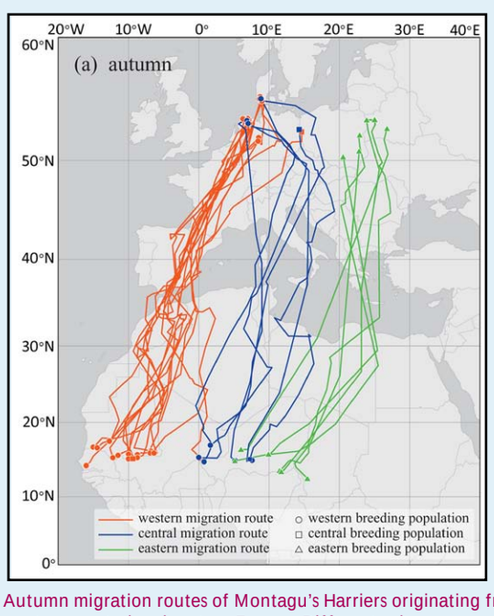
Most researchers probably are happy when they have obtained their tracking data that they can inspect behind their computer. We followed a different approach. We considered tracking as the starting point for a number of expeditions to the key sites the harriers visited in Africa. On the tail of our transmitter birds we visited stopover sites in Morocco and wintering sites in Senegal, Mali, Niger and Benin, to measure local conditions and abundance of main prey (J Anim Ecol 2013; 82:107-20). During these expeditions we often succeeded in finding our transmitter birds. The feeling when seeing 'your' bird in these African landscapes is indescribable. The trips to Africa always have been extremely interesting, not in the least for the lifelong friendships that one makes on the way.

Nowadays, different alternative systems such as GPS-loggers exist to track birds. However, an important disadvantage of loggers is that data is only obtained from the individuals that return, resulting in a funny bias towards successful birds. The ability to track birds in real time not only has the advantage that one could visit the bird wherever it is (cf., above) but also that information is obtained about the birds that did not make it. And this latter information is extremely valuable! For example, we recently compiled an overview of when and where raptors die, providing unique insights in the patterns in mortality throughout the year (J Anim Ecol 2014; 83:176-84). These results are extremely relevant for conservation issues, and would be practically impossible to obtain without the use of transmitters.

Photo by Ben Koks

Transmitter bird 'Dominik' is foraging in its traditional wintering site in Niger.

2014 was the 10th year in a row we tagged Montagu's Harriers with satellite transmitters. It has been a truly fascinating decennium during which we have learnt incredibly much from tracking individual harriers back and forth between Europe and Africa. We almost cannot comprehend the faint level of understanding we had about their lives outside the breeding season before tracking devices were available! A huge thanks to MTI for developing and producing such excellent devices which has given us so many rewards in terms of science, travels and people!



Autumn migration routes of Montagu's Harriers originating from western, central and eastern Europe. Different colours represent different main migration routes.