

## Cuckoo

**GWCT's Peter Thompson lets us into the Cuckoo's lifestyle.**

I have often said that the grey partridge lays more eggs than any other British bird, but actually I find that I have been wrong all along – not for the first time, many will say! True, the grey partridge can lay up to 21 eggs in one clutch, quite an achievement. However the cuckoo can lay up to 25 eggs, albeit in 25 different nests!

I have always marvelled at the ability of the cuckoo to lay eggs that are so similar to the host species; in this country often the reed warbler, meadow pipit and dunnock. Cuckoos certainly need to be smart, as potential host birds will get rid of eggs that don't look like their own. To avoid this, female cuckoos need to lay eggs that look identical to that of the host, both in colour and shape, even if sometimes the egg is very slightly larger.



This means that there is a sort of evolutionary race going on between cuckoos and host birds, where cuckoo eggs come to resemble that of their host birds' more and more over time, as any egg that is different is taken out of the equation by the host bird.

But wait! A single male cuckoo can mate with several female birds that lay eggs of different colours, so can he not affect the colouration of the egg? Well, the short answer, according to Frode Fossoy from the Norwegian University of Science & Technology, is that "the female decides everything". Hmm, that sounds familiar!

In this particular instance, there are evolutionary advantages for both the male and female birds, that only females carry the genetic trait for egg colour. Different female cuckoos can lay eggs of many different colours and patterns. They can be blue, brown, green or grey, and have different combinations of spots and patterns, but each individual female cuckoo can only lay eggs in one colour, so individual females specialise on specific host species – the same host species that raised them.

The female cuckoo now needs to get her correctly coloured and cleverly patterned egg laid into the potential host's nest. This is not as easy as you might think as she will be mobbed by small birds if she is spotted. Perching motionless in a tree, she will wait patiently until the right moment arises. While the host is away feeding, she silently swoops down to the nest, eats one of the eggs and quickly lays one of her own in its place. The entire operation takes just ten seconds.

It is, however, a little easier for the female cuckoo nowadays than it used to be. Cuckoo numbers have declined by as much as 60 per cent in the past 30 years for reasons that remain unclear. At Wicken Fen in Cambridgeshire, several hundred warblers arrive to breed each May, and in the past, between 10 per cent and 20 per cent of reed warbler nests were used by cuckoos.

Today, only 2 per cent of warbler nests at Wicken Fen now host cuckoos. This rapid drop in cuckoo numbers, which contrasts with a stable warbler population, has enabled scientists to show how the warblers have

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dropped their defences somewhat, as there are now fewer cuckoos around. Dr Nick Davies has been researching cuckoos and their hosts at Wicken Fen since the 1980s. He said: “Reed warblers are much less likely to eject an egg from their nest today than they were in the 1980s.”

Whilst the cuckoo had been well studied during the breeding season here in the UK, once they head off on migration very little was known about the routes they take or where in Africa they spent the winter months. Only one ringing recovery had been obtained previously, some 82 years ago, which found a young bird in mid-winter in Cameroon.

The British Trust for Ornithology (BTO) is changing this by attaching small transmitters onto birds in the hope that they can identify areas of importance for these over-wintering birds, then perhaps go on to explain why the British cuckoo is declining so alarmingly.

Cuckoos tagged in the UK spend the winter in central Africa, mainly in and around the Congo rainforest. The BTO has also shown that cuckoos leave the UK much earlier than was previously thought. The earliest departure date so far has been 3 June, while 50% of the tagged cuckoos have usually left the country by the end of June, much earlier than expected! This means that cuckoos only spend a small percentage of their time here in Britain – around 15% of the year. The rest of the year is spent on migration (38%) and in Africa (47%).

The cuckoos followed so far take a different return route to the UK than the one they followed on their outward autumn migration. No matter which route they take south, whether it be via Spain, Italy or further east, all the cuckoos head to West Africa to make the return crossing over the Sahara Desert to Europe. This information suggests that there are good reasons why cuckoos visit West Africa on their way back, and this is another important aspect of their journey, which could prove a pinch point in their success.

Our cuckoos take just under two months to complete the journey from their wintering locations to Britain. This is compared to the four or so months it takes them to reach their wintering locations on their autumn migrations. The timing of their arrival back in the UK is important, as they need to find a mate and ensure there is plenty of food, at the time when youngsters hatch and are reared by host species.

If you would like to find out more about this research, go to the [BTO website](#).

**Photo credit:** The photo on this article was taken by Shawn Barrow and was the adult winner of the 2014 [Julian Gardner Photo Competition](#)

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