THE IDENTITY OF A BIRD CAN BE ESTABLISHED REMOTELY BY USING COLOUR RINGS. THEY INCREASE THE NUMBER OF OBSERVATIONS ON INDIVIDUALS COMPARED TO CONVENTIONAL RINGING AND AID THE STUDY OF BIRD MOVEMENTS AND SURVIVAL.

IN OUR PROJECT, 16% OF THE COLOUR-RINGED BLACKBIRDS WERE OBSERVED AGAIN.

The breeding population of blackbirds (*Turdus merula*) in Finland is increasing and expanding north-eastwards. Blackbirds are short-distance migrants; most of the population migrates in autumn towards Western and South-western Europe. However, nowadays an increasing number of blackbirds winters in Finland, in cities and locations with a constant food supply (e.g. feeding sites). At the same time, climatic conditions during the winter and early spring have become milder. Blackbirds have high adaptive physiological capabilities to varying environments and possibly overwintering in Finland is now a beneficial option if:

- winter survival is higher for residents than migrants.
- resident birds raise more offspring than their migratory conspecifics, for instance by occupying first the best breeding sites or having more time for successful breeding 2–3 times in a year.

Following these hypotheses, a slow shift to an increasing resident population is expected and we may see changes in blackbirds' physiology as this process progresses.

ARE FINNISH BLACKBIRDS BECOMING LESS MIGRATORY?

EDWARD KLUEN

PICTURES: EDWARD KLUEN

Figure 1. Examples of the orange and green colour rings we use. Top female 'CZP' collecting nest material, bottom male 'C9X'.

To be able to study changes in blackbirds in terms of migratory strategy, we started a colour-ringing scheme in the summer of 2016. We add a colour ring (Fig. 1) bearing a sequence of numbers and/or letters (three always starting with a 'C') in addition to the conventional ringing, and take several measurements such as 'wing shape' and colour of the bill and eye-ring (Fig. 2). Using this information in combination with the re-sightings of the individuals, we will study several questions:

1. **ARE THERE DIFFERENCES IN SURVIVAL BETWEEN RESIDENT AND MIGRATORY BIRDS?**
2. **ARE THERE DIFFERENCES E.G. IN WING SHAPE BETWEEN RESIDENT AND MIGRATORY BIRDS?**
3. **WHICH BIRDS, WITH RESPECT TO THEIR BREEDING BIOTOPE (URBAN VS. RURAL), ARE THE ONES STAYING IN FINLAND AND WHICH MIGRATE?**

Figure 2. During the colour-ringing, we take several measurements on the birds, among others the colour of the bill and eye-ring against a 'grey-reference card'.

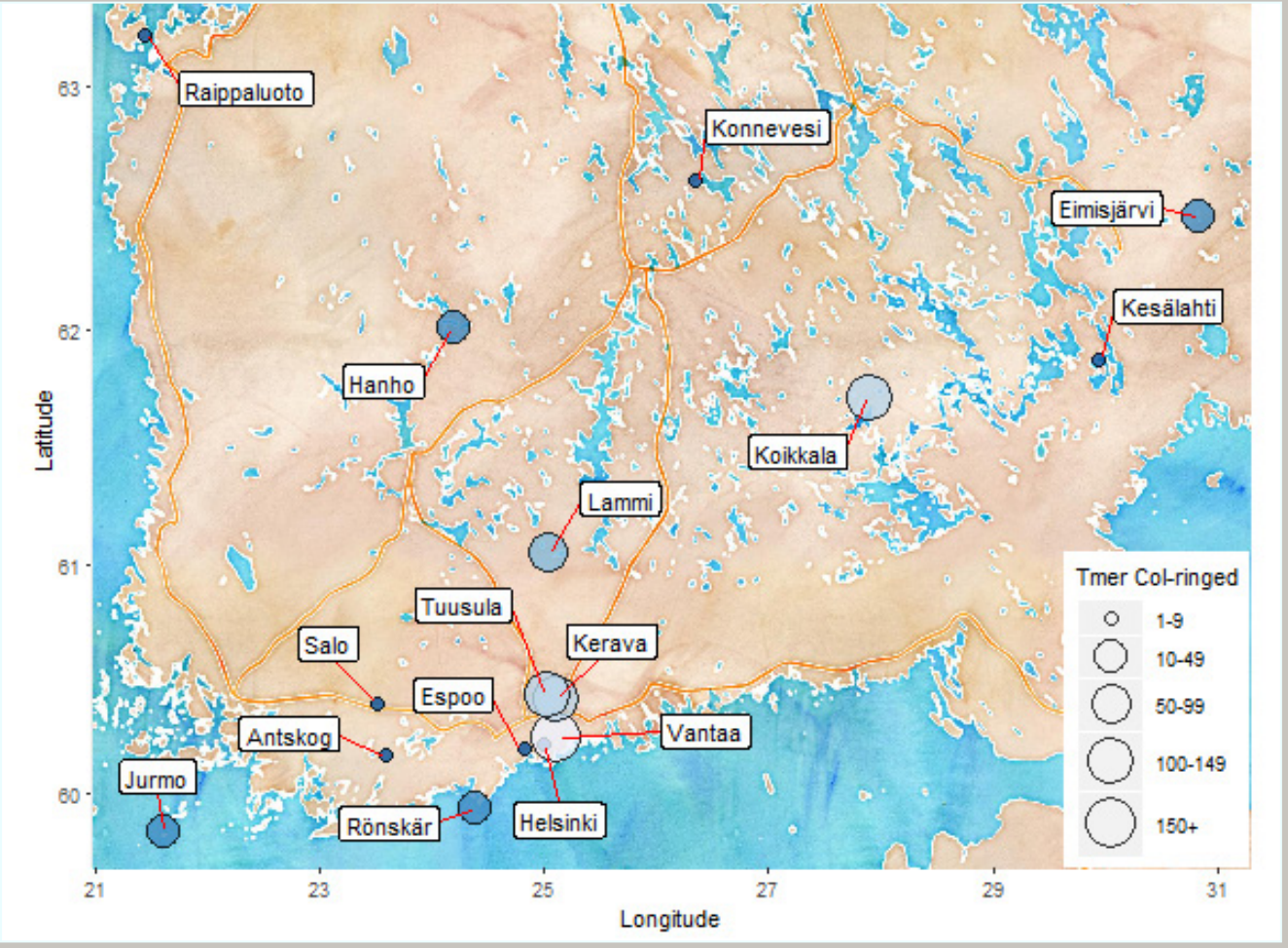

Figure 3 Map of southern Finland with blackbird colour-ringing sites. The size and colour (darkest to light = few to many) of the circles indicate the number of birds ringed (categorical).

WHAT HAVE WE ACHIEVED SO FAR?

Between the start of the project until end-2019 we have colour-ringed 841 blackbirds in several locations in Finland (Fig. 3). From these, 348 recovery events have been done on 131 colour-ringed blackbirds. This recovery rate of 16% is double the rate achieved with conventional ringing in this species (7%, ringing atlas). Recoveries were mainly from around the locations of ringing (Fig. 4), a few individuals were observed more than 5 km away, and only one bird was observed abroad (ringed in Tuusula and seen in Habo, Sweden). The low number of recoveries abroad was a bit surprising as most Finnish birds migrate towards the densely populated areas in Western Europe. It is possible that in the sheer numbers of blackbirds in Europe a few hundred colour-ringed blackbirds do not stand out. In addition, it is possible that the Finnish migratory blackbirds do not winter in cities or gardens but rather stay in more uninhabited places where local blackbird populations are low and people do not observe the colour rings.

WHAT WILL BE DONE?

We will continue colour-ringing blackbirds with the rings that we still have. Many of the already ringed birds will gather more data, as the birds will be observed. The total data set will give us the opportunity to answer several or all of our study questions.

The following ringers are contributing to the blackbird colour-ringing scheme:
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WHAT TO DO WHEN YOU SEE A COLOUR-RINGED BLACKBIRD?

- TRY TO TAKE A PICTURE OF THE BIRD OR READ THE RING WITH BINOCULARS.
- NOTE THE COLOUR OF THE RING, THE CODE AND THE COLOUR OF THE CODE.
- FILL IN THE FORM AT THIS ADDRESS: LOYDOS.LUOMUS.FI/FORMS/RENGASLOYTO

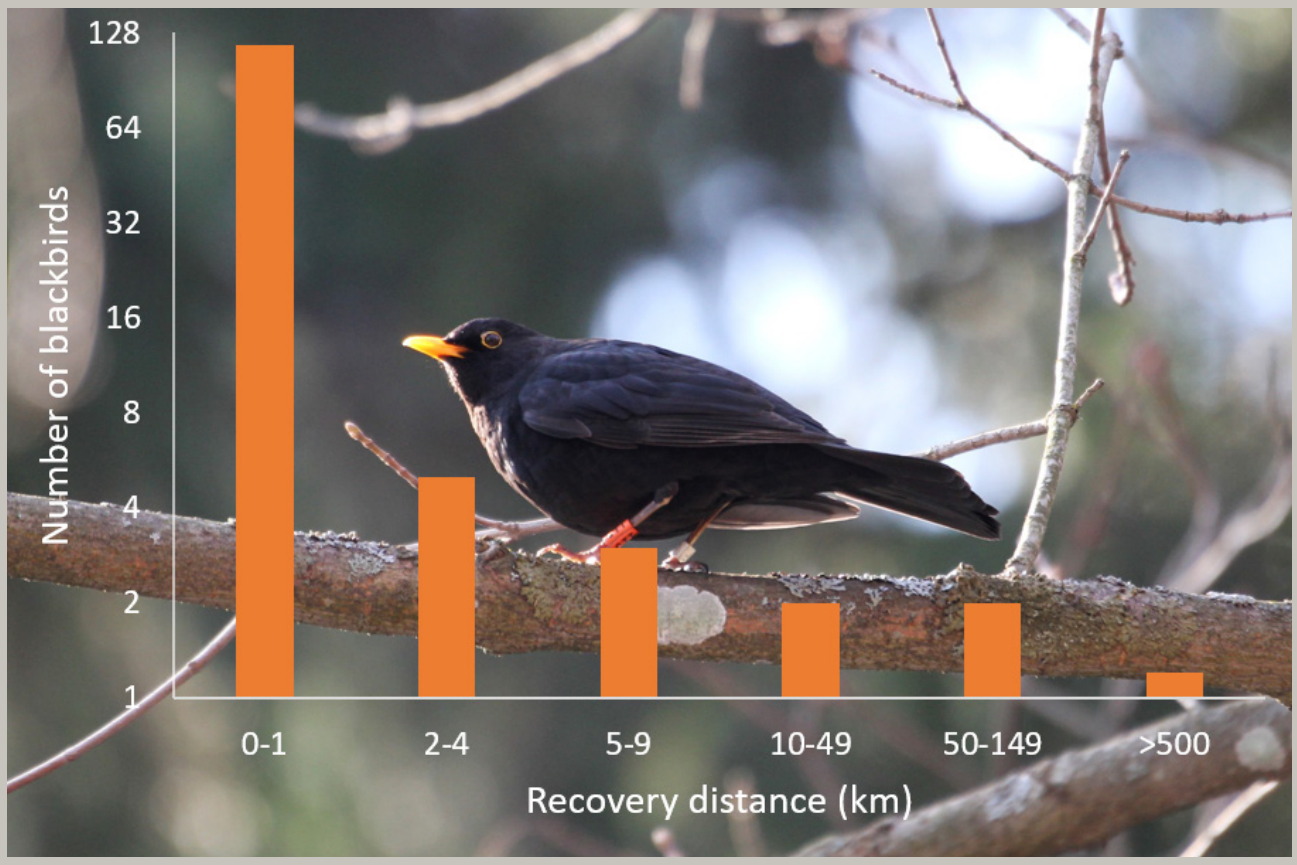

Figure 4. Recovery distances in categories for 131 colour-ringed blackbird individuals.