

## Ringling and PIT tagging in Madingley Wood 2020

This report covers the ringing and tagging activities in Madingley Wood between 15<sup>th</sup> Dec 2019 and 9<sup>th</sup> Jan 2021. The reason for the overlap with 2019 is that additional sessions were run after the 2019 report was prepared. The encroachment into Jan 2021 was to cover the last of the special sessions for the microbiome study. During this interval 29 mist-netting sessions were run - a very similar ringing effort to 2019. All the pulli in the nest-boxes were ringed, although this year only the Great Tit pulli were PIT tagged. The main focus this year was Gabrielle Davidson's microbiome study for which we continued to collect faecal samples. Due to the Covid lockdown it was not possible to carry out Camilla Hind's proposed studies in the spring. Many thanks to all who helped with the ringing, especially those who continued when Covid restrictions applied.

<b>Name</b>	<b>Number of session</b>
Tony Fulford	28
Gabrielle Davidson	26
Chris Thorne	25
Jo Beaver	9
Alizee Vernouillet	6
Diana Sobota	6
Anne-Sophie Bonnet-Lebrun	5
Chris Quy	4
Jasmine Yang	4
Carole Davis	3
Emily	2
Julian	2
Jethro Gauld	1
Michael Holdsworth	1
Sophie Mowles	1

Obviously the year was greatly affected by the Covid pandemic. Nevertheless Gabrielle managed to complete most of what she had planned. Nest-box monitoring could not be carried out as usual, although, once the University had eased its restrictions on fieldwork, the pulli were ringed (almost entirely by Gabrielle working alone). Later ringing sessions were conducted under biosecurity procedures approved by the University. These essentially involved "social distancing", not sharing equipment, hand sanitising before and after each net round and after handling a bird or object touched by another ringer, spraying equipment (including the laptop) with isopropanol before using it if another person had touched it. We also kept the ringing teams to a minimum and the ringing effort well within capacity.

The mist-netting sessions yielded 1511 captures of 743 different individual birds. We fitted rings to 471 of these. The great majority were the target species (Blue and Great Tits): the number of individual Blue Tits captured was slightly up on 2019 while 25% fewer Great Tits were seen. Among the by-catch, just one Marsh Tit was encountered, although it was captured on a total of 6 occasions.

The number of Nuthatches was down by almost 50%: from 13 individuals in 2019 to just 7 in 2020. Goldcrests numbers fell by a similar proportion from 18 to 10 individuals, while Coal Tit were down a quarter: from 19 to 14. The decline in Chaffinch numbers was more dramatic: just 16 individuals, down from 50 in 2019. There were modest declines in the number of individual Treecreepers and Long-tailed Tits too (30% and 20% respectively). It was nice to see couple of Redwings again this year (both of which were ringed - we now own our own CC rings), though there was no repeat of the sudden appearance of 19 individuals in 2019. No Bullfinches were caught in 2019 so it was good to see 4 in 2020 (only 3 were ringed as the fourth had a bad case of avian papillomavirus on both legs so was released unringed). We caught a Kestrel once before (in the Dell in Feb 2015) but it was quite a surprise to catch two this autumn, both in a net at a new location on the path running north from the hut. Perhaps the biggest surprise in 2019 was to catch 5 over-wintering Chiffchaffs; these were our first ever Chiffchaffs at any time of year.

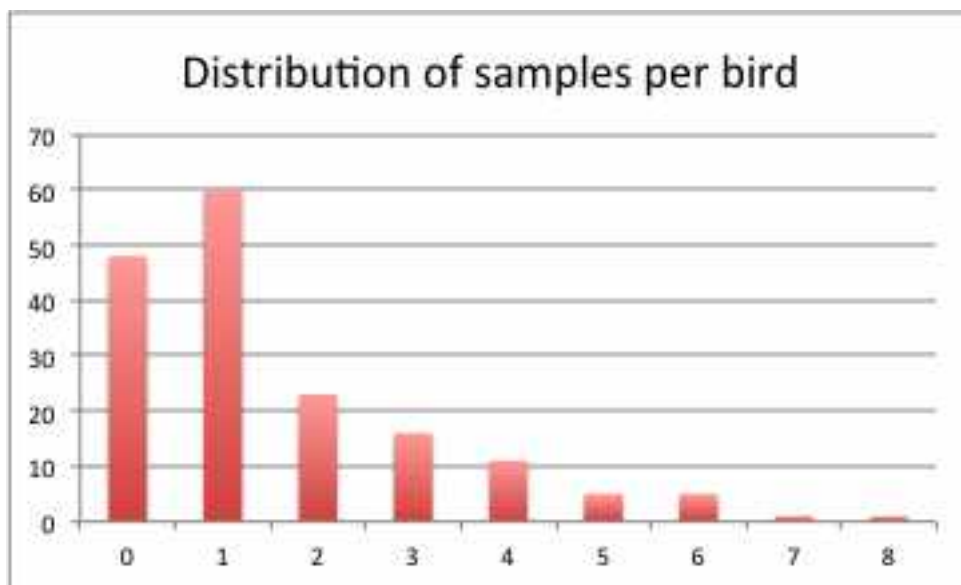
All in all, the numbers for most species were down on 2019 but 3 additional species made an appearance in 2020 while all species caught in 2019 were caught again in 2020.

species	captures	individuals		
		total	% of 2019	ringed
BT	846	424	104%	267
GT	431	170	75%	101
LOTTI	51	33	80%	19
COATI	38	14	74%	8
GRSWO	33	20	95%	7
NUTHA	23	7	54%	3
CHAFF	18	16	32%	14
ROBIN	17	12	133%	10
TREEC	12	11	69%	7
GOLDC	11	10	56%	10
MARTI	6	1	50%	1
WREN	6	6	150%	5
CHIFF	5	5		5
BLABI	3	3	38%	3
BULLF	3	3		3
DUNNO	2	2	200%	2
KESTR	2	2		2
REDWI	2	2	22%	2
BLACA	1	1	100%	1
JAY	1	1	100%	1

The PIT tagging went well this year with few problems. Just 8 tags needed to be replaced and none at all since September. Half of these were old style tags that had fallen off; half were IB Tech tags that failed to trigger the reader. Just 3 birds with functioning old-style tags were caught. It appears that the IB Tech tags are now more reliable than that were initially: it is now rare for a tag to fail to trigger the reader instantly. This may in part be because we now power the reader from the mains rather than battery.

	tagged		
	adult	pulli	total
BT	276	3	279
GT	99	115	214

A total of 367 faecal samples were taken over the year: 268 from fully-grown Great Tits + 26 from Great Tit nestlings + 69 from fully-grown Blue Tits + 4 from the Marsh Tit. None of the 26 Great Tits that provided samples as nestlings in 2020 was subsequently caught again. Among all the fully grown Great Tits caught during the year 72% provided at least one sample and one bird provided 8 samples. Most of the individuals that failed to produce a sample were only caught earlier in the year; 89% of those GTs caught since September 2020 provided at least one sample. During November and the first half of December 2020 Gabrielle conducted a number of experiment and no sampling was undertaken. To interpret these studies it is necessary to compare the microbiomes of birds before the intervention (i.e. September / October) and after (i.e. December / January). 73 GTs provided at least one sample before intervention and 19 after; 15 individuals provided samples both before and after. Samples were only asked of BTs after the intervention when 42 individuals obliged.



The system for flagging up birds that we wanted to keep an eye on ran routinely throughout the year. This allowed us to follow the progress of birds with avian pox and ticks. Pox was reported for 6 adult birds (5 Great Tits and 1 Coal Tit), 3 of which were seen to have recovered while 3 were not seen again. Pooling all the Madingley data and comparing the retrap probability of birds with and without pox, we estimate that approximately 2/3 recover and a 1/3 succumb to the disease. Two Great Tit nestlings were found to have pox (a first?). Their mother also had pox (on her leg) in the spring, suggesting direct contagion. It has been postulated that ticks might be vectors for avian pox but we detected no evidence for this: none of the 16 birds (6 BT + 10 GT) seen to have ticks went on to develop pox, though this is probably too small a sample to be certain.

No more cases of grey belly disease (in which belly feathers appear to have been nibbled away by something) were encountered; four individuals who had

had the condition were retrapped after the post-nuptial moult and all found to have regrown normal feathers.