

Swallows, by Mike Langman
from 'The Birds of Lundy'



A DIFFICULT FEW DAYS FOR SWALLOWS ON LUNDY

by

TIM BALL

300 Kidmore Road, Reading RG4 7NG

Email: tim.ball@rbringing.co.uk

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NICK and GILL TARDIVEL

In recent years we have led a team of ringers operating on Lundy in the second full week of October. When we arrived on the island on 8 October 2011 it was immediately obvious that, as in earlier visits, there were good numbers of Swallows about. The weather from Saturday 8 October through to Tuesday 11 October was dominated by strong south-westerly winds, effectively trapping fairly large numbers of Swallows on the island. Lundy weather records show that the winds strengthened significantly on 3 October and stayed strong and blustery until the early hours of 11th; average daily wind speeds during this period were almost continuously above 23 mph and peaked at 50.9 mph on 6th. When the weather improved marginally on 11 October, some Swallows were seen to leave the island to the south, and as the weather moderated on 12th, there was a further reduction in total numbers. On 9 and 10 October it was particularly noticeable that the Swallows were behaving a little unusually: birds frequently made forays well underneath the trees through wooded areas on the island, including some quite dense areas in Millcombe Valley. In more open areas they were mostly attempting to feed within a couple of inches of the ground or the ground cover vegetation. In addition, small groups could often be seen perched on bushes or even on the ground, and we got the impression that they were having great difficulty finding food. This would seem to be a logical conclusion as Swallows feed on aerial insects and the strong winds meant that there were not many flying insects about, even in sheltered spots.

Once we started catching birds on the Saturday afternoon, Swallows dominated our catches. Their weights were remarkably low. We also started to catch birds that had been ringed in the previous few days. Re-trap Swallows are unusual on Lundy at this time of year – in both 2009

Table 1. Swallow weight statistics in grams
(statistics for 12 & 14 October omitted due to small sample sizes)

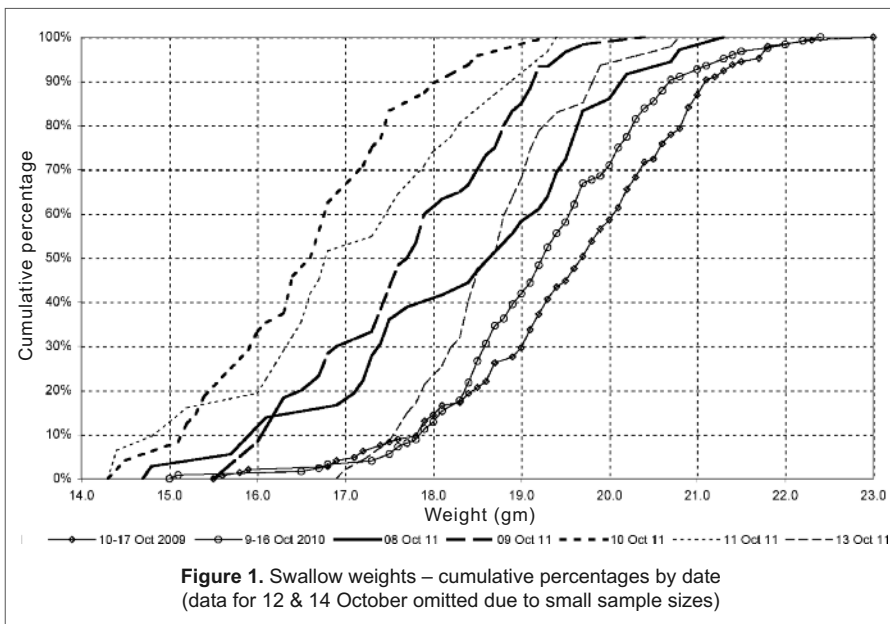
Year		2009	2010	2011						
October		10–17	9–16	8	9	10	11	12	13	14
Birds caught		145	124	36	60	48	31	10	47	2
Weight (gm)	Minimum	15.6	15.1	14.8	15.6	14.4	14.4	14.5	17.0	12.5
	Maximum	23.0	22.4	21.3	20.4	19.3	19.4	19.4	20.8	16.0
	Mean	19.6	19.3	18.4	17.7	16.6	17.1	n/a	18.7	n/a
	95% range	16.9 –22.4	16.9 –21.7	15.3 –21.6	15.4 –20.1	14.3 –18.9	14.2 –19.9	n/a	17.0 –0.4	n/a

(146 Swallows caught between 10 and 17 October) and 2010 (125 caught between 9 and 16 October) we did not have a single re-trap. This suggests quite strongly that the majority of birds move through the island quite quickly. In contrast, in 2011 we caught 234 Swallows between 8 and 14 October, of which 15 (6.8%) were re-traps. All the birds caught in all three years were juveniles, except for two adults in 2010, and it appears to be normal for October Swallows on Lundy to be juveniles.

The re-traps showed some interesting patterns of weight loss which we have attempted to analyse. These analyses are admittedly fairly simplistic but even without full statistical rigour it is possible to identify some notable features. Table 1 gives details of the data while Figure 1 shows the cumulative percentages of weights for each day in 2011 compared with the combined data for all our catches in 2009 and 2010. Table 1 and Figure 1 both illustrate that the Swallows were in much poorer condition when we arrived on 8 October 2011 than they were throughout the second weeks in both October 2009 and 2010: just 20.7% and 26.6% were below 18.5 gm in 2009 and 2010 respectively, whereas 47.2% were below this weight on 8 October 2011.

Average weight fell by 0.7 gm between 8 and 9 October, and by a further 1.1 gm between 9th and 10th when it reached the very low figure of 16.6 gm. A study by Coiffait *et al.* (2011) using data gathered for the Europe-wide EURING Swallow Project demonstrated that the mean weight of juvenile Swallows in the autumn at latitudes similar to Lundy in the UK and Ireland was 19.65 gm from a sample size of over 14,000 birds across several autumns. On 10 October 2011, all 48 birds caught weighed less than this. The Coiffait study also showed that average weights increased during the autumn, the October average being just over 20 gm. This demonstrates just how poorly Swallows were doing on Lundy at this time and suggests that even in 2009 and 2010 the Swallows on Lundy in October were almost certainly in worse condition than birds on the mainland.

The cumulative percentages shown in Figure 1 illustrate how the condition of the majority of Swallows deteriorated on 9 October, when 73.3% weighed less than 18.65 gm (1 gm below the Coiffait average) and again on 10 October when an incredible 95.8% were lighter than this figure. Weather conditions began to improve a little on 11 October and this was immediately



reflected in a slight improvement in the birds' weights. Unfortunately our catches reduced after this and it was not possible to track the improvement much further. On 13 October we caught 47 Swallows within an hour of them going to roost and it is likely that all were at or very close to the maximum weight they achieved that day. These birds were roosted indoors overnight in small groups in special cages – so they certainly had an easier night than they would have had roosting in the open outdoors.

Sample sizes at specific times during the course of our ringing effort are too small to permit proper analyses of weights by the hour through each daylight hour. If this had been possible it would probably have shown that birds were lightest in the morning and gradually put on a bit of weight during the day. The noticeably steep slope of the cumulative graph for 13 October is almost certainly due to all the birds being caught in a short period of time just before they roosted. The contrasts between the graphs for 8 and 13 October can be interpreted in different ways: the lowest-weight birds on 8th either didn't survive or had recovered a bit, while the higher-weight birds on 8th had either lost weight or possibly left the island.

The scale of the problem faced by the Swallows on Lundy over these few days can be illustrated by looking at some of the individuals which we re-trapped during the week (Table 2). On the night of 9-10 October a small number of Swallows roosted on the window sills of Millcombe House and we were able to catch them a few minutes before they would have flown out of roost in the morning. Coincidentally, two of these birds had been caught and ringed the previous evening about two hours before roosting. These two birds had lost 1.2 and 1.3 gm respectively overnight, indicating that that weight loss is probably typical for birds roosting in sheltered places. They had roosted in tight clusters right against the windows and had almost certainly gained heat from the building, as well as each other, and so were probably much better off than birds roosting in the trees and bushes around the valley.

Table 2. Weights of re-trapped Swallows

Bird (ring number)	Date and time ringed	Weight (gm)	Date and time re-trapped	Weight (gm)	Weight loss / gain	
					gm	%
L954449	4 Oct 14:48	19.0	8 Oct 17:30	16.1	-2.9	-15.3
			9 Oct 14:00	15.6	-0.5	-3.1
L954567	7 Oct 10:35	13.8	8 Oct 16:45	14.8	+1.0	+7.2
L954649	8 Oct 13:00	18.9	10 Oct 07:15	15.6	-3.3	-17.5
L954671	8 Oct 18:25	20.2	10 Oct 07:15	17.5	-2.7	-13.4
L954672	8 Oct 16:45	20.0	9 Oct 14:30	17.9	-2.1	-10.5
L954699	9 Oct 12:15	17.4	10 Oct 07:15	16.4	-1.0	-5.7
L954723	9 Oct 14:50	17.7	10 Oct 15:20	16.7	-1.0	-5.6
L954737	9 Oct 15:40	17.8	10 Oct 07:15	16.3	-1.5	-8.4
L954746	9 Oct 17:10	16.9	10 Oct 07:15	15.7	-1.2	-7.1
L954748	9 Oct 17:10	17.0	14 Oct 09:50	12.5	-4.5	-26.5
L954755	9 Oct 17:25	18.0	10 Oct 07:15	16.7	-1.3	-7.2
L954781	10 Oct 16:05	19.3	11 Oct 17:30	18.3	-1.0	-5.2
L954792	10 Oct 18:15	15.9	11 Oct 16:20	15.0	-0.9	-5.7
L954793	10 Oct 18:15	15.2	11 Oct 17:00	15.2	0	0

Notes

L954449 was re-trapped twice after being ringed on 4 October before the inclement weather really started. Despite starting at a reasonable weight, it lost nearly 18% of its weight in five days. It is noteworthy that the bird stayed on the island for at least five days.

L954567 was the only bird to gain weight, but it was starting from an extremely low point and is probably unlikely to have survived.

L954746 and L954755 were re-trapped as they were about to leave their roost and are the best illustrations of overnight weight loss.

L954748 lost over a quarter of its weight between 9 and 14 October. Despite the much-improved conditions by the time it was recaptured, its chances of survival must have been extremely low. Again it is of note that this bird stayed on the island for at least five days.

L954793 appears to have made up for the weight lost the night before by the time it was ready to roost on the following day.

It is obviously not possible to say how many Swallows died on Lundy during this period. We received only one report of a ringed bird found dead on the island during the week, but several unringed Swallows were also found dead, possibly from either starvation or predation – weak birds are obviously less able to escape predators.

REFERENCE

Coiffait, L., Robinson, R.A., Clark, J.A. & Griffin, B.M. (2011). Fattening strategies of British & Irish Barn Swallows *Hirundo rustica* prior to autumn migration. *British Trust for Ornithology, Ringing & Migration* 26: 15-23.