

The Australian

BIRD BANDER

Mass Banding of the Common Starling — *Sturnus Vulgaris*

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On September 12, 1959, I was informed that a large flock of Common Starlings was roosting at night beneath the roof of a disused building in the township of Oatlands in the midlands of Tasmania. The birds were reported to be in such numbers as to create a local nuisance when arriving and departing, their droppings fouling drying laundry, parked cars, etc., and, in spite of nightly raids by irate neighbours armed with sticks and the killing of many birds, they could not be deterred from returning.

Upon investigation I found that the building was a two-storey sandstone structure. The birds were gaining access to the space between the roof and the ceiling of the upper rooms through a series of gaps between the ends of the rafters at spouting level. The ceiling of the rooms was lined with tongue and grooved pine boards fastened to 6 x 2 inch ceiling joists, and it was on this that the birds were roosting. They were entering from every side, but the north-eastern corner was by far the most used. Near the entrances the accumulated bird manure was nine inches deep but decreased towards the centre of the ceiling. Here was a natural starling trap and the opportunity to secure starlings in large numbers was obvious.

Pre-Roost Congregations

On the same evening (12.9.59) a watch was kept on the arrival of the birds at the roosting site.

At 1720 hrs. about 180 birds had congregated on the roof and on adjacent overhead wires and were commencing to move into the roost in small groups. At the same time another congregation

was forming in a dead pine tree some two hundred yards distant.

At 1730 hrs. this group had built up to about 200 and soon afterwards they flew *en masse* over the building and with a sudden downward swoop alighted on the roof and spouting and rapidly entered the roost. By 1732 hrs. birds were arriving from every direction in ever-increasing numbers and forming congregations in several places. As each group increased to about two hundred they moved off in a body to enter beneath the roof in the same wild flurry as their predecessors. With the increase in numbers, so there was an increase in the noise created by the chattering of the birds as they settled in for the night.

By 1745 hrs. an estimated 500 birds had entered and another 500 had assembled in an adjacent paddock. As the light began to fail these birds moved into the roost in a massed flock.

By 1755 hrs. only a few birds were left outside and only odd stragglers were still arriving.

By 1815 hrs. the light had almost gone and the last of the birds had disappeared beneath the roof.

At 1830 hrs. I climbed through a manhole in the ceiling and sat for a moment in complete darkness, listening to the mass-chorus of voices. The din was of such volume as to completely drown out any normal human conversation. I extended an open hand in the direction of the noise and lowered it onto a mass of birds packed tightly together. The touch of my hand had not the slightest effect on their disposition and, on feeling around, I found the solid mass of birds to extend as far as I could reach. I carefully picked one bird from the roost and was surprised to find that it offered little resistance and that the remaining birds were not in the least disturbed. Using chaff bags as containers, 164 birds were collected in this manner, the number being limited only by the number of available bands at that time. Before leaving the roost a hand lamp was flashed to reveal hundreds of birds which, until then, had remained undisturbed. There was an immediate eruption of birds and a jamming of the exit holes. Those that could not escape, took wing inside the building. Many were attracted by the light and I found myself being clawed by many groping birds. The panic gradually subsided as more and more found their way to the exits and escaped into the night. Though I waited for fifteen minutes they failed to return.

The captured birds were transported in the back of an open utility for seven miles to Antill Ponds. Here the bags were spread flat on a cement floor, and the birds left overnight. The following morning banding was completed satisfactorily without loss or injury to a single bird. It was found that the bags could be handled in an upright position without detriment to the birds, as they endeavoured to climb to the highest point. When banding, seated with the neck of the bag between the knees, this habit of the birds assisted greatly, as there were invariably birds at the mouth, thus saving the necessity for the bander to reach deep into the bag.

Additional bands were obtained and on September 20 the roost was again visited. By this date the number of birds was noticeably reduced and only 240 could be collected. These were satisfactorily handled in a similar manner, banded and released at Antill Ponds.

Following the disturbance, the birds did not return to the building in significant numbers until March, 1960. Their disappearance may have been influenced also by the approach of the breeding season and the pairing of birds.



• The old stone house at Oatlands.—Picture, the author.

Flock dispersal is normal at this time and birds do not regroup again until the new year, when juveniles form a major part of the flock.

On March 8, 1960, another 152 birds were collected and banded in a similar manner, but by June 18, when it was expected that mass roosting would be at its peak, only 5 birds could be collected, and the roost had apparently been abandoned.

In April, 1964, I was informed that starlings were again forming a mass nocturnal roost in the original site at Oatlands. I visited there on May 3 and found the colony to be once again back to its former strength.

By working in complete darkness on this and the following two nights, 1634 birds were collected into chaff bags and transported north for banding and release on the mornings following their capture. For convenience 668 birds were released at Exeter, 85 road miles north of the place of capture, the remaining 966 being released at Launceston, 70 road miles north of the place of capture. Once again the method of transporting the birds was most satisfactory, and it was found that 100 birds was a perfectly safe number to carry in each chaff bag.

On each of these nights the catch was only limited by the means available to transport the birds safely, but on successive nights the numbers present became noticeably less.

On the evening of May 26, I again visited the roost and collected another 545 starlings, 58 of which were recaptures. These were transported to Launceston and banded and released

on the following morning. On this occasion the numbers were found to be considerably reduced and collecting continued until all the birds were either captured or had escaped. With the exception of 100, they were released individually, the remaining one hundred being liberated *en masse*. They did not remain in a group, but dispersed in every direction.

On August 18 I once more visited the roost and collected 268 starlings, 58 of which were found to be banded. On this occasion the birds were noticeably more nervous and the catch was probably only 50% of those present. The place of release was again Launceston on the morning following capture. (See Table 1, below).

Table 2
Birds Retrapped Twice

Banded	Released at	Re-captured	Released at	Re-captured
9.3.60	Antill Ponds	3.5.64	Exeter	27.5.64
3.5.64	Exeter	27.5.64	Launceston	19.8.64
4.5.64	Launceston	27.5.64	Launceston	19.8.64

This represents only about 2.4% of those birds which made the return flight once as opposed to an overall return of about 5%.

On June 18, 1960, I inspected the roosting site and found 56 dead starlings. From the appearance of the remains they had been dead about one month. Seven of these carried bands (see Table 3).

From enquiries made I could not find any evidence of anybody having entered the building

Table 1
RECAPTURES OF LIVE BIRDS

Place of Release	Banding Date	No.	Recaptures.								Total	%
			21.9.59	9.3.60	19.6.60	3.5.64	4.5.64	5.5.64	27.5.64	19.8.64		
Antill												
Ponds	13.9.59	164	3	4	0	0	0	0	0	0	7	4.3
"	21.9.59	240	0	5	0	1	1	0	0	0	7	2.9
"	9.3.60	152	0	0	0	2	0	0	0	0	2	1.3
"	19.6.60	5	0	0	0	0	0	0	0	0	0	—
Exeter	3.5.64	468	0	0	0	0	0	0	19	17	36	7.7
"	4.5.64	200	0	0	0	0	0	0	12	4	16	8.0
Launceston												
"	4.5.64	545	0	0	0	0	0	0	16	11	27	5.0
"	5.5.64	421	0	0	0	0	0	0	11	10	21	5.0
"	27.5.64	488	0	0	0	0	0	0	0	16	16	3.3
"	19.8.64	210	0	0	0	0	0	0	0	0	0	—
TOTAL		2893	3	9	0	3	1	0	58	58	132	4.9

Table 1 is an analysis of the recovery figures to show the percentage recovery of each night's capture. It is of interest to note that two birds banded on 21/9/59 were recaptured in the same roost almost five years later. Three birds were recaptured twice as shown in Table 2.

Recoveries of dead birds banded on or before 19.6.60 are listed in Table 3.

Table 3
Recoveries of Dead Birds

Date of Banding	Place	Date of Recovery
12.9.59	Brisbane, Qld.	11.10.59
"	Oatlands	18.6.60 (4)
"	"	17.4.61
"	"	1961
20.9.59	"	18.6.60 (2)
"	"	13.5.61
"	"	20.5.62
9.3.60	"	18.6.60
"	"	3.3.61
"	"	1961
"	"	20.5.62
"	"	24.6.62 (2)
"	"	13.11.62

Where more than one bird was recovered on the same date, the number is shown in parentheses.

and killed these birds on the roost and at this time the birds were not in sufficient numbers to cause trouble to the nearby residents. It is most probable that they had died from the effects of feeding on poison bait intended for the destruction of rabbits.

Other Nocturnal Roosts

In January, 1960, I was informed of the presence of a nocturnal roost at Mt. Pleasant, about ten miles east of Oatlands. Here I found the starlings to be roosting in an old pine hedge about 120 yards long and 25 feet high. The owner was concerned because of the possibility

that such a mass of birds might eventually kill the trees.

The previous summer the birds had roosted in a nearby clump of willows, all of which had subsequently died, apparently from the effects of the birds. Thomas (1957a, p. 45) refers to similar destruction in England and Canada, but apparently did not encounter it in the Sunraysia district in the course of his Starling investigation.

On one evening I watched this pre-roosting congregation. As was the case at Oatlands, the birds came in from all directions, arriving in small flocks over a period of an hour before dark. They gathered in nearby trees to form larger flocks which later moved into the hedge together.

They could be readily disturbed from this site at any time of the night. A sudden noise near the hedge would result in a cloud of birds taking to the air, their wings creating an intense roar as they beat their way out. However, no amount of disturbance could deter them from returning after a few minutes' flight. On this occasion I estimated the birds to number about ten thousand.

This hedge has subsequently been used as a summer roost in each succeeding year. Occupancy starts with the post breeding congregations at the end of December and continues until the first autumn rains.

These rains invariably result in the abandonment of the site until the following summer. The owner of the property nearby informs me that the birds have caused considerable damage to the hedge and, had not heavy rains fallen in January, 1964, to disperse the birds earlier than usual, he considered that much of it would have died.

It was at first thought that the disappearance of the birds from the hedge roost would result in a buildup in the sheltered Oatlands roost, but between 1959 and the 1964 occupancy the number occurring there was insignificant and the birds from the hedge roost were dispersing to other places.

Mass nocturnal roosts are known to exist in the reed beds on the banks of the Derwent River, and in 1963 a congregation totalling several thousand was roosting in ti-trees on the bank of the Tamar River near Launceston. Such open air roosts are not uncommon, but the birds are difficult to catch in satisfactory numbers under these conditions.

Discussion

Oatlands, the township at which all the Starlings were originally captured, is the centre of an

extensive pastoral district. Clearing and pasture improvement has been taking place for many years. The introduced Common Starling is the most common bird occurring in town and country areas alike. It builds its rough grass nest in a wide range of sites such as beneath the roofs of houses, in wall cavities, hollows in trees, bridge foundations, etc. On one occasion I found a nest placed on the ground in the middle of a small pile of stones. Their habit of nesting in tree cavities sometimes results in the usurpation of nesting cavities already occupied by other species. The Swift Parrot, and the Blue-Wing Parrot, are possibly the most frequent victims in Tasmania and several instances involving these species have come under my notice. The nesting holes selected by these birds are well suited to the requirement of the Starlings, which can take over an already occupied nest by carrying in a quantity of vegetable matter for nest building, thus burying the parrot's eggs and causing the birds to desert. Favaloro (1942) and Thomas (1957b, p. 328) also record this usurpation of nesting sites.

The passages from the cavity entrance to the nest may vary from horizontal to vertically downward, but I do not know of any site where the passage ascends steeply. Clutch size varies between four and six, five being most common.

A pair of starlings, which nested in a specially prepared nest box measuring 6 x 8 x 10 inches in 1959, were found to produce their first egg on October 9, at which time the nest was no more than a rough grass lining in the bottom of the box. Nest construction continued until October 13, when the fourth and final egg was laid and incubation commenced. By this time the nest was a bulky structure well lined with wool and feathers completely filling the nest box.

On November 13 the four young, then fully fledged, were flushed from the nest and did not return. By the end of December a second clutch of four had been successfully reared in the same nest, presumably by the same parents, as they had been caught and banded at the nest box when occupancy was first noticed in September.

A nest examined on 13.12.59, situated in the roof of a house, was found to contain four young birds almost fully fledged and a close watch was maintained for several hours to observe the feeding of the nestlings. Both adults participated in this task and each visited the nest about once every five minutes. The food consisted mostly of small grasshoppers about a quarter of an inch long, abundant at that time. On two occasions

a bird was seen to bring a four-inch-long lizard which was devoured by a single nestling with little difficulty.

I found that if a parent was disturbed and left the nest before depositing its beak full it invariably returned with an added load, the beak really distended with grasshoppers' legs protruding in all directions. In such cases the parent made several strokes to discharge the load and usually divided it between two young. Preference was always given to the young which were most persistent in their demands. This is apparently the main factor regulating the food distribution, for freshly fed nestlings were noted to be more content and often slept or preened their feathers while the more hungry ones were fed or worked their way towards the edge of the nest nearest to the entrance. Thus their positions in the nest were continually changing, the hungriest nestling being the most aggressive.

The nestlings commenced to call immediately a parent was heard to alight at the entrance, but if the nestlings were removed and silenced the parent became alarmed and made numerous inspection visits before it finally and hesitantly entered the nest. Upon discovery of the absence of the young it became agitated and called continually. If one young only was left in the nest the adults were undisturbed and carried on as if nothing were amiss.

The entrance from the bright light to the darkened attic apparently left the parents blinded to everything except their nestlings. My presence only two feet from the nest had not the slightest effect and a nestling held in the hand and presented to the arriving parent was readily fed without hesitation. Even the camera flashlight did not affect their disposition. Sound always created some reaction, and the parents were noticeably affected by the tone and intensity of the callings of the nestlings.

The extensive areas of improved pasture with its associated worm and pasture parasite population affords a vast and ever increasing food supply, and this increase has undoubtedly contributed to the present heavy starling population. No doubt a local population such as that based on the Oatlands roost has a wide feeding range, but though daily dispersal is apparent birds return to gather at the communal night roost.

Recaptures have shown that though the population was removed to a completely different area some birds eventually returned. The recovery percentage in this instance was relatively small (approximately 5 per cent., disregarding the most recently banded birds released on 19.8.64). This figure is not suffi-

ciently high to suggest a strong homing instinct, for were the birds to radiate in every direction from the point of release, a segment covering 5% of this dispersal extended to the roosting site would span little more than the probable feeding range of the flock based on Oatlands.

It does, however, indicate that Starlings removed to a new environment may not readily settle and become assimilated into the local population, though it is logical to assume that such populations are sufficiently large to preclude the identification of strangers and any resultant discrimination. Though Starlings would be quite capable of covering the distance of 70 to 80 miles encountered in this instance in a matter of half a day, none of the birds released on the morning of May 3 and 4 were recovered with the birds captured in the roost on the night of May 4. However, after a lapse of three weeks 58 of the 1644 starlings banded over this three day period were recaptured with the 488 unbanded birds collected on 27.5.64. Another three months later, on 19.8.64, an additional 42 of these birds were recaptured back at the roost along with 210 unbanded birds and 16 of the 488 banded on 27.5.64 were included with that catch. Two birds were recaptured on both dates (Table 3).

Summary

A nocturnal Starling roost in the ceiling of a disused house is described. Observations on pre-roosting congregation and a tested method of handling the birds in large numbers is given.

Banding and recovery details covering 2,893 individuals are given, the most notable being the recovery of a Starling at Brisbane, Queensland, a distance of 1,225 miles north, 29 days after its release at Antill Ponds, Tasmania.

Though 132 individuals returned to the roost after being released up to 85 miles north, the figure is not considered significant enough to suggest a homing instinct. It does, however, indicate that Starlings removed from one area are not readily assimilated into new flocks. The occupancy of an exposed nocturnal roost is described and observations on breeding and the feeding of nestlings are recorded.

References

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