ROOSTING HABITS OF THE TREE-CREEPER.

BY

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(Plate 1).

Since November, 1935, I have been studying the roosting habits of the Tree-Creeper (Certhia f. britannica), and though there are many points still obscure, I consider I have at this stage sufficient evidence to draw some definite conclusions. Hitherto little has been known or written on the subject beyond the fact that Tree-Creepers bore holes in the soft bark of Wellingtonia trees (Sequoia gigantea) and sleep in these holes at night. Mr. Nevin H. Foster, of Hillsborough, Co. Down, was the first to notice the habit, and he published his observations in January, 1923 (Irish Naturalist, Vol. XXXII pp. 1 and 2). But he did not apparently himself see the birds in the cavities at night. Foster’s article was followed up by short notes in British Birds, in March, 1923, by the Rev. E. U. Savage (Vol. XVI, p. 234), in June, 1924, by Mr. W. H. Thorpe (Vol. XVIII, pp. 20–22), and in October, 1925, by Mr. R. W. Hale (Vol. XIX, pp. 130 and 131). The writers of these notes agree in the main with Foster in holding that the Tree-Creepers sleep with their heads exposed and their beaks pointing upwards, though Thorpe mentions one bird which had its head completely hidden.

Before giving my own observations I should mention that here at Emo Park, Portarlington, there is a wide field and perhaps unusual facilities for such a study. The grounds are extensive and well timbered. There are many Wellingtonias, all within easy reach of the house. In the first place there is a well-known Wellingtonia Avenue, more than a mile long, leading from the front of the house first towards the south and then curving away to the east. There are 82 Wellingtonia trees, 41 on each side, along this avenue. Then in the grounds to the east and north of the house there are 8 scattered Wellingtonias and 6 of the allied species, Sequoia sempervirens, while in an old wood across the lake, not quite half a mile away to the north of the house, there are many trees of the latter species.

There is considerable variety among these Wellingtonias. Some look, and probably are, older than others. In an old guide book, published in 1856, mention is made of the Emo Park Wellingtonias, so that some of the trees must have been planted here soon after their introduction into England in 1853. The younger trees have the bark not quite so furrowed as a normal oak tree while the older ones have very gnarled
surfaces with thick, cork-like bark which in places projects out two or three inches from the longitudinal fissures. Some have branches down to four feet from the base with extremities touching the ground; others have branches down to about eight feet with, usually, some open approaches to the trunk, while a few have no branches lower than from fifteen to twenty feet. The older trees and those with open approaches are most favoured by the Tree-Creepers.

In a daylight survey of the avenue I found that in 39 of the 82 Wellingtonias there are 72 sleeping-holes either freshly made or with evidence of recent use. The other trees are without holes. The majority of the holes are facing east and north, those to the west being very few. Thus there are 27 E., 24 N., 9 S., 2 W., 5 N.E., 3 N.W. and 2 S.E. The average height from the ground is 8 feet, the highest being 13½ feet and the lowest 4 feet. The avenue is divided into five reaches by cross avenues and clusters of beech trees, and though the divisions are not equal I have taken them for convenience in keeping records and call them A, B, C, D and E. Thus B. 4 R. N. 9, means: In the second reach of the avenue, in the fourth tree, on the right leading from the house, roost facing north at 9 feet from the ground. Again, in 7 of the 8 Wellingtonias in the grounds there are 40 roosts, 18 N., 13 E., 5 W., and 4 S. These trees for the purpose of taking notes I call G. 1, 2, 3, etc. The 6 trees of the species Sequoia sempervirens, all of which show evidence of roosting, I enter as S.S. 1, 2, 3, etc.

Foster mentions the halfpenny (an inch in diameter) as the size of the holes, but Thorpe gives the average 2½ to 3 inches long and 2 inches deep. I have not come across half a dozen holes into which a penny cannot be easily inserted, the majority having the opening as stated by Thorpe. But I find great variety in the depth of the holes. Some are mere scratchings of the surface, others are quite 2 inches deep. Again Foster and Thorpe say that the holes are all lower than the lowest branches. This is generally the case here too. But some which I have found occupied occasionally, and one almost regularly, are above branches, while those in most of the trees of Sequoia sempervirens must necessarily be so.

Up to February 15th I began my evening rounds at 5.30 and examined the trees in the grounds and reaches A, B and C of the avenue. In these three reaches there are 29 Wellingtonias, in 15 of which there are 25 roosting holes. In 7 of these trees in the avenue, in 6 of the 8 in the grounds and in 4 of the Sequoia sempervirens I have found birds in occupation at night. Thus I have seen Tree-Creepers sleeping at night.
in 17 trees and in 52 different roosts. During the first three months of observation the average number of birds I found in roosts was about 8, rarely so few as 4. But since the beginning of February the average has been 12, with a maximum of 15. The raising of the average is partly attributable to improved methods of search and partly to other causes which I have so far failed to discover. During the whole period, the larger numbers were in frosty or calm and dry weather, the lower numbers on wet and stormy nights. A moderate breeze does not seem to affect the roosting nor the side of the tree occupied. But rain or a high wind from any quarter drives the birds from that side of the tree. Just as the majority of the holes are on the east and north, so I have found most birds on these sides. Hence on an average night there would be 3 E., 3 N., 1 S., and 1 W. The prevailing winds and rains here are from the south and west, and this fact accounts, I believe, for the fewer cavities and roosting birds on these sides. I should also mention that the two roosts to the west, which I have very frequently found occupied, are rather exceptional. One is in a tree sheltered by an oak plantation and a detached building, known as the Ambulacrum, the other, though on the west side of the tree, has a southern aspect owing to a projection on the side of the trunk. Yet, exceptionally, on February 11th I found 5 birds roosting to the west and 5 to the north. But the conditions were these: snow which had fallen on the previous night had melted during the day leaving the eastern sides of the trees quite wet, and a strong, cold wind was blowing from the east. It may be of interest to give, as a specimen, my notes of the location of these 10 birds. They are as follows:

Avenue: A. 1 L. N. 8½. (This roost has been occupied every night since December 10th).
   B. 4 R. N. 7.
   B. 5 R. N. 8, and W. 4. (This W. 4 now occupied for the first time).

Grounds: G. 1 N. 7½, and N. 11.
   G. 4 W. 9. (This roost is above some branches).
   G. 6 W. 12½, and W. 7. (W. 7 now occupied for first time).

S.S. 1 W. 7. (Roost occupied for second time).

MANNER OF ROOSTING.

With regard to the manner of roosting, the body of the bird is fitted into the oval cavity in the bark and the tail is pressed into the tree below the cavity. Once the bird has
settled down for the night its head is completely hidden. I have no doubt of this, for I have now seen roosting birds hundreds of times. I have examined birds in roosts at four and five feet from the ground, with my eyes above their level, and never have I seen even the tip of the bill. The hunched appearance of the roosting bird suggests that the head must be buried in front with the beak pointing downwards, not upwards as Foster, Savage and Hale suggested. The result of this bending forward and downward of the head is that the feathers of the shoulders and back are fluffed out, in a manner suggestive of the spines on the back of a hedge-hog. One sees these feathers moving in the slightest breeze, and when a strong wind is blowing the dark down of the body is revealed. This being the fact, the question immediately arises: how is the warmth of the body maintained throughout the long winter nights, if, as has been stated, the conservation of heat in birds depends on the closeness of the feathering. To this question I have no answer at the moment. I can only reiterate that I have examined birds at night and in the dark of the morning and the manner of roosting is always the same: the head is quite hidden and the back feathers are fluffed out giving the general appearance of a ball of fluff with a tail appended.

As already stated I used to begin my evening inspection at about 5.30, and hence up to February the birds were well settled down for the night when I saw them. But almost from the beginning of February, when sunset was at 5.6, I have been able to see them in their cavities without the aid of a torch, and I have found it advisable to watch with glasses from a distance of 20 or 30 yards. To my surprise I discovered that up to 20 minutes after sunset the birds remain with their heads exposed and their beaks pointing upwards. It seems natural that before going to sleep they should look around to see that all is well, and consequently they are easy to disturb at this time. This habit, I feel sure, accounts for the statement of Foster and others that the birds spend the night with their beaks pointing upwards. Thus Hale (loc. cit.) mentions that on March 21st at 6.15 p.m. a bird had its head almost in the cavity, but with its beak resting on the edge of the hole. This is only 4 minutes after sunset, too soon for the bird to have settled down for the night. Again Thorpe (loc. cit.) speaks of disturbing a bird on two or three occasions, thereby showing that his observations were made before the bird had gone to sleep. Once the bird has rolled itself up and buried its head, it is not easily disturbed. Torch light can be played on it without causing it to turn a feather, and even the
explosion of a flash-light photograph does not, as a rule, awake it from its slumbers. The only thing that invariably dislodges the sleeping bird is touching the bark or knocking against the trunk of the tree, even at the opposite side. Finally Foster and Savage say that the back of the bird in the cavity is on a level with the bark of the tree. This is generally the case while the head is exposed and the back feathers are smoothed down, but when the head is lowered the back is arched out and the feathers stand out beyond the surface of the tree. Only in a few roosts with very narrow entrances and in those made in natural fissures have I found the body of the bird on a level with the bark.

*Left:* Cavity in *Sequoia gigantea* (G.3.S.6.) unchanged after months of use.


"Early to bed" seems to be a fixed rule with the Tree-Creeper. While Blackbirds, Thrushes and Robins are still singing, the Tree-Creeper flies to the base of its roosting tree, creeps up as if feeding and either goes directly into or sidles
into the cavity. I have observed birds entering their roosts from 1 to 14 minutes after sunset. Mr. C. B. Moffat, who on September 29th, 1934, at Enniskerry, co. Wicklow, saw a Tree-Creeper arrive at its *Sequoia gigantea* 2 minutes after sunset, thinks it likely that going to roost may be earlier in the fairly long days than in the very short ones. This he has found to be the case with the Wagtails in O'Connell Street, Dublin, where they go to roost before sunset in the early half of the autumn, but wait till about half an hour after in the short winter days. My own observations of the Tree-Creepers since the beginning of February confirm Mr. Moffat's surmise. The birds have gradually shortened the period between sunset and taking roost so that in the first week of March the two times almost coincide.

As birds go Tree-Creepers are not early risers. Other birds are astir, and there is often a general morning chorus, quite half an hour before they think of moving. If one approaches an occupied tree from 20 minutes before sunrise onwards, the bird flies clean out of the hole and away. But if one is prepared to brave the cold morning air and arrive with glasses earlier, the whole ritual can be watched. At from 15 to 5 minutes before sunrise the Tree-Creeper suddenly lifts its head, looks around exposing the white of its throat and waits from 2 to 5 minutes before, as it were, jumping out of bed. During this time, owing to the smoothing down of the back feathers when the head is raised, the bird is inconspicuous except for the twinkling of the white throat as it moves its head to and fro. Finally it gives a few pecks at the bark, side-steps to the right or left or jumps forward and travels up the tree in its usual manner of feeding.

**Excavating the CAVITIES.**

Hale (*loc. cit.*) speaks of a cavity, examined on two consecutive days, as showing signs of continued enlargement. That the birds enlarge the holes is certain. Some of the cavities in which I have found birds sleeping are mere scratchings in the bark, and no doubt the deepening is a gradual process. Some cavities, however, which are fairly regularly occupied, have remained unchanged for months and are quite black inside. On a few occasions both in the morning and in the evening I have witnessed the excavating. On February 3rd, at 6.30 p.m. (sunset 5.10) I noticed a roosting bird in an unusual attitude. Its tail was projecting out, its head completely hidden, its body moving and its feet seemingly working. The roost was an old one, frequently occupied, which I had
examined in daylight a week previously when I found the interior quite dark. The bird was now excavating, or perhaps sweeping out the shavings after the operation, for next morning on looking in I saw a patch, of about the size of a penny, freshly pared off. Again on February 4th at 6.15 p.m. in another roost I noticed the legs of the bird to be working as if sweeping out the cavity. I surmised that this was consequent on some excavation work, and next morning I saw that the walls were freshly chipped off. On February 8th at 7.47 a.m. (sunrise 7.59) a bird that I had been watching suddenly woke up and went through the usual ritual for three minutes and then began to peck at the interior with resounding taps. For two minutes it worked energetically before jumping clear of the cavity and creeping up the tree as usual. This time the tail was kept pressed against the tree as during sleep, and no attempt was made to work the legs and clear out the débris. The roost was too high to be examined. Finally on February 17th at 5.43 p.m. (sunset 5.37) I watched a bird creep up G.1. and enter roost N.11. For nearly two minutes it pecked at the cavity, often looking round during the operation. Then to my surprise it jumped out of the hole, looped down to the base of the tree and began to creep up again. This time it entered roost N.71, directly under N.11, and immediately began to peck at the rim of the cavity. After two minutes it ceased work but kept looking from side to side. At 5.48, a second bird appeared on the east side of the tree, crept up and sidled into N.11. Though the point at issue here is the excavating of the cavity, the behaviour of the first bird is rather puzzling and suggests a number of questions which I would like very much to be able to answer: Did the bird make a mistake in entering a roost which it presently discovered was not its own? Are the two birds a pair and was the first simply performing a friendly act for its mate? Is the same roost ever occupied by different birds on different nights? I fear I shall have to leave such problems for future investigation.

**CHANGING OF ROOSTS.**

Though a few roosts have been occupied almost without a break for months, my records show that scarcely ever are all the same cavities occupied on two consecutive nights. This may be partly due to the frequent changes of weather conditions during a varied winter. At any rate most of the Tree-Creepers seem to be of a nomadic turn. They freely change from tree to tree and from roost to roost on the same tree. This habit accounts, I think satisfactorily, for the great
number of holes compared with the few birds that have been found in occupation. It is not easy to follow some birds. They simply disappear on bad evenings and I do not know where they roost. All I can say is they do not roost on the Wellingtonias. One such bad evening, with the assistance of six young men, I examined the 96 *Sequoias* in the avenue and the grounds and found only 5 birds, one of which was in reach E, the last and longest division of the avenue. I had thought

![Tree-Creeper roosting in Sequoia gigantea (G.6.N.51).](image)

that possibly on bad nights the birds might be distributed farther away from the house. But apparently they roost elsewhere. But where? Possibly in natural cavities in other trees, behind ivy or bark or such crannies in which later on they nest. I will mention three cases which seem to favour this hypothesis: (1.) Two of the roosts in S.S.1. are under projecting pieces of bark and when they have been tenanted the birds could not be seen except from below. I must add, however, that these roosts have sometimes been occupied on
good evenings. (2.) One evening I found a bird roosting in G.4 in a natural cavity under a lopped off branch and when I examined the position next day I saw that no excavation had been made. The evening, however, was fine, and the incident only proves that natural cavities are sometime occupied. (3.) On the evening of February 6th I found a Tree-Creeper in a normal sleeping-hole of G.3 at 4½ feet from the ground and facing north but somewhat exposed from the east side. That evening there was a fairly strong wind from the south-east. During the night the wind freshened and veered a point to the east. On the following morning at 7.30 (sunrise 8.1) I was surprised to find the roost empty, as it was rather dark at the time and never before had I seen a roost vacated so early. But on moving my torch light round I discovered the bird a foot and a half away, slightly higher up and towards the lee side, in a natural fold well sheltered from the wind. No excavation was made.

Still I seem to be able to keep in touch with a few birds. Let us try to follow for a week the bird which the photographer calls "Our Friend" because it often roosts at the convenient height of 4½ feet.

February 2nd on G.1 one of three birds: E.10½; E.8½; N.7½.
,, 3rd on G.1 one of three birds: E.10½; E.8½; N.7½. (8½ is directly under 8½ and has a very narrow entrance.)
,, 4th, 5th and 6th in G.3.N.4½. (G.3 is 200 yards from G.1.)
,, 7th—a gale blowing—in S.S.1.N.8. (S.S.1 is 30 yards from G.3.)
,, 8th—frosty—back in G.1 one of three birds: E.8½; N.7½; N.11.

Thus "Our Friend" roosts either in G.1 or in the group of trees which I call "the Circle," 200 yards from G.1. I should mention that "the Circle" consists of two trees of Sequoia gigantea, G.2 and G.3, and three of Sequoia sempervirens, S.S.1, 2 and 3, forming a circle of 15 yards radius round a Cryptomeria japonica. I have found the bird in two roosts of G.3, in five of S.S.1 and in two of S.S.2. Though S.S.3 shows evidence of roosting I have never found it occupied, while G.2 has been quite without roosts. But I shall speak of G.2 presently. When G.1 has had three birds in roosts, then the trees of "the Circle" have been untenanted, while on the other hand when a tree in "the Circle" has been occupied only two birds have been found in G.1. I admit that the evidence
gives only probability, but to arrive at any degree of certainty would require a much more extended period of observation than I have had, and perhaps involve experiments, which I am not prepared to make, of handling and marking the birds.

I followed "Our Friend," to my own satisfaction, until February 15th when complications arose. On that date at 5.40 p.m. (sunset 5.34) I was watching with glasses two birds which had just taken roost in G.1, in the cavities N.7\(\frac{1}{2}\) and N.11, when a third bird appeared on the east side of the tree, crept up and down a few times and finally disappeared round to the south side. I felt sure there would be three birds roosting for the night in this tree, but when I returned with my torch at 6.15 I found only two. I then went on to "the Circle" and found a bird in S.S.1 in roost N.9, in which on previous occasions I had seen "Our Friend." But on examining G.3 I found another bird on the north side about 7 feet from the ground, on the flat surface of the tree where I was sure there was no cavity. The bird was flattened against the bark, quite motionless, with its head exposed, its eyes open and its beak pointing upward. This was something so unprecedented that I returned at 8.15, when I found the bird curled up in the normal fashion. It was still asleep at 7.15 (sunrise 7.43) next morning. When I examined the position later in the day I saw that not only was no excavation made but that there was scarcely a wrinkle on the surface where the bird had roosted. I was again perplexed, but I had passed the stage of being surprised at any behaviour of this versatile species. There were two cavities a few feet lower down on the same side of the tree and why did it not use one of them? Was the bird a stranger which would not enter a roost made by another? At any rate the bird has come to stay and since its arrival, except on two bad evenings, there have been two birds in "the Circle." One which I surmised was the newcomer has been in three different roosts, not hitherto occupied, in S.S.1 and S.S.2. The other, until February 23rd, had been in holes formerly used by "Our Friend" and I assumed it was "Our Friend." But on the 23rd another strange thing happened. I have already mentioned that G.2 has been without roosts of any kind. Though quite a bulky tree and probably as old as the others, it has the smoother bark of the younger looking trees which Tree-Creepers do not favour. On February 18th, with my penknife I made in this Wellingtonia three cavities as nearly approaching the normal type in size and shape as I could. On February 23rd I found one of these artificial cavities, S.6, occupied by "Our Friend." At least I took it
to be "Our Friend" for the following reason: on February 22nd two birds were roosting S.S.2, one at W.6, a cavity occasionally patronized by "Our Friend" in the past, and the other at E.7, a newly occupied site, while on 23rd W.6 was empty and E.7 was still tenanted. On the morning of February 24th I inspected the artificial cavity, S.6, and I saw that the upper half had been neatly pared off. On the evening of February 24th, the same two holes, G.2.S.6 and S.S.2.E.7, were again occupied. Next morning on examining G.2.S.6, I found on the lower half a quantity of towy parings which I did not touch. Again on the evening of February 25th the same two holes were occupied, and on further examination of G.2.S.6 next day I saw that all the debris had been removed and the whole interior looked as if it had been sand-papered. The occupation of this artificial roost would tend to show that the Tree-Creeper does not always make its own cavity, though at the same time there is the possibility that it would sense whether the excavation had been done by one of its own species or not. On February 26th all my reasoning regarding the identity of "Our Friend" and the newcomer broke down. On that evening G.2.S.6, the artificial roost, was occupied and also S.S.1.E.8, a site often tenanted before the arrival of the second bird. The only conclusion that I can draw is that birds do occupy roosts which have been used by other birds.

**Roosting in Trees Other than Sequoias**

Where do Tree-Creepers roost in the absence of Sequoias? Miss Frances Pitt writes: "A Tree-Creeper could be found every evening in a favourite crevice of the bark on the trunk of an oak tree." *(The Field, December 7th, 1935.)* Recently I searched the extensive oak wood immediately to the west of the house and found only one doubtful roost. But then with so many Sequoias at hand it is not likely that oak trees would be used. However, on the west shore of the lake, less than half a mile away, I found in an oak tree at 4½ feet from the ground a cavity which showed evidence of frequent roosting and which I believe, could have been tenanted only by a Tree-Creeper. In my quest of Tree-Creepers at night I have met with various other birds roosting in cavities, but all seem to require a stance. The Tree-Creeper, in my experience, is the only bird which clings to the perpendicular side of a tree. Again in the old, neglected wood, already mentioned, to the north across the lake I found two similar roosts in Scots pines, one of which was occupied by a Tree-Creeper on March 30th and 31st. In this wood there are many dead Scots pines which look mere
skeletons. The branches have fallen off, the bark is generally gone and in many of the trunks the outer layer of wood is so decayed that it is quite as soft as the bark of the *Sequoias*. In upwards of a dozen of these dead trees I have found obvious roosts of Tree-Creepers. Since the middle of February I have cut out from my evening rounds Reach C of the avenue and have taken instead some of these dead trees which I call S.P.1, 2, 3, etc. On February 15th I found one Tree-Creeper roosting in S.P.1.E.12. On February 17th there were two birds in dead trees, S.P.1.E.12 and S.P.2.E.6. The 18th was a particularly bad evening owing to wind and rain and no birds were on the dead trees. But on the 20th, S.P.1 and S.P.2 were again occupied and were regularly occupied up to March 2nd, one in three different cavities, the other in four. On March 2nd there were still two birds, S.P.2.E.6 and S.P.3.E.4. Thus I have found Tree-Creepers roosting in three dead Scots pines and in eight different holes. It would appear that they occupy dead trees just as they occupy Wellingtonias and that on bad nights they roost elsewhere. In this wood, as already stated, there are many trees of the species *Sequoia sempervirens*, but from examination of these I should say that Tree-Creepers prefer dead trees, just as they prefer Wellingtonias. It would also seem that where there are decayed trees in abundance the birds use cavities or dents in growing trees as alternative roosts. And finally in the absence of dead trees and *Sequoias* it is natural to conclude that they would have to fall back altogether on living trees.
Tree-Creeper roosting in *Sequoia gigantea* (G.4.W.6) at Portarlington, Queen's co. Taken March 20th, about 8 p.m.

(*Photographed by Rev. F. M. Browne.*)