



Wyre Forest Study Group

WOODPECKERS OF ROCK COPPICE

Rosemary Winnall

In the early 1980s I took part in the British Trust for Ornithology Garden Bird Census and Nest Recording Scheme and became fascinated by the 3 species of woodpecker that came into my garden. Where did they nest, how many pairs were there in the wood, were there more of one species than another, what were their site preferences and territory size, what were their habits? In an attempt to answer some of those questions I conducted a study of woodpeckers, between 1987 and 1990, in Rock Coppice - the woodland that my garden backed onto. This is a 65 hectare woodland just south of the main Wyre Forest block near Bewdley at grid reference SO 7673. It is ancient semi-natural oak woodland and a Site of Special Scientific Interest.

1987

During the early spring of 1987 I started to map all records of drumming and woodpecker interactions in order to ascertain territories. In addition I surveyed the woodland for trees in which woodpeckers had excavated holes with vertical shafts. These holes were mapped and examined 3 times during the breeding season, in May, June and July and the use made of these by birds and other animals was noted. The difficulties and dangers of examining holes in trees cannot be overstated. Most of these holes were in dead trees and great care had to be taken when ascending to those that were accessible. In addition dead branches above occasionally posed a threat, especially in wind. The possibility of an owl being present within the cavity was also a danger, especially in some of the rot holes. Special equipment had to be made for hole examination;

- A specially constructed extendible pole with a swivel mirror on the end. This was made from an old carbon-fibre fishing rod. The mirror was clipped onto the end when it was extended to a length of 2 metres and it was useful to check that the hole visible from below led to a vertical shaft. It also doubled as a walking stick, and 1m rule.
- A dental mirror with extended handle to 18 cms.
- A swivelling jointed book light torch adapted to a 4.5 volt battery.

207 trees were found that showed evidence of a woodpecker shaft, 127 of which had the hole still intact. 20 of these had been recently excavated by woodpeckers as indicated by fresh wood chips at the base of the tree. 93 of the total were accessible for checking and the following nests were discovered:

- Great Spotted Woodpecker 8
- Lesser Spotted Woodpecker 2
- Green Woodpecker 1
- Blue Tit 6
- Great Tit 4
- Tit sp. (nest predated) 9
- Wren 2
- Redstart 1
- Spotted Flycatcher 1
(on a ledge where the hole shaft was opened)
- Robin 1
(nest from previous year)
- Nuthatch 1
(nest from previous year)
- Grey Squirrel 1
- Wasps 1
(pendulous nest intact)
- Other occupants included 1 bat, several bumblebees and some were used by roosting woodpeckers. Later Pied Flycatcher and Starling were added to the list of woodpecker hole breeders.

The history of one hole is of interest. On the 9th May Great Spotted Woodpecker drumming resulted in the discovery of a partly excavated new hole in an old live Wild Cherry tree. On the first approach the adult flew off. There were lots of fresh wood chippings on the ground below the hole. Inspection on the 16th May however, showed that the hole had been extended, but a small breakthrough into an older lower hole had occurred. (This lower hole had contained Tit eggs on the 2nd May but these had been predated.) On the 24th May and for the next 2 evenings, a Great Spotted Woodpecker adult was observed entering the top hole to roost at about 20.45 hrs. But on 30th May moss nesting material started to appear in the base of this hole. A pair of Great Tits proceeded to nest successfully fledging 5 young. The clutch of eggs was unusual because of the presence of at least 1 white unmarked egg.

Once woodpecker nesting holes had been identified, they were mapped and were checked regularly to ascertain, where possible, nesting details and tree information.

1988

During 1988 the woodpecker territories and nest sites were located more easily. Again 8 nests of Great Spotted Woodpeckers were found, 1 nest of Lesser Spotted Woodpeckers and this time 2 nests of Green Woodpeckers. Although one of the latter was on the edge of the woodland in an adjoining orchard, the Green Woodpecker pair used the

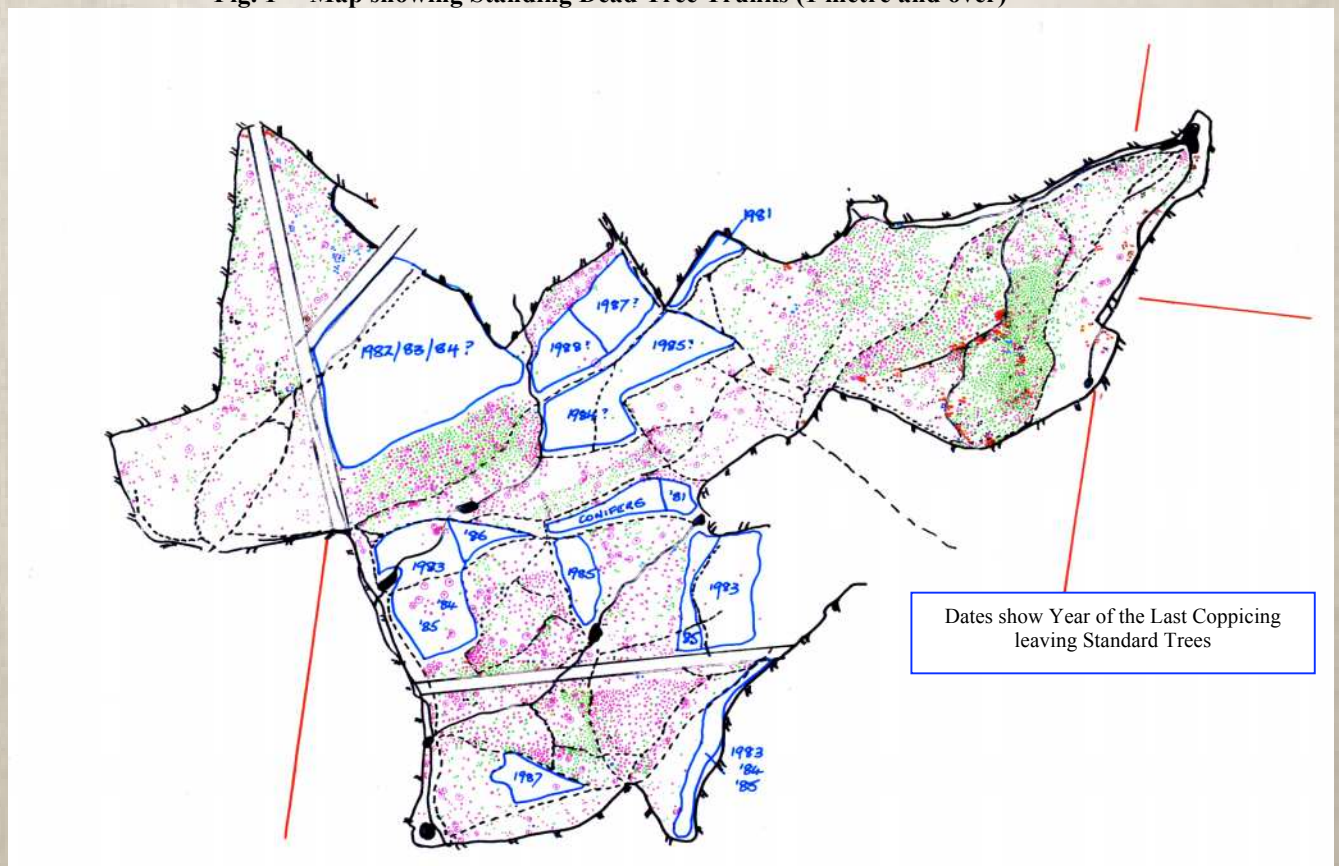
woodland for feeding and courtship displays. The Lesser Spotted Woodpecker nest site is of interest because the young had hatched when the top of the tree, which included the nest, was blown off in high winds. The adults proceeded to excavate a new hole in the same tree below the broken top. The adults were later seen feeding a second brood. The nest site distribution showed that nests of Great Spotted Woodpeckers were closer together in Burnt Wood than in the other two arms of the woodland. I wondered if this bore any relationship to the presence of suitable nesting trees. So during the summer of 1988 a survey of the standing dead wood in Rock Coppice was made. Standing dead trunks standing 1 metre high and above were marked on a map and the following information was collected for each trunk:

- tree species
- tree height (or estimate)
- tree circumference at 1m
- presence of woodpecker feeding marks (marks close to the ground were ignored because of possible confusion with rabbit or vole feeding)
- presence of a woodpecker excavated hole
- direction of hole, if present
- known nest site

Dead branches on live trees were not included, but dead coppice regrowth was if it was 1m or taller.

This was found to be much more onerous a task than first supposed. Eventually 7040 sets of records were obtained from trees of these species: Oak, Birch, Hazel, Holly, Rowan, Aspen, Sycamore, Wild Cherry, Crab Apple, Hawthorn, Sallow, Elder, Ash, Alder, Buckthorn and Beech. Differentiation was not often possible between different species of oak, birch or hawthorn. Oak (3642 records 52%) and birch (2935 records 41%) were the most commonly found. 18% of the records were of trees large enough to provide nest sites of spotted woodpeckers with a circumference of 43cms. and over at 1m above the ground. During a walk through the woodland, one would certainly not notice the differences that are so apparent on the map showing the distribution of dead wood, fig 1. The areas where there is no dead wood shown have all recently been coppiced or thinned, leaving standard trees at intervals. Presumably, all the standing dead wood disappeared at that time. The areas that show dense dead wood have been unmanaged for many years since the last coppicing. Most of the dead wood in these areas is thin coppice stems around the stool where just a few trunks have developed with vigour and shaded out the smaller ones. As there are so many of these it would be interesting to know what invertebrates they support and how important a winter food source they are for woodpeckers. 29% of these

Fig. 1 Map showing Standing Dead Tree Trunks (1 metre and over)



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showed woodpecker markings. It is possible to see the links between woodland management practices and dead wood. 6 years after thinning in some cases, there was still no evidence of standing dead wood. It would be of interest to repeat the survey in some of the cut areas in later years to discover how long it takes for dead wood to appear.

1989

Woodpecker pairs were located again this year. The young from one of the Lesser Spotted Woodpecker nests were predated by a Great Spotted Woodpecker on 11th June, possibly from the nest about 150m away. Great Spotted Woodpeckers leave a distinctive excavation hole straight into the base of the nest cavity.

Hides were used for observation and photography at nest sites of all 3 woodpecker species. The hides were erected in the last few days before the young fledged, when they were poking their heads out of the holes. The spotted woodpeckers brought mainly caterpillars to the young at this stage, although butterflies and moths were also collected. The Green Woodpecker brought wood ants as far as could be seen. Some of the wood ants would escape near the nest hole and the young would try to pick them off the trunk. One watch at dawn from a hide on the nest of a Great Spotted Woodpecker showed that the male parent was still roosting in the hole when the young were 19 days old. After waking, he was seen to feed the young 29 times in the first hour, removing droppings three times. For the next 45 minutes he fed 7 times, and then did not return for 1 hour, after which feeding recommenced. Blackbird alarm calls 200 metres away sent the adult woodpecker in that direction to investigate. The parent became extremely agitated when a Grey Squirrel and later a Magpie appeared near the nest. The young in the nest became silent during the alarm calls. A Lesser Spotted Woodpecker flew over to join in the clamour against the Grey Squirrel.

On one occasion the young Great Spotted Woodpeckers leaving the nest was witnessed at dawn. The male was no longer roosting in the hole at this time. They flew one by one out of the nest and down onto the ground, a time when they are presumably very vulnerable to predation. The parent eventually enticed them onto a low branch in order to feed them. The remaining one youngster in the nest was ignored even though it continued to call. All the attention of the parents went to the emerged (3) young who were very noisy, giving no confusion as to their whereabouts!

1990

More woodpecker nests were monitored. One of the Lesser Spotted Woodpecker nests was of interest, because the hole was only 90cms from the ground in a broken dead birch 250cms high. Other nests I have seen over the years have always been much higher than that, although nests below 1m have been documented elsewhere.

This year an opportunity arose to colour ring some of the birds. John Milner, a qualified BTO bird ringer began to catch woodpeckers by chance in his trap that was designed to catch Robins by baiting with mealworms. During the cold frosty weather conditions of January 20th 7 different individuals were caught in 2 hours 30 mins. in the middle of the day! 10 Great Spotted Woodpeckers were ringed in total, 9 males (including 2 juveniles) and 2 females. The birds were also weighed and wing lengths were measured. The adult males ranged in weight between 82 and 88 grams with wing lengths of between 133 and 136mm. The juveniles and females were a little smaller and lighter, ranging from 78 to 82 grams in weight, and with wing lengths of between 128 to 132 mm. 7 of the colour-ringed woodpeckers were seen in the woodland subsequently. Maurice (the mauve male) was still coming to the garden to feed in 1995 when he was at least 7 years old. The identification of certain individuals enhanced the study. The following was written concerning Belinda (the blue ringed female Great Spotted Woodpecker) on 25/11/90 during a watch from the house overlooking the wood and bird-feeding station.

08.45 - Belinda usually arrives pretty promptly at this time.

08.46 - Yes, here she is! She flies into the oak tree from the north as usual. She moves quickly down the tree from branch to branch, until she is peering alertly down at the bird table. Her head is moving from side to side. A Robin and Chaffinch are feeding on kitchen scraps.

08.49 - Suddenly she's down, frightening the small birds away. What is she eating? It appears to be the remains of a hard-boiled egg!

08.52 - Back up onto the oak she cleans her beak by wiping it from side to side on the bark. She then sits still against the bark for the next 20 minutes. Is she dozing or just digesting her food? Occasionally she puts her head on one side and looks up and around. What can she hear and see I wonder?

09.10 - She starts moving, hopping from branch to branch. She appears to be watching a Great Tit on the nut basket. After producing a dropping she suddenly flies across to the birch tree down near the nut basket. She hops up the trunk until she is opposite the nut feeder. She flies at the basket, but at the last moment veers and flies back to the oak.



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09.23 - Action replay, but this time she lands successfully. She pecks the basket and manages to extract a large piece of peanut.

09.25 - She flies back up to the oak and wedges the nut into her favourite anvil, a knot on one of the branches that she uses regularly. She eats the nut carefully.

09.26 - She flies back to the bird table, this time pecking the rice.

09.31 - She flies back up to the oak cleaning her beak. She moves up pecking apparently at random, right up to the high twigs at the top of the tree. She sits upright, the wind ruffling her feathers. She sways with the breeze. She stays like this for 13 minutes, only turning her head to watch a Carrion Crow land in a tree near by.

09.45 - She moves lower down the tree pecking the branches in several different places. The tree is well marked. I've noticed several woodpeckers pecking the oak tree in the same way, but mainly Belinda. Is it a visual territorial sign? She appears to have favourite branches on the oak. She moves back to her favourite resting place and perches against the trunk, her tail feathers acting as a balance. She scratches her neck with her right foot. She has now been in the garden for over an hour!

09.50 - Suddenly she's flying with swooping flight out across the trees and downhill on her usual route towards the part of wood where she nested during the summer about 500 metres away! Will she nest there again next year? Will she have the same mate? Will she continue to come to the garden to feed?

Nest Results and Observations (See Chart-Fig 2)

During the 4 years of study, similar numbers of woodpecker species were found annually. There were usually 8 pairs of Great Spotted Woodpeckers, 2 pairs of Lesser Spotted Woodpeckers and 1 pair Green Woodpeckers in the wood and the territories stayed approximately the same from one year to the next. In 65 hectares, this made an average territory size of 8 hectares for Great Spotted Woodpeckers and 32 hectares for Lesser Spotted Woodpeckers. This is a higher density of Great Spotted Woodpeckers than Dr. Ken Smith of the RSPB found in Hertfordshire at 12 hectares per breeding pair (Ken Smith BTO 1986).

During the 4 years, 27 nests of Great Spotted Woodpeckers were followed, with 11 of these checked on a regular basis during which time no nests were deserted. During the first year the Green Woodpeckers deserted a nest and 2 nests of Lesser Spotted Woodpeckers were predated, and so no further attempt was made to monitor those species at the nest. It is of interest to note that Great Spotted Woodpeckers will use the same nesting

trees in consecutive years, either nesting in the same hole as the previous year, or excavating a new hole below the last. 64% of nests were in a tree that already contained a previously excavated woodpecker hole and 25% of nests found were in a nest hole used by the same species in the previous year. 70% of the holes excavated faced between northwest through north to east. The nesting trees need to have a minimum circumference of 37cms for Lesser Spotted Woodpeckers, most of which measured 44cms at the hole, and 54cms at 1m above the ground. For Great Spotted Woodpeckers 41cms. is the minimum with most being 67cms and 99 cms at 1m above the ground. This may be a consideration when a management plan includes the ring barking of trees to create more standing dead wood.

Dead wood is extremely important for woodpecker nesting and for winter feeding. Rot holes in live trees are another important nest site, especially for Green Woodpeckers. Incidences of oak dieback and tree death through drought (as happened to many birches in this wood during 1976) will enhance the biodiversity potential. At any one time 40% of woodland wildlife is dependent on dead wood (Steve Moore RSPB). The old holes too provide shelter and nesting places for other species throughout the year. Only towards the end of the study was it realised that most of the dead birch trees that were being used for nesting also showed the sporing heads of the Birch Polypore bracket fungus (*Piptoporus betulinus*). Presumably the wood is at a suitable consistency for excavation at this stage of fungal decay. I found no evidence of woodpecker sap sucking marks in Rock Coppice as seen elsewhere in Wyre in a variety of trees, including Small-leaved Lime, Aspen and oak.

Almost all of the dead birch trees checked showed evidence of Honey Fungus *Armillaria mellea*, with black bootlace mycelia being evident under the bark.

The study showed that in the Great Spotted Woodpeckers there was a 79% egg hatching success, 85% of young that hatched eventually fledged, showing that 67% of the eggs laid resulted in fledged birds. The newly hatched naked young clustered in a pyramid for warmth. Their eyes opened at about 8 days when the feathers were forming and visible in pin. At 12 days old the feathers were through the pin and red was visible on the head. In one of the Great Spotted Woodpecker nests 9 eggs were laid which is more eggs than mentioned in the literature 4-7 (3-8). 7 young hatched, but only 4 eventually fledged. Once the young had fledged, the entrances to the nesting holes were usually enlarged within days. All old holes in dead trees were enlarged to a greater or lesser degree and some were opened to expose the inner shaft.



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The Great Spotted Woodpeckers appeared to mark some of the live trees in their territories by pecking off small areas of bark. This may have been especially common along territory boundaries. This became a conspicuous visual feature in the spring

before the leaves opened on the trees due to the paler colouration of the chipped areas. It is possible to identify whether Great Spotted Woodpeckers are present by checking for this in woodland early in the year.

Fig 2 Woodpecker Study 1987 – 1990 at Rock Coppice, Wyre

	Great Spotted Woodpecker	Lesser Spotted Woodpecker	Green Woodpecker
Nesting tree dead	(27) 93%	(6) 100%	(3) 0%
Nesting tree live	(27) 7%	(6) 0%	(3) 100%
Tree species	(27) Birch 88%, oak Syc Alder all4%	(6) Birch 100%	(3) Cherry, Aspen, oak
Height of tree	(27) range 324-1200 mean 616	(6) range 250-549 mean 435	(2) 500 + 1100.
Tree circumference at 1m	(26) range 51-193 mean 99	(6) range 43-61 mean 54	(2) 108 + 130
Tree circumference at hole	(18) range 41-180 mean 67	(5) range 37-52 mean 44	(1) 109
Height of hole	(26) range 180-950 mean 395	(6) range 91-500 mean 327.	(2) 153 + 450
Diameter of hole	(16) range 4.5-6 mean 4.96	(5) range 3-4.2 mean 3.64	(1) 5.5
Width of hole lip	(17) range 1.5-9 mean 4.06	(5) range 1.5-4 mean 3.02	(1) 10
Depth of hole	(15) range 16.5-37 mean 28	(5) range 17-26 mean 21.5	(1) 50
Interior diameter	(17) range 9-17 mean 12.2	(5) range 6.5-9 mean 7.9	(1) 16
Tree excavated previously	(25) 72%	(6) 50%	(2) 100%
Hole used before	(24) 29%	(6) 0%	
Dead tree with broken top	(27) 85%	(6) 100%	
Number of eggs laid	(8) range 5-9 mean 6.16	(3) range 2-5 mean 4	
Number of young hatched	(8) range 3-7 mean 4.88	(3) range 1-4 mean 2.6	
Number of young fledged	(11) range 2-6 mean 4.00	(3) range 0-1 mean 0.3	
Incubation time	(6) range 9-12 days mean 10.4 days		
Fledging time	(6) range 22-27 days mean 24 days		

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Figures in brackets show the number of nests or trees from which data were collected. Measurements in cms.

Conclusion

At the end of a study like this one, we end up with lots of numbers on paper and dots on maps. But we gain far more than that. We gain an insight into the secretive life of a wild animal, and this is true whether we are studying badgers, woodpeckers or a fungus gnat. This information is far harder to transcribe onto paper, but it is probably the reason that we start in the first place and what makes the time watching and learning a privilege and a delight.

Acknowledgements

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Whartons Park Farm, and later C and C Leisure Limited. Dr. David Malcolmson helped by providing some of the equipment and by setting up one of the hides, John Postans ingeniously made the mirror stick and John Milner ringed the woodpeckers in Rock Coppice. John Robinson, then from English Nature and Site Manager of the Wyre Forest National Nature Reserve kindly allowed me to use three of his hides for photography and also generously gave me some of his woodpecker slides. Special thanks must go to my patient husband Tony for helping access some of the higher nest holes, for aiding the input of data onto the computer, for producing the computer graphics, and for baby sitting whilst I tramped the woods!



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References

- Heinz Sielmann (Barrie and Rockliff 1959)
Humphrey M. Dobinson (Penguin 1976)
Richard Kearton (Cassell 1907)
Eric Simms (Dent 1983)
Viscount Grey of Fulloden (Hodder and Stoughton 19270
Peterson, Mountfort and Hollom (Collins 1983)
Jim Flegg (Macmillan 1981)
- from
- Bruce Campbell and James Ferguson-Lees (Constable 1972)
J.G.Black (Andrew Reid, Newcastle-upon-Tyne 1920)
Bruce Campbell (Collins 1953)
Ed. David Glue (Macmillan 10982)
Henry Mayer-Gross (BTO 1972)
Ed. Stanley Cramp (RSPB 1985)
- Jim Fowler and Louis Cohen (BTO)
- My Year with the Woodpeckers
Bird Count
British Birds' Nests
A Natural History of British Birds
The Charm of Birds
A Field Guide to the Birds of Britain and Europe
A Notebook of Birds 1907-1980 Original Notes
- British Birds with commentary
A Field Guide to Birds' Nests
Birdsnesting
Finding Nests
The Garden Bird Book
Nest Record Scheme- BTO Field Guide 12
Handbook of the Birds of Europe, the Middle East
and North Africa Vol IV - Terns to Woodpeckers
Statistics for Ornithologists BTO Guide No.22

Articles

- Keeping Track of Woodpeckers by Ken Smith (BTO 1986)
Dead Wood and Droppings by Ken Smith in Birds Magazine - RSPB Spring 1988
With the Beetles by Steve Moore in Birds Magazine - RSPB Winter 2001

Notes on Woodpeckers

These notes are compiled mainly from the Handbook of the Birds of Europe, the Middle East and North Africa Vol. IV Terns to Woodpeckers Ed.Stanley Cramp (RSPB 1985)

Legend

- GSW** -Great Spotted Woodpecker
(*Dendrocopos major*)
LSW - Lesser Spotted Woodpecker
(*Dendrocopos minor*)
GW - Green Woodpecker (*Picus viridis*)

GSW is present in Britain in England, Wales and most of Scotland, LSW in most of Wales and England in the South and Midlands, then in scattered localities north to Cumbria. GW is present in Wales, England and south Scotland and there are no woodpeckers in Ireland. Male and female birds in all 3 species are identifiable by looking at the presence and position of red colouration. GSW (size of a Song Thrush) - both sexes have red feathers under the tail, and in addition the male has red on the back of the head and juveniles have red on the top of the head which they lose with the first moult between August and October. LSW (size of a House Sparrow) - female has no red feathers and the male has red on the top of the head. Juvenile males have the rear of the head crown red, and in females it is flecked red. GW (size of a Jackdaw) - both male and females have red heads, but the male in addition has red within its moustachial stripe. Juveniles have the red

head and the males have some red in the moustachial stripe.

Both sexes of GSW and LSW drum between January and June, GSW 10 to 16 strikes lasting about 0.5 sec. whereas LSW is longer and higher pitched lasting 1sec to 1.5 secs. GW has been recorded drumming very occasionally, but this is very rarely noted. The oldest recorded individuals are GSW - 10yrs 9 months, LSW 6 years 5 months and the GW 7 years and 4 months. Woodpeckers may be identified in flight as they have an undulating flight pattern characterised by 3 to 7 wing beats and then a complete closure of the wings.

GSW feed mainly on insects but also on tree seeds, bird eggs and nestlings and come to bird tables to feed on peanuts and scraps. They use holes in trunks regularly as anvils to wedge nuts, cones and seeds.

LSW feed on insects. GW feed mainly on adult and pupal ants. In summer ants are taken from the ground or bushes. They excavate nests in the winter to find dormant ants and can locate ant nests in the snow.

The spotted woodpeckers are rarely seen on the ground, almost always feeding from the canopy by excavating beetle larvae from dead wood, whereas the GW feeds almost entirely from the ground but uses trees for perching. Association with water for all woodpeckers is minimal. The spotted woodpeckers bring food to the nestlings in their bills, whereas green woodpeckers hold the ants inside their bills.

GSW is recorded drilling holes round trees to drink sap oozing out, especially in March and April. They start low on the tree and move up presumably as the sap rises. They visit old holes and open them up before making new holes concentrating on the sunny side of the tree where the sap rises faster. Pine trees have been recorded although in Britain Sycamore and Lime are noted.

All populations are basically resident. GSW have separate home ranges that overlap in the breeding season. During the nesting period a pair may occupy between 4 and 60 hectares. The shortest distance between nests is between 50 and 150 metres, exceptionally 25m. The pair bond is only for 1 season, although a pair may mate again, especially if the woodland is a small one. Both sexes help with the excavation of the nest hole, the incubation and the feeding of the young. In the home range there will be key areas for calling, drumming, trees for nesting and for roosting, and favourite feeding areas. Excitement pecking has

been recorded and it is thought that this might act as a visual signal on boundary trees. No nesting material is used in the nest hole, although there may be some wood shavings in the bottom of the hole. The young are sensitive to cold, and usually make a pyramid in the bottom of the nest when the parent is absent, in order to retain their body heat.

The male GSW roosts in the hole before the eggs are laid. Incubation starts either when the clutch is complete, or within 2 days of that. Incubation is by both parents who remove eggshells and dead birds. Brooding is for about 12 days. The male stays in the nest hole at night until about 2 days before the young fledge. The young climb up the shaft inside the nest hole and look out of the hole from about 2 days before they leave the nest. They fledge after 20 to 24 days. They leave the nest all on the same day or within 2 or 3 days and stay together as a family unit from 8 to 10 days after leaving the nest, staying around the nest area for about 3 weeks.



Greater Spotted Woodpecker

Neville Wilde



Green Woodpecker

Neville Wilde