# Tit Nest Boxes

## Methodological Guide



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# Chapter one. Who are we building houses for?

In this guide, I will focus on birdhouses for starlings and tits. On one hand, starling houses (and tit houses are not much different) are generally familiar and understandable to people. On the other hand, using them is not complicated. Houses are also built for other birds, but that requires more knowledge about the biology and habits of potential residents.



## Simple principles

*— There are three types of these wooden houses, which are familiar to many: small and large tit houses and, essentially, starling houses. They are all made the same way, with differences in the size of the house and the diameter of the entrance hole. Tit houses are inhabited by a whole group of forest birds that nest in cavities. They should be placed deep in the forest. Starling houses can be placed near the home. In the forest, they should be on the edges.*

*— The dimensions for the house are approximate. They can be a little larger or smaller. You can adjust based on the materials available. However, the diameter of the entrance hole should be more precise. It limits the settlement of unwanted residents and protects chicks from predators. If it's technically difficult to drill a round hole, that's okay. It can be cut out, even if it's square. The size should be such that a circle of the recommended diameter fits within it.*

## Small tit house (“flycatcher house”)

Base 10 by 10 cm, height 25 — 26 cm, entrance hole diameter about 3.2 cm.

## Large tit house

Base 12 by 12 cm, height about 30 cm, entrance hole diameter from 3.4 to 3.5 cm. Some guides suggest up to 4 cm.

## Starling house

Base 14 by 14 cm, height from 30 to 35 cm, entrance hole from 4.7 to 5 cm.

The sizes of the entrance holes were determined experimentally by researchers. They have been repeatedly verified by ornithologists. The principle here is that the desired bird can fit through, but others cannot. It's inconvenient for a magpie or woodpecker to stick their head in to eat the chicks or destroy the nest.

The dimensions are for the base, considering that the base is inside the walls. A square is not mandatory: it can be a rectangle. A deviation of a centimeter or two on a side is not critical.

*— Some guides do not distinguish between small and large tit houses. The size "from" and "to" is possible and combined into one category. I personally prefer to make small tit houses. A quarter of the number of large ones. In terms of volume, it turned out to be technically convenient. There are leftover pieces of wood that are slightly smaller. Too small for a large tit house or a starling house. In them, I cut an entrance hole that matches the recommendations for a small tit house.*

# Chapter two. Materials

I’m not considering birdhouses made from a whole log with a hollowed-out core. They work well, but making them is technically impractical for almost everyone.

Boards. UNPLANED BOARDS! They come in a thickness of 2.5 cm. Standard boards sold in stores are 10 or 15 cm wide. Coniferous wood is not recommended because there are cases where a chick sticks to the resin and cannot get out. However, boards made from deciduous trees are rarely available for sale. Use coniferous wood, but when purchasing, choose the least resinous ones. And when cutting the pieces, cut out the resinous knots and leave them out. The blanks are small anyway. Not using sections with knots is a minor issue.

Regarding unplaned boards. A chick, not yet able to fly, climbs out of the nest by scrambling up the walls. It cannot do this on a smooth wall and perishes. This has been noted by many researchers. Therefore, for example, plywood is unsuitable. Ideally, for both human aesthetics and bird life, it would probably be best to buy an unplaned board and plane only the outside.

Technically, this is not feasible for everyone. So, it's better for the house to be unplaned and unattractive to us on the outside but functional for the feathered resident!

I have often used planed (smooth) boards when I couldn't get unplaned lumber, for example when time was short before an expedition. That's not a problem: build birdhouses, but always cut grooves into the inside surfaces of the boards. It doesn't take long! Don't spare the effort: gouge the wood with a knife, leaving rough spots that birds can grip easily with their nimble feet.

On my expeditions, I would usually load a couple dozen birdhouses into the bed of my pickup truck at a time. But before setting out, while preparing the nest boxes, I would personally rough up the reverse, inner faces of the boards with a knife, cutting deep grooves. As a result, the boxes look neat and attractive on the outside while remaining comfortable and safe for the birds inside. The grooves allow birds to grip the wood securely with their feet and move freely inside the box.

One more time: DO NOT USE PLYWOOD! While you can cut grooves into a planed board, that won't work with plywood, and it puts birds at risk.

# Chapter three. Building a nest box in photographs



*1. Take the boards and cut them into blanks of the required size. Use a hand saw or an electric saw (jigsaw or circular), depending on the tools you have available.*



*2. This is the layout of the future titmouse box. A complete set of blanks for the house.*



*3. If drilling a round entrance hole is a problem, cut a square one. It will be right under the roof of the house. It can be in the middle or on the edge. Tits have no problem settling in houses with such an entrance.*



*4. If the boards are not wide enough, you can join them from two blanks of the required length. To do this, use pliers or large wire cutters to snip off the nail heads. Drive in 2-3 nails with the snipped side, where the head was, into one blank. Apply carpentry glue to the edge for reliability. Then carefully, with gentle taps, nail the second blank on top. Of course, it's better without this additional operation. By combining boards 10 and 15 cm wide, there's no need to join anything.*



*5. The process of drilling the entrance hole with a hole saw of the appropriate diameter.*



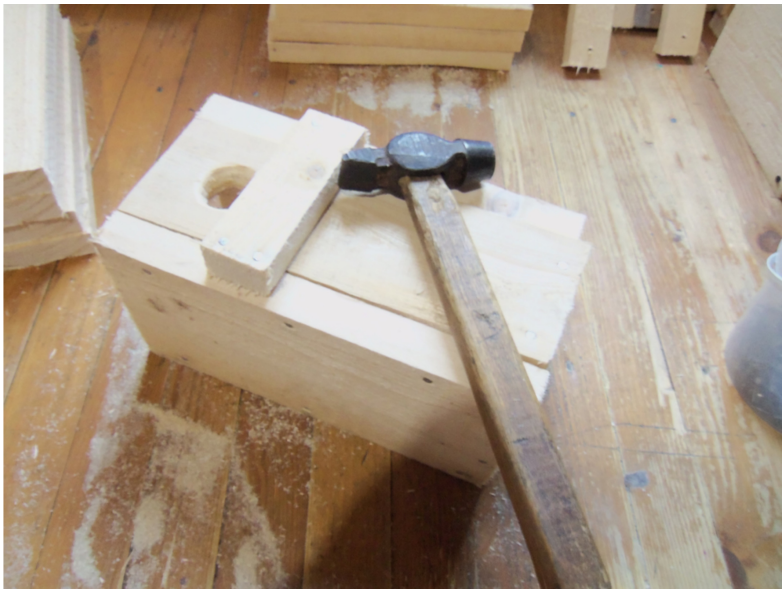
*Note that the tool for working with the hole saw needs to be powerful! Cordless drills and small, low-power drills "won't cut it!"*



*If there is no powerful tool, it's easier to immediately cut a square entrance.*



*After drilling, the edges of the entrance need to be processed. I trim and chamfer with a knife. You can also use coarse sandpaper.*



*6. A block nailed just below the entrance will protect it from possible pecking by a woodpecker. It will also serve as a perch. I decided not to use the classic protruding stick perch. In certain exceptional cases, I do use this kind of perch. Many experts write that it only helps predatory birds reach the chicks. The residents themselves don't really need it.*



*7. To protect against woodpeckers, some even cover the area around the entrance with tin.*



*8. This is the process of turning an ordinary tin can into an "armored door" for the titmouse box. You can do it this way, but a block is sufficient.*







*9. Next, we nail the walls to the bottom. Important! The bottom is nailed from inside the walls. It's a bit easier if it's nailed from the outside onto the already assembled walls. But in this case, it often falls off later. Even if it was screwed on instead of nailed.*



*Speaking of screws and nails, by the way. Screws are, of course, stronger. Nails, if the bottom is nailed from inside the walls, are also quite reliable. The choice is yours, depending on what you can manage.*

# Chapter four. Where and how should we hang birdhouses?

In the forest, where else? We built them for forest birds! Birdhouses or large titmouse boxes can also be placed in the garden, near the house. But the smaller ones should be kept away from people! Birdhouses are placed along the edges, facing open spaces. They can be hung in groups. Starlings can live in colonies, not far from each other. However, titmouse boxes should be at least 50 meters apart. These birds are not as sociable. If you plan to clean the houses later, it’s more convenient to place them along a clearing or road. This way, they will be easier to find later. You can even record the coordinates of each one. In the modern world, this is not difficult.



The direction they face is not very important. If you know the prevailing wind directions in the area, then place them with their backs to the rain and wind. But even this is not straightforward. There are also terrain folds, slopes, and ravines.

The height should be such that they cannot be reached from the ground. Without a ladder, you can climb a suitable tree. With a wire loop, they are hung from the ground on a suitable branch stub using a stick. The stick is taken with a knot near the end. The titmouse box is placed on this knot with the entrance hole, lifted, and hung. Make sure that such houses with a ready-made loop on the back lie against the tree trunk. So they don’t

tilt later.

Regarding wire suspension.

Wire wrapped around the trunk will eventually grow into the bark. The sap flow and tree growth occur in the outer layers of wood. Over the years, wire can constrict these layers. On branches, yes, you can hang with wire loops. Or fasten with wire. But do not fasten wire around the trunk.

We choose the most humane way to place birdhouses, using a suspension and a crossbar, which is placed on any fork between branches.

Birdhouses can be hung from fall through spring. All winter long. Birds will warm themselves and sleep in them even in winter. These birds move from place to place. They might even find a home in advance.

I'll say this separately: if you regularly feed birds in the winter, you can (and should!) hang titmouse boxes around the area. This will increase the effectiveness of your efforts. The birds will settle in and live near you permanently. Don't worry if the boxes aren't occupied in the first year. According to ornithologists, birds don't always immediately occupy artificial nests. Data on this varies significantly among researchers. But nearly 100% of titmouse boxes are occupied by the third year.

I’ll provide examples with photographs of birdhouses that were poorly hung. Here, there’s a sample of an incorrect bottom, nailed outside the walls. And a crooked house where someone tried to peck another entrance. A woodpecker? This is another reason to visit "your" birdhouses later. A bird can’t fix anything afterward, but a person can. Even if something was done incorrectly at first. The main thing is to do it!









# A brief afterword

My recommendations are not absolute. Not everything is covered. I tried to focus on the simplest and most accessible options for everyone. There are also houses for birds of prey and methods to help birds that nest outside of cavities. You can even make squirrel houses. However, if you see squirrels, say, in Izmailovsky Park, it doesn't mean there are many of them in the forest a couple of hundred kilometers from Moscow. In some places, they are gone entirely... I hope there will be some global actions to preserve the Russian Taiga. For now, at least locally, we can preserve what remains. The Russian Taiga is depleted. I didn't even realize how much until I got involved in the Bird Assistance Program and saw everything firsthand. Even the forests considered "prosperous," where large-scale logging does not take place, are not in good condition.

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