

house in the summer to eat flies on the windows. They do not eat carrion as the yellow jackets do. The latter have a smaller nest than the former. The white-faced hornet belongs to the genus *Vespa* of the Order Hymenoptera.

Your loving reader,
Guelph, Ont. FRED. B. HUTT.

Another competitor says the hornets leave the nest in winter. I have looked through several insect books to find out what the writers say about this, and find that all mention the fact that the female sometimes stays in the crevices of walls, or under bark during winter, instead of staying in the nest. In the spring she comes out and builds a few cells, as Fred. has described. In these cells she lays eggs, which presently hatch out into larvae, or "little white worms," as one of our Beavers expresses it. Presently the larvae turn into pupae, little hard things that look like mummies of worms, if you can imagine such a thing, but which go on developing, adding wings, etc., until they become fully-fledged hornets, and fly away. The first batch hatched out are all workers, which at once set to work making cells, and feeding young larvae, and from this time forth the female has nothing to do but to lay eggs. In the fall, larger cells are made, and from these the males and females are hatched. The larvae are fed on a brownish liquid, made up of fruit juices and the chewed-up remains of insects.

Don't you think it interesting that the wasps and hornets should have been the first paper-makers? And to think that they made it from wood-pulp, too—a very modern invention among mankind! One species of wasp in Ceylon makes a nest six feet long; there would be lots of paper in that. Another kind in South America makes a wall as thick as pasteboard, and then puts on an outside covering of paper so fine that it can be written on with a pen.

The next time any of you see an empty hornet's or wasp's nest, examine it to see how many sides each cell has.

ESSAY II.

I am going to tell you what I think the picture is. I think it looks a little like a bird's nest, but I think it looks more like a wild bees' nest, or a wasps' nest.

One of the boys has a stick in his hand, surely he is not going to destroy this little nest?

The black wasp generally builds its nest on small bushes or trees, and occasionally on some building. In a wasp's nest there are two holes, one to enter by, and one to come out by, so that there is no inconvenience in a wasp's home. (Often only one hole.—Ed.)

The nest is made of a material something like paper. The wasp goes to a door or windowcase, fence, posts, etc., and pulls off little pieces of wood, and makes a heap of this under her back legs, then she makes it smooth with her mandibles. The eggs of the wasp are white, and in shape are oblong. Some of them are no larger than the head of a small pin. Eight days after the eggs are laid the worms appear. The wasp feeds them as a bird feeds her young.

The yellow wasp makes a hole in the ground, goes and catches a kind of gray spider, pricks the body, and carries it to its hole, and lays its eggs in the body, covers it up, and thinks no more about it.

The sand-wasp is another kind of wasp, it is an orange color, and has black stripes down its back. It nests in a way similar to that of the yellow wasp.

It is very cruel to bother wasps for fun, and is sometimes dangerous. I will tell you a story to show this is true.

Once two little boys were destroying a wasps' nest. One of the boys hit the nest, and his companions said, "Now, run!" Away they both went like lightning, the wasps following in rage. At first these wasps stood calmly by, but when a cruel stone hit their house, they took after the intruders.

Fred was the boy who hit the nest, and he had been forbidden to play such tricks. When he had got away quite a piece from the nest, he fell on a piece of wood, and the wasps stung him on his face, his hands, and his bare legs. He howled with the pain, and his legs were so swelled and sore he could with difficulty get home, and when there he was ashamed to enter, because he had been

paid for his disobedience. However, at last he took courage and went in. His father greeted him with a smile and these words: "It serves him right."

These were not very nice words, but it taught Fred a lesson never to touch anything that did him but a wee bit of harm. In fact, the wasps were perfectly harmless if left alone.

LUELLA KILLOUGH (age 11.)
Auburn, Ont.

Fred Hutt classified the hornet whose nest was shown in the picture correctly as the white-faced, or bald-faced hornet, but Luella is also right in saying there are several kinds of wasps. Some are "solitary," that is, live alone, like hermits; others are social, living in colonies; some make nests of mud, while others burrow into rotting posts, or soft wood of any kind; some dig into the ground, making their nests there, while one of the solitary species has been found to burrow up into raspberry or blackberry canes. All wasps and hornets are, on the whole, useful, as they eat insects and do not attack crops, although they are sometimes a nuisance in an orchard, where they love to fly upon injured fruit and suck the juice. Luella mentions that the eggs are sometimes placed in the dead body of a spider, the larvae feeding on the body when they hatch. Howard tells of one big species of "digger wasp" which carries cicadas into its burrow in the ground to serve as food for its larvae. It lays its egg under the dead cicada's hind leg, and as soon as the larva hatches, it at once begins to feed on the dead body.

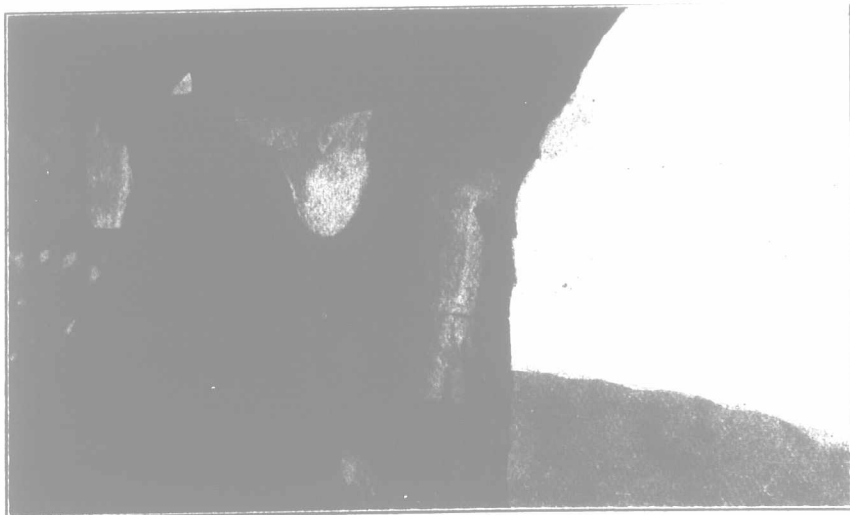
ESSAY III.

One sunny day during the Easter holidays, Harry and Dick Elliot decided to go and spend the afternoon with their friend Tom Harris. Their parents gave them permission to go, and the two boys set out in great glee.

They arrived at Tom's home early in the afternoon, so, as Tom had finished all his work, the friends set out for a ramble.

As they wandered over the top of a hill, they saw a groundhog run into a hole, situated in under a clump of small trees. The boys directed their steps to this place. They were looking into the hole and talking about the groundhog, when Harry suddenly exclaimed, "What is that?" and pointed among the branches. The boys looked up, and there, hanging in the branches, was a deserted hornet's nest.

The boys were all afraid to touch it, but they admired it all the same, and wondered how such small insects could construct their nest so neatly and artistically.



John Burroughs Watching the Bluebirds.
(From Country Life.)

Then Tom remembered about taking up the hornet in one of their entomology studies, and he began to describe it to Dick and Harry, who had never been very near one.

He told them that the hornet was the largest species of the wasp to be found in Britain. It is not found in Scotland. Then he described the hornet as the thorax being black, the abdomen yellow, with three brown points on each segment. He then told about the hornet devouring bees and other insects, and carrying them home to feed its young.

A community is not supposed to contain more than two hundred individuals. Like the bees, the community consists of females, males and workers. Most of the males and workers perish during the winter, but the females generally survive.

After Tom had told all he knew about the hornet, Dick exclaimed, "Tom, how



A Bird-box that Any Boy Can Make.

A nest in such a box is safe from cats and squirrels. Note the obstruction put around the post, below nest, to keep animals from climbing up.

did you examine one of those hornets in school? for I can tell you I got all I wanted from them. Last summer I was throwing stones, to see how far I could make them go, when I accidentally hit one of those nests. They came out at me like a flash, and I got badly stung." Tom laughed, and explained to Dick how they always gave chloroform to the insects before they examined them.

to several hundreds. In one large nest, made by a white-faced hornet, he counted 1,135 cells; in some of the nests made by the smaller, yellow-jacket wasps, the cells are even more numerous.

By the way, how many of you noticed that the boys in the picture seemed to have guns? I hope our Beaver boys are too manly to want to go out with guns after harmless, innocent creatures. There is nothing manly about shooting timid, helpless birds and animals. To me it seems cowardly. I think we can find better sport than that.

And now this brings me to something else I want to speak to you about. I wonder how many of the boys have made bird-boxes this spring. Accompanying this is a picture showing a very good bird-box which any boy can make, and which is much used by dear old John Burroughs, as it gives the birds a very safe nesting place.

Do you know John Burroughs? If not, I must tell you about him some day.

Do you know, I believe some of you thought I was joking about sending you that handsome bird book for three new subscribers. Or, perhaps, three are too many to get. Now listen: Last week we got in some new pocket-size books on birds and flowers, full of pictures, partly colored. If you send us the name of ONE new subscriber, we will send you one of these, or if you send us the names of three, we will send you the large, handsome book, with the colored pictures that I told you about before. Now, try your best, won't you? Of course, we will be glad to get the new subscribers, but I shall be more glad to be able to send you these lovely books. I think you ought to have them. Send the price for the new subscription, and the name and address of the new subscriber to me, and I will pass them on to the business office and see that your book is sent you.

These little bird and flower books, by the way (which are to be sent you for one new subscriber), are intended to be taken out with you to the woods, so that they may help you to name the birds and flowers where you see them. I know you will be delighted with them, but, of course, the big books (for three new subscribers) are still better. Now, see what you can do, will you not?

PUCK.

Address: "The Beaver Circle," "Farmer's Advocate," London, Ont.

Our Letter Box.

Dear Puck,—I am glad that somebody is "sticking up" for the birds, and I am glad the boys and girls are taking an interest in them, too, because if they love birds once, they have something that will give them all sorts of pleasure.

It helps one to be happy, and it teaches one to see and hear; it strengthens the mind and the muscles, because if you have a desire for birds, you are out in the fresh air.

I am taking the census of the birds' nests on the square mile that we live on this year, and I wish that the Beavers would, too, and if they don't live on a square mile, take them on their farm, and in the fall we will compare our results, and do the same next year, so that we will know which birds are on the increase and which are on the decrease. Get a notebook and make a table like the following, or as you choose:

Name of bird	Have found	Result of set	Write destroyed safe, or unknown	Location of nest
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I think I will close now, wishing my Beaver brothers and sisters success.
MICHIGAN BOY.

Croswell, Mich.

Here is one bird-lover, truly. I am sure you will not find him walking around with a gun shooting birds; aren't you? What do you think of his plan, Beavers?

Dear Puck,—We have started to paint the wild flowers at school, and the teacher sends different crowds of boys and girls out after school to the woods to gather the flowers.

A friend of mine went out with me one