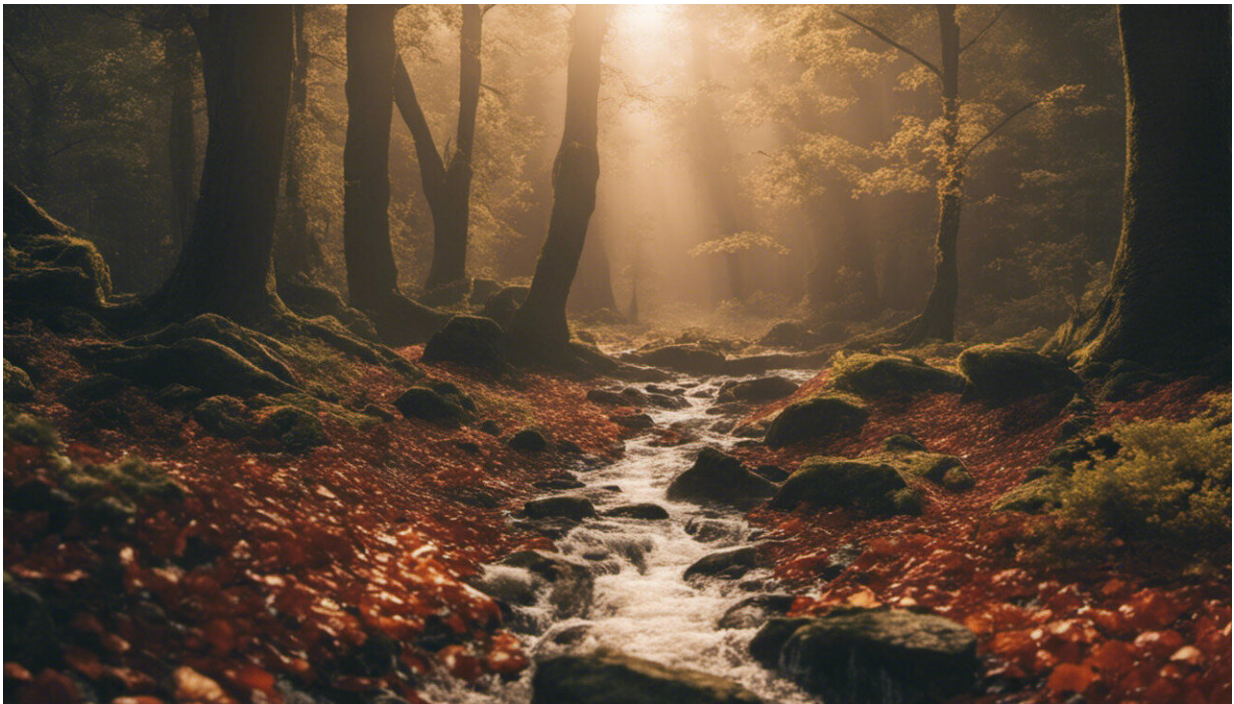


Children have a skewed view of the natural world, but it doesn't have to be that way

July 14 2023, by Kate Howlett



Credit: AI-generated image ([disclaimer](#))

Children's books and TV shows are full of animals, but how well do kids really know the natural world?

The vast majority of the world's known [animal species](#)—[96.9%](#)—are invertebrates, such as insects, snails, spiders and worms. But when my

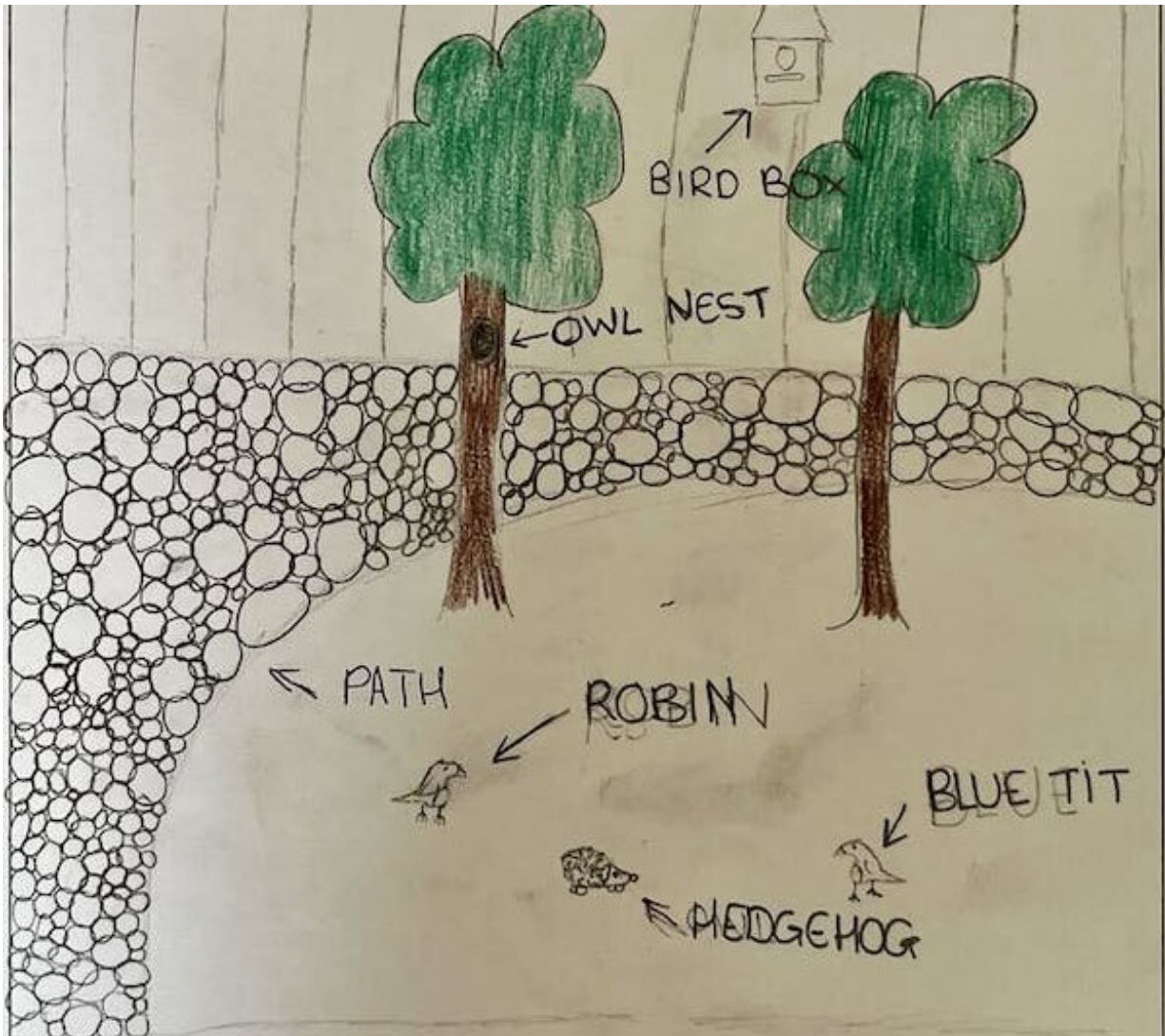
colleagues and I asked a large group of [children](#) to draw animals from their garden or local park, most of the [resulting pictures](#) were of mammals or birds.

This suggests there's a disconnect between children's perception of the wildlife surrounding them and what is actually there. If we don't address this, we risk leaving children with a skewed view of the [natural world](#), which has implications for efforts to tackle biodiversity loss and climate change.

We asked more than 400 children aged between 7 and 11, under the supervision of their teachers, to draw a picture of their garden or local park, and to label all the animals they thought lived there.

We collected 401 drawings in total. We counted how many different types of animal were drawn by each child, and which were drawn the most and least often.

We found that the children's drawings did not reflect the make up of the natural world very well. We noticed that 80.5% of drawings contained at least one mammal and 68.6% featured at least one bird.



A child's drawing of the animals in their garden. Credit: Kate Howlett, CC BY-SA

In the outside world, though, just [4.7% of animal species described by science](#) are vertebrates, such as mammals, birds, reptiles, amphibians and fish.

A third of the drawings contained no invertebrates at all. And when asked to name the creatures they'd drawn, the children were far less able

to give detailed information about insects and other invertebrates. While they could often give specific species names for mammals and birds, this was not often the case for these smaller, overlooked animals.

For instance, many children were able to identify a bird as being a robin in particular. For insects, the equivalent might be being able to point to a red admiral butterfly. But the children mostly labeled butterflies simply as "butterfly."

Biases matter

This bias mirrors [those we previously found in nature documentaries](#), which in turn reflect people's tendency to [pay more attention to larger, more charismatic species](#) that are more similar to humans than invertebrates.



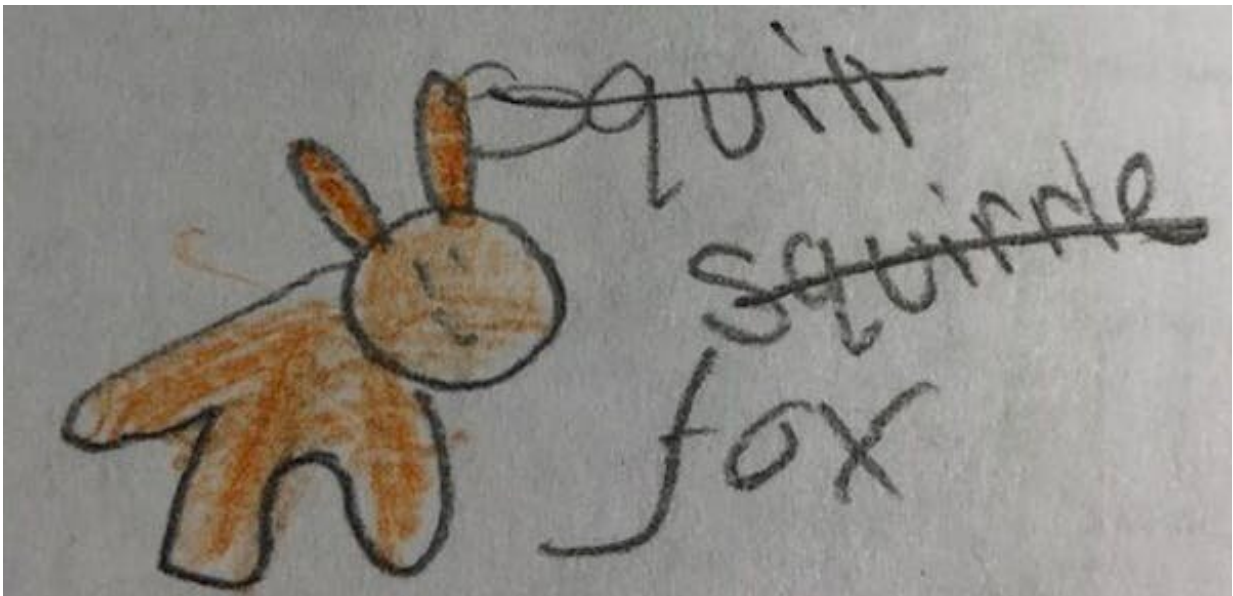
A child's drawing of their garden. Credit: Howlett, Turner, 2023, *PLOS ONE*, CC BY-SA

This can have knock-on effects for conservation funding. The [animals](#) we consider more attractive [receive higher levels of support](#).

Insects and other invertebrates are crucial to the functioning of global ecosystems, and they will need our efforts to protect them as we attempt to combat climate change and biodiversity loss.

We know that when children spend [time in nature](#) they become adults who care about the environment. But many [children are growing up without](#) a [strong connection to the natural world](#), even though we know spending time in nature is [good for them](#).

Children in many countries have [dramatically less](#) freedom than they did in the past to roam and play freely in the area around their homes. In the UK, they now spend [half as much time](#) playing outside as their parents did when they were young.



A drawing of a fox. Credit: Kate Howlett, [CC BY-SA](#)



A child's drawing of their back garden, with animals and plants labelled. Credit: Kate Howlett, [CC BY-SA](#)

It also isn't inevitable that children have a bias towards mammals, which probably stems from the wider cultural emphasis on mammals and birds. Parents and teachers can help children develop a good understanding of what nature is really like by helping them see more wildlife up close.

How to introduce children to invertebrates

When out with your child in your garden or local park, you can help them expand their understanding of the wildlife around them—and set them on the path to being the ecologists we'll need in the future.

You may be able to spot black, hairy caterpillars on [stinging nettles](#) around July. These are most likely the caterpillars of the [red admiral](#), [peacock](#) or [small tortoiseshell](#) butterflies. These are some of the UK's largest, easiest-to-spot butterflies and caterpillars.

Turn over any brick or stone and you are more likely than not to find some [woodlice](#). The females carry their young around in a pouch on their undersides, just like a kangaroo. And children may be delighted to learn that woodlice can [drink through their bums](#).

[Dragonflies](#) and [damselflies](#) are easy to spot and impressive, fast fliers. They are also excellent indicators of good water quality. This is because their nymphs—the young larval form—live underwater and need [clear water](#) to be able to hunt.

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